HiveOS\_ICMP\_Redirect\_TestCase

Revision History

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| --- | --- | --- | --- |
| Version | Date | Author | Description |
| 0.1 | 03/09/2010 | Yun Feng | Initial version |
| 0.2 | 2010-03-29 | Zhao haihui | Add a case |
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Table of Content

Glossary and Abbreviations

# Introduction

Before Athens project, ICMP redirect function always enabled. But this is not safe and will be caused ICMP redirect attack. For security advisement, we will add a CLI which can enable/disable ICMP redirect function and it is disabled by default

# Test Objectives

## Check ICMP redirect function available (enable/disable)

## Check default action for ICMP redirect

## Check self healing of ICMP redirect

Hidden trouble:

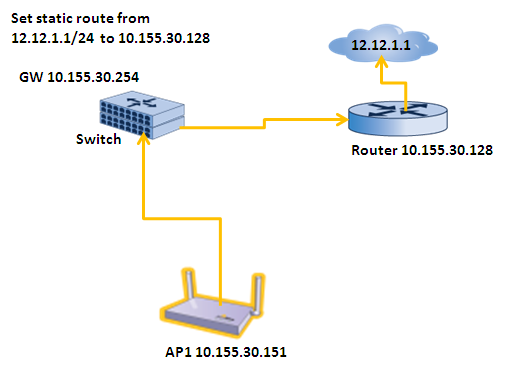
Now, our design is don’t care the ICMP-redirect packet if disable ICMP redirect function, but still will upload the packet to mgt0 layer. If occurs ICMP-redirect attack, still will aggravate AP load. Suggestion, when receive the ICMP redirect, deny the packet by FE module

# 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

### Check ICMP redirect function available

#### ICMPRedirect\_Function\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | ICMPRedirect\_Function\_1 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology1 | | |
| Description | Check ICMP Redirect by default | | |
| Pre-condition | *Linunx PC(IP:10.155.30.12)*  *linux-i2nd:~ # route add -net 12.12.1.1 netmask 255.255.255.255 gateway 10.155.30.128*  *linux-i2nd:~ # echo 1 >/proc/sys/net/ipv4/ip\_forward*  *Route(10.155.30.128):*  *Set another virtual interface IP 12.12.1.1*  *AP:*  *interface mgt0 ip 10.155.30.151 255.255.255.0*  *no interface mgt0 dhcp client*  *ip route net 0.0.0.0 0.0.0.0 gateway 10.155.30.12* | | |
| Test procedure | 1. Set FE fettle and turn on FE debug   *\_ff id 1 protocol 1*  *\_kdebug fe basic*  *Debug console*   1. Show system 2. Show running configure 3. Ping 12.12.1.1 4. Enter into shell and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” | | |
| Expect result | 1. Check default ICMP redirect is disabled.   *AH-0c0e00#show system*  *Disable-multicast-ping: No*  *ICMP-redirect enable: No*  *AH-0c0e00#*   1. Check running configure has not corresponding ICMP redirect CLI   *AH-0c0e00#show running | inc icmp*  *AH-0c0e00#*   1. Check the dst-mac of ICMP-request is gateway’s mac.   *AH-0c0e00#ping 12.12.1.1*  *PING 12.12.1.1 (12.12.1.1) 56(84) bytes of data.*  *2010-03-09 09:32:41 debug [fe]: mark pkt as from self*  *2010-03-09 09:32:41 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:32:41 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:32:41 debug [fe]: MAC session (id [30]) found*  *2010-03-09 09:32:41 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:32:41 debug [fe]: eth0 Tx 0019:770c:0e00 -> 001a:a026:a0fc type 0x0800 98 bytes*  *From 10.155.30.12: icmp\_seq=1 Redirect Host(New nexthop: 10.155.30.128)*  *2010-03-09 09:32:41 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: QoS: pkt forwarded*   1. Check AP can receive ICMP-redirect packet   *2010-03-09 08:32:46 debug [fe]: (i) eth0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*  *2010-03-09 08:32:46 debug [fe]: MAC session (id [30]) found*  *2010-03-09 08:32:46 debug [fe]: QoS: ingress pkt fwd(eth0) profile=4096 qos=5*  *2010-03-09 08:32:46 debug [fe]: set pkt to self*  *2010-03-09 08:32:46 debug [fe]: swap incoming dev eth0 -> mgt0*  *2010-03-09 08:32:46 debug [fe]: allow to self-pak, dst-ip 10.155.30.151,allow-arp 0 allow-dhcp 0 allow-forwarding 0*  *2010-03-09 08:32:46 debug [fe]: deliver pak to self on mgt0*  *64 bytes from 12.12.1.1: icmp\_seq=1 ttl=64 time=5.78 ms*  *2010-03-09 08:32:46 debug [fe]: (u) mgt0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*   1. After receive ICMP-redirect packet, Check the dst-mac of ICMP-request is gateway’s mac.   *AH-0c0e00#show arp-cache*  *(T) - learnt from Backhaul tunnel*  *MAC addr TTL(sec) Interface IP Addr*  *-------------- -------- --------- --------*  *001a:a026:a0fc 874 ETH 10.155.30.12*  *AH-0c0e00#ping 12.12.1.1*  *PING 12.12.1.1 (12.12.1.1) 56(84) bytes of data.*  *2010-03-09 09:32:41 debug [fe]: mark pkt as from self*  *2010-03-09 09:32:41 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:32:41 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:32:41 debug [fe]: MAC session (id [30]) found*  *2010-03-09 09:32:41 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:32:41 debug [fe]: eth0 Tx 0019:770c:0e00 -> 001a:a026:a0fc type 0x0800 98 bytes*  *From 10.155.30.12: icmp\_seq=1 Redirect Host(New nexthop: 10.155.30.128)*  *2010-03-09 09:32:41 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: QoS: pkt forwarded*   1. Check the value is 0   *AH-000000:~$ cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*  *0* | | |
| Test result |  | | |
| Comment |  | | |

