

# HiMI Pv6: Hierarchical Mobile I Pv6 Experiment Result

Chung-Chun Huang, Cheng-Wei Lee, Fan Liu,  
and Professor Yeali S. Sun

Information Management Dept.  
Nation Taiwan University

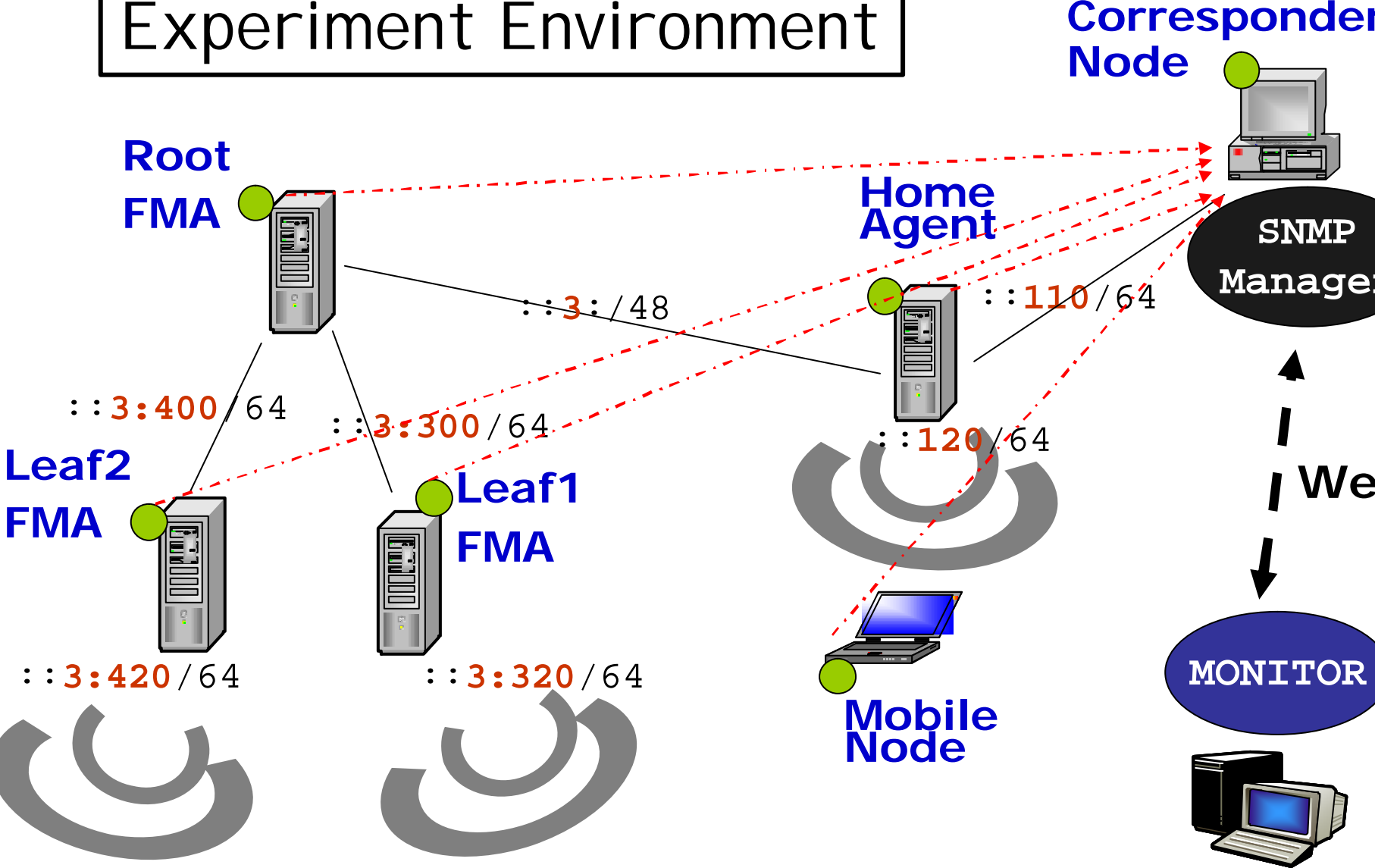
# Outline

- Experiment Environment
- Experiment
  - Step1
  - Step2
  - Step3

# Outline

- ***Experiment Environment***
- Experiment
  - Step1
  - Step2
  - Step3

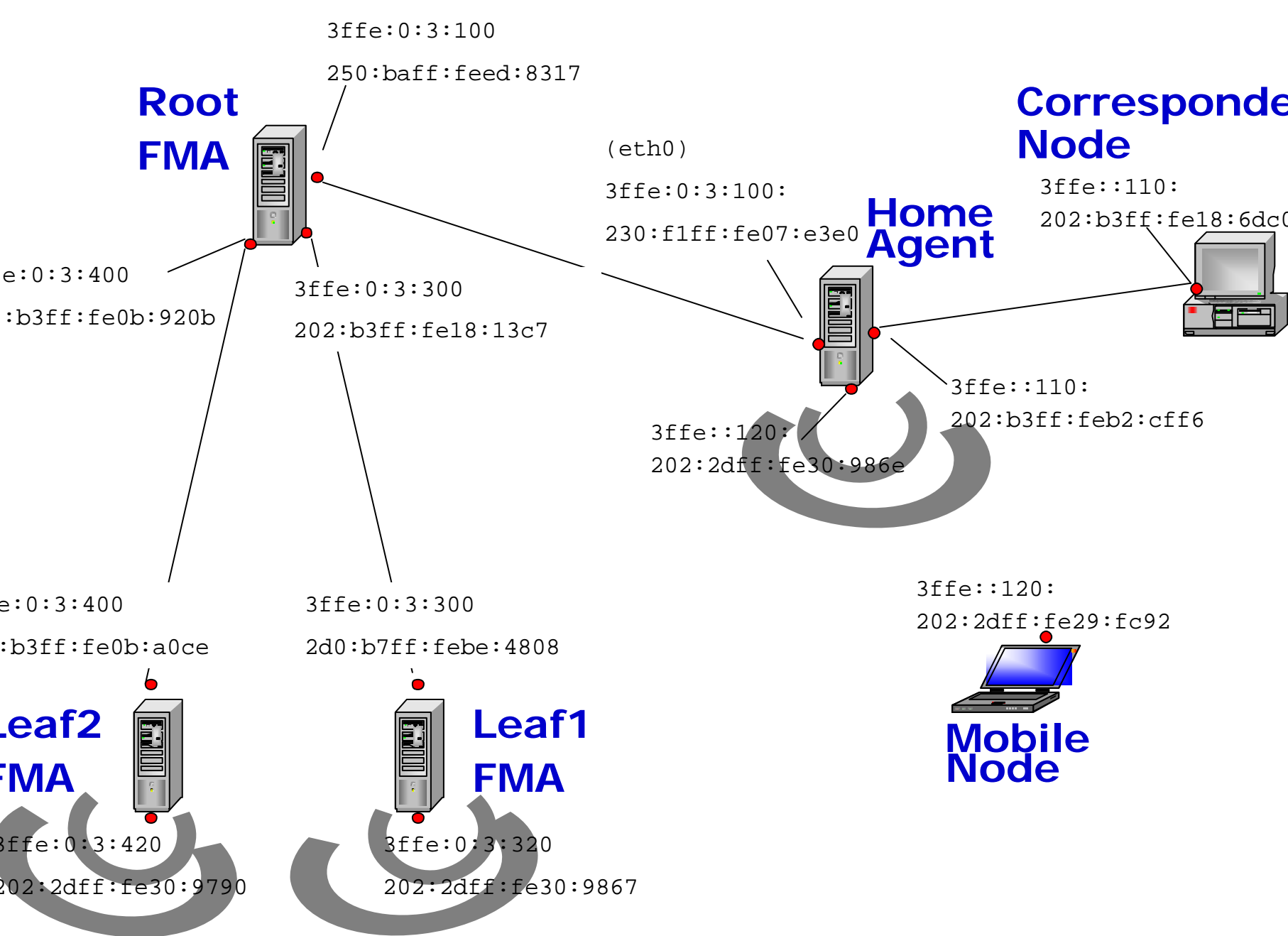
# Experiment Environment



MA: Foreign Mobility Agent

SNMP Agent

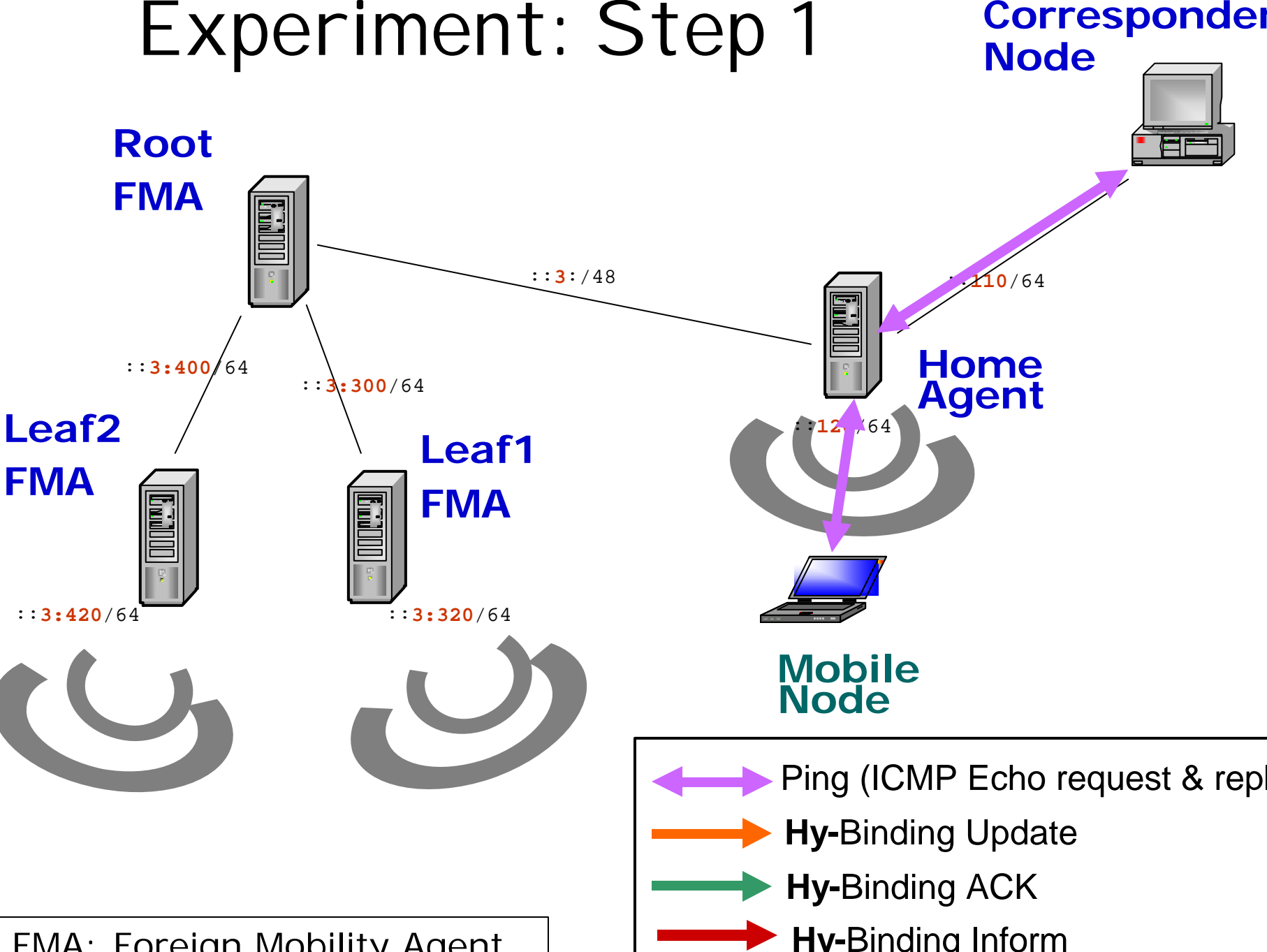




# Outline

- Experiment Environment
- Experiment
  - *Step1*
  - Step2
  - Step3

# Experiment: Step 1





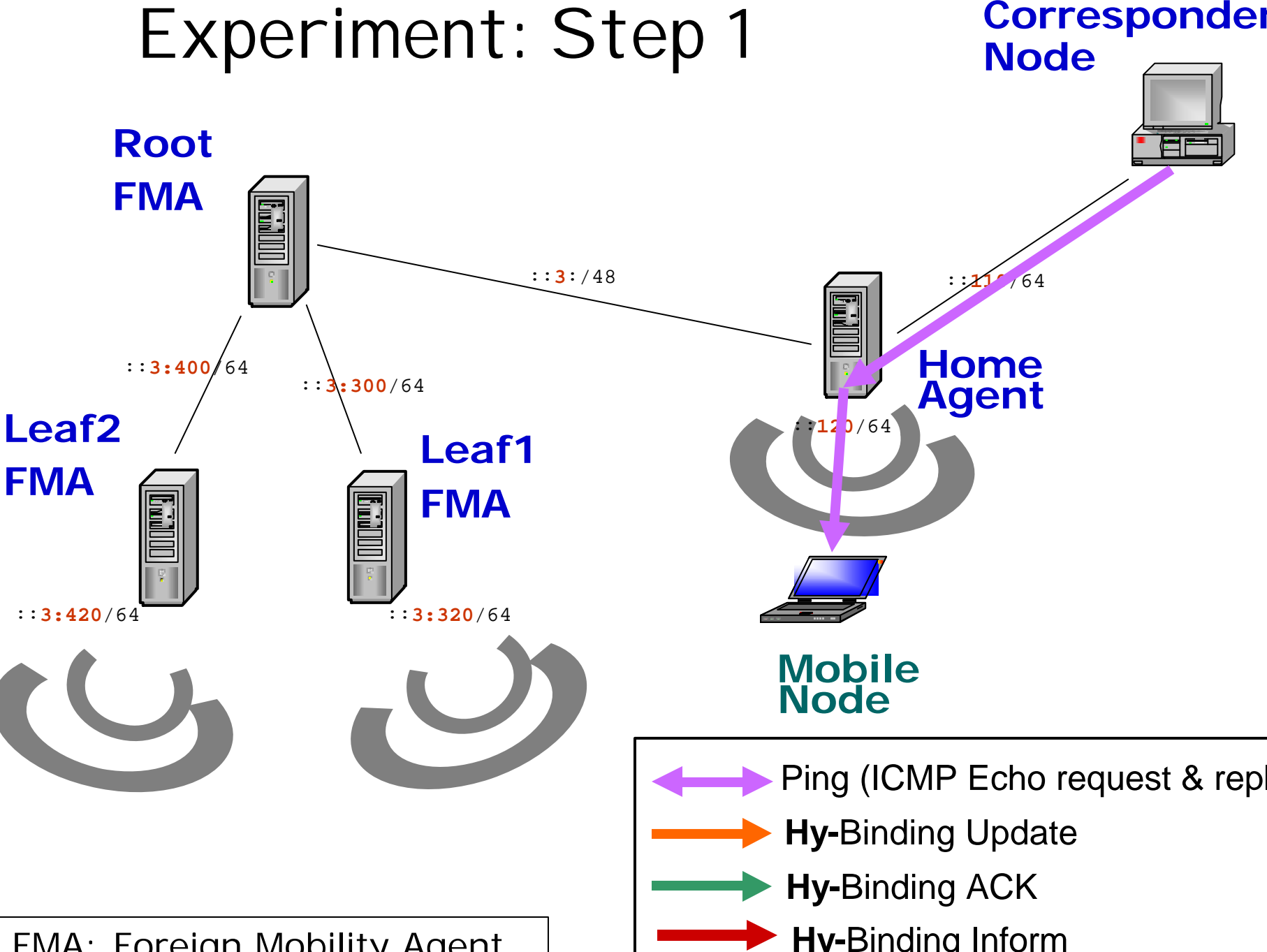
# Step 1: Result

## Echo Request & Reply

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By Ethereum

# Experiment: Step 1



Time	Source	Destination	Protocol	Info
0.000000	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.002286	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.000048	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
1.002321	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.000101	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.002384	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply

Frame 1 (118 on wire, 118 captured)

Ethernet II  
 Internet Protocol version 6  
 Version: 6  
 Traffic class: 0x00  
 Flow label: 0x00000  
 Payload length: 64  
 Next header: ICMPv6 (0x3a)  
 Hop limit: 64

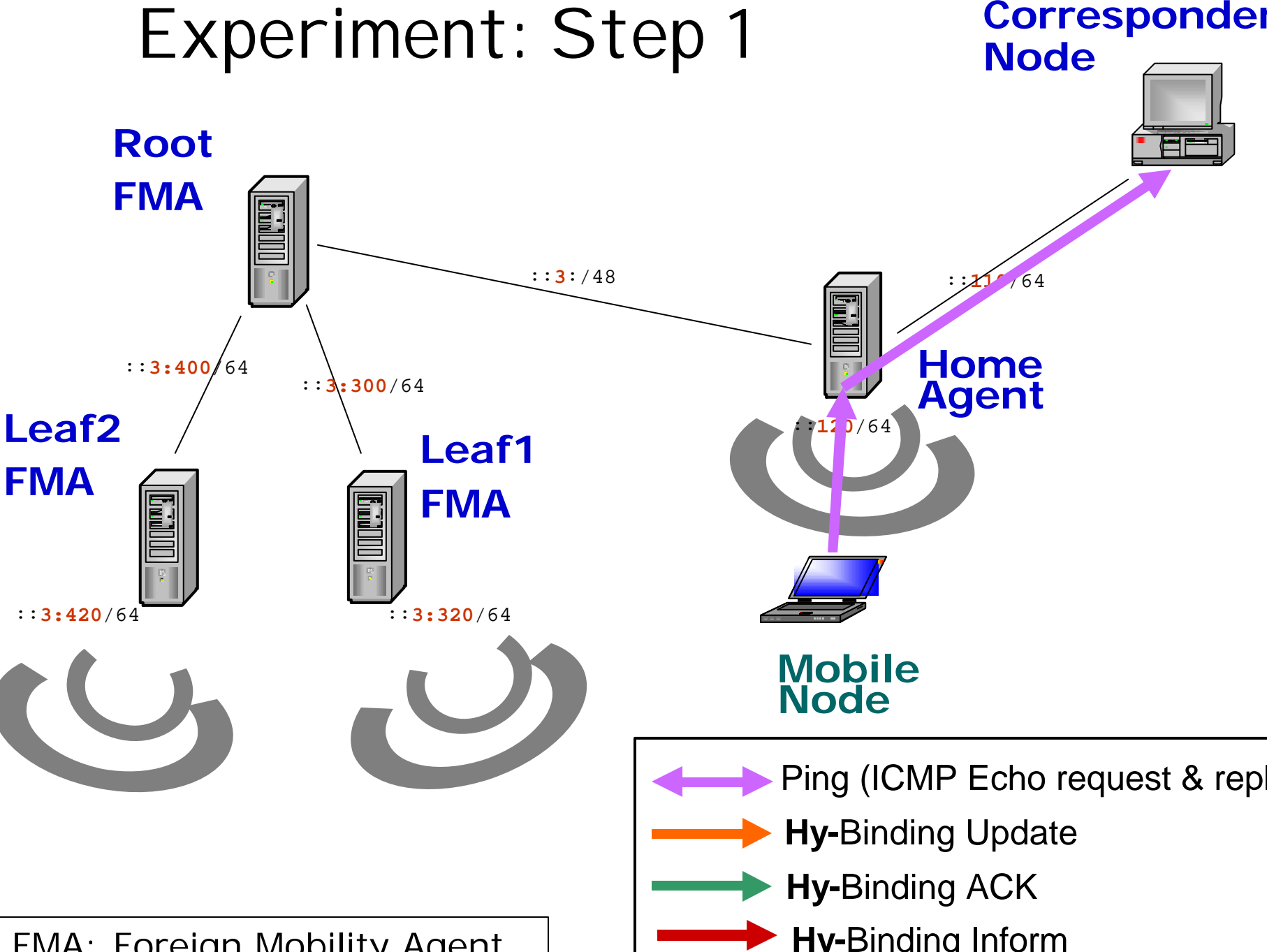
Source address: 3ffe::110:202:b3ff:fe18:6dc0  
 Destination address: 3ffe::120:202:2dff:fe29:fc92  
 Internet Control Message Protocol v6  
 Type: 128 (Echo request)  
 Code: 0  
 Checksum: 0xba5f (correct)  
 ID: 0x640c  
 Sequence: 0x1b00  
 Data (56 bytes)

CN

MN Home Address

00 00 00 40 3a 40	3f fe 00 00 00 00 01 10 02 02	...@:0? . . . . .
b3 ff fe 18 6d c0	3f fe 00 00 00 00 01 20 02 02	...m.?. . . . .
2d ff fe 29 fc 92	80 00 ba 5f 64 0c 1b 00 39 23	-. . . . . d...9#

# Experiment: Step 1



Time	Source	Destination	Protocol	Info
0.000000	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.002281	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.000048	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
1.002321	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.000101	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.002384	3ffe::120:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply

Time 2 (118 on wire, 118 captured)

Internet II  
 Internet Protocol Version 6  
 Version: 6  
 Traffic class: 0x00  
 Flow label: 0x000000  
 Payload length: 64  
 Next header: ICMPv6 (0x3a)  
 Hop limit: 63

Source address: 3ffe::120:202:2dff:fe29:fc92  
 Destination address: 3ffe::110:202:b3ff:fe18:6dc0  
 Internet Control Message Protocol v6  
 Type: 129 (Echo reply)  
 Code: 0  
 Checksum: 0xb95f (correct)  
 ID: 0x640c  
 Sequence: 0x1b00  
 Data (56 bytes)

**MN Home Address**

**CN**

00 00 00 40 3a 3f 3f fe 00 00 00 00 01 20 02 02  
 2d ff fe 29 fc 92 3f fe 00 00 00 00 01 10 02 02  
 b3 ff fe 18 6d c0 81 00 b9 5f 64 0c 1b 00 39 23

...@:???. ....  
 -..)..?.. ....  
 ....m... . d...9#

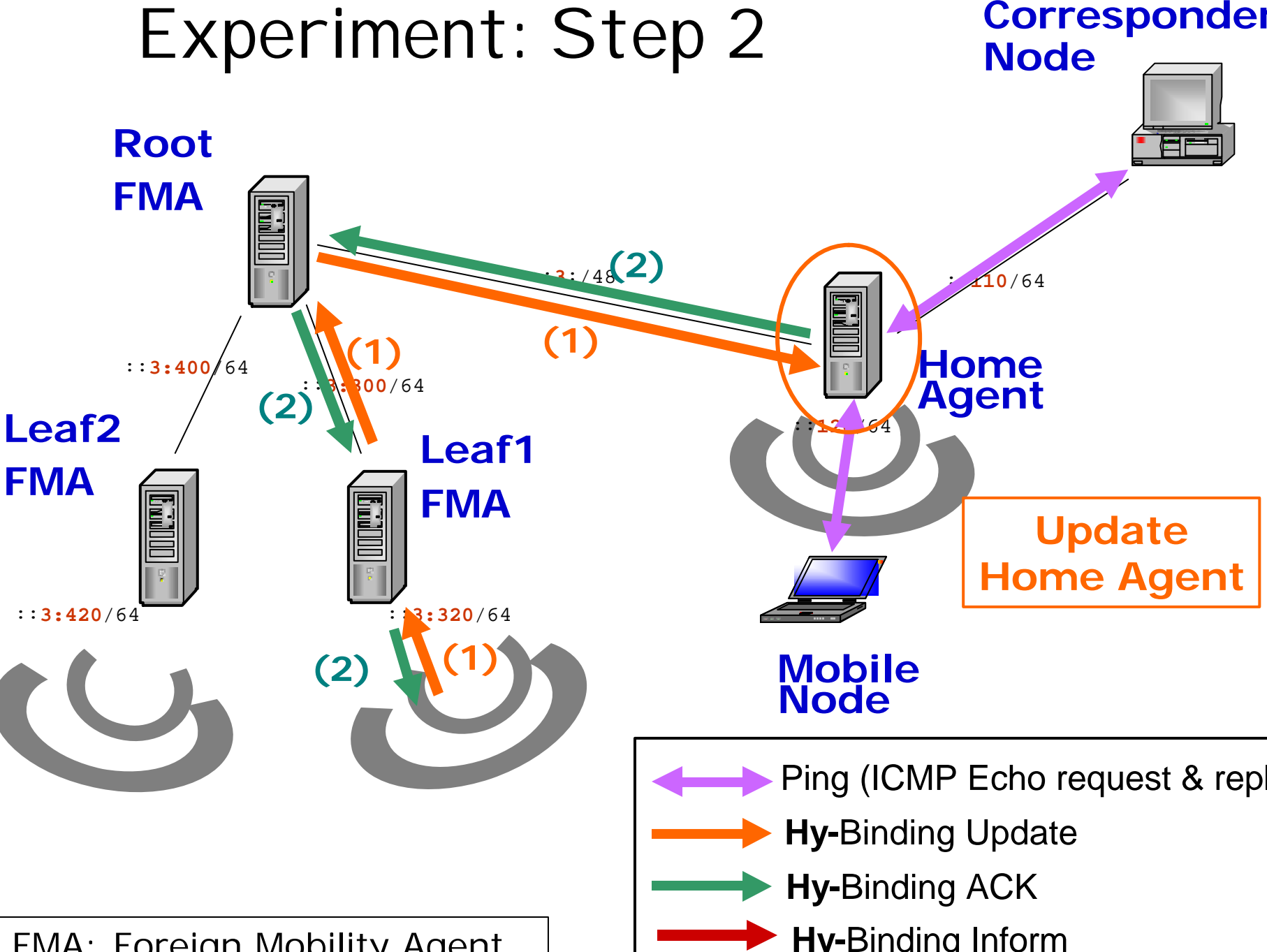


# Outline

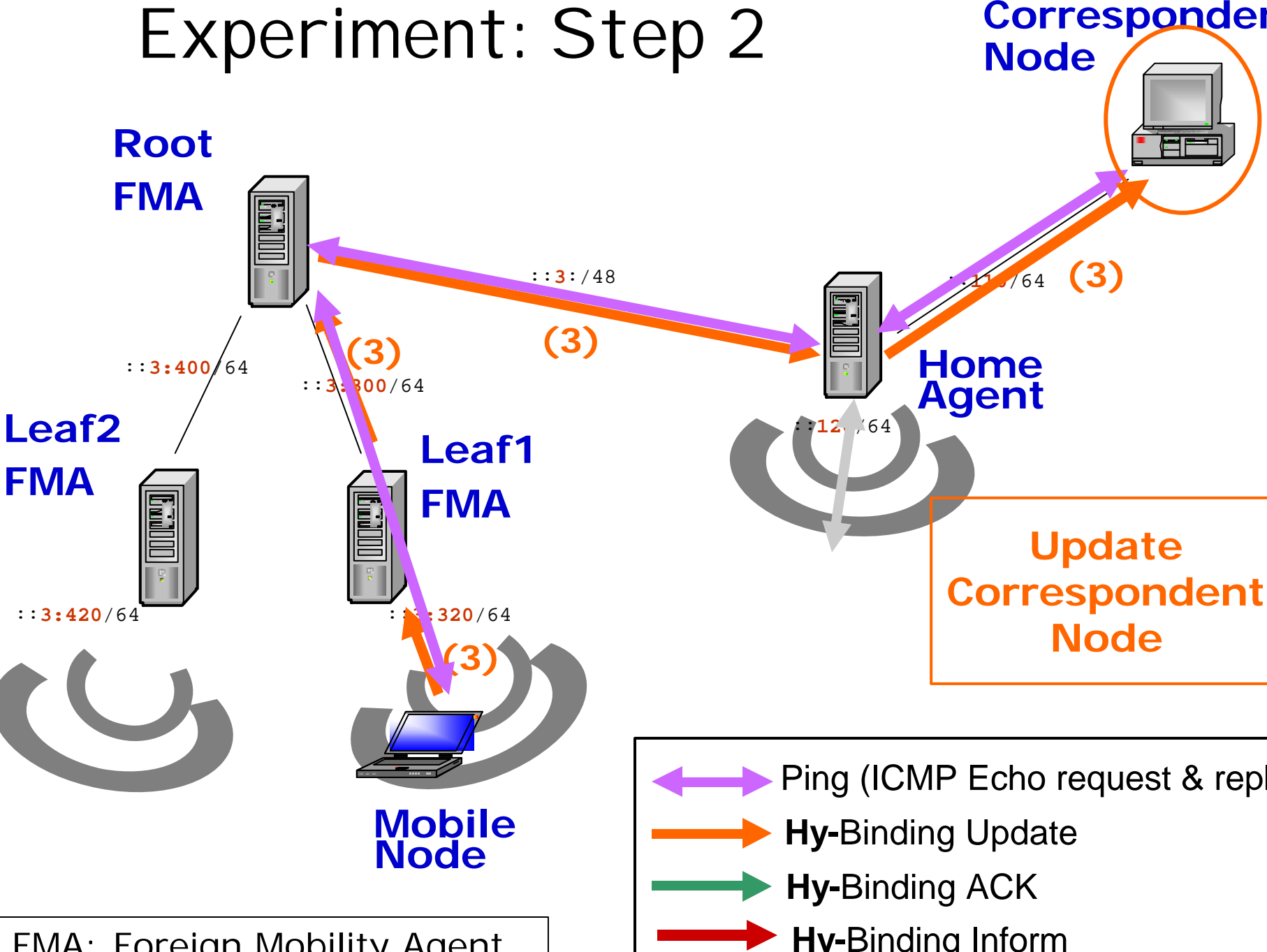
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- Experiment Environment
- Experiment
  - Step1
  - ***Step2***
  - Step3

