

Mobility Management (Clustering)

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Mobility Management

A handover across APCs is possible in the same clustering group domain which consists of maximum 12 APCs in WEC8500 case and maximum 2 APCs in case of WEC8050.

For user's seamless handover between clustering group APCs, WLAN's SSID and security related configuration must be configured equally on all APCs in the same clustering group.

We are supporting both Inter APC Layer 2 handover and Inter APC Layer 3 handover according to the deployed network topology. If a client moved between APs connected to different APCs, handover related messages such as station and security information are exchanged between APCs.

To use Inter APC Handover functionality, the following steps are required.

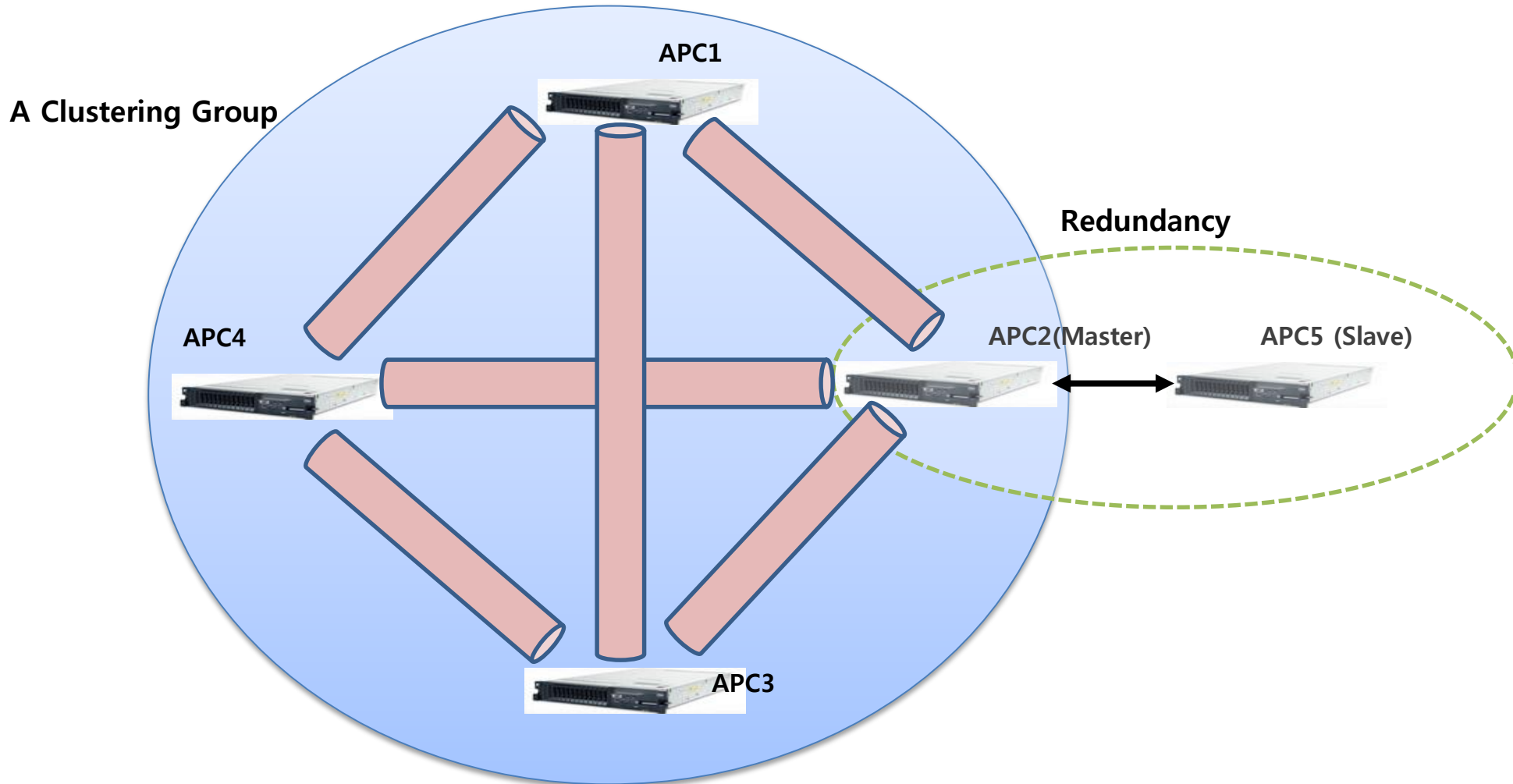
- 1. Make a clustering and add APCs into this clustering***
- 2. Enable Inter APC handover on each APC which is participated in a same clustering group.***

A clustering group is being used for RRM functionality as well.