#### ICMPRedirect\_Function\_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | ICMPRedirect\_Function\_2 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology1 | | |
| Description | Check ICMP Redirect enable function | | |
| Pre-condition | *Linunx PC(IP:10.155.30.12)*  *linux-i2nd:~ # route add -net 12.12.1.1 netmask 255.255.255.255 gateway 10.155.30.128*  *linux-i2nd:~ # echo 1 >/proc/sys/net/ipv4/ip\_forward*  *Route(10.155.30.128):*  *Set another virtual interface IP 12.12.1.1*  *AP:*  *interface mgt0 ip 10.155.30.151 255.255.255.0*  *no interface mgt0 dhcp client*  *ip route net 0.0.0.0 0.0.0.0 gateway 10.155.30.12*  *\_ff id 1 protocol 1*  *\_kdebug fe basic*  *Debug consol* | | |
| Test procedure | 1. system icmp-redirect enable 2. Show system 3. Show running configure 4. Ping 12.12.1.1 5. Enter into shecll and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” | | |
| Expect result | 1. Check ICMP redirect is enabled   *AH-0c0e00#show system*  *Disable-multicast-ping: No*  *ICMP-redirect enable: Yes*  *AH-0c0e00#*   1. Check running configure has corresponding ICMP redirect CLI   *AH-0c0e00#show running-config | inc icmp*  *system icmp-redirect enable*  *AH-0c0e00#*   1. Check AP can receive ICMP-redirect packet   *2010-03-09 08:32:46 debug [fe]: (i) eth0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*  *2010-03-09 08:32:46 debug [fe]: MAC session (id [30]) found*  *2010-03-09 08:32:46 debug [fe]: QoS: ingress pkt fwd(eth0) profile=4096 qos=5*  *2010-03-09 08:32:46 debug [fe]: set pkt to self*  *2010-03-09 08:32:46 debug [fe]: swap incoming dev eth0 -> mgt0*  *2010-03-09 08:32:46 debug [fe]: allow to self-pak, dst-ip 10.155.30.151,allow-arp 0 allow-dhcp 0 allow-forwarding 0*  *2010-03-09 08:32:46 debug [fe]: deliver pak to self on mgt0*  *64 bytes from 12.12.1.1: icmp\_seq=1 ttl=64 time=5.78 ms*  *2010-03-09 08:32:46 debug [fe]: (u) mgt0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*   1. After receive ICMP-redirect packet, Check the dst-mac of ICMP-request is router’s mac.   *AH-0c0e00#show arp-cache*  *(T) - learnt from Backhaul tunnel*  *MAC addr TTL(sec) Interface IP Addr*  *-------------- -------- --------- --------*  *0023:9c39:558d 529 ETH 10.155.30.128*  *2010-03-09 09:39:44 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58116) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:39:44 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:39:44 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58116) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:39:44 debug [fe]: MAC session (id [19]) found*  *2010-03-09 09:39:44 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:39:44 debug [fe]: eth0 Tx 0019:770c:0e00 -> 0023:9c39:558d type 0x0800 98 bytes*  *2010-03-09 09:39:44 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58116) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:39:44 debug [fe]: QoS: pkt forwarded64 bytes from 12.12.1.1: icmp\_seq=1 ttl=64 time=3.60 ms*   1. Check the value is 1   *AH-000000:~$ cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*  *1* | | |
| Test result |  | | |
| Comment |  | | |

