

Quick Install: StoneBeat™ High Availability For FireWall-1 v3.0

This document will outline the basic procedures for installing and configuring StoneBeat™ on Sun Solaris platform. The configuration described here is a typical StoneBeat™ installation with Internet, internal and DMZ networks connected to the firewalls, as well as a dedicated management network. In Figure 1 there is a network diagram of the described installation.

In this example we have two gateways, fw1a and fw1b, and a management workstation called fwmgmt. The same management workstation is used to control the firewall modules on the gateways as well as StoneBeat™.

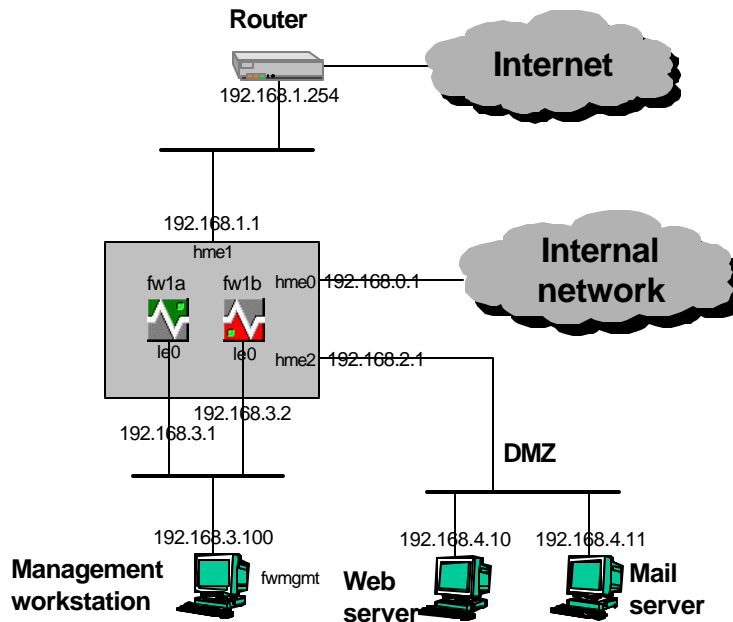