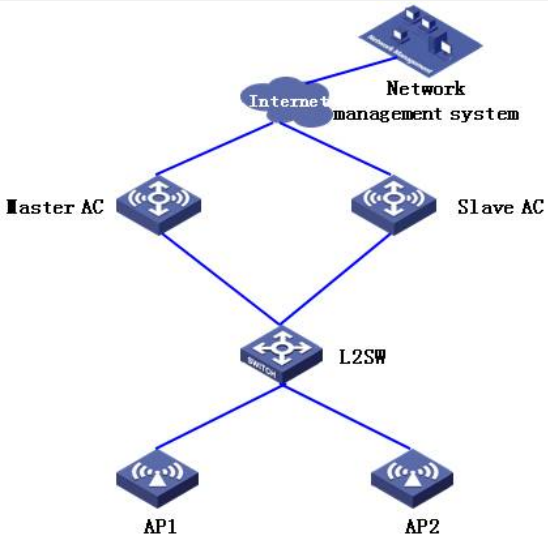


H3C WX系列AC1+1热备备份节点测试方法

一、 组网需求：

WX系列AC、FIT AP、便携机(安装有无线网卡)、mib browser等网管软件。

二、 组网图：



上图配置举例中的AC使用的是WX6108E无线控制器，AP使用的是WA2620i-AGN。

三、 测试节点信息：

AC测试节点信息如下：

AC备份属性	h3cDot11BackupACRole	1.3.6.1.4.1.2011.10.2.75.1.1.2.12
AC主机的备份网管IP地址	h3cDot11BackupACNMSIP	1.3.6.1.4.1.2011.10.2.75.1.1.2.13
AC备份模式	h3cDot11ACBackupMode	1.3.6.1.4.1.2011.10.2.75.1.1.2.14
AC备份状态	h3cDot11ACBackupStatus	1.3.6.1.4.1.2011.10.2.75.1.1.2.15
AC切换次数	h3cDot11ACSwitchCount	1.3.6.1.4.1.2011.10.2.75.1.1.2.16