#### ICMPRedirect\_Function\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | ICMPRedirect\_Function\_3 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology1 | | |
| Description | Check ICMP Redirect disable function | | |
| *Pre-condition* | *Linunx PC(IP:10.155.30.12)*  *linux-i2nd:~ # route add -net 12.12.1.1 netmask 255.255.255.255 gateway 10.155.30.128*  *linux-i2nd:~ # echo 1 >/proc/sys/net/ipv4/ip\_forward*  *Route(10.155.30.128):*  *Set another virtual interface IP 12.12.1.1*  *AP:*  *interface mgt0 ip 10.155.30.151 255.255.255.0*  *no interface mgt0 dhcp client*  *ip route net 0.0.0.0 0.0.0.0 gateway 10.155.30.12*  *system icmp-redirect enable*  *save configure and AP reboot*  *\_ff id 1 protocol 1*  *\_kdebug fe basic*  *Debug console* | | |
| Test procedure | 1. No system icmp-redirect enable 2. Show system 3. Show running configure 4. Ping 12.12.1.1 5. Enter into shecll and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” | | |
| Expect result | 1. Check ICMP redirect is disabled.   *AH-0c0e00#show system*  *Disable-multicast-ping: No*  *ICMP-redirect enable: No*  *AH-0c0e00#*   1. Check running configure has not corresponding ICMP redirect CLI   *AH-0c0e00#show running | inc icmp*  *AH-0c0e00#*   1. Check the dst-mac of ICMP-request is gateway’s mac.   *AH-0c0e00#ping 12.12.1.1*  *PING 12.12.1.1 (12.12.1.1) 56(84) bytes of data.*  *2010-03-09 09:32:41 debug [fe]: mark pkt as from self*  *2010-03-09 09:32:41 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:32:41 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:32:41 debug [fe]: MAC session (id [30]) found*  *2010-03-09 09:32:41 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:32:41 debug [fe]: eth0 Tx 0019:770c:0e00 -> 001a:a026:a0fc type 0x0800 98 bytes*  *From 10.155.30.12: icmp\_seq=1 Redirect Host(New nexthop: 10.155.30.128)*  *2010-03-09 09:32:41 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: QoS: pkt forwarded*   1. Check AP can receive ICMP-redirect packet   *2010-03-09 08:32:46 debug [fe]: (i) eth0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*  *2010-03-09 08:32:46 debug [fe]: MAC session (id [30]) found*  *2010-03-09 08:32:46 debug [fe]: QoS: ingress pkt fwd(eth0) profile=4096 qos=5*  *2010-03-09 08:32:46 debug [fe]: set pkt to self*  *2010-03-09 08:32:46 debug [fe]: swap incoming dev eth0 -> mgt0*  *2010-03-09 08:32:46 debug [fe]: allow to self-pak, dst-ip 10.155.30.151,allow-arp 0 allow-dhcp 0 allow-forwarding 0*  *2010-03-09 08:32:46 debug [fe]: deliver pak to self on mgt0*  *64 bytes from 12.12.1.1: icmp\_seq=1 ttl=64 time=5.78 ms*  *2010-03-09 08:32:46 debug [fe]: (u) mgt0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*   1. After receive ICMP-redirect packet, Check the dst-mac of ICMP-request is gateway’s mac.   *AH-0c0e00#show arp-cache*  *(T) - learnt from Backhaul tunnel*  *MAC addr TTL(sec) Interface IP Addr*  *-------------- -------- --------- --------*  *001a:a026:a0fc 874 ETH 10.155.30.12*  *AH-0c0e00#ping 12.12.1.1*  *PING 12.12.1.1 (12.12.1.1) 56(84) bytes of data.*  *2010-03-09 09:32:41 debug [fe]: mark pkt as from self*  *2010-03-09 09:32:41 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:32:41 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:32:41 debug [fe]: MAC session (id [30]) found*  *2010-03-09 09:32:41 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:32:41 debug [fe]: eth0 Tx 0019:770c:0e00 -> 001a:a026:a0fc type 0x0800 98 bytes*  *From 10.155.30.12: icmp\_seq=1 Redirect Host(New nexthop: 10.155.30.128)*  *2010-03-09 09:32:41 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: QoS: pkt forwarded*   1. Check the value is 0   *AH-000000:~$ cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*  *0* | | |
| Test result |  | | |
| Comment |  | | |

