HiveOS\_CAPWAP\_Enhancement\_TestCase

Revision History

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| --- | --- | --- | --- |
| Version | Date | Author | Description |
| 0.1 | 10/22/2010 | Yun Feng | Initial version |
| 0.2 | 2010-11-2 | Zhao haihui | Add test topology, pre-condition, test procedure, test result, and modify some case |
| 0.3 | 2012/2/16 | Zhao haihui | According to bug 16377, add a negative case |
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Table of Content

Glossary and Abbreviations

# Introduction

For some reasons, capwap will change the logic to enhancement. See following logic change:

Old work flow is:

1. If don’t config any HM name in box

* Use fixed name “hivemanager” in UDP
* Failed, use broadcast
* Failed, use pre-define server name in UDP
* Failed, use pre-define server name in TCP
* Failed, use broadcast
* Failed, use fixed name “hivemanager” in UDP

1. Config one or both HM name in box, If user doesn’t config transfer-mode and port. If configed, only user configed transfer-mode and port try.

* Use primary name in UDP mode
* Use backup name in UDP mode
* Use broadcast

Now new work flow is:

1. If don’t config any HM name in box

* Use fixed name “hivemanager” in UDP
* Use fixed name “hivemanager” in TCP
* Failed, use broadcast
* Failed, use pre-define server name in UDP
* Failed, use pre-define server name in TCP
* loop

1. Config one or both HM name in box, If user doesn’t config transfer-mode and port. If configed, only user configed transfer-mode and port try.

* Use primary name in UDP mode
* Use primary name in TCP mode
* Use backup name in UDP mode
* Use backup name in TCP mode
* Use broadcast
* loop

# Test Objectives

## No configure any HM name in AP

### AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager”

### AP use fixed name “hivemanager” in TCP if dns server defined “hivemanager” and hivemanager use TCP----add a router which deny the UDP packet

### AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan

### AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists

### AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists which use TCP --- add a router which deny the UDP packet

### AP will loop this logic if haven’t found HM

## Config HM name in AP, but doesn’t config transfer-mode and port

### AP use primary HM in UDP mode if HM exists

### AP use primary HM in TCP mode if HM exists which use TCP---add a router which deny UDP packet

### AP use backup HM in UDP if primary HM doesn’t exists and backup HM exists

### AP use backup HM in TCP if primary HM doesn’t exists and backup HM exists which use TCP---add a router which deny UDP packet