# Experiment: Step 2



# Experiment: Step 2





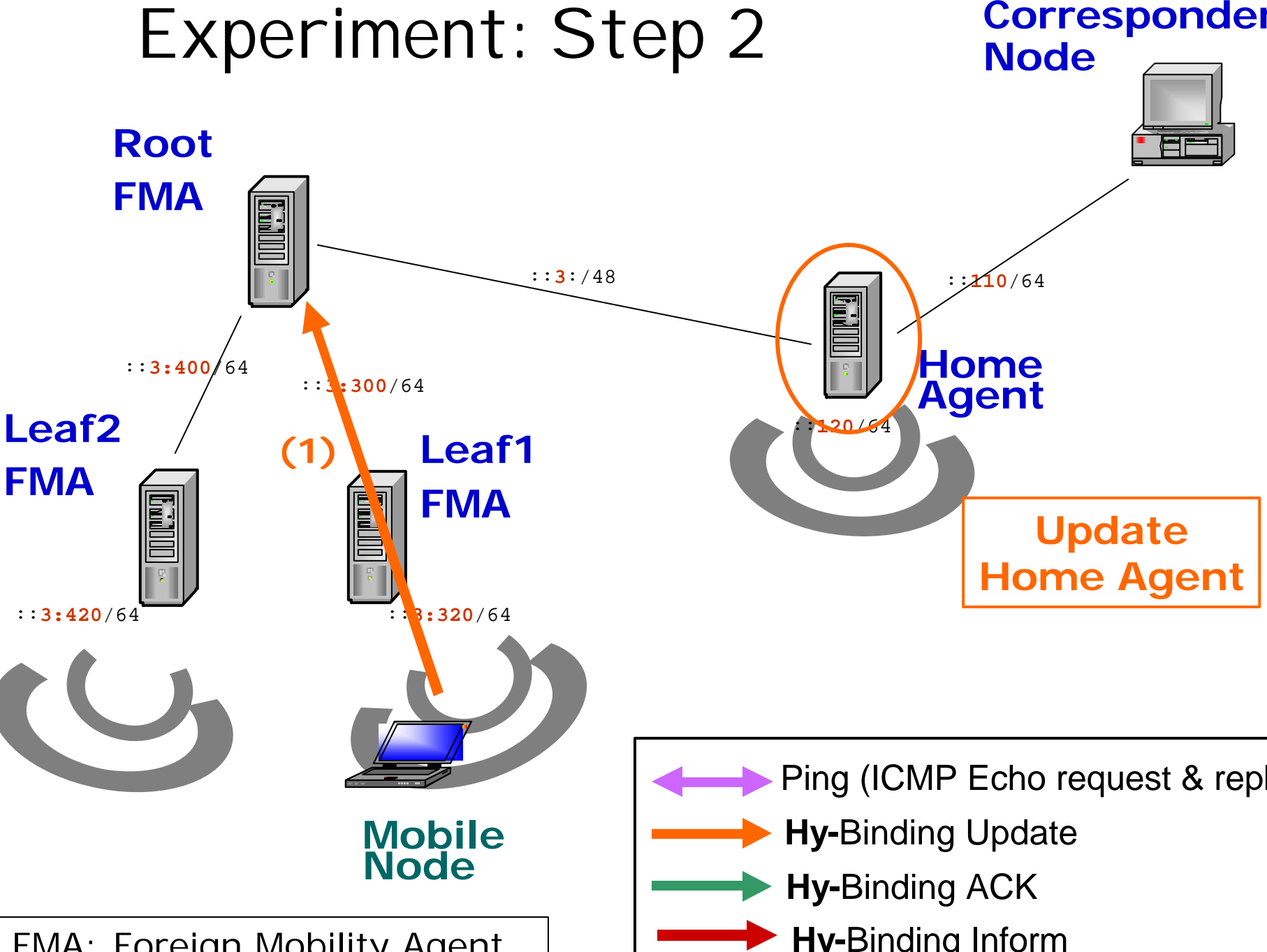
# Step 2: Result

## Update Home Agent

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By Ethereum

# Experiment: Step 2



Time	Source	Destination	Protocol	Info
2.699617	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
2.700138	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
2.701303	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
2.701965	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
3.000176	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
3.003364	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
4.000392	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request

HA

MN Care-of Address '1'

```

Time 10 (94 on wire, 94 captured)
Ethernet II
Internet Protocol Version 6
Destination Option Header
Next header: IPv6 destination option (0x3c)
Length: 2 (24 bytes)
PadN: 4 bytes
Option Type: 201 (0xc9) - Home Address
Option Length : 16
Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)
Destination Option Header
Next header: IPv6 no next header (0x3b)
Length: 1 (16 bytes)
Option Type: 198 (0xc6) - Binding Update
Option Length : 8
1... .. = Acknowledge (A) : Binding Acknowledgement requested
1... .. = Home Registration (H) : Home Registration
1... .. = Router (R) : Not a Router
1... .. = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection
1... .. = MAP Registration (M) : MAP Registration
1... .. = Bicasting all (B) : Do not request for bicasting
Prefix Length : 64
Sequence Number : 91
Lifetime : 10000
PadN: 4 bytes

```

Binding Update

Hy bit

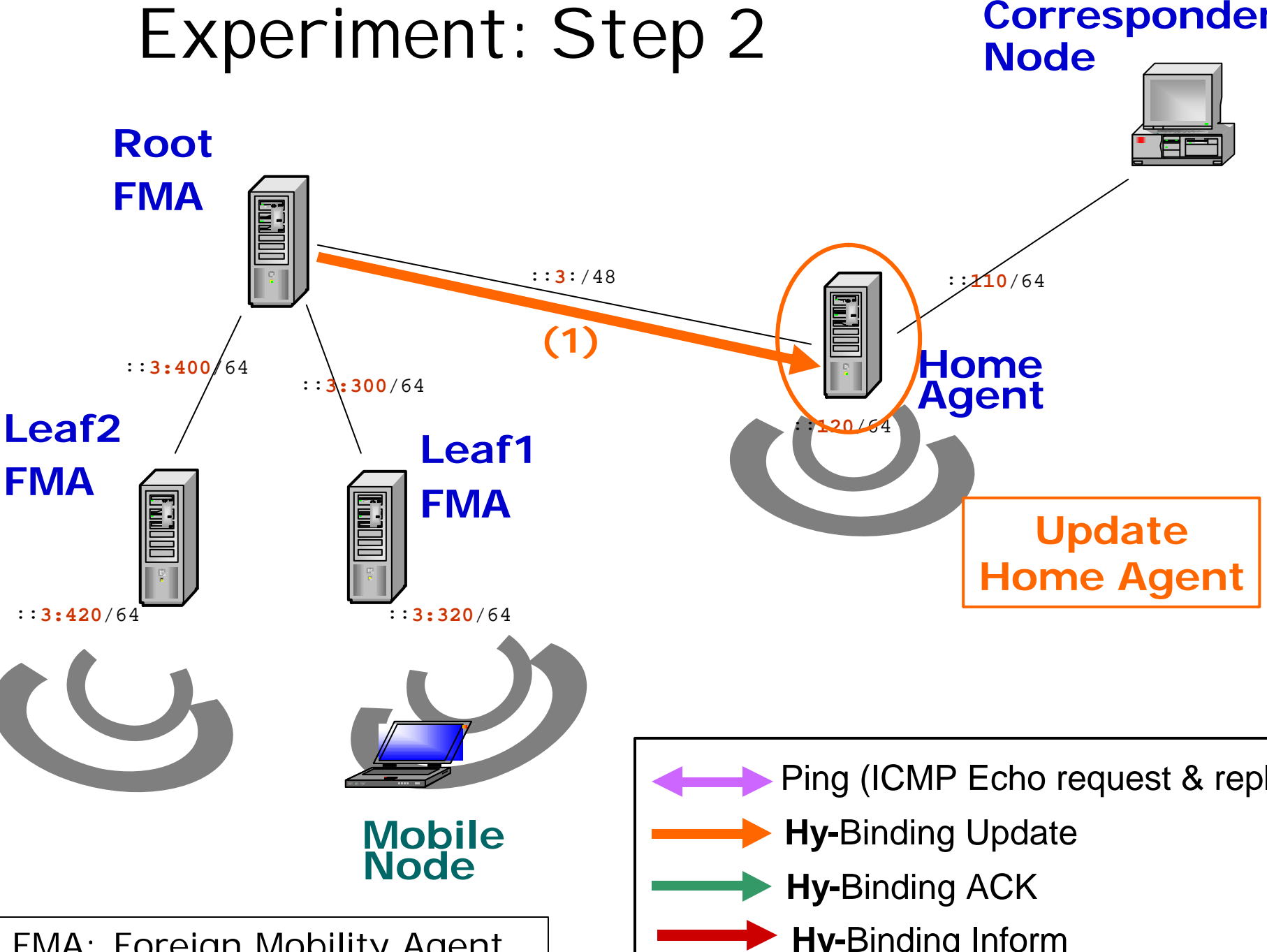
Update Home Agent

```

00 02 b3 18 13 c7 00 d0 b7 be 48 08 86 dd 60 00 .....H...
00 00 00 28 3c fe 3f fe 00 00 00 03 03 20 02 02 ...(<?. ....
2d ff fe 29 fc 92 3f fe 00 00 00 00 01 20 02 02 ...).?. ....

```

# Experiment: Step 2



Time	Source	Destination	Protocol	Info
0.000000	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination option
0.000315	3ffe::120:202:2dff:fe30:986e	3ffe::1:1:fed:8317	ICMPv6	Neighbor solicitation
0.000508	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	ICMPv6	Neighbor advertisement
0.000677	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:100:250:baff:feed:8317	IPv6	Mobile IPv6 Destination option
0.043757	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.046326	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Home Address option
0.048094	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.043823	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request

HA

Root FMA Address

```

Time 1 (94 on wire, 94 captured)
Ethernet II
Internet Protocol Version 6
Destination Option Header
Next header: IPv6 destination option (0x3c)
Length: 2 (24 bytes)
PadN: 4 bytes
Option Type: 201 (0xc9) - Home Address
Option Length : 16
Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)
Destination Option Header
Next header: IPv6 no next header (0x3b)
Length: 1 (16 bytes)
Option Type: 198 (0xc6) - Binding Update
Option Length : 8
1... .. = Acknowledge (A) : Binding Acknowledgement requested
1... .. = Home Registration (H) : Home Registration
...0... .. = Router (R) : Not a Router
...0... .. = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection
...1... .. = MAP Registration (M) : MAP Registration
...0... .. = Bicasting all (B) : Do not request for bicasting
Prefix Length : 64
Sequence Number : 130
Life Time : 10000
PadN: 4 bytes

```

Hy bit

Update Home Agent

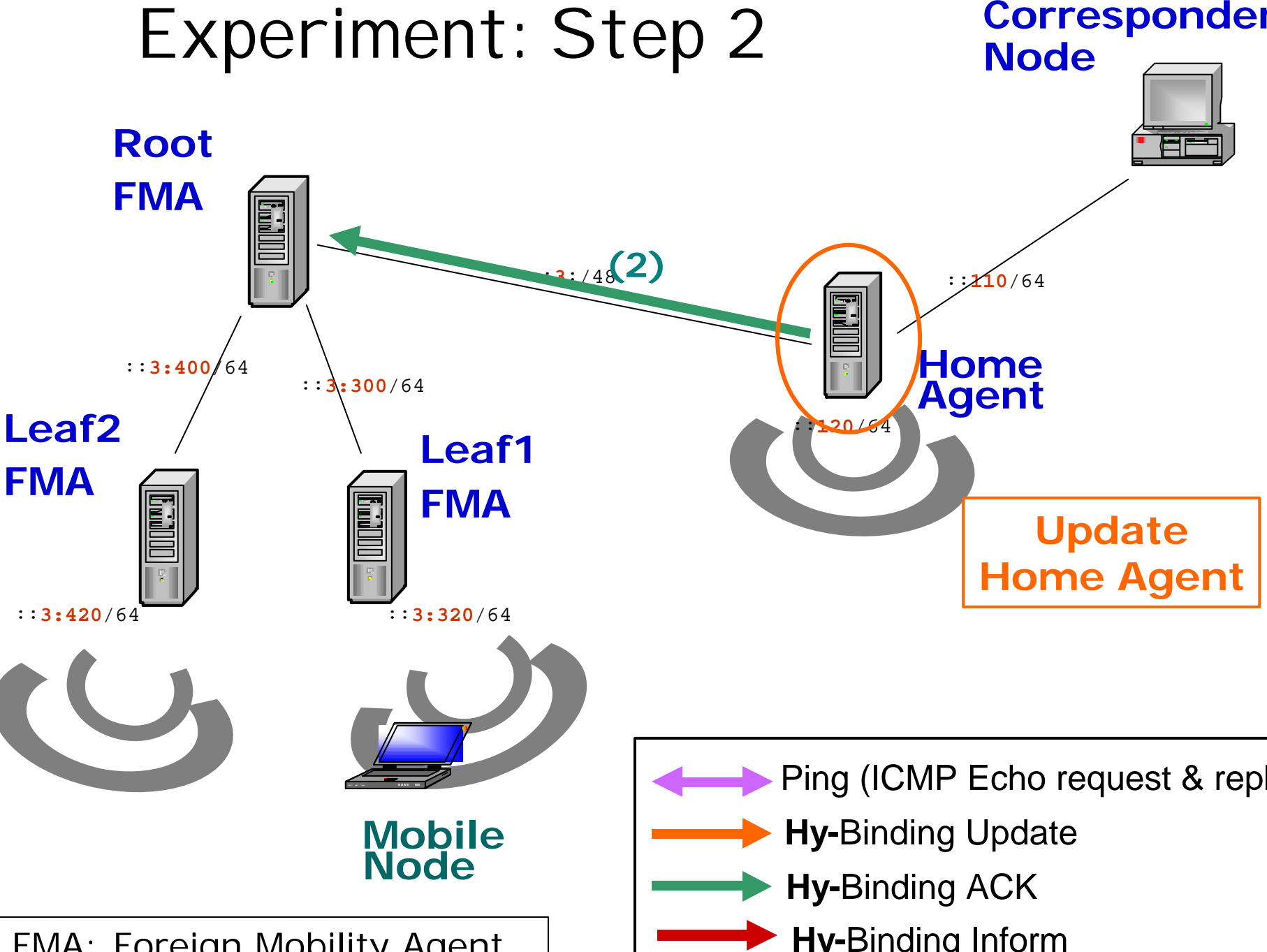
```

00 30 f1 07 e3 e0 00 50 ba ed 83 17 86 dd 60 00 .0....P .....
00 00 00 28 3c fd 3f fe 00 00 00 03 01 00 02 50 ...(<?. .....P
ba ff fe ed 83 17 3f fe 00 00 00 00 01 20 02 02 ...?. .....
2d ff fe 30 98 6e 3c 02 01 02 00 00 c9 10 3f fe ...0.n<. ....?.
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 3b 01 ..... ..-..).:
c6 08 c8 40 00 82 00 00 27 10 01 02 00 00 ...@....