#### ICMPRedirect\_Function\_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | ICMPRedirect\_Function\_4 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology1 | | |
| Description | Enable and disable switch check | | |
| *Pre-condition* | *Linunx PC(IP:10.155.30.12)*  *linux-i2nd:~ # route add -net 12.12.1.1 netmask 255.255.255.255 gateway 10.155.30.128*  *linux-i2nd:~ # echo 1 >/proc/sys/net/ipv4/ip\_forward*  *Route(10.155.30.128):*  *Set another virtual interface IP 12.12.1.1*  *AP:*  *interface mgt0 ip 10.155.30.151 255.255.255.0*  *no interface mgt0 dhcp client*  *ip route net 0.0.0.0 0.0.0.0 gateway 10.155.30.12*  *system icmp-redirect enable*  *save configure and AP reboot*  *\_ff id 1 protocol 1*  *\_kdebug fe basic*  *Debug console* | | |
| Test procedure | 1. Enable ICMP redirect, check running-config and system 2. Ping 12.12.1.1, verify AP can receive ICMP redirect packet 3. After AP receive ICMP redirect packet, check the dst-mac of ICMP-request is Router’s mac 4. Enter into shecll and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” 5. Disable ICMP redirect, check running-config and system 6. Ping 12.12.1.1, verify AP can receive ICMP redirect packet 7. After AP receive ICMP redirect, check the dst-mac of ICMP-request is gateway’s mac 8. nter into shecll and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” | | |
| Expect result | 1. *AH-03f280#show running-config | in icmp*   *system icmp-redirect enable*  *AH-03f280#show sy*  *AH-03f280#show system*  *Disable-multicast-ping: No*  *ICMP-redirect enable: Yes*   1. *AP can receive ICMP redirect packet* 2. *The dst-mac of ICMP request is router’s mac* 3. *Should be 1*   *AH-03f280#show system*  *Disable-multicast-ping: No*   1. *ICMP-redirect enable: No* 2. *AP can receive ICMP redirect packet* 3. *The dst-mac of ICMP request is gateway’s mac* 4. *Should be 0* | | |
| Test result |  | | |
| Comment | After disable ICMP redirect, need reboot then verify | | |

