ALOHA LOAD BALANCER
IMPLEMENTING HIGH AVAILABILITY

"APPNOTE" #0002 — VRRP CONFIGURATION

This application note is intended to help you implement high availability between two ALOHA devices via VRRP.

CONSTRAINT

Work at level 3 (of the OSI model) and know the IP addresses of the VIPs and the VRRP ID already used in the network. Apply the configuration on both devices.

Before setting up VRRP, it is important to know which VRRP are in use on your network. Check the TROUBLESHOOTING section of this guide to know how to do this with the ALOHA.

OBJECTIVE

Configure two **ALOHA** devices in order to ensure services high availability between the two devices through the VRRP protocol.

COMPLEXITY

VERSIONS CONCERNED

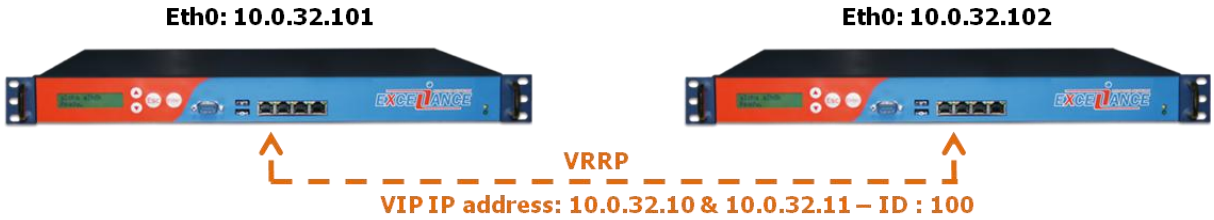
V 3.x and later

CHANGELOG

12-13-2012: Update for v4.2 and later

03-28-2011: Initial version

TARGET NETWORK DIAGRAM



EXTRACT OF THE CONFIGURATION OF THE VRRP SERVICE ON ALOHA DEVICES 1 AND 2

You can configure the VRRP service directly from the **Services** tab by clicking the **Edit** button.

In order to meet the objective, simply specify the "**group**" directive followed by the network interface the VRRP service must be enabled on, and add one line for each interface you want to enable the VRRP on.

Finally, in order to make the service start automatically, you must comment the "**no autostart**" directive.

ALOHA 4.2 AND ABOVE

Before modifications:

```
service vrrp
    no autostart
    track_svc  haproxy
    track_mgt  sshd wui
```

After modifications:

```
service vrrp
    # no autostart
    group eth0
    track_svc  haproxy
    track_mgt  sshd wui
```

ALOHA 3.7 TO 4.1

Before modifications:

```
service vrrp
    no autostart
    only_vrrp
    track_svc  haproxy
    track_mgt  sshd wui
    notify     "/sbin/vrrp_notify"
```

After modifications:

```
service vrrp
    # no autostart
    group eth0
    only_vrrp
    track_svc  haproxy
    track_mgt  sshd wui
    notify     "/sbin/vrrp_notify"
```

EXTRACT OF THE NETWORK CONFIGURATION ON BOTH ALOHA DEVICES

When modifying the network configuration in order to add the VRRP parameters, remember that the **highest priority** set up by "**vrrp prio**" corresponds to the ALOHA **MASTER**, hence the **lowest priority** corresponds to the ALOHA **BACKUP**.

You can add as many VRRP addresses as necessary; for each address simply add a new "**vrrp address x.x.x.x**" line in both ALOHAs.

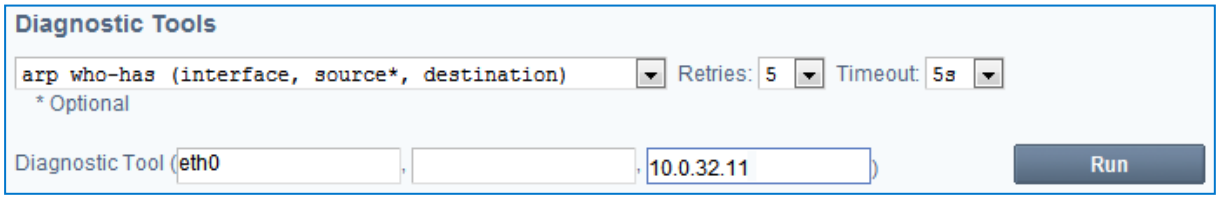
Before modifications:

```
ALOHA 1 :
service network eth0
    ### Interface eth0, used as the admin port.
    auto on
    mtu 1500
    ip address 10.0.32.101/16

ALOHA 2 :
service network eth0
    ### Interface eth0, used as the admin port.
    auto on
    mtu 1500
    ip address 10.0.32.102/16
```