```



# Experiment: Step 2



Time	Source	Destination	Protocol	Info
0.000000	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination option
0.000315	3ffe::120:202:2dff:fe30:986e	ff02::1:ffed:8317	ICMPv6	Neighbor solicitation
0.000508	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	ICMPv6	Neighbor advertisement
0.000677	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:100:250:baff:feed:8317	IPv6	Mobile IPv6 Destination option
0.043757	3ffe::120:202:2dff:fe30:986e	3ffe::120:202:2dff:fe29:fe92	ICMPv6	Echo request
0.046326	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination option
0.048094	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.043823	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request

HA

Root FMA Address

Frame 4 (118 on wire, 118 captured)  
 Ethernet II  
 Internet Protocol version 6  
 Destination option Header  
 Next header: IPv6 routing (0x2b)  
 Length: 2 (24 bytes)  
 Routing Header, Type 0  
 Destination option Header  
 Next header: IPv6 no next header (0x3b)  
 Length: 1 (16 bytes)  
 ad1  
 Option type: 7 (0x07) - Binding Acknowledgement  
 Option Length : 11  
 Status: 0 - Binding update accepted  
 Sequence Number : 130  
 Lifetime : 1000  
 Refresh : 1000

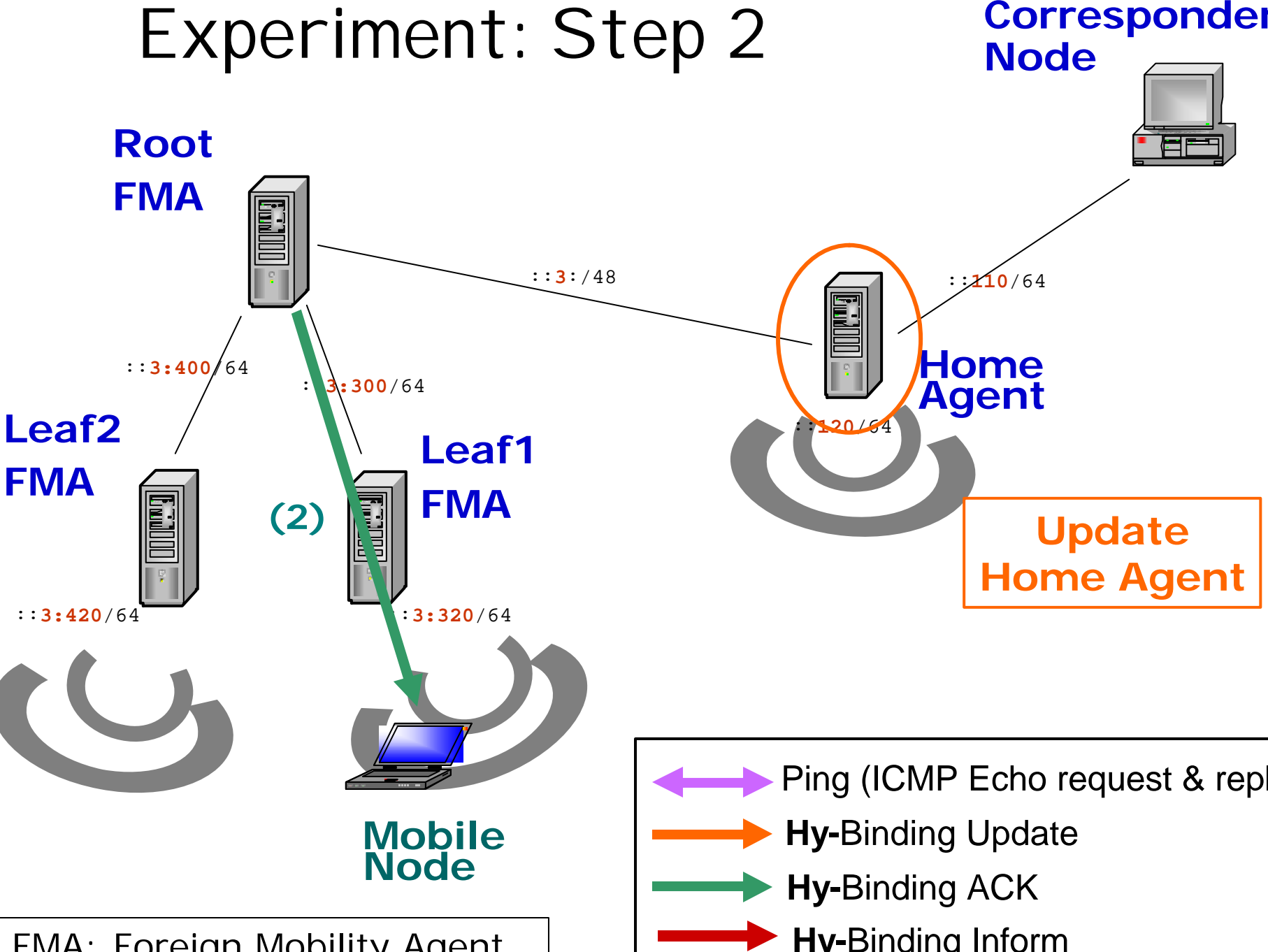
Receiver Home Address Option

```

00 50 ba ed 83 17 00 30 f1 07 e3 e0 86 da 60 00 .P....0.....
00 00 00 00 40 3c ff 3f fe 00 00 00 00 01 20 02 02 ...@<.?.....
2d ff fe 30 98 6e 3f fe 00 00 00 03 01 00 02 50 -.0.n?.....P
ba ff fe ed 83 17 2b 02 cd 10 3f fe 00 00 00 00 .....+.??....
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02 .-.-.).....<
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02 .....?.....
2d ff fe 29 fc 92 3b 01 00 07 0b 00 00 82 00 00 -.).;.....
03 e8 00 00 03 e8 .....
```

Update Home Agent

# Experiment: Step 2



Time	Source	Destination	Protocol	Info
2.000094	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.699617	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
2.700138	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
2.701305	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
2.701965	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
3.000176	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
3.003364	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
4.000392	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request

HA

MN Care-of Address '1'

Time 11 (118 on wire, 118 captured)

Ethernet II

Ethernet Protocol Version 6

Destination Option Header

Next header: IPv6 routing (0x2b)

Length: 2 (24 bytes)

Routing Header, Type 0

Destination Option Header

Next header: IPv6 no next header (0x3b)

Length: 1 (16 bytes)

pad1

Option Type: 7 (0x07)

Binding Acknowledgement

Option Length : 11

Status: 0 - Binding update accepted

Sequence Number : 91

Life Time : 1000

Refresh : 1000

Receiver Home Address Option

```

00 d0 b7 be 48 08 00 02 b3 18 13 c7 86 da 60 00
00 00 00 40 3c fe 3f fe 00 00 00 00 01 20 02 02
2d ff fe 30 98 6e 3f fe 00 00 00 03 03 20 02 02
2d ff fe 29 fc 92 2b 02 cd 10 3f fe 00 00 00 00
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02
2d ff fe 29 fc 92 3b 01 00 07 0b 00 00 5b 00 00
03 e8 00 00 03 e8

```

```

.....
....H...
...@<.?
-..0.n?
-..).+.?.
...-..)
....?)
-..).;
.....

```

Update  
Home Agent



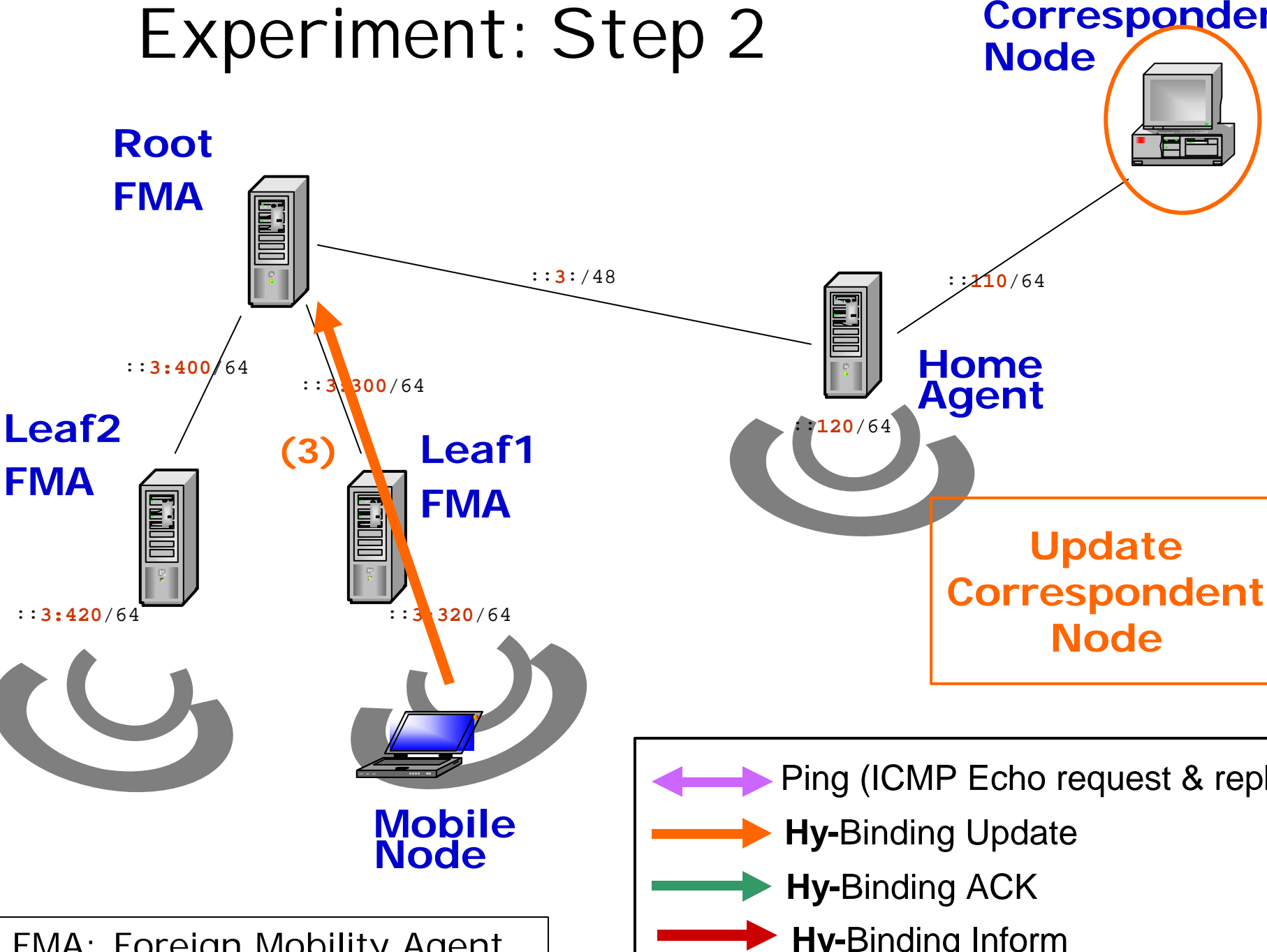
## Step 2: Result

# Update Correspondent Node

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By Ethereum

# Experiment: Step 2





Time	Source	Destination	Protocol	Info
2.000094	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.699617	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
2.700138	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
2.701303	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
2.701965	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
3.000176	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
3.003364	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
4.000392	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request

CN

Time 12 (94 on wire, 94 captured)  
 Ethernet II  
 Internet Protocol Version 6  
 Destination Option Header  
 Next header: IPv6 destination option (0x3c)  
 Length: 2 (24 bytes)  
 PadN: 4 bytes  
 Option Type: 201 (0xc9) - Home Address  
 Option Length : 16  
 Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)  
 Destination Option Header  
 Next header: IPv6 no next header (0x3b)  
 Length: 1 (16 bytes)  
 Option Type: 198 (0xc6) - Binding Update  
 Option Length : 8  
 0... .. = Acknowledge (A) : Binding Acknowledgement not requested  
 0... .. = Home Registration (H) : No Home Registration  
 0... .. = Router (R) : Not a Router  
 0... .. = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection  
 1... .. = MAP Registration (M) : MAP Registration  
 0... .. = Bicasting all (B) : Do not request for bicasting  
 Prefix Length : 64  
 Sequence Number : 92  
 Lifetime : 60  
 PadN: 4 bytes

MN Care-of Address '1'

Hy bit

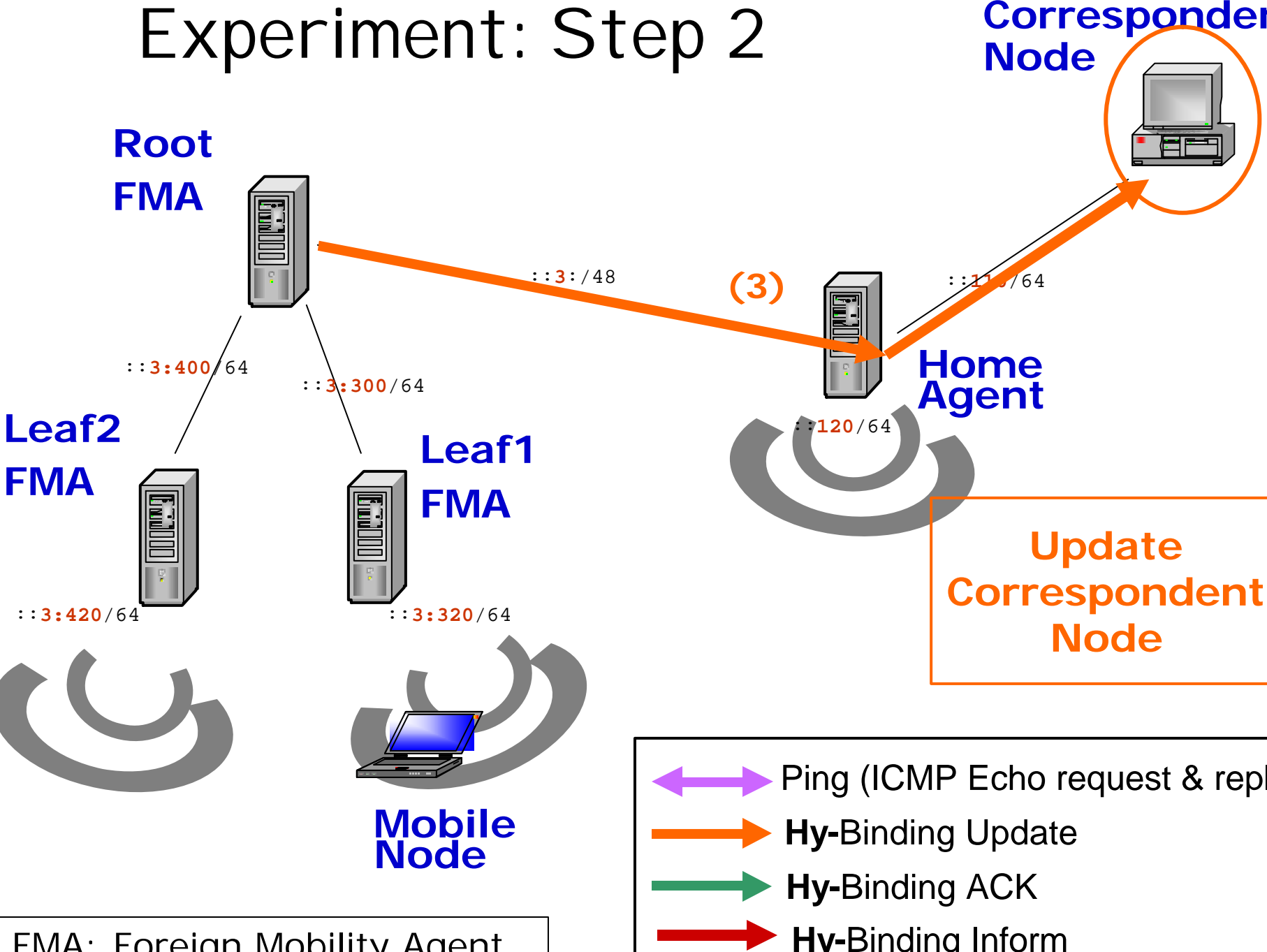
Update Correspondent Node

```

00 02 b3 18 13 c7 00 d0 b7 be 48 08 86 dd 60 00  ....H...
00 00 00 28 3c fe 3f fe 00 00 00 03 03 20 02 02  (<?.
2d ff fe 29 fc 92 3f fe 00 00 00 00 01 10 02 02  -..)?.
b3 ff fe 18 6d c0 3c 02 01 02 00 00 c9 10 3f fe  .m.<....?
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 3b 01  ....-..).
c6 08 88 40 00 5c 00 00 00 3c 01 02 00 00  ....@.\. <....