Clustering Overview

A clustering is a group of APCs which together run like a single virtual APC sharing stations' information and APs and RF information.

A clustering forms a mesh of TCP connection and etherIP tunnel with security.



[CLI] Make A Clustering and Add APCs (1/2)

Prerequisites

[NOTICE] Different model types are not able to be jointed in a same clustering group.

1. To configure clustering, candidate APCs have to be added in APC List.

```
WEC8050/configure# apc apc-list add-apc APC-2 f4:d9:fb:42:15:20
ApcName : APC-2, ApcMac : f4:d9:fb:42:15:20
WEC8050/configure# show apc list

==== APC List ====
      Name          MAC_Address
=====
          APC-1    f4:d9:fb:40:c9:50
          APC-2    f4:d9:fb:42:15:20
```

Add APC to Clustering

[NOTICE] All candidate APCs should be configured with same parameters on each APC.

1. Add APCs to Clustering

```
WEC8050/configure/cluster# add-apc 1 APC-1 90,90,194,223 120
APC added to cluster
WEC8050/configure/cluster# add-apc 2 APC-2 90,90,194,224 120
APC added to cluster
WEC8050/configure/cluster# show cluster list-apc

=====
INDEX  APC-NAME          IPv4-ADDRESS      DB-REF-INT  CONNECT-STATUS
=====
1      APC-1             90,90,194,223    120         CONNECTED[1]
2      APC-2             90,90,194,224    120         NOT_CONNECTED[0]
=====
```

[CLI] Make A Clustering and Add APCs (2/2)

Enable Clustering

1. Enable Clustering

```
WE8050/configure/cluster# show cluster config
=====
          CLUSTER CONFIGURATION INFORMATION
=====
KEEP-ALIVE-INTERVAL      : 10
KEEP-ALIVE-RETRY-COUNT  : 3
ENABLE                   : NO
OWN-APC-INDEX           : 1
=====

WE8050/configure/cluster# enable
cluster enabled
WE8050/configure/cluster# show cluster config
=====
          CLUSTER CONFIGURATION INFORMATION
=====
KEEP-ALIVE-INTERVAL      : 10
KEEP-ALIVE-RETRY-COUNT  : 3
ENABLE                   : YES
OWN-APC-INDEX           : 1
=====
```

Check Connection Status

1. Check Connection Status (All Connections should be "CONNECTED")

```
WE8050/configure/cluster# show cluster list-apc
=====
INDEX  APC-NAME      IPv4-ADDRESS    DB-REF-INT  CONNECT-STATUS
=====
1      APC-1        90.90.194.223  120         CONNECTED[1]
2      APC-2        90.90.194.224  120         CONNECTED[1]
=====
```

[CLI] Enable Inter APC Handover on each APC

Enable Inter APC Handover

1. Enable

```
WEC8050/configure# show handover configuration

Handover Configurations
-----
Mode : Intra APC
Mode : 802.11 HO
SMHO : Disabled
Buffered Forwarding on Legacy Handover : Enabled
WEC8050/configure# handover inter-apc enable

Inter APC Set: enable
WEC8050/configure# show handover configuration

Handover Configurations
-----
Mode : Inter APC
      Database mode           Cluster
      DB request time        100
Mode : 802.11 HO
SMHO : Disabled
Buffered Forwarding on Legacy Handover : Enabled
```

[WEC] Make A Clustering and Add APCs (1/2)

Prerequisites

[NOTICE] Different model types are not able to be jointed in a same clustering group.

1. To configure clustering, candidate APCs have to be added in APC List.

Controller > APC Lists > Add

		Back	Apply
APC NAME	<input type="text" value="APC-2"/>		
MAC ADDRESS	<input type="text" value="f4"/>	<input type="text" value="d9"/>	<input type="text" value="fb : 42 : 15 : 20"/>

Add APC to Clustering

[NOTICE] All candidate APCs should be configured with same parameters on each APC.