### AP use broadcast if primary HM and backup HM doesn’t exist and HM exist in same vlan

### AP will loop this logic if haven’t found HM

## If don’t config HM name in AP, but config transfer-mode(TCP)

### AP use fixed name “hivemanager” in TCP if dns server defined “hivemanager” and hivemanager use TCP

### AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan

### AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists which use TCP

## If config HM name in AP and config transfer-mode(TCP)

### AP use primary HM in TCP mode if HM exists which use TCP

### AP use backup HM in TCP if primary HM doesn’t exists and backup HM exists which use TCP

### AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan

## If don’t config HM name in AP, but config port(80)

### AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager”

### AP use fixed name “hivemanager” in TCP if dns server defined “hivemanager” and hivemanager use TCP

### AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan

### AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists

### AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists which use TCP

## If config HM name and port(80) in AP

### AP use primary HM in UDP mode if HM exists

### AP use primary HM in TCP mode if HM exists which use TCP

### AP use backup HM in UDP if primary HM doesn’t exists and backup HM exists

### AP use backup HM in TCP if primary HM doesn’t exists and backup HM exists which use TCP

### AP use broadcast if primary HM and backup HM doesn’t exist and HM exist in same vlan

## If don’t config HM name in AP, but config port(1500)

### AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager”

### AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan

### AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists

## If config HM name and config port(1500)

### AP use primary HM in UDP mode if HM exists

### AP use backup HM in UDP if primary HM doesn’t exists and backup HM exists

### AP use broadcast if primary HM and backup HM doesn’t exist and HM exist in same vlan

# Test Acceptance Criterion from Development

* Approved – Functional Specifications
* Approved – Unit Test Plans

# Product Pass Criterion

# Test Bed/Topo Design

# TestCase

## Key Scenarios

## Function Test Case

### No configure any HM name in AP

#### Ft\_CapwapEnhancement\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_1 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager” | | |
| Pre-condition | Config hivemanager in DNS server | | |
| Test procedure | 1. Bootup AP, open \_debug capwap ha and debug console to check work flow for CAPWAP choose HM(no capwap client enable, capwap client enable), check if AP connect to HM in HM  2. Show capwap client to check capwap status | | |
| Expect result | 1 , AP use fixed name “hivemanager” in UDP, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#2010-10-28 02:26:19 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-28 02:26:19 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-28 02:26:19 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-10-28 02:26:34 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-28 02:26:34 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=12222  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (UDP mode)  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_2 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch ------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in TCP if dns server defined “hivemanager” and hivemanager use TCP | | |
| Pre-condition | Config hivemanager in DNS server  Deny UDP packets of hivemanager in L3 Switch(  [H3C-Ethernet1/0/8]undo packet-filter inbound ip-group 3333 rule 0) | | |
| Test procedure | 1.Bootup AP, open \_debug capwap ha and debug console to check work flow for CAPWAP choose HM(no capwap client enable, capwap client enable), check if AP connect to HM in HM  2. Show capwap client to check capwap status | | |
| Expect result | 1, AP use fixed name “hivemanager” in TCP, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#debug console  AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-10-28 06:15:45 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-28 06:15:45 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-28 06:15:45 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-10-28 06:16:00 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-28 06:16:00 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=12222  2010-10-28 06:17:31 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-28 06:17:31 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-28 06:17:31 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-10-28 06:17:46 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-28 06:17:46 debug [capwap\_ha, ah\_capwap\_func.c, 1951]: use fixed server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_3 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch------DHCP/DNS server  |  HM | | |
| Description | AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan | | |
| Pre-condition | Hivemanager not be configured in DNS server | | |
| Test procedure | 1. Bootup AP, open \_debug capwap ha and debug console to check work flow for CAPWAP choose HM(no capwap client enable, capwap client enable), check if AP connect to HM in HM  2.Show capwap client to check capwap status | | |
| Expect result | 1,AP send broadcast , can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-10-28 06:47:01 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-28 06:47:01 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-28 06:47:01 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-28 06:47:17 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-28 06:47:17 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=12222  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_4 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists | | |
| Pre-condition | Hivemanager not be configured in DNS server  Config stage server in DNS server | | |
| Test procedure | 1. Bootup AP, open \_debug capwap ha and debug console to check work flow for CAPWAP choose HM(no capwap client enable, capwap client enable), check if AP connect to HM in HM  2.Show capwap client to check capwap status | | |
| Expect result | 1,AP use stage server name in UDP, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#2010-10-29 03:02:40 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 03:02:40 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 03:02:40 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 03:02:55 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-10-29 03:02:55 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=12222  2010-10-29 03:04:16 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 03:04:16 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 03:04:16 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 03:04:31 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-10-29 03:04:31 debug [capwap\_ha, ah\_capwap\_func.c, 1974]: use predefine server(UDP), ip=192.168.51.252, port=12222  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (UDP mode)  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_5

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_5 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch ------HM  |  DHCP/DNS server | | |
| Description | AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists which use TCP | | |
| Pre-condition | Hivemanager not be configured in DNS server  Config stage server in DNS server  Deny UDP packets of hivemanager in L3 Switch(  acl number 3333  rule 0 deny UDP destination 192.168.20.200 0  rule 1 deny udp destination 192.168.51.0 0  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/8]undo packet-filter inbound ip-group 3333 rule 0  [H3C-Ethernet1/0/8]interface Ethernet 1/0/12  [H3C-Ethernet1/0/12]packet-filter inbound ip-group 3333 rule 1 ) | | |
| Test procedure | 1. Bootup AP, open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM in HM  2.Show capwap client to check capwap status | | |
| Expect result | 1,AP use stage server name in TCP, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#2010-10-29 05:47:54 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 05:47:54 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 05:47:54 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 05:48:10 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-10-29 05:48:10 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=12222  2010-10-29 05:49:50 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 05:49:50 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 05:49:50 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 05:50:05 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-10-29 05:50:05 debug [capwap\_ha, ah\_capwap\_func.c, 1974]: use predefine server(UDP), ip=192.168.51.252, port=12222  2010-10-29 05:51:26 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 05:51:26 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 05:51:26 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 05:51:42 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-10-29 05:51:42 debug [capwap\_ha, ah\_capwap\_func.c, 1985]: use predefine server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_6

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_6 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | AP------L3 Switch------DHCP/DNS Server | | |
| Description | AP will loop this logic if haven’t found HM | | |
| Pre-condition | Hivemanager and stage not be configured in DNS server  HM not exist in the same vlan | | |
| Test procedure | 1.Open \_debug capwap ha and debug console to check work flow for CAPWAP choose HM, check if APconnect to HM  2.Show capwap client to check capwap status | | |
| Expect result | 1, No HM be found, AP could not connect to HM  2, Not display run status if show capwap client, display discovery or sulking status | | |
| Test result | AH-0e5300#2010-10-29 06:00:18 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 06:00:18 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 06:00:18 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 06:00:33 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-29 06:00:33 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=80  2010-10-29 06:02:10 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 06:02:10 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 06:02:10 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 06:02:25 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-29 06:02:25 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=80  2010-10-29 06:04:04 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-10-29 06:04:04 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-10-29 06:04:04 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-10-29 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-10-29 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  SULKING state: Pausing between two sets of DISCOVERY states  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

### Config HM name in AP, but doesn’t config transfer-mode and port

#### Ft\_CapwapEnhancement\_7

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_7 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in UDP mode if HM exists | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server | | |
| Test procedure | 1.Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2.Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in UDP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#\_debug capwap ha  AH-0e5300#no capwap client enable  AH-0e5300#debug console  AH-0e5300#capwap client enable  AH-0e5300#2010-10-29 06:50:46 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 06:50:46 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 06:50:46 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 06:50:46 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 06:50:46 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (UDP mode)  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_8