四、 设备配置：

1、 Master AC配置信息：

```
_ver
H3C Comware Platform Software
Comware Software, Version 5.20, Release 2308P07
Comware Platform Software Version COMWAREV500R002B96D319SP01
EWPX2WCMD0 Software Version V200R003B96D019SP01
Copyright (c) 2004-2012 Hangzhou H3C Tech. Co., Ltd. All rights reserved.
Compiled May 18 2012 17:11:10, RELEASE SOFTWARE
EWPX2WCMD0 uptime is 0 week, 0 day, 6 hours, 31 minutes
display current-configuration
#
version 5.20, Release 2308P07
#
```

```
sysname Master AC

#
domain default enable system

#
telnet server enable

#
port-security enable

#
dhbk enable backup-type symmetric-path
dhbk vlan 1000

#
wlan backup-ac ip 192.168.1.3
wlan backup-ac nms-ip 192.168.1.2
wlan backup-ac priority 7
wlan backup-ac mode hot

#
hot-backup enable domain 1
hot-backup vlan 1001

#
vlan 1

#
vlan 2

#
vlan 1000 to 1001

#
domain 1
access-limit disable
state active
idle-cut disable
self-service-url disable
domain system
access-limit disable
state active
idle-cut disable
self-service-url disable

#
dhcp server ip-pool vlan1
network 192.168.1.0 mask 255.255.255.0
gateway-list 192.168.1.1
expired day 0 hour 2

#
dhcp server ip-pool vlan2
network 192.168.2.0 mask 255.255.255.0
gateway-list 192.168.2.1
expired day 0 hour 2

#
```

```
user-group system

group-attribute allow-guest

#

local-user admin

password cipher .]@USE=B,53Q=^Q`MAF4<1!!

authorization-attribute level 3

service-type telnet

#

wlan rrm

dot11a mandatory-rate 6 12 24

dot11a supported-rate 9 18 36 48 54

dot11b mandatory-rate 1 2

dot11b supported-rate 5.5 11

dot11g mandatory-rate 1 2 5.5 11

dot11g supported-rate 6 9 12 18 24 36 48 54

#

wlan service-template 1 clear

ssid H3C

bind WLAN-ESS 1

service-template enable

#

interface Bridge-Aggregation1

port link-type trunk

port trunk permit vlan all

#

interface NULL0

#

interface Vlan-interface1

ip address 192.168.1.2 255.255.255.0

vrrp vrid 1 virtual-ip 192.168.1.1

vrrp vrid 1 priority 120

vrrp vrid 1 preempt-mode timer delay 1

vrrp vrid 1 track interface Vlan-interface1001 reduced 30

#

interface Vlan-interface2

ip address 192.168.2.2 255.255.255.0

vrrp vrid 2 virtual-ip 192.168.2.1

vrrp vrid 2 priority 120

vrrp vrid 2 preempt-mode timer delay 1

vrrp vrid 2 track interface Vlan-interface1001 reduced 30

#

interface Vlan-interface1001

ip address 1.1.1.1 255.255.255.0

#

interface M-GigabitEthernet1/0/0

#
```

```
interface Ten-GigabitEthernet1/0/1

port link-type trunk

port trunk permit vlan all

port link-aggregation group 1

#

interface Ten-GigabitEthernet1/0/2

port link-type trunk

port trunk permit vlan all

port link-aggregation group 1

#

interface WLAN-ESS1

port access vlan 2

#

wlan ap ap1 model WA2620i-AGN id 1

trap enable

priority level 7

serial-id 219801A0CNC124004764

backup-ac ip 192.168.1.3

radio 1

radio 2

max-power 5

service-template 1

radio enable

#

wlan ap ap2 model WA2620 id 2

trap enable

priority level 7

serial-id 219801A0D1C123023703

backup-ac ip 192.168.1.3

radio 1

radio 2

max-power 5

service-template 1

radio enable

#

undo info-center logfile enable

#

snmp-agent

snmp-agent local-engineid 800063A2033822D6D74AF1

snmp-agent community read public

snmp-agent community write private

snmp-agent sys-info version all

#

dhcp server forbidden-ip 192.168.1.1 192.168.1.3

dhcp server forbidden-ip 192.168.2.1 192.168.2.3

#
```

```
dhcp enable

#
arp-snooping enable

#
load xml-configuration

#
user-interface con 0
user-interface aux 0
authentication-mode none
user privilege level 3
user-interface vty 0 4
authentication-mode scheme
user privilege level 3

#
Return
```