```

# Experiment: Step 2





Time	Source	Destination	Protocol	Info
0.000000	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
0.000315	3ffe::120:202:2dff:fe30:986e	ff02::1:ffed:8317	ICMPv6	Neighbor solicitation
0.000508	3ffe:0:3:100:250:baff:feed:8317	3ffe::120:202:2dff:fe30:986e	ICMPv6	Neighbor advertisement
0.000677	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:100:250:baff:feed:8317	IPv6	Mobile IPv6 Destination Option
0.043757	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.046326	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
0.048094				

Frame 6 (94 on wire, 94 captured)

Ethernet II  
 Internet Protocol Version 6  
 Destination Option Header  
 Next header: IPv6 destination option (0x3c)  
 Length: 2 (24 bytes)  
 PadN: 4 bytes  
 Option Type: 201 (0xc9) - Home Address  
 Option Length : 16  
 Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)  
 Destination Option Header  
 Next header: IPv6 no next header (0x3b)  
 Length: 1 (16 bytes)  
 Option Type: 198 (0xc6) - Binding Update  
 Option Length : 8  
 0... .. = Acknowledge (A) : Binding Acknowledgement not requested  
 0... .. = Home Registration (H) : No Home Registration  
 0... .. = Router (R) : Not a Router  
 0... .. = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection  
 1... .. = MAP Registration (M) : MAP Registration  
 0... .. = Bicasting all (B) : Do not request for bicasting  
 Prefix Length : 0  
 Sequence Number : 131  
 Lifetime : 60  
 PadN: 4 bytes

CN

Root FMA Address

Hy bit

Update  
Correspondent  
Node

```

00 30 f1 07 e3 e0 00 50 ba ed 83 17 86 dd 60 00 .0.....P .....`
00 00 00 28 3c fd 3f fe 00 00 00 03 01 00 02 50 ...(<?. .....P
ba ff fe ed 83 17 3f fe 00 00 00 00 01 10 02 02 .....?. .....
b3 ff fe 18 6d c0 3c 02 01 02 00 00 c9 10 3f fe ....m.<. ....?.
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 3b 01 ..... ..-.)...;
c6 08 08 00 00 83 00 00 00 3c 01 02 00 00 ..... ..<....

```



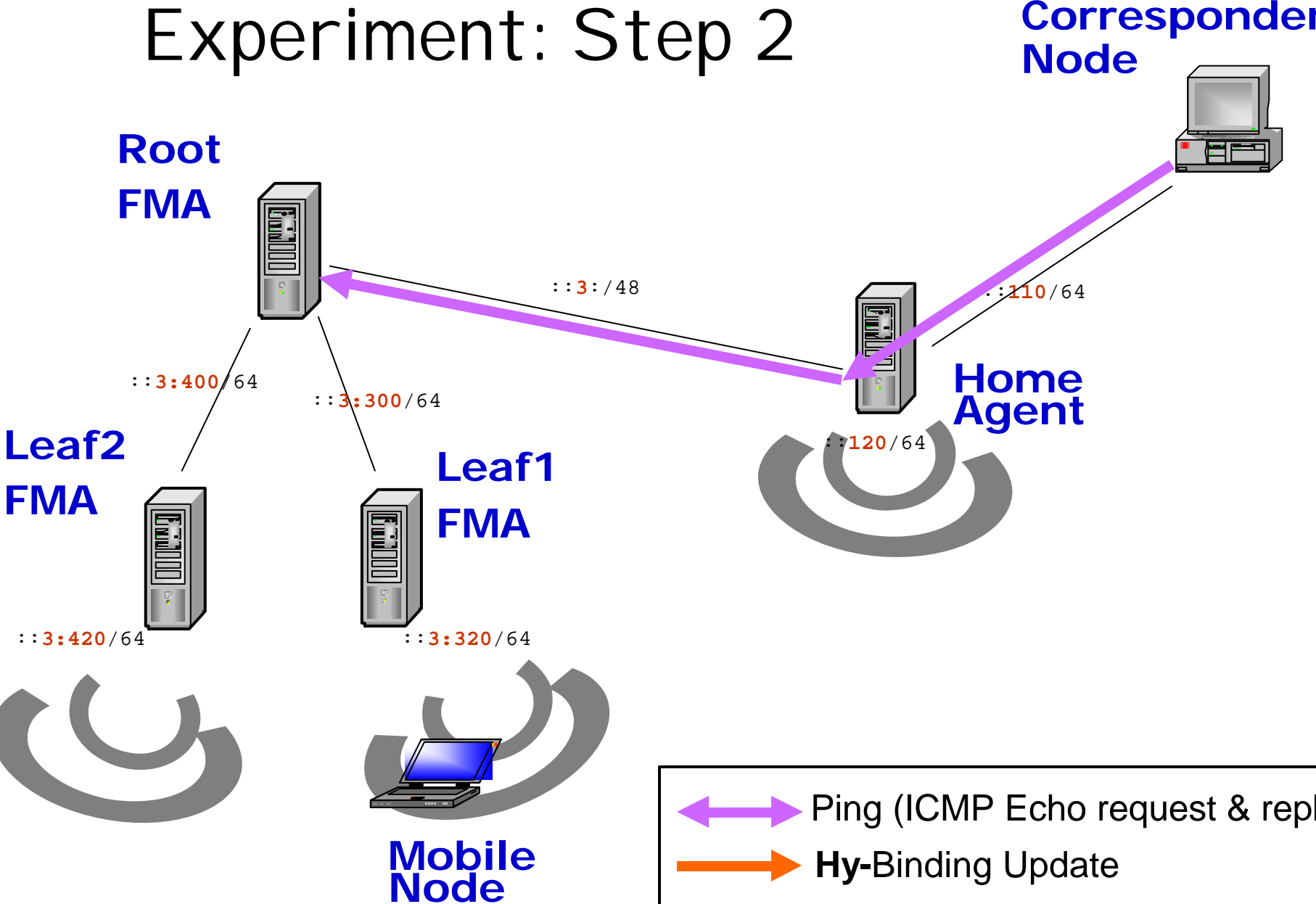
# Step 2: Result

## Echo Request & Reply

---

By Ethereum

# Experiment: Step 2



FMA: Foreign Mobility Agent

Time	Source	Destination	Protocol	Info
0.043757	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.046326	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination option
0.048094	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.043823	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request
1.046780	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.043870	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request
2.046882	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.047028	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request

CN

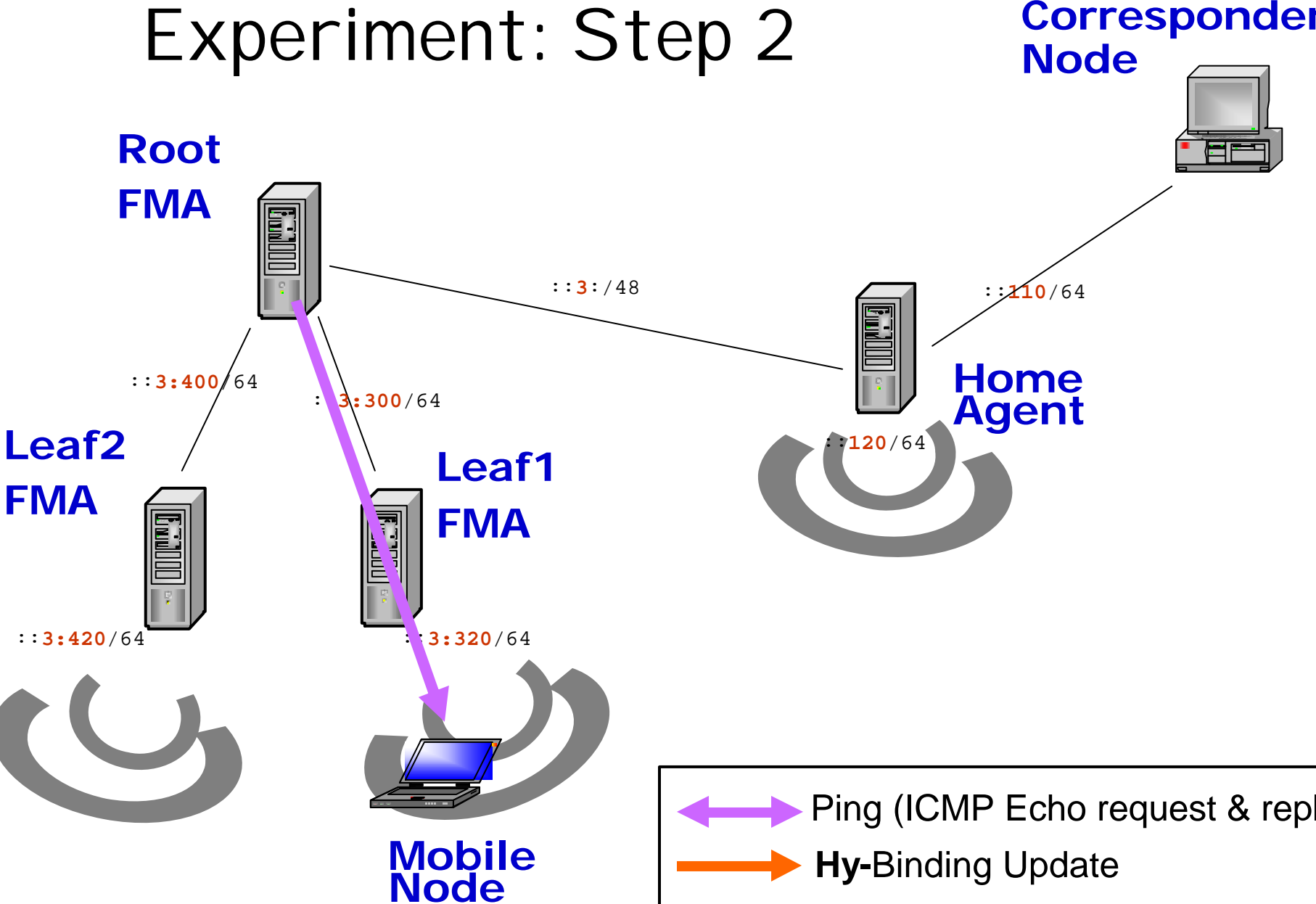
Root FMA Address

Frame 8 (166 on wire, 166 captured)  
Ethernet II  
Internet Protocol Version 6  
Destination Option Header  
Next header: IPv6 routing (0x2b)  
Length: 2 (24 bytes)  
Routing Header, Type 0  
Internet Control Message Protocol v6  
Type: 128 (Echo request)  
Code: 0  
Checksum: 0xda61 (incorrect, should be 0xc5e7)  
ID: 0x4516  
Sequence: 0x6602  
Data (56 bytes)

Receiver Home Address Option

00 00 00 70 3c 3f 3f fe 00 00 00 00 01 10 02 02	...	p<??.	.....
b3 ff fe 18 6d c0 3f fe 00 00 00 03 01 00 02 50	...	m.?	.....P
ba ff fe ed 83 17 2b 02 cd 10 3f fe 00 00 00 00	...	+	..?.....
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3a 02	...	-..)	.....:
00 01 00 00 00 00 2f fe 00 00 00 00 01 20 02 02	...	?	.....
2d ff fe 29 fc 92 80 00 da 61 45 16 66 02 2d 49	...	-..)	....aE.f.-I
4f 3f ba b9 09 00 08 09 0a 0b 0c 0d 0e 0f 10 11	0?	.....	.....
12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f 20 21	...	!	.....
22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f 30 31	"#&%&'()	*+ - /01	.....

# Experiment: Step 2



FMA: Foreign Mobility Agent

Time	Source	Destination	Protocol	Info
2.000094	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.699617	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination option
2.700138	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination option
2.701303	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination option
2.701965	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination option
3.000176	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
3.003364	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
4.000392	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request

Time 14 (166 on wire, 166 captured)  
 Ethernet II  
 Internet Protocol Version 6  
 Version: 6  
 Traffic class: 0x00  
 Flow label: 0x000000  
 Payload length: 112  
 Next header: IPv6 destination option (0x3c)  
 Hop limit: 62  
 Source address: 3ffe::110:202:b3ff:fe18:6dc0  
 Destination address: 3ffe:0:3:320:202:2dff:fe29:fc92

**Destination Option Header**  
 Next header: IPv6 routing (0x2b)  
 Length: 2 (24 bytes)  
 Routing Header, Type 0  
 Internet Control Message Protocol v6  
 Type: 128 (Echo request)  
 Code: 0  
 Checksum: 0x7665 (incorrect, should be 0x7462)  
 ID: 0x4516  
 Sequence: 0x9700  
 Data (56 bytes)

**MN Care-of Address '1'**

**CN**

**Receiver Home Address Option**

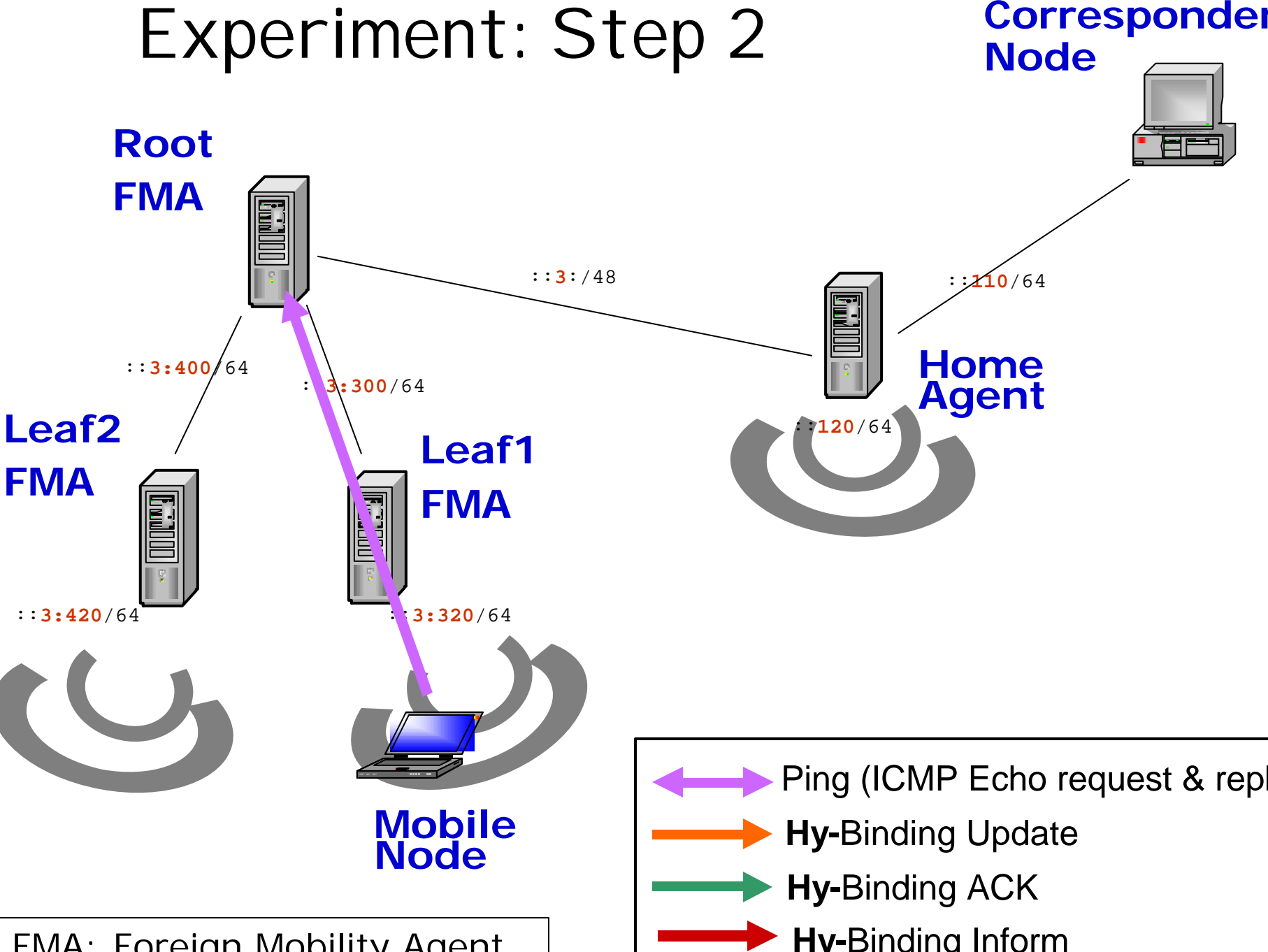
```

03 ff fe 18 6d c0 3f fe 00 00 00 03 03 20 02 02
2d ff fe 29 fc 92 2b 02 cd 10 3f fe 00 00 00 00
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3a 02
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02
2d ff fe 29 fc 92 80 00 76 65 45 16 97 00 5e 47
4f 3f bc b9 09 00 08 09 0a 0b 0c 0d 0e 0f 10 11
12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f 20 21
22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f 30 31
32 33 34 35 36 37
  