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_8 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in TCP mode if HM exists which use TCP | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server  Deny UDP packets of primary HM in L3 Switch(  [H3C-Ethernet1/0/8]undo packet-filter inbound ip-group 3333 rule 0) | | |
| Test procedure | 1.Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2. Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in TCP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-10-29 07:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  2010-10-29 07:04:27 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:04:27 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:04:27 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:04:27 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:04:27 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_9

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_9 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in UDP if try primary HM in UDP and TCP failed | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server  Deny UDP packets and TCP packets of primary HM:  acl 3333  rule 0 deny UDP destination 192.168.20.200 0  rule 1 deny UDP destination 192.168.51.252 0  rule 2 deny TCP destination 192.168.20.200 0  rule 3 deny TCP destination 192.168.51.252  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 0 | | |
| Test procedure | 1. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2. Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in UDP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#no capwap client enable  AH-0e5300#debug console  AH-0e5300#capwap client enable  AH-0e5300#2010-10-29 07:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  2010-10-29 07:34:00 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:34:00 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:34:00 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:34:00 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:34:00 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-10-29 07:34:17 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:34:17 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:34:17 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:34:17 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:34:17 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=12222  AH-0e5300#  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (UDP mode)  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_10

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_10 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in TCP if try primary HM in UDP and TCP and try backup HM in UDP failed | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server  Deny UDP packets and TCP packets of primary HM:  acl 3333  rule 0 deny UDP destination 192.168.20.200 0  rule 1 deny UDP destination 192.168.51.252 0  rule 2 deny TCP destination 192.168.20.200 0  rule 3 deny TCP destination 192.168.51.252  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 0  Deny UDP packets of backup HM:  [H3C]interface Ethernet 1/0/8  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/8]interface Ethernet 1/0/12  [H3C-Ethernet1/0/12]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/12] | | |
| Test procedure | 1. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2. Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in TCP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#\_debug capwap ha  AH-0e5300#no capwap client enable  AH-0e5300#debug console  AH-0e5300#capwap client enable  AH-0e5300#2010-10-29 07:56:21 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:56:21 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:56:21 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:56:21 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:56:21 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  2010-10-29 07:57:40 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:57:40 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:57:40 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:57:40 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:57:40 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-10-29 07:58:01 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:58:01 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:58:01 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:58:01 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:58:01 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=12222  2010-10-29 07:59:17 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 07:59:17 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 07:59:17 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 07:59:17 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 07:59:17 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_11

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_11 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  | |  Backup HM HM in the same vlan | | |
| Description | AP use broadcast if try primary HM in UDP and TCP failed and try backup HM in UDP and TCP failed | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server  Exits usable HM in the same vlan  Deny UDP packets and TCP packets of primary HM and backup HM:  acl 3333  rule 0 deny UDP destination 192.168.20.200 0  rule 1 deny UDP destination 192.168.51.252 0  rule 2 deny TCP destination 192.168.20.200 0  rule 3 deny TCP destination 192.168.51.252  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 0  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/8] packet-filter inbound ip-group 3333 rule 3  [H3C-Ethernet1/0/12]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/12] packet-filter inbound ip-group 3333 rule 3 | | |
| Test procedure | 1. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2. Show capwap client to check capwap status | | |
| Expect result | 1,AP use broadcase in the same vlan, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 02:01:04 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 02:01:04 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 02:01:04 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 02:01:04 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 02:01:04 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  2010-11-01 02:02:31 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 02:02:31 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 02:02:31 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 02:02:31 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 02:02:31 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-11-01 02:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 02:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 02:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 02:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 02:02:57 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=12222  2010-11-01 02:04:20 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 02:04:20 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 02:04:20 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 02:04:20 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 02:04:20 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  2010-11-01 02:04:54 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 02:04:54 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 02:04:54 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 02:04:54 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 02:04:54 debug [capwap\_ha, ah\_capwap\_func.c, 2098]: use broadcast, ip=0.0.0.0, port=12222  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.199  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 12222  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_12