After modifications:

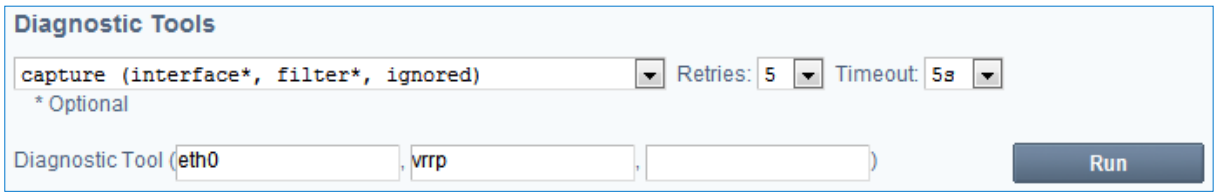
```
ALOHA 1 :
service network eth0
    ### Interface eth0, used as the admin port.
    auto on
    mtu 1500
    ip address 10.0.32.101/16
    vrrp id 100
    vrrp prio 101
    vrrp garp 10
    vrrp address 10.0.32.10
    vrrp address 10.0.32.11

ALOHA 2 :
service network eth0
    ### Interface eth0, used as the admin port.
    auto on
    mtu 1500
    ip address 10.0.32.102/16
    vrrp id 100
    vrrp prio 100
    vrrp garp 10
    vrrp address 10.0.32.10
    vrrp address 10.0.32.11
```

BASIC TROUBLESHOOTING




```
# /bin/arping -c 5 -I eth0 10.0.32.10

ARPING 10.0.32.10 from 10.0.32.11 eth0
Unicast reply from 10.0.32.10 [00:0D:C5:36:C6:72]  0.636ms
Unicast reply from 10.0.32.10 [00:0D:C5:36:C6:72]  0.608ms
Unicast reply from 10.0.32.10 [00:0D:C5:36:C6:72]  0.650ms
Unicast reply from 10.0.32.10 [00:0D:C5:36:C6:72]  0.666ms
Unicast reply from 10.0.32.10 [00:0D:C5:36:C6:72]  0.612ms
```

Should a problem arise, check whether the IP address of the VRRP vip you have just added is being used by any other device. To do this, you can use the built-in "arp who-has" tool available in the "DiagTools" tab; specify the name of the interface and the IP address to test. If a unicast message appears, then the IP address is already used.




```
# /usr/sbin/tcpdump -vvvenns0 -c 5 -i eth0 vrrp

tcpdump: listening on eth0, link-type EN10MB (Ethernet), capture size 65535 bytes
14:12:27.936839 00:0c:49:65:47:0e > … , proto VRRP (112), … , vrid 30, prio 35, … , addrs: 10.0.32.192
14:12:28.250381 00:0c:59:20:c7:f6 > … , proto VRRP (112), … , vrid 166, prio 133, … , addrs: 10.0.32.70
…
14:12:28.460930 00:0d:b9:18:b9:74 > … , proto VRRP (112), … , vrid 55, prio 70, … , addrs: 10.0.32.177
14:12:28.939831 00:0c:29:35:27:7d > … , proto VRRP (112), … , vrid 30, prio 35, … , addrs: 10.0.32.192
5 packets captured
0 packets received by filter
0 packets dropped by kernel
```

Make sure the VRRIP ID is not already used by another device on the network. To do this, you can use the built-in "capture" tool available in the "DiagTools" tab; specify the name of the interface and enable filtering on the VRRP protocol. The list of VRRP IDs then appears with the associated IP addresses.