```

```

.....
...m.?. ....
-..).+. ..?....
...-..) .....:
.....? .....
-..). .... veE...AG
o?.....
..... !
"#$%&'() *+,-./01
234567
  
```

# Experiment: Step 2





Time	Source	Destination	Protocol	Info
2.000094	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
2.699617	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
2.700138	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
2.701303	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
2.701965	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
3.000176	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
3.003364	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
4.000392	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request

Time 15 (142 on wire, 142 captured)

Ethernet II

Ethernet Protocol Version 6

Version: 6

Traffic class: 0x00

Flow label: 0x000000

Payload length: 88

Next header: IPv6 destination option (0x3c)

Hop limit: 63

Source address: 3ffe:0:3:320:202:2dff:fe29:fc92

Destination address: 3ffe::110:202:b3ff:fe18:6dc0

Destination Option Header

Next header: ICMPv6 (0x3a)

Length: 2 (24 bytes)

PadN: 4 bytes

Option Type: 201 (0xc9) Home Address

Option Length: 16

Home Address: 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)

Ethernet Control Message Protocol v6

Type: 129 (Echo reply)

Code: 0

Checksum: 0x7565 (incorrect, should be 0x7362)

ID: 0x4516

Sequence: 0x9700

Data (56 bytes)

```

00 00 00 58 3c 3f 3f fe 00 00 00 03 03 20 02 02
2d ff fe 29 fc 92 3f fe 00 00 00 00 01 10 02 02
b3 ff fe 18 6d c0 3a 02 01 02 00 00 c9 10 3f fe
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 81 00
75 65 45 16 97 00 5e 47 4f 3f bc b9 09 00 08 09
0a 0b 0c 0d 0e 0f 10 11 12 13 14 15 16 17 18 19
1a 1b 1c 1d 1e 1f 20 21 22 23 24 25 26 27 28 29
2a 2b 2c 2d 2e 2f 30 31 32 33 34 35 36 37

```

```

.....
...X<??. .....
-..).?. .....
...m.:. .....?
..... -..).
ueE...^G 0?.....
..... ! "#$%&'()
*+,-./01 234567

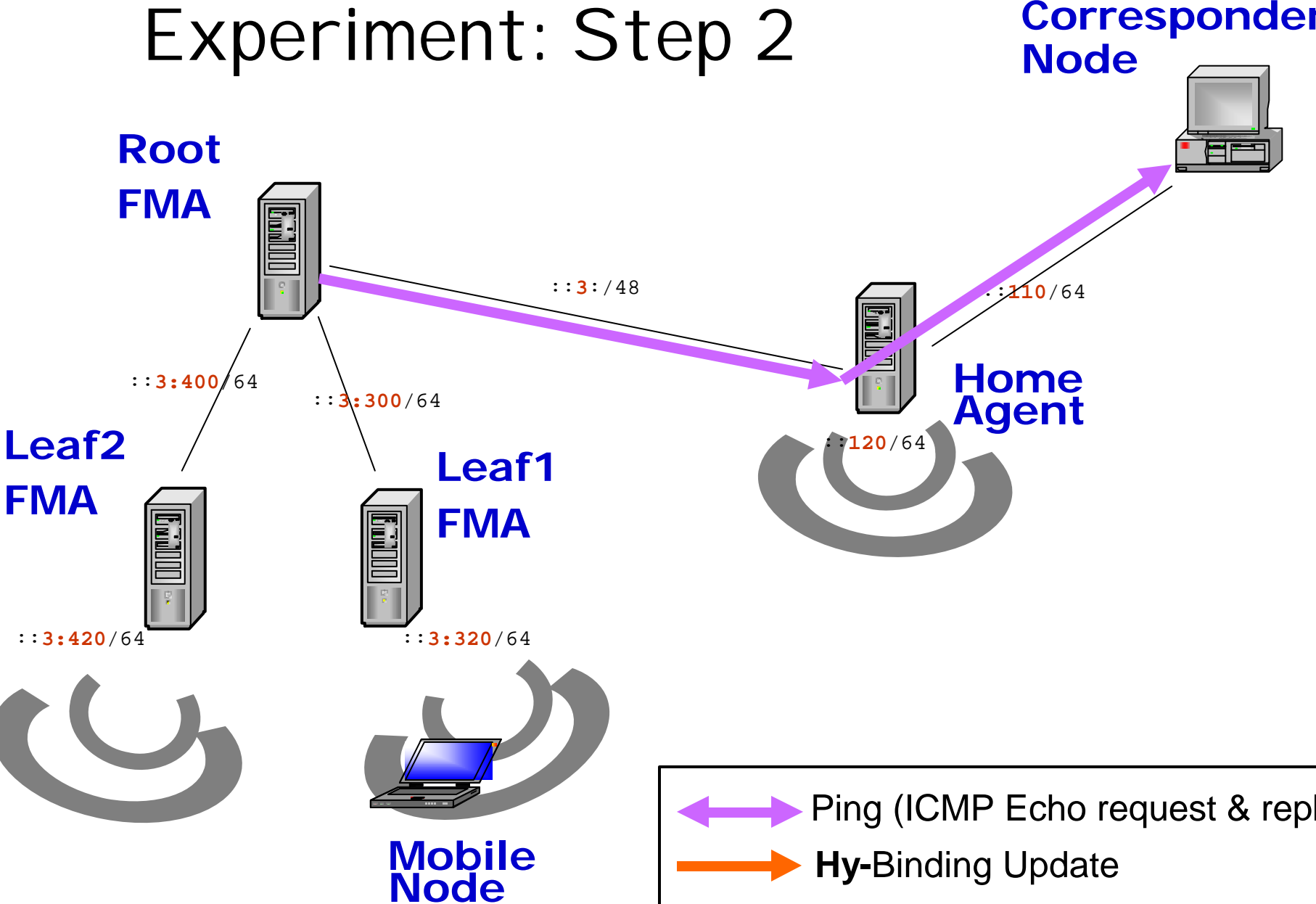
```

MN Care-of Address '1'

CN



# Experiment: Step 2



FMA: Foreign Mobility Agent

Time	Source	Destination	Protocol	Info
0.043757	3ffe::110:202:b3ff:fe18:6dc0	3ffe::120:202:2dff:fe29:fc92	ICMPv6	Echo request
0.046326	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination option
0.048094	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
1.043823	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request
1.046780	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.043870	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request
2.046882	3ffe:0:3:100:250:baff:feed:8317	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.048094	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:100:250:baff:feed:8317	ICMPv6	Echo request

Time 9 (142 on wire, 142 captured)

Ethernet II

Ethernet Protocol Version 6

Destination Option Header

Next header: ICMPv6 (0x3a)

Length: 2 (24 bytes)

PadN: 4 bytes

Option Type: 201 (0xc9) Home Address

Option Length : 16

Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)

Ethernet Control Message Protocol v6

Type: 129 (Echo reply)

Code: 0

Checksum: 0xd961 (incorrect, should be 0xc4e7)

ID: 0x4516

Sequence: 0x6602

Data (56 bytes)

```
00 00 00 58 3c 3e 3f fe 00 00 00 03 01 00 02 50
ba ff fe ed 83 17 3f fe 00 00 00 00 01 10 02 02
b3 ff fe 18 6d c0 3a 02 01 02 00 00 c9 10 3f fe
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 81 00
d9 61 45 16 66 02 2d 49 4f 3f ba b9 09 00 08 09
0a 0b 0c 0d 0e 0f 10 11 12 13 14 15 16 17 18 19
1a 1b 1c 1d 1e 1f 20 21 22 23 24 25 26 27 28 29
2a 2b 2c 2d 2e 2f 30 31 32 33 34 35 36 37
```

```
.....
...X<>?. .....P
.....?. .....
...m.:. .....?
..... ..-..).
.....
.aE.f.-I O?.....
.....
..... ! "#$%&'()
*+,-./01 234567
```