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_12 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP will loop this logic if try primary and backup failed and try broadcast could not find usable HM | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server  Usable HM don’t exist in the same vlan  Deny UDP packets and TCP packets of primary HM and backup HM:  acl 3333  rule 0 deny UDP destination 192.168.20.200 0  rule 1 deny UDP destination 192.168.51.252 0  rule 2 deny TCP destination 192.168.20.200 0  rule 3 deny TCP destination 192.168.51.252  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 0  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/8] packet-filter inbound ip-group 3333 rule 3  [H3C-Ethernet1/0/12]packet-filter inbound ip-group 3333 rule 1  [H3C-Ethernet1/0/12] packet-filter inbound ip-group 3333 rule 3 | | |
| Test procedure | 1. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  2.Show capwap client to check capwap status | | |
| Expect result | 1,AP will loop the following logic:  Primary HM---UDP  Primary HM---TCP  Backup HM----UDP  Backup HM----TCP  Broadcasting  Primary HM---UDP  ………………………….  Could not find HM, could not connect to primary HM and backup HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#sho running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-10-29 08:53:16 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 08:53:16 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 08:53:16 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 08:53:16 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 08:53:16 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  2010-10-29 08:54:40 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 08:54:40 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 08:54:40 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 08:54:40 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 08:54:40 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-10-29 08:55:06 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 08:55:06 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 08:55:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 08:55:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 08:55:06 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=12222  2010-10-29 08:56:30 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 08:56:30 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 08:56:30 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 08:56:30 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 08:56:30 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  2010-10-29 08:56:55 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 08:56:55 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 08:56:55 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 08:56:55 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 08:56:55 debug [capwap\_ha, ah\_capwap\_func.c, 2098]: use broadcast, ip=0.0.0.0, port=12222  2010-10-29 09:01:15 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 09:01:15 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 09:01:15 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-10-29 09:01:15 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-10-29 09:01:15 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=12222  Show capwap client display discovery status or sulking status | | |
| Comment | If don’t config primary HM and backup HM in DNS server, no HM exist in the same vlan, the test result as followings:  AH-0e5300#capwap client enable  AH-0e5300#2010-10-29 09:06:28 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 09:06:28 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 09:06:28 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-10-29 09:06:28 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-10-29 09:06:28 debug [capwap\_ha, ah\_capwap\_func.c, 2036]: Can not resolve primay and backup server name, use broadcast, ip=0.0.0.0, port=12222  2010-10-29 09:07:46 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-10-29 09:07:46 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-10-29 09:07:46 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-10-29 09:07:46 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-10-29 09:07:46 debug [capwap\_ha, ah\_capwap\_func.c, 2036]: Can not resolve primay and backup server name, use broadcast, ip=0.0.0.0, port=12222  Show capwap client display discovery status | | |

### If don’t config HM name in AP, but config transfer-mode(TCP)

#### Ft\_CapwapEnhancement\_13

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_13 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in TCP if dns server defined “hivemanager” and hivemanager use TCP | | |
| Pre-condition | Config hivemanager in DNS server | | |
| Test procedure | 1. Config transport to TCP mode by “capwap client transport HTTP”  2.Open \_debug capwap ha and debug console, check work flow for capwap choose HM, check if AP connect to HM  3.Check capwap status by show capwap client | | |
| Expect result | 1,AP use fixed name hivemanager in TCP mode to connect to HM ,can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client transport HTTP  AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 02:32:20 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:32:20 debug [capwap\_ha, ah\_capwap\_func.c, 1951]: use fixed server(TCP), ip=192.168.20.200, port=80  2010-11-01 02:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:32:44 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-01 02:33:00 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:33:00 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 02:33:01 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:33:01 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:33:01 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-01 02:33:17 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:33:17 debug [capwap\_ha, ah\_capwap\_func.c, 1951]: use fixed server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment | After AP connect to HM in TCP, will generate a command:  capwap client server port 80 | | |

#### Ft\_CapwapEnhancement\_14

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_14 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | Verify if AP will use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan | | |
| Pre-condition | Hivemanager not be configured in DNS server | | |
| Test procedure | 1. Config transport to TCP mode by “capwap client transport HTTP”  2. Open \_debug capwap ha and debug console, check work flow for capwap choose HM, check if AP connect to HM  3. Check capwap status by show capwap client | | |
| Expect result | AP don’t use broadcast , AP will loop try fixed server name and pre-defined server , APcould not find HM, could not connect to HM | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client transport HTTP  AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 02:56:09 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:56:09 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 02:56:10 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:56:10 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:56:10 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-01 02:56:26 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:56:26 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 02:56:27 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:56:27 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:56:27 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-01 02:56:43 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:56:43 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 02:56:44 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:56:44 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:56:44 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-01 02:57:00 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 02:57:00 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 02:57:01 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 02:57:01 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 02:57:01 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Handling CAPWAP packet  Server destination Port: 12222  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_15

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_15 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists which use TCP | | |
| Pre-condition | Config stage server in DNS server | | |
| Test procedure | 1. Config transport to TCP mode by “capwap client transport HTTP”  2. Open \_debug capwap ha and debug console, check work flow for capwap choose HM, check if AP connect to HM  3. Check capwap status by show capwap client | | |
| Expect result | 1,AP use stage server in TCP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client transport HTTP  AH-0e5300#no capwap client enable  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 03:07:20 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 03:07:20 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 03:07:20 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-01 03:07:35 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-01 03:07:35 debug [capwap\_ha, ah\_capwap\_func.c, 1963]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 03:07:36 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 03:07:36 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 03:07:37 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-01 03:07:53 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-01 03:07:53 debug [capwap\_ha, ah\_capwap\_func.c, 1985]: use predefine server(TCP), ip=192.168.51.252, port=80  AH-0e5300#  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment | After AP connect to HM in TCP, will generate a command:  capwap client server port 80 | | |