2、Slave AC配置信息:

```
_ ver

H3C Comware Platform Software

Comware Software, Version 5.20, Release 2308P07

Comware Platform Software Version COMWAREV500R002B96D319SP01
H3C WX5004 Software Version V200R003B96D119SP01

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Compiled May 18 2012 17:10:44, RELEASE SOFTWARE

H3C WX5004 uptime is 0 week, 1 day, 4 hours, 59 minutes

display current-configuration

#
version 5.20, Release 2308P07

#
sysname Slave AC

#
domain default enable system

#
telnet server enable

#
port-security enable

#
dhbk enable backup-type symmetric-path
dhbk vlan 1000

#
wlan backup-ac ip 192.168.1.2
wlan backup-ac nms-ip 192.168.1.3
wlan backup-ac priority 0
wlan backup-ac mode hot

#
hot-backup enable domain 1
hot-backup vlan 1001
```

```
#
vlan 1
#
vlan 2
#
vlan 1000 to 1001
#
domain 1
access-limit disable
state active
idle-cut disable
self-service-url disable
domain system
access-limit disable
state active
idle-cut disable
self-service-url disable
#
dhcp server ip-pool vlan1
network 192.168.1.0 mask 255.255.255.0
gateway-list 192.168.1.1
expired day 0 hour 2
#
dhcp server ip-pool vlan2
network 192.168.2.0 mask 255.255.255.0
gateway-list 192.168.2.1
expired day 0 hour 2
#
user-group system
group-attribute allow-guest
#
local-user admin
password cipher .J@USE=B,53Q=^Q`MAF4<1!!
authorization-attribute level 3
service-type telnet
service-type web
#
wlan rrm
dot11a mandatory-rate 6 12 24
dot11a supported-rate 9 18 36 48 54
dot11b mandatory-rate 1 2
dot11b supported-rate 5.5 11
dot11g mandatory-rate 1 2 5.5 11
dot11g supported-rate 6 9 12 18 24 36 48 54
#
wlan service-template 1 clear
```

```
ssid H3C

bind WLAN-ESS 1

service-template enable

#

interface NULL0

#

interface Vlan-interface1

ip address 192.168.1.3 255.255.255.0

vrrp vrid 1 virtual-ip 192.168.1.1

#

interface Vlan-interface2

ip address 192.168.2.3 255.255.255.0

vrrp vrid 2 virtual-ip 192.168.2.1

#

interface Vlan-interface1001

ip address 1.1.1.2 255.255.255.0

#

interface GigabitEthernet1/0/1

port link-type trunk

undo port trunk permit vlan 1

port trunk permit vlan 1000 to 1001

#

interface GigabitEthernet1/0/2

port link-type trunk

port trunk permit vlan 1 to 2

#

interface GigabitEthernet1/0/3

#

interface GigabitEthernet1/0/4

#

interface Ten-GigabitEthernet1/0/5

#

interface WLAN-ESS1

port access vlan 2

#

wlan ap ap1 model WA2620i-AGN id 1

trap enable

serial-id 219801A0CNC124004764

backup-ac ip 192.168.1.2

radio 1

radio 2

service-template 1

radio enable

#

wlan ap ap2 model WA2620 id 2

trap enable
```

```
serial-id 219801A0D1C123023703

backup-ac ip 192.168.1.2

radio 1

radio 2

service-template 1

radio enable

#

undo info-center enable

undo info-center logfile enable

#

snmp-agent

snmp-agent local-engineid 800063A2033CE5A684342E

snmp-agent community read public

snmp-agent community write private

snmp-agent sys-info version all

#

dhcp server forbidden-ip 192.168.1.1 192.168.1.3

dhcp server forbidden-ip 192.168.2.1 192.168.2.3

#

dhcp enable

#

arp-snooping enable

#

load xml-configuration

#

user-interface con 0

user-interface vty 0 4

authentication-mode scheme

user privilege level 3

#

return
```

五、配置关键点：

1、配置Master AC：

？ 指定Master AC备份IP地址。

指定backup-ac IP地址为192.168.1.3。

system-view

[Master AC] wlan backup-ac ip 192.168.1.3

？ 指定Master AC网管IP地址。

[Master AC] wlan backup-ac nms-ip 192.168.1.2

？ 指定Master AC优先级为7。

[Master AC] wlan backup-ac priority 7

？ 指定Master AC备份状态。

[Master AC] wlan backup-ac mode hot

2、配置Slave AC：

Slave AC配置同主AC配置类似，此处省略。

六、结果验证：

1、主备AC切换之前主备AC各节点读取状态:

(1) Master AC读取节点信息:

Remote address: 192.168.1.2 port: 161 transport: IP/UDP
Local address: 10.153.49.133 port: 3204 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:02m:07s.54th (12754)

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACRole.0 (integer) master(2)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.2

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11ACBackupStatus.0 (integer) active(1)

***** SNMP QUERY FINISHED *****

(2) Slave AC读取节点信息:

Remote address: 192.168.1.3 port: 161 transport: IP/UDP
Local address: 10.153.49.133 port: 3211 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:03m:02s.17th (18217)

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACRole.0 (integer) slave(3)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.3

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11ACBackupStatus.0 (integer) standby(2)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11ACSwitchCnt.0 (integer) 0

***** SNMP QUERY FINISHED *****

2、主备AC切换之后主备AC各节点读取状态:

(1) Master AC读取节点信息:

Remote address: 192.168.1.2 port: 161 transport: IP/UDP
Local address: 10.153.49.133 port: 3254 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:05m:22s.58th (32258)

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACRole.0 (integer) master(2)

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.2

***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****

```
1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACBackupStatus.0 (integer) active(1)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACSwitchCnt.0 (integer) 0
***** SNMP QUERY FINISHED *****

(2) Slave AC读取节点信息:

Remote address: 192.168.1.3 port: 161 transport: IP/UDP
Local address: 10.153.49.133 port: 3221 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:05m:08s.93th (30893)

***** SNMP QUERY STARTED *****
1: h3cDot11BackupACRole.0 (integer) slave(3)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.3
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACBackupStatus.0 (integer) active(1)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACSwitchCnt.0 (integer) 1
***** SNMP QUERY FINISHED *****
```

3、主备AC切换恢复之后主备AC各节点读取状态:

(1) Master AC读取节点信息:

```
Remote address: 192.168.1.2 port: 161 transport: IP/UDP
Local address: 10.153.49.133 port: 3262 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:06m:47s.44th (40744)

***** SNMP QUERY STARTED *****
1: h3cDot11BackupACRole.0 (integer) master(2)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.2
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACBackupStatus.0 (integer) active(1)
***** SNMP QUERY FINISHED *****

***** SNMP QUERY STARTED *****
1: h3cDot11ACSwitchCnt.0 (integer) 0
***** SNMP QUERY FINISHED *****
```

(2) Slave AC读取节点信息:

```
Remote address: 192.168.1.3 port: 161 transport: IP/UDP
```

```
Local address: 10.153.49.133 port: 3268 transport: IP/UDP
Protocol version: SNMPv2c
1: sysUpTime.0 (timeticks) 0 days 00h:07m:38s.40th (45840)
```

```
***** SNMP QUERY STARTED *****
```

```
1: h3cDot11BackupACRole.0 (integer) slave(3)
```

```
***** SNMP QUERY FINISHED *****
```

```
***** SNMP QUERY STARTED *****
```

```
1: h3cDot11BackupACNMSIP.0 (ipaddress) 192.168.1.3
```

```
***** SNMP QUERY FINISHED *****
```

```
***** SNMP QUERY STARTED *****
```

```
1: h3cDot11ACBackupMode.0 (integer) hotBackup(2)
```

```
***** SNMP QUERY FINISHED *****
```

```
***** SNMP QUERY STARTED *****
```

```
1: h3cDot11ACBackupStatus.0 (integer) standby(2)
```

```
***** SNMP QUERY FINISHED *****
```

```
***** SNMP QUERY STARTED *****
```

```
1: h3cDot11ACSwitchCnt.0 (integer) 2
```

```
***** SNMP QUERY FINISHED *****
```

七、注意事项：

1、测试上述五个主备AC备份节点特性需保证无线控制器AC升级至B96D018及以上版本。

2、主备AC备份节点特性配置注意事项：

(1)“AC备份属性”节点备份属性跟配置的backup-ac priority相关，不因为实际的工作状态改变；命令行需要配置wlan backup-ac priority priority-level(0-7)

0 -- slave

7 -- master

1-6 null (默认4)

(2) “AC主机的备机网管IP地址”节点测试命令行需要配置wlan backup-ac nms-ip x.x.x.x

(3) “AC备份模式”节点测试命令行需要配置 wlan backup-ac mode hot/cold ,不配置时为null

(4) “AC备份状态”节点测试需要通过AC上处于master状态的AP数来判断，如果有AP处于master，则认为处于active，否则处于standby状态，如果配置了master AC，永远处于active状态,Null AC处于active状态

(5) “AC切换次数”节点读取为AC备份状态的切换，对于master AC和Null AC始终为0，slave AC每次状态变化累加一次

3、配置backup-ac NMS-IP地址、backup-ac优先级、AC备份状态均指本机设备状态。