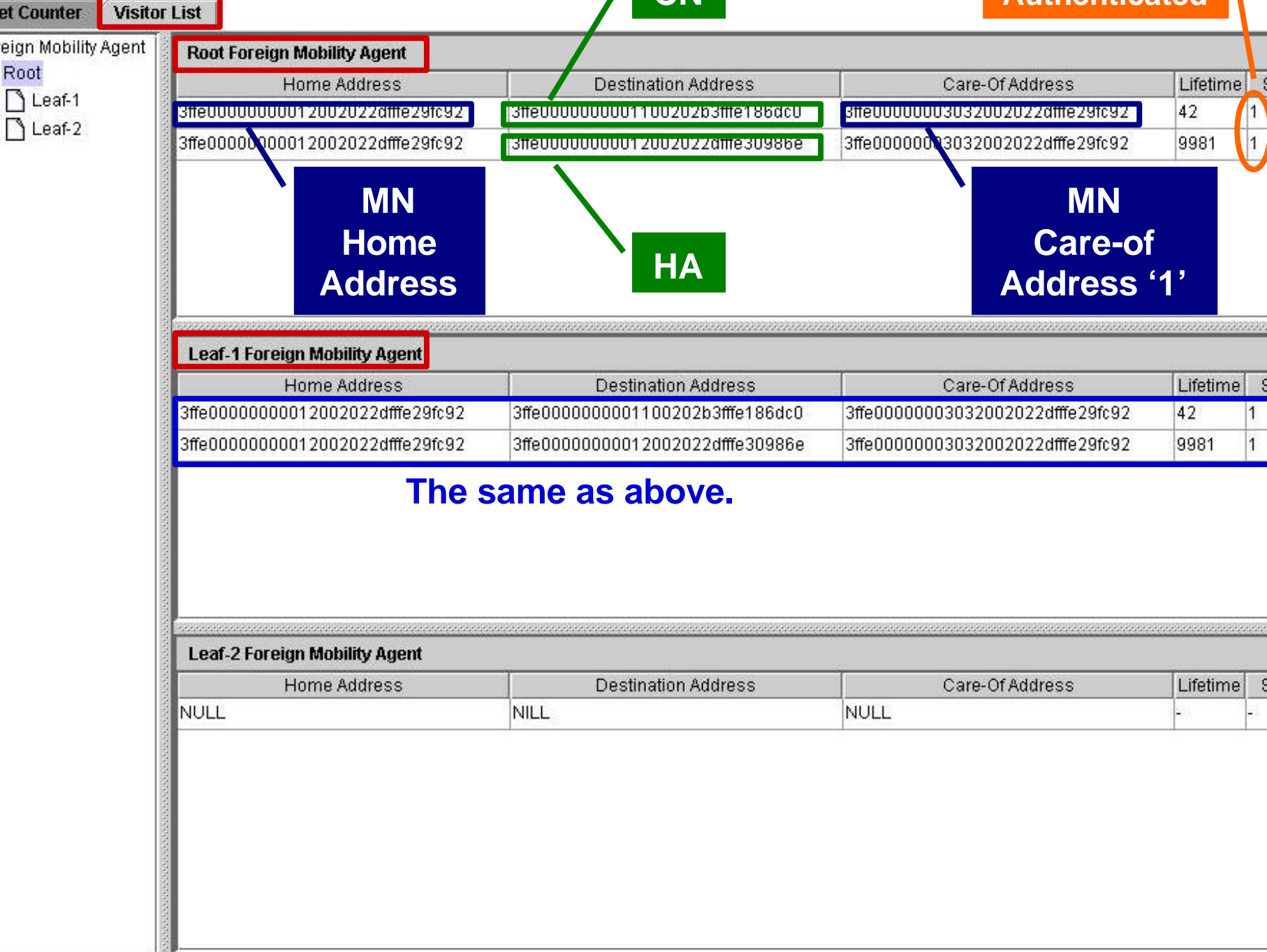


# Step 2: Result

## Visitor List

---

By Our SNMP Monitoring Tool

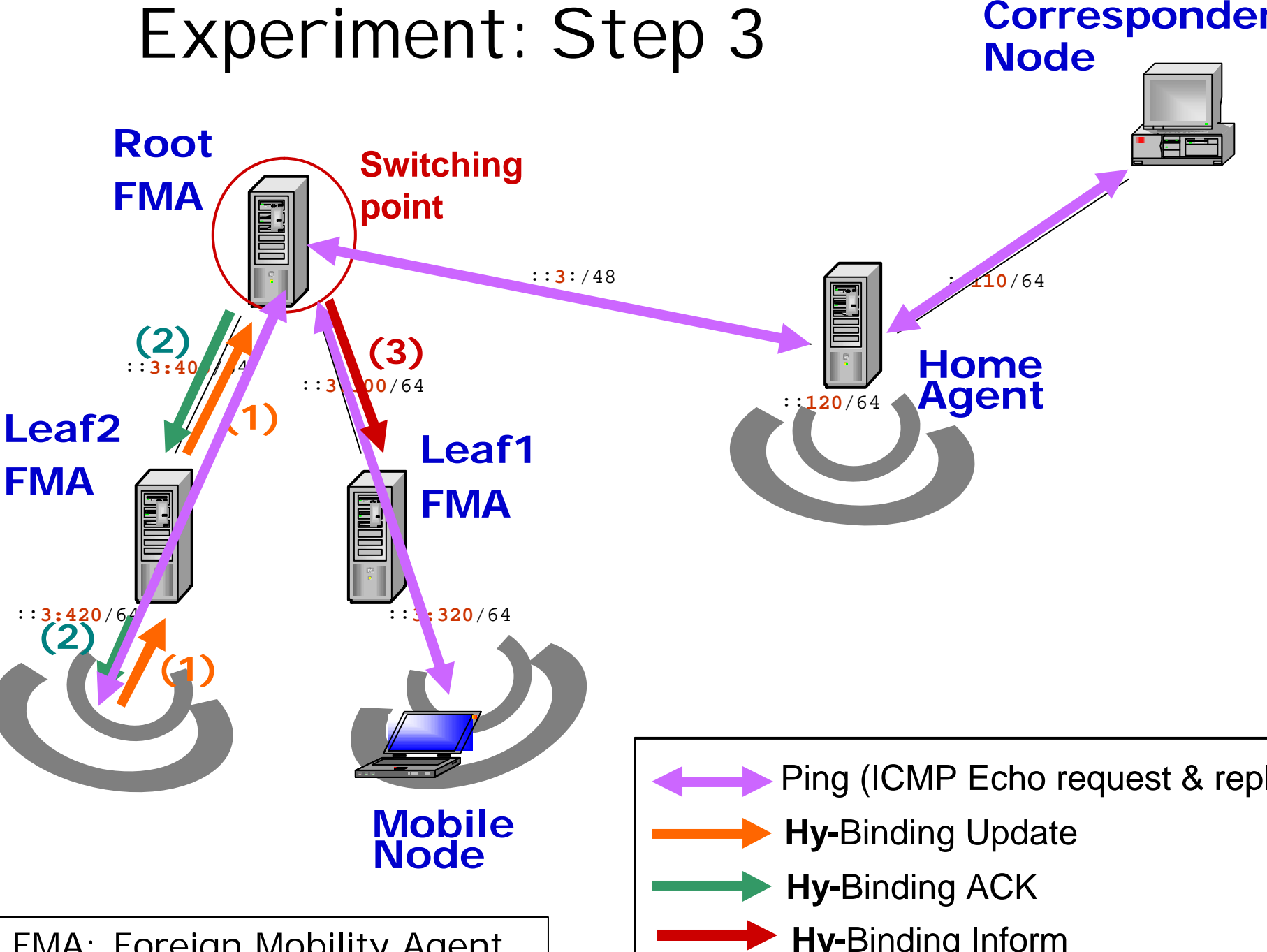


# Outline

---

- Experiment Environment
- Experiment
  - Step1
  - Step2
  - ***Step3***

# Experiment: Step 3



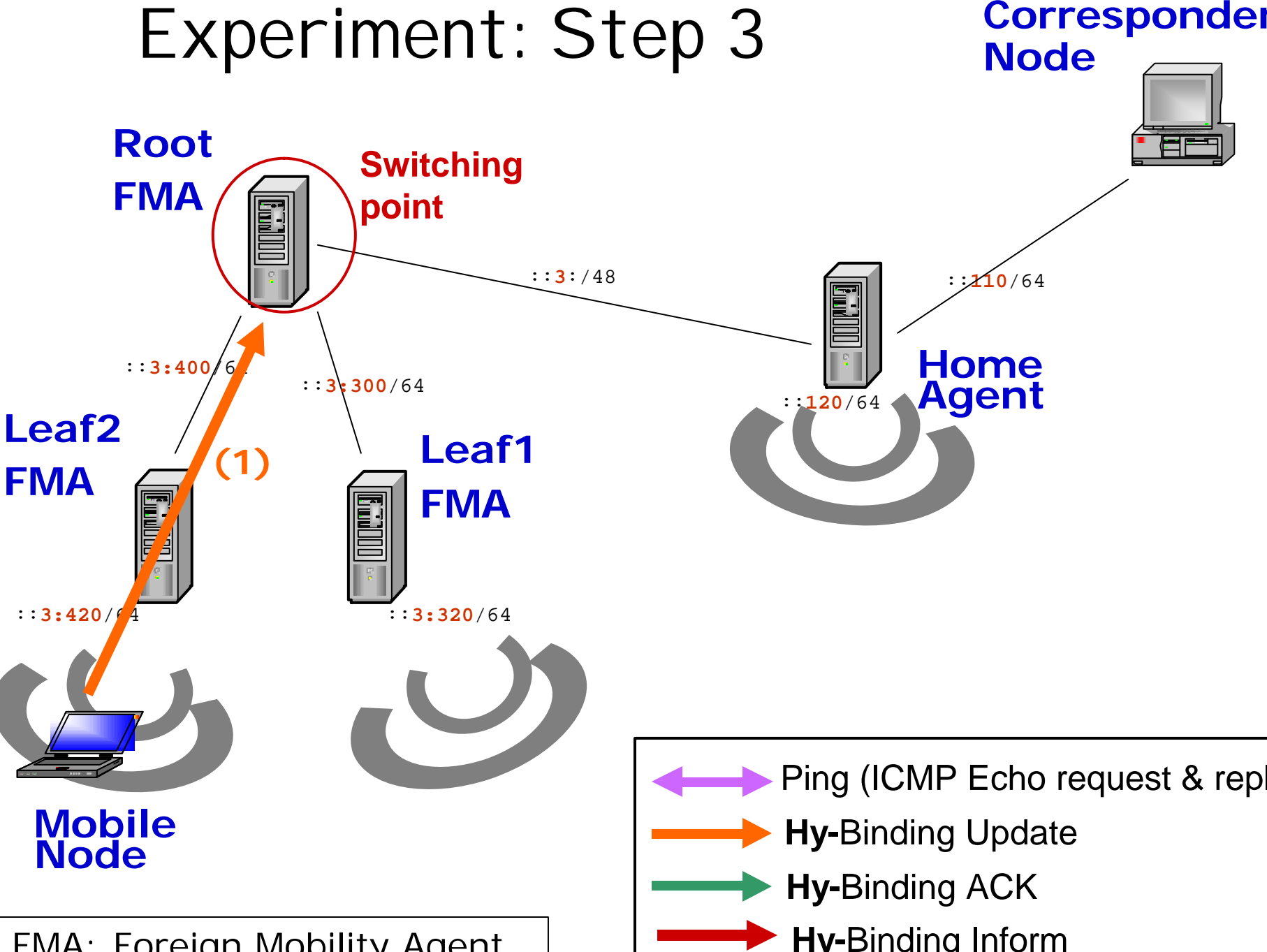
# Step 3: Result

## Update Home Agent & Correspondent Node

---

By Ethereum

# Experiment: Step 3





Time	Source	Destination	Protocol	Info
5.954232	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
5.954471	fe80::202:b3ff:fe0b:920b	fe80::1:100:a0ce	ICMPv6	Neighbor solicitation
5.954656	3ffe:0:3:400:202:b3ff:fe0b:a0ce	fe80::202:b3ff:fe0b:920b	ICMPv6	Neighbor advertisement
5.954819	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
5.955371	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
5.955625	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
6.495745	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request
7.495782	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request

HA

MN Care-of Address '2'

```

Time 240 (94 on wire, 94 captured)
Ethernet II
Internet Protocol Version 6
Destination Option Header
Next header: IPv6 destination option (0x3c)
Length: 2 (24 bytes)
PadN: 4 bytes
Option Type: 201 (0xc9) - Home Address
Option Length : 16
Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)
Destination Option Header
Next header: IPv6 no next header (0x3b)
Length: 1 (16 bytes)
Option Type: 198 (0xc6) - Binding Update
Option Length : 8
1... .. = Acknowledge (A) : Binding Acknowledgement requested
1... .. = Home Registration (H) : Home Registration
1... .. = Router (R) : Not a Router
1... .. = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection
1... .. = MAP Registration (M) : MAP Registration
1... .. = Bicasting all (B) : Do not request for bicasting
Prefix Length : 64
Sequence Number : 133
Life Time : 10000
PadN: 4 bytes

```

Hy bit

```

00 02 b3 0b 92 0b 00 02 b3 0b a0 ce 86 dd 60 00 .....
00 00 00 28 3c fe 3f fe 00 00 00 03 04 20 02 02 ..(<?.
2d ff fe 29 fc 92 3f fe 00 00 00 00 01 20 02 02 -.)..?.
2d ff fe 30 98 6e 3c 02 01 02 00 00 c9 10 3f fe -..0.n<.
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 3b 01 .....
c6 08 c8 40 00 85 00 00 27 10 01 02 00 00 ...@....

```

Update  
Home Agent

Time	Source	Destination	Protocol	Info
5.954232	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
5.954471	fe80::202:b3ff:fe0b:920b	ff02::1:ff0b:a0ce	ICMPv6	Neighbor solicitation
5.954656	3ffe:0:3:400:202:b3ff:fe0b:a0ce	fe80::202:b3ff:fe0b:920b	ICMPv6	Neighbor advertisement
5.954819	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
5.955371	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
5.955625	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
6.495745	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request
7.495782	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request

Time 244 (94 on wire, 94 captured)  
 Ethernet II  
 Internet Protocol Version 6  
 Destination Option Header  
 Next header: IPv6 destination option (0x3c)  
 Length: 2 (24 bytes)  
 PadN: 4 bytes  
 Option Type: 201 (0xc9) - Home Address  
 Option Length : 16  
 Home Address : 3ffe::120:202:2dff:fe29:fc92 (3ffe::120:202:2dff:fe29:fc92)  
 Destination Option Header  
 Next header: IPv6 no next header (0x3b)  
 Length: 1 (16 bytes)  
 Option Type: 198 (0xc6) - Binding Update  
 Option Length : 8  
 0... = Acknowledge (A) : Binding Acknowledgement requested  
 0... = Home Registration (H) : No Home Registration  
 0... = Router (R) : Not a Router  
 0... = Duplicate Address Detection (D) : Do not perform Duplicate Address Detection  
 1... = MAP Registration (M) : MAP Registration  
 0... = Bicasting all (B) : Do not request for bicasting  
 Prefix Length : 64  
 Sequence Number : 134  
 Lifetime : 60  
 PadN: 4 bytes

CN

MN Care-of Address '2'

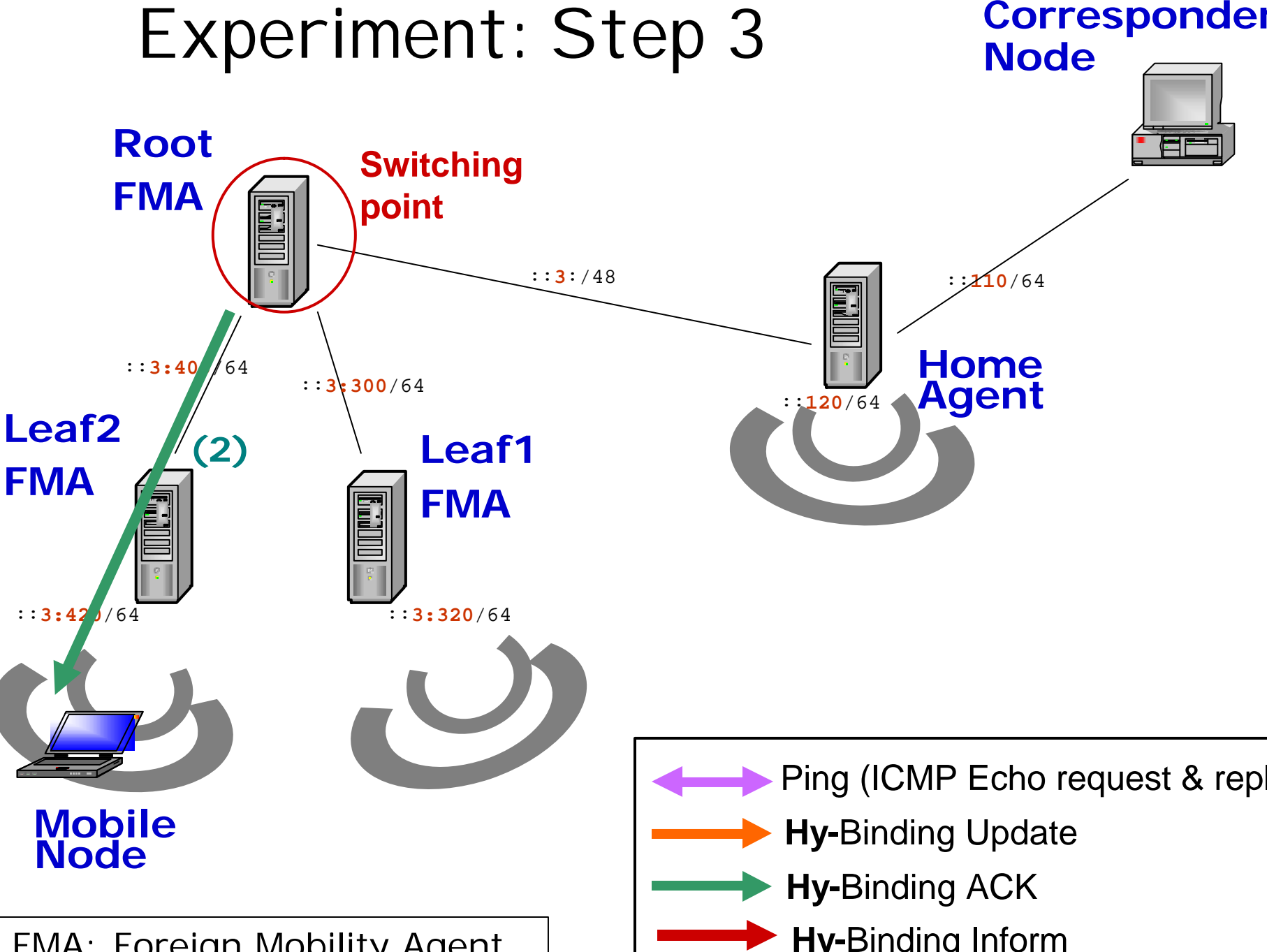
Hy bit

Update Correspondent Node

```

00 02 b3 0b 92 0b 00 02 b3 0b a0 ce 86 dd 60 00 .....
00 00 00 28 3c fe 3f fe 00 00 00 03 04 20 02 02 ...(<?.
2d ff fe 29 fc 92 3f fe 00 00 00 00 01 10 02 02 -..)?.
b3 ff fe 18 6d c0 3c 02 01 02 00 00 c9 10 3f fe ...m.<
00 00 00 00 01 20 02 02 2d ff fe 29 fc 92 3b 01 .... ..-.)..
c6 08 88 40 00 86 00 00 00 3c 01 02 00 00 ...@....<
  
```

# Experiment: Step 3



Time	Source	Destination	Protocol	Info
5.954232	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Option
5.954471	fe80::202:b3ff:fe0b:920b	ff02::1:ff0b:a0ce	ICMPv6	Neighbor solicitation
5.954656	3ffe:0:3:400:202:b3ff:fe0b:a0ce	fe80::202:b3ff:fe0b:920b	ICMPv6	Neighbor advertisement
5.954819	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
5.955371	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Option
5.955625	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
6.495745	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request
7.495782	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request

**HA Address**

**MN Care-of Address '2'**

Time 243 (118 on wire, 118 captured)  
 Ethernet II  
 Internet Protocol Version 6  
 Destination Option Header  
 Next header: IPv6 routing (0x2b)  
 Length: 2 (24 bytes)  
 Routing Header, Type 0  
 Destination Option Header  
 Next header: IPv6 no next header (0x3b)  
 Length: 1 (16 bytes)  
 Pad1  
 Option Type: 7 (0x07) Binding Acknowledgement  
 Option Length : 11  
 Status: 0 - Binding Update accepted  
 Sequence Number : 133  
 Lifetime : 777  
 Refresh : 777

**"777" means this is made by Root FMA**

**Receiver Home Address Option**

```

00 02 b3 0b a0 ce 00 02 b3 0b 92 0b 86 3d 60 00  ...@<.?
00 00 00 40 3c ff 3f fe 00 00 00 00 01 20 02 02  -..0.n?
2d ff fe 30 98 6e 3f fe 00 00 00 03 04 20 02 02  -..).+.??...
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02  ...-..).....<
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02  ...?
2d ff fe 29 fc 92 3b 01 00 07 0b 00 00 85 00 00  -..).;.....
03 09 00 00 03 09