### If config HM name in AP and config transfer-mode(TCP)

#### Ft\_CapwapEnhancement\_16

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_16 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in TCP mode if HM exists which use TCP | | |
| Pre-condition | Config primary HM and backup HM in AP and DNS server | | |
| Test procedure | 1.Set capwap transport to HTTP, set primary HM and backup HM to AP  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in TCP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  capwap client transport HTTP  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 05:49:14 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 05:49:14 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 05:49:14 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 05:49:14 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 05:49:14 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment | After AP connect to HM in TCP, will generate a command:  capwap client server port 80 | | |

#### Ft\_CapwapEnhancement\_17

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_17 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in TCP if primary HM doesn’t exists or try primary HM failed and backup HM exists which use TCP | | |
| Pre-condition | Two condition:  1.Don’t config primary HM in DNS server, config backup HM in DNS server  2. Config primary HM and backup HM in DNS server, deny TCP packet of primary HM in H3C L3 Switch :  [H3C]interface Ethernet 1/0/8  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2 | | |
| Test procedure | 1. Set capwap transport to HTTP, set primary HM and backup HM to AP  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in TCP mode, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  capwap client transport HTTP  **Don’t config primary HM in DNS server, the result as following:**  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 05:59:33 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 05:59:33 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 05:59:33 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-01 05:59:33 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 05:59:33 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled  **Config primary HM and backup HM in DNS server, deny TCP packet of primary HM in Switch, the result as following:**  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:04:19 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-11-01 06:04:53 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:04:53 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:04:53 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:04:53 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:04:53 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  CAPWAP HTTP proxy content length:1024 Kbytes  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment | After AP connect to HM in TCP, will generate a command:  capwap client server port 80 | | |

#### Ft\_CapwapEnhancement\_18

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_18 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  | |  Backup HM HM in the same vlan | | |
| Description | Verify if AP will use broadcast if dns server haven’t defined primary and backup “hivemanager” or try primary and backup HM in TCP failed and hivemanger exists in same vlan | | |
| Pre-condition | Two condition:  1.Don’t config primary HM and backup HM in DNS server  2. Config primary HM and backup HM in DNS server, deny TCP packet of primary HM and backup HM in H3C L3 Switch :  [H3C]interface Ethernet 1/0/8  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 2  [H3C-Ethernet1/0/8]packet-filter inbound ip-group 3333 rule 3  [H3C-Ethernet1/0/8]interface Ethernet 1/0/12  [H3C-Ethernet1/0/12]packet-filter inbound ip-group 3333 rule 3 | | |
| Test procedure | 1. Set capwap transport to HTTP, set primary HM and backup HM to AP  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | APdon’t use broadcast, AP will loop try primary HM and backup HM in TCP mode , could not find HM, AP could not connect to HM | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server name hm1  capwap client server backup name hm2  capwap client transport HTTP  **Don’t config primary HM and backup HM in DNS server, the result as following:**  2010-11-01 06:19:36 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:19:36 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:19:36 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-01 06:19:36 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-11-01 06:19:36 debug [capwap\_ha, ah\_capwap\_func.c, 2101]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 06:19:37 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:19:37 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:19:37 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-01 06:19:37 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-11-01 06:19:37 debug [capwap\_ha, ah\_capwap\_func.c, 2101]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  **Config primary HM and backup HM in DNS server, deny TCP packet of primary HM and backup HM in Switch, the result as following:**  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 06:11:41 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:11:41 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:11:41 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:11:41 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:11:41 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-11-01 06:12:20 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:12:20 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:12:20 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:12:20 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:12:20 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  2010-11-01 06:12:51 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:12:51 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:12:51 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:12:51 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:12:51 debug [capwap\_ha, ah\_capwap\_func.c, 2101]: Don't use broadcast because define HTTP mode, ip=0.0.0.0, port=12222  2010-11-01 06:12:52 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:12:52 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:12:52 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:12:52 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:12:52 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  2010-11-01 06:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-01 06:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-01 06:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-01 06:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-01 06:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80 | | |
| Comment |  | | |

### If don’t config HM name in AP, but config port(80)

#### Ft\_CapwapEnhancement\_19

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| Case ID | Ft\_CapwapEnhancement\_19 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager” | | |
| Pre-condition | Config hivemanager in DNS server | | |
| Test procedure | 1.Config server port to 80 in AP  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP will first use UDP and port 80 to try,but AP could not connect to HM in UDP mode  2, Don’t display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  AH-0e5300#capwap client enable  AH-0e5300#2010-11-01 09:17:06 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 09:17:06 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 09:17:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-01 09:17:21 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 09:17:21 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_20