1. Add APCs to Clustering

Mobility Management > Clustering > Add

		Back	Apply
INDEX	<input type="text" value="2"/>		
APC NAME	<input type="text" value="APC-2"/>		
IP ADDRESS	<input type="text" value="90"/>	<input type="text" value="90"/>	<input type="text" value="194 : 224"/>
DB REFRESH INTERVAL (SEC)	<input type="text" value="120"/>		

[WEC] Make A Clustering and Add APCs (2/2)

Enable Clustering and Check Connection Status

1. Enable Clustering

Mobility Management > Clustering

Apply

Information

KEEP ALIVE INTERVAL (SEC)	<input type="text" value="10"/>
KEEP ALIVE RETRY COUNT	<input type="text" value="3"/>
CLUSTER ¹	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

2. Check Connection Status (All Connections should be "connected". If NOT, wait and refresh same web page)

Add

Delete ²

Clustering Members

Total Entry : 2

<input type="checkbox"/>	INDEX	APC NAME	IP ADDRESS	DB REFRESH INTERVAL	CONNECT STATUS
<input type="checkbox"/>	1	APC-1	90.90.194.223	120	connected
<input type="checkbox"/>	2	APC-2	90.90.194.224	120	connected

[WEC] Enable Inter APC Handover on each APC

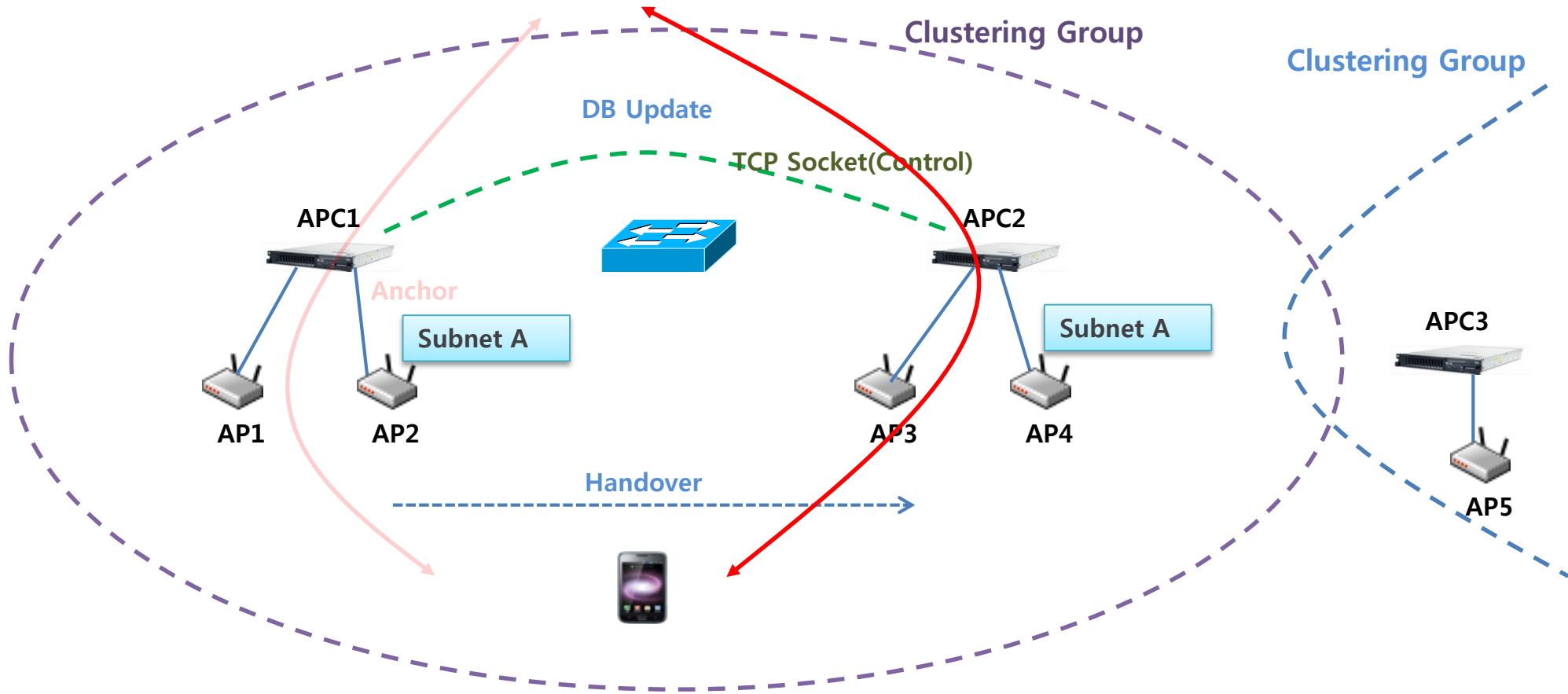
Enable Inter APC Handover

1. Enable

Mobility Management > Handover

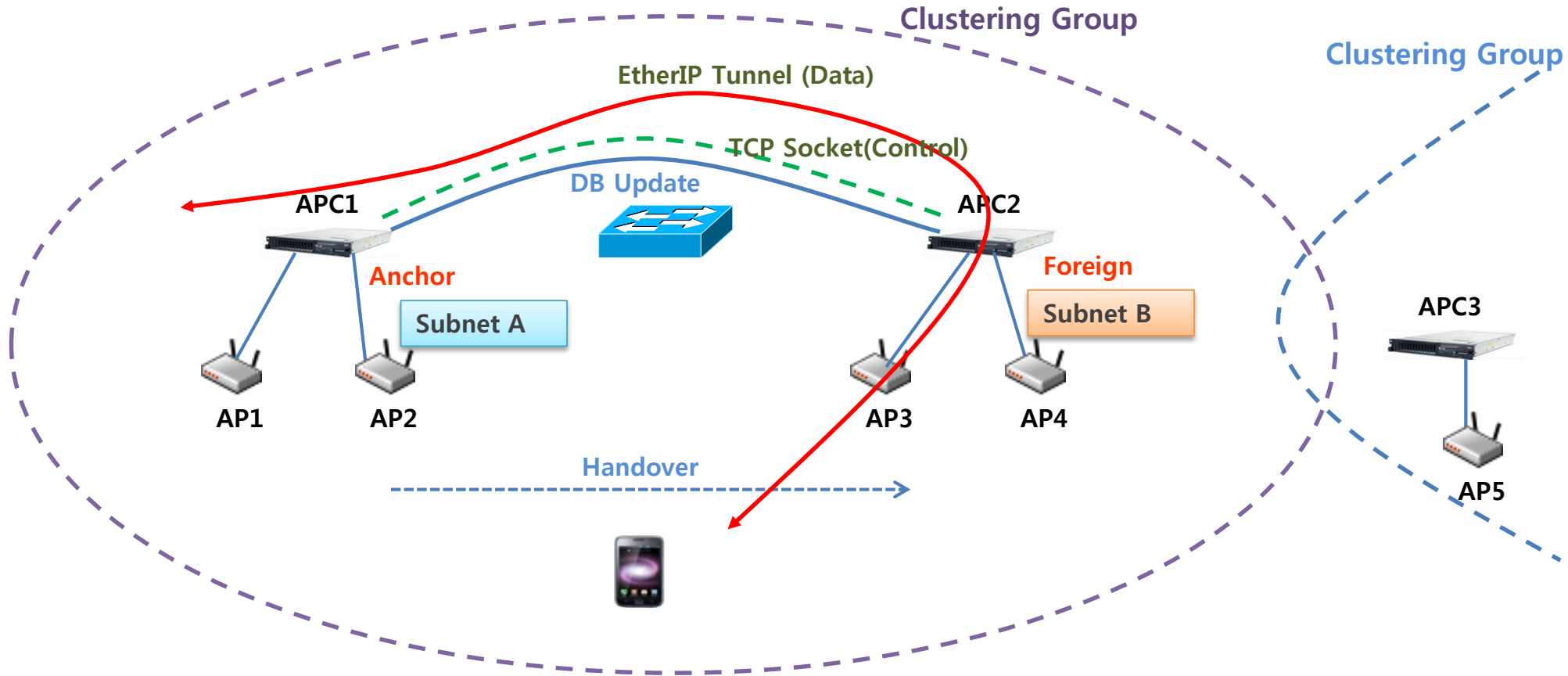
INTER APC HANDOVER		<input checked="" type="radio"/> Enable <input type="radio"/> Disable	<input type="button" value="Apply"/>
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Mobility Mgmt - Inter APC L2 Handover Case



↔ Data Flow

Mobility Mgmt - Inter APC L3 Handover



↔ Data Flow

L3 HO Service scenario among multiple APCs

Station Move : AP2 -> AP3 -> AP5