```

**Update  
Home Agent**



Time	Source	Destination	Protocol	Info
5.954232	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::120:202:2dff:fe30:986e	IPv6	Mobile IPv6 Destination Opti
5.954471	fe80::202:b3ff:fe0b:920b	ff02::1:ff0b:a0ce	ICMPv6	Neighbor solicitation
5.954656	3ffe:0:3:400:202:b3ff:fe0b:a0ce	fe80::202:b3ff:fe0b:920b	ICMPv6	Neighbor advertisement
5.954819	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Opti
5.955371	3ffe:0:3:420:202:2dff:fe29:fc92	3ffe::120:202:b3ff:fe18:6dc0	IPv6	Mobile IPv6 Destination Opti
5.955625	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Opti
6.495745	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request
7.495782	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:420:202:2dff:fe29:fc92	ICMPv6	Echo request

Time 245 (118 on wire, 118 captured)

Ethernet II

Ethernet Protocol Version 6

Destination Option Header

Next header: IPv6 routing (0x2b)

Length: 2 (24 bytes)

Routing Header, Type 0

Destination Option Header

Next header: IPv6 no next header (0x3b)

Length: 1 (16 bytes)

Pad1

Option Type: 7 (0x07)

Binding Acknowledgement

Option Length : 11

Status: 0 - Binding Update accepted

Sequence Number : 134

Life Time : 777

Refresh : 777

CN Address

MN Care-of Address '2'

Receiver Home Address Option

Update  
Correspondent  
Node

```

00 02 b3 0b a0 ce 00 02 b3 0b 92 0b 86 3d 60 00
00 00 00 40 3c ff 3f fe 00 00 00 00 01 10 02 02
b3 ff fe 18 6d c0 3f fe 00 00 00 03 04 20 02 02
2d ff fe 29 fc 92 2b 02 cd 10 3f fe 00 00 00 00
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02
2d ff fe 29 fc 92 3b 01 00 07 0b 00 00 86 00 00
03 09 00 00 03 09

```



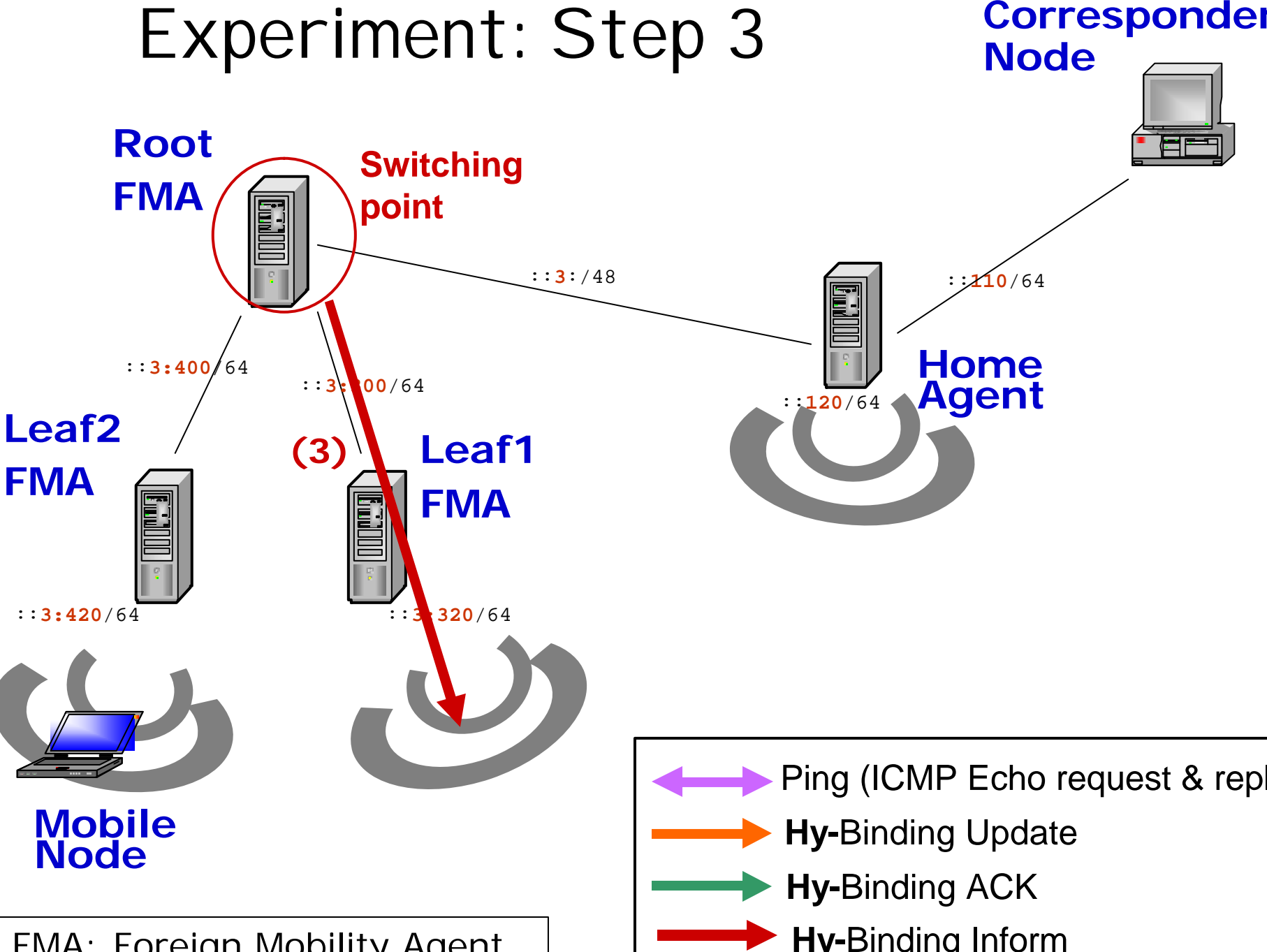
# Step 3: Result

## Binding Inform

---

By Ethereum

# Experiment: Step 3



Time .	Source	Destination	Protocol	Info
0.026906	3ffe:0:3:300:202:b3ff:fe18:13c	fe80::2d0:b7ff:febe:4808	ICMPv6	Neighbor advertisement
1.000033	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
1.002062	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.000069	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
2.002130	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
3.000138	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
4.000172	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
4.533224	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
4.533932	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option

Time 11 (118 on wire, 118 captured)

Ethernet II

Ethernet Protocol Version 6

Destination Option Header

Next header: IPv6 routing (0x2b)

Length: 2 (24 bytes)

Routing Header, Type 0

Destination Option Header

Next header: IPv6 no next header (0x3b)

Length: 1 (16 bytes)

Pad1

Option Type: 7 (0x07) - Binding Acknowledgement

Option Length: 11

Status: 200 - Binding Update was rejected

Sequence Number: 220

Life Time: 777

Refresh: 777

HA Address

MN Care-of Address '1'

200: Binding Inform

```

00 d0 b7 be 48 08 00 02 b3 18 13 c7 86 dd 60 00 ....H...
00 00 00 40 3c ff 3f fe 00 00 00 00 01 20 02 02 ...@<?.
2d ff fe 30 98 0e 3f fe 00 00 00 03 03 20 02 02 -.0.n?.
2d ff fe 29 fc 92 2b 02 cd 10 3f fe 00 00 00 00 00 -.).+.?.
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02 ...-.)...<
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02 .....?
2d ff fe 29 fc 92 3b 01 00 07 0b c8 00 dc 00 00 -.).;.
03 09 00 00 03 09 .....

```

Receiver Home Address Option



Time .	Source	Destination	Protocol	Info
0.026906	3ffe:0:3:300:202:b3ff:fe18:13c	fe80::2d0:b7ff:febe:4808	ICMPv6	Neighbor advertisement
1.000033	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
1.002062	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
2.000069	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
2.002130	3ffe:0:3:320:202:2dff:fe29:fc92	3ffe::110:202:b3ff:fe18:6dc0	ICMPv6	Echo reply
3.000138	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
4.000172	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	ICMPv6	Echo request
4.533224	3ffe::120:202:2dff:fe30:986e	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option
4.533932	3ffe::110:202:b3ff:fe18:6dc0	3ffe:0:3:320:202:2dff:fe29:fc92	IPv6	Mobile IPv6 Destination Option

Time 12 (118 on wire, 118 captured)

Ethernet II

Ethernet Protocol Version 6

Destination Option Header

Next header: IPv6 routing (0x2b)

Length: 2 (24 bytes)

Routing Header, Type 0

Destination Option Header

Next header: IPv6 no next header (0x3b)

Length: 1 (16 bytes)

Pad1

Option Type: 7 (0x07) - Binding Acknowledgement

Option Length: 11

Status: 200 - Binding Update was rejected

Sequence Number: 221

Life Time: 777

Refresh: 777

**CN Address**

**MN Care-of Address '1'**

**200: Binding Inform**

**Receiver Home Address Option**

```

00 d0 b7 be 48 08 00 02 b3 18 13 c7 86 dd 60 00 ....H...
00 00 00 40 3c ff 3f fe 00 00 00 00 01 10 02 02 ...@<?...
b3 ff fe 18 0d c0 3f fe 00 00 00 03 03 20 02 02 ...m?...
2d ff fe 29 fc 92 2b 02 cd 10 3f fe 00 00 00 00 00 ...).+.??...
01 20 02 02 2d ff fe 29 fc 92 01 02 00 00 3c 02 ...-..)<...
00 01 00 00 00 00 3f fe 00 00 00 00 01 20 02 02 ...?....
2d ff fe 29 fc 92 3b 01 00 07 0b c8 00 dd 00 00 ...).;....
03 09 00 00 03 09 .....

```

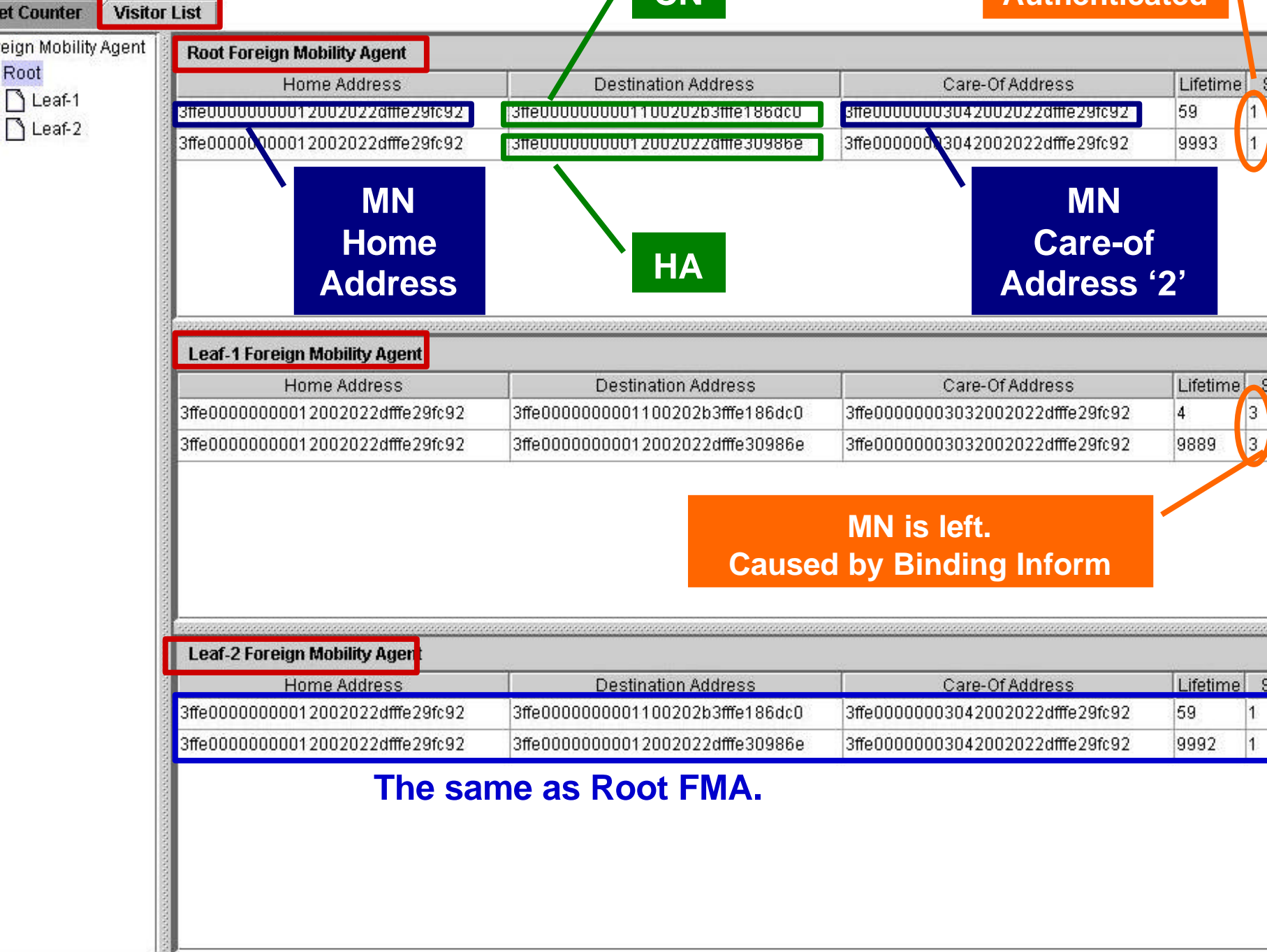


# Step 3: Result

## Visitor List

---

By Our SNMP Monitoring Tool



# Step 3: Result

## Statistics of HiMI Pv6 Control Message Packets

---

By Our SNMP Monitoring Tool

Action						
Packet Type	Leaf FMA 1	Leaf FMA 2	Root FMA	Home Agent	Correspondent Node	Mobile Node
	Receive Hy-BindingInf...	Send Hy-Binding Ack	Send Hy-BindingInfor...	Receive Hy-Binding U...	Send Binding Request	

Hierarchical MobileIPv6 Packets						
Packet Type	Leaf FMA 1	Leaf FMA 2	Root FMA	Home Agent	Correspondent Node	Mobile Node
BindingUpdate Sent	0	0	0	0	0	0
BindingAck Sent	0	18	2	1	43	0
BindingInform Sent	0	0	2	0	0	0
BindingUpdate Rcvd	0	0	0	1	14	0
BindingAck Rcvd	0	0	0	0	0	0
BindingInform Rcvd	2	5	0	0	0	0
RouterAdv Rcvd	0	0	0	0	0	0
BindingUpdate Passed	3	12	4	0	0	0
BindingAck Passed	4	17	3	0	0	0
BindingUpdate Blocked	0	18	2	0	0	0

Original MobileIPv6 Packets						
Packet Type	Leaf FMA 1	Leaf FMA 2	Root FMA	Home Agent	Correspondent Node	Mobile Node
gU			0	0		
gA			0	0		
gR			0	0		
gU			0	0		
gA			0	0		
gR			0	0		
rAc			0	0	0	0

Root FMA blocked two Hy-BU, and sends two Hy-BA by pretending HA and CN, respectively. Then, it sends two Hy-BI.

No matter how many times MN moves, HA only receives one Hy-BU and sends one Hy-BA.

*Thank You!*