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_20 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in TCP after use UDP failed if dns server defined “hivemanager” and hivemanager use TCP | | |
| Pre-condition | Config hivemanager in DNS server | | |
| Test procedure | 1.Config server port to 80  2.Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status  4. Show running-config to check command | | |
| Expect result | 1,AP use fixed name hivemanager in TCP mode and port 80 to connect to HM, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#capwap client server port 80  AH-0e5300#show ru  AH-0e5300#show running-config  hive zz  interface mgt0 hive zz  interface mgt0 vlan 20  interface mgt0 native-vlan 20  console page 100  console timeout 0  capwap client server port 80  AH-0e5300#2010-11-01 09:23:46 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 09:23:46 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 09:23:46 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-01 09:24:01 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 09:24:01 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=80  2010-11-01 09:25:18 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-01 09:25:18 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-01 09:25:18 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-01 09:25:34 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-01 09:25:34 debug [capwap\_ha, ah\_capwap\_func.c, 1951]: use fixed server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled  AH-0e5300#show running-config  hive zz  interface mgt0 hive zz  interface mgt0 vlan 20  interface mgt0 native-vlan 20  console page 100  console timeout 0 | | |
| Comment | After AP connect to HM in TCP mode and 80 port, the command “capwap client server port 80” loss------Bug 12225  When capwap in run status with TCP mode, set the command “capwap client server port 80” could not be display | | |

#### Ft\_CapwapEnhancement\_21

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_21 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use broadcast if dns server haven’t defined “hivemanager” and hivemanger exists in same vlan | | |
| Pre-condition | Don’t config hivemanager in DNS server | | |
| Test procedure | 1. Config server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use broadcast in port 80 to try, AP could not find HM and could not connect to HM  2, displaydiscovery status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  AH-0e5300#\_debug capwap ha  AH-0e5300#  debug ha turned on (0x200)  AH-0e5300#debug console  AH-0e5300#capwap client enable  AH-0e5300#2010-11-02 02:01:02 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:01:02 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:01:02 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:01:22 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-02 02:01:22 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Disabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_22

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| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_22 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and try broadcast failed and stage server exists | | |
| Pre-condition | Don’t config hivemanager in DNS server  Config stage server in DNS server | | |
| Test procedure | 1.Config server port to 80  2.Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use stage server in UDP and port 80 to try, but AP could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  AH-0e5300#capwap client enable  AH-0e5300#2010-11-02 02:12:50 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:12:50 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:12:50 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 02:13:06 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=80  2010-11-02 02:14:18 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:14:18 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:14:18 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:14:34 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 02:14:34 debug [capwap\_ha, ah\_capwap\_func.c, 1974]: use predefine server(UDP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Disabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_23

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| Case ID | Ft\_CapwapEnhancement\_23 | | |
| Priority | High | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use pre-define server name in TCP if dns server haven’t defined “hivemanger” and try broadcast failed and try stage server with UDP failed | | |
| Pre-condition | Don’t config hivemanager in DNS server  Config stage server in DNS server | | |
| Test procedure | 1.Set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use stage server in TCP and port 80 to connect to HM, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  AH-0e5300#capwap client enable  AH-0e5300#2010-11-02 02:20:52 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:20:52 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:20:52 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:21:08 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 02:21:08 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=80  2010-11-02 02:22:41 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:22:41 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:22:41 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:22:56 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 02:22:56 debug [capwap\_ha, ah\_capwap\_func.c, 1974]: use predefine server(UDP), ip=192.168.51.252, port=80  2010-11-02 02:24:31 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 02:24:31 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 02:24:31 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 02:24:47 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 02:24:47 debug [capwap\_ha, ah\_capwap\_func.c, 1985]: use predefine server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

### If config HM name and port(80) in AP

#### Ft\_CapwapEnhancement\_24

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_24 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in UDP mode if HM exists | | |
| Pre-condition | Config primary HM and backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM in AP, set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in UDP port to try, but AP could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 02:35:54 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:35:54 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:35:54 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-02 02:35:54 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:35:54 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=80  show capwap  AH-0e5300#show capwap c  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (UDP mode)  Server source Port: 0  CAPWAP action: Handling CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_25

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_25 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in TCP mode if try primary HM in UDP failed | | |
| Pre-condition | Config primary HM and backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM in AP, set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in TCP mode to connect to HM, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 02:43:36 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:43:36 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:43:36 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-02 02:43:36 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:43:36 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=80  2010-11-02 02:45:13 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:45:13 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:45:13 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-02 02:45:13 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:45:13 debug [capwap\_ha, ah\_capwap\_func.c, 2067]: use primary server(TCP), ip=192.168.20.200, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_26

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_26 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in UDP if primary HM doesn’t exists and backup HM exists | | |
| Pre-condition | Don’t config primary HM in DNS server  Config backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM in AP, set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in UDP mode to try, AP could not connect to HM 2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 02:52:48 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:52:48 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:52:48 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 02:52:48 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:52:48 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_27

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_27 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in TCP if primary HM doesn’t exists and try backup HM in UDP failed | | |
| Pre-condition | Don’t config primary HM in DNS server  Config backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM in AP, set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in TCP mode to connect to HM, can see the AP on HM  2, display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 02:56:29 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:56:29 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:56:29 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 02:56:29 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:56:29 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=80 2010-11-02 02:58:09 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 02:58:09 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 02:58:09 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 02:58:09 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 02:58:09 debug [capwap\_ha, ah\_capwap\_func.c, 2089]: use backup server(TCP), ip=192.168.51.252, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: HTTP on TCP  RUN state: Connected securely to the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (TCP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_28