#### ICMPRedirect\_Function\_5

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | ICMPRedirect\_Function\_5 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology1 | | |
| Description | Check self healing of ICMP Redirect | | |
| *Pre-condition* | *Linunx PC(IP:10.155.30.12)*  *linux-i2nd:~ # route add -net 12.12.1.1 netmask 255.255.255.255 gateway 10.155.30.128*  *linux-i2nd:~ # echo 1 >/proc/sys/net/ipv4/ip\_forward*  *Route(10.155.30.128):*  *Set another virtual interface IP 12.12.1.1*  *AP:*  *interface mgt0 ip 10.155.30.151 255.255.255.0*  *no interface mgt0 dhcp client*  *ip route net 0.0.0.0 0.0.0.0 gateway 10.155.30.12*  *system icmp-redirect enable*  *save configure and AP reboot*  *\_ff id 1 protocol 1*  *\_kdebug fe basic*  *Debug console* | | |
| Test procedure | 1. Enter into shell and execute command “*killall -9 ah\_scd*” 2. Show system 3. Show running configure 4. Ping 12.12.1.1 5. Enter into shecll and execute configure “*cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*” | | |
| Expect result | 1. Process ah\_scd has been killed   *AH-0c0e00#\_shell*  *password:*  *BusyBox v1.1.2 (2008.08.21-16:23+0000) Built-in shell (ash)*  *Enter 'help' for a list of built-in commands.*  *AH-0c0e00:~$*  *AH-0c0e00:~$ killall -9 ah\_scd*  *AH-0c0e00#show logging buffered level error*  *2010-03-10 02:11:20 err A process (ah\_scd) is not currently active.*   1. Check ICMP redirect is enabled after scd has been killed   *AH-0c0e00#show system*  *Disable-multicast-ping: No*  *ICMP-redirect enable: YES*  *AH-0c0e00#*   1. Check running configure has not corresponding ICMP redirect CLI   *AH-0c0e00#show running-config | inc sys*  *hive system-hive*  *system icmp-redirect enable*   1. Check AP can receive ICMP-redirect packet   *2010-03-09 08:32:46 debug [fe]: (i) eth0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*  *2010-03-09 08:32:46 debug [fe]: MAC session (id [30]) found*  *2010-03-09 08:32:46 debug [fe]: QoS: ingress pkt fwd(eth0) profile=4096 qos=5*  *2010-03-09 08:32:46 debug [fe]: set pkt to self*  *2010-03-09 08:32:46 debug [fe]: swap incoming dev eth0 -> mgt0*  *2010-03-09 08:32:46 debug [fe]: allow to self-pak, dst-ip 10.155.30.151,allow-arp 0 allow-dhcp 0 allow-forwarding 0*  *2010-03-09 08:32:46 debug [fe]: deliver pak to self on mgt0*  *64 bytes from 12.12.1.1: icmp\_seq=1 ttl=64 time=5.78 ms*  *2010-03-09 08:32:46 debug [fe]: (u) mgt0 10.155.30.12->10.155.30.151(39695) ttl(64) icmp-redirect 112 bytes*   1. After receive ICMP-redirect packet, Check the dst-mac of ICMP-request is router’s mac.   *AH-0c0e00#show arp-cache*  *(T) - learnt from Backhaul tunnel*  *MAC addr TTL(sec) Interface IP Addr*  *-------------- -------- --------- --------*  *001a:a026:a0fc 874 ETH 10.155.30.12*  *AH-0c0e00#ping 12.12.1.1*  *PING 12.12.1.1 (12.12.1.1) 56(84) bytes of data.*  *2010-03-09 09:32:41 debug [fe]: mark pkt as from self*  *2010-03-09 09:32:41 debug [fe]: (d) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: inject pkt back into flow from mgt0 xmit*  *2010-03-09 09:32:41 debug [fe]: (i) mgt0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 84 bytes*  *2010-03-09 09:32:41 debug [fe]: MAC session (id [30]) found*  *2010-03-09 09:32:41 debug [fe]: QoS: host pkt fwd(mgt0) qos=5 profile=0*  *2010-03-09 09:32:41 debug [fe]: eth0 Tx 0019:770c:0e00 -> 001a:a026:a0fc type 0x0800 98 bytes*  *From 10.155.30.12: icmp\_seq=1 Redirect Host(New nexthop: 10.155.30.128)*  *2010-03-09 09:32:41 debug [fe]: (o) eth0 10.155.30.151->12.12.1.1(58109) ttl(64) icmp-echo-req 98 bytes*  *2010-03-09 09:32:41 debug [fe]: QoS: pkt forwarded*   1. Check the value is 1   *AH-000000:~$ cat /proc/sys/net/ipv4/conf/mgt0/accept\_redirects*  *1* | | |
| Test result |  | | |
| 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>