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_28 | | |
| Priority | High | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use broadcast if primary HM and backup HM doesn’t exist and HM exist in same vlan | | |
| Pre-condition | Don’t config primary HM and backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM in AP, set capwap client server port to 80  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use broadcast with port 80 to try, but AP could not connect to HM 2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 80  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 03:01:34 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 03:01:34 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 03:01:34 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 03:01:34 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-11-02 03:01:34 debug [capwap\_ha, ah\_capwap\_func.c, 2036]: Can not resolve primay and backup server name, use broadcast, ip=0.0.0.0, port=80  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 80  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

### If don’t config HM name in AP, but config port(1500)

#### Ft\_CapwapEnhancement\_29

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_29 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use fixed name “hivemanager” in UDP if dns server defined “hivemanager” | | |
| Pre-condition | Config hivemanager in DNS server  Don’t config stage server in DNS server | | |
| Test procedure | 1. Set capwap client server port to 1500  2.Open \_debug capwap ha and debug console to check work flow for capwap choose HM, check if AP connect to HM in HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use hivemanager in UDP mode and with port 1500 to try, but AP could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  AH-0e5300#2010-11-02 03:15:31 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:15:31 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:15:31 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-02 03:15:46 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-02 03:15:46 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=1500  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Fixed Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_30

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_30 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use broadcast if dns server haven’t defined “hivemanager” or try hivemanager failed | | |
| Pre-condition | Two condition:  1.Config hivemanager in DNS server, don’t config stage server in DNS server  2.Don’t config hivemanager and stage server in DNS server | | |
| Test procedure | 1.Set capwap client server port to 1500  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use broadcast and port 1500 to try, but AP could not find HM and could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  **Config hivemanager in DNS server, the result as following:**  AH-0e5300#capwap client enable  AH-0e5300#2010-11-02 03:31:21 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:31:21 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:31:21 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-02 03:31:37 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-02 03:31:37 debug [capwap\_ha, ah\_capwap\_func.c, 1940]: use fixed server(UDP), ip=192.168.20.200, port=1500  2010-11-02 03:33:05 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:33:05 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:33:05 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hivemanager)  2010-11-02 03:33:20 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-02 03:33:20 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=1500  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled  **Don’t config hivemanager in DNS server, the result as following:**  AH-0e5300#2010-11-02 03:34:53 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:34:53 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:34:53 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 03:35:09 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(staging.aerohive.com)  2010-11-02 03:35:09 debug [capwap\_ha, ah\_capwap\_func.c, 1920]: can not resolve fixed/predefine name, use broadcast, ip=0.0.0.0, port=1500  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment | 如果配置的端口不是80和12222，就不试TCP连接，除非用户指定了HTTP传输模式 | | |

#### Ft\_CapwapEnhancement\_31

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_31 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | AP------L3 Switch------HM  |  DHCP/DNS Server | | |
| Description | AP use pre-define server name in UDP if dns server haven’t defined “hivemanger” and hivemanger doesn’t exist in same vlan and stage server exists | | |
| Pre-condition | Don’t config hivemanager in DNS server  Config stage server in DNS server | | |
| Test procedure | 1.Set capwap client server port to 1500  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use stage server in UDP mode and with port 1500 to try, but AP could not connect to HM 2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  AH-0e5300#2010-11-02 03:39:57 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:39:57 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:39:57 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 03:40:13 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 03:40:13 debug [capwap\_ha, ah\_capwap\_func.c, 1960]: use broadcast, ip=0.0.0.0, port=1500  2010-11-02 03:41:31 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:, second:).  2010-11-02 03:41:31 debug [capwap\_ha, ah\_capwap\_func.c, 1913]: user doesn't config primary and backup HM's name,use fixed server name and pre-defined server name to try  2010-11-02 03:41:31 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hivemanager)  2010-11-02 03:41:46 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (staging.aerohive.com)  2010-11-02 03:41:46 debug [capwap\_ha, ah\_capwap\_func.c, 1974]: use predefine server(UDP), ip=192.168.51.252, port=1500  show cap  AH-0e5300#show capw  AH-0e5300#show capwap c  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:  HiveManager Backup Name:  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Predefine Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

### If config HM name and config port(1500)

#### Ft\_CapwapEnhancement\_32

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_32 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use primary HM in UDP mode if HM exists | | |
| Pre-condition | Config primary and backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM to AP, set capwap client server port to 1500  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use primary HM in UDP mode and with port 1500 to try, but AP could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 06:11:44 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 06:11:44 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 06:11:44 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.20.200) for name (hm1)  2010-11-02 06:11:44 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 06:11:44 debug [capwap\_ha, ah\_capwap\_func.c, 2056]: use primary server(UDP), ip=192.168.20.200, port=1500  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.20.200  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Primary Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_33

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_33 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use backup HM in UDP if primary HM doesn’t exists and backup HM exists | | |
| Pre-condition | Don’t config primary HM in DNS server  Config backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM to AP, set capwap client server port to 1500  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use backup HM in UDP mode and with port 1500 to try, but AP could not connect to HM  2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 06:17:09 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 06:17:09 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 06:17:09 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 06:17:09 debug [capwap\_ha, ah\_capwap\_func.c, 1804]: get capwap server ip (192.168.51.252) for name (hm2)  2010-11-02 06:17:09 debug [capwap\_ha, ah\_capwap\_func.c, 2078]: use backup server(UDP), ip=192.168.51.252, port=1500  AH-0e5300#  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 192.168.51.252  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Backup Name (UDP mode)  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

#### Ft\_CapwapEnhancement\_34

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_34 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | DHCP/DNS Server  |  AP------H3C L3 Switch------Cisco L3 Switch------Primary HM  |  Backup HM | | |
| Description | AP use broadcast if primary HM and backup HM doesn’t exist and HM exist in same vlan | | |
| Pre-condition | Don’t config primary HM and backup HM in DNS server | | |
| Test procedure | 1.Config primary HM and backup HM to AP, set capwap client server port to 1500  2. Open \_debug capwap ha and debug console to check work flow for capwap choose HM(no capwap client enable, capwap client enable), check if AP connect to HM  3.Show capwap client to check capwap status | | |
| Expect result | 1,AP use broadcast with port 1500 to try, but AP could not connect to HM 2, Not display run status if show capwap client | | |
| Test result | AH-0e5300#show running-config | in capwap  capwap client server port 1500  capwap client server name hm1  capwap client server backup name hm2  AH-0e5300#2010-11-02 06:18:12 debug [capwap\_ha, ah\_capwap\_func.c, 2138]: get hivemanager name from scd (first:hm1, second:hm2).  2010-11-02 06:18:12 debug [capwap\_ha, ah\_capwap\_func.c, 2029]: user has configed primary or backup HM's name,use primary name or backup name to try  2010-11-02 06:18:12 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm1)  2010-11-02 06:18:12 debug [capwap\_ha, ah\_capwap\_func.c, 1798]: can not get ip from HM's name:(hm2)  2010-11-02 06:18:12 debug [capwap\_ha, ah\_capwap\_func.c, 2036]: Can not resolve primay and backup server name, use broadcast, ip=0.0.0.0, port=1500  AH-0e5300#show capwap client  CAPWAP client: Enabled  CAPWAP transport mode: UDP  DISCOVERY state: Sending Discovery packets to find the CAPWAP server  CAPWAP client IP: 192.168.20.10  CAPWAP server IP: 0.0.0.0  HiveManager Primary Name:hm1  HiveManager Backup Name: hm2  CAPWAP Default Server Name: staging.aerohive.com  Virtual HiveManager Name:  CAPWAP Choose HiveManager:Broadcasting  Server source Port: 0  CAPWAP action: Waiting for a CAPWAP packet  Server destination Port: 1500  CAPWAP send event: Enabled  CAPWAP DTLS state: Enabled  CAPWAP DTLS negotiation: Enabled | | |
| Comment |  | | |

## Negative Test Case

### FT\_CapwapEnhancement\_Negative\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Ft\_CapwapEnhancement\_Negative\_1 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | DHCP Server(DNS server and HM not be configured)  |  AP------ Switch | | |
| Description | HM not be configured and could not obtain from DHCP server, config two or three unreachable DNS server, check if will generate capwap core dump | | |
| Pre-condition | DNS server and HM not be configured in DHCP server  AP with default setting  \_debug capwap ha  Debug console | | |
| Test procedure | Set two or three unreachable DNS server to AP, check if will generate core dump | | |
| Expect result | No core dump generated | | |
| Test result | Bug 16377  AH-1e94c0#2012-02-16 06:34:01 debug [capwap\_ha]: can not get ip from HM's name:(hivemanager)  PM:process capwap is killed and restart by PM because watchdog flag is abnormal!: No such file or directory  PM:process capwap is killed and restart by PM because watchdog flag is abnormal!: No such file or directory  PM:process capwap is killed and restart by PM because watchdog flag is abnormal!: No such file or directory  AH-1e94c0#show \_core  capwap\_pid11803\_sig6\_time1329374325.core.tar.gz  capwap\_pid11678\_sig6\_time1329374202.core.tar.gz  capwap\_pid21567\_sig6\_time1329374091.core.tar.gz | | |
| Comment |  | | |

## Stress Test Case

## Duration Test Case

## Performance Test Case

## Scalability Test Case

## Compatibility Test Case

## CLI Management (Automation Status: Yes/No)

<Just list all cli that this feature has one by one>

< memory leak case for these CLI.Normally, the leak is happened when we do some commands repeatedly.  Like create an object, then delete that object, it should release all the memory it allocated. But this is not true for all the cases. If you create/delete an object several times(but how many times?) and the memory just going down and never recovered, it maybe a memory leak(again, how can we decide it is really a memory leak?).>

## GUI Management-HiveManager

<List HM test case or test log>

## GUI Management-HiveUI

<List HiveUI test case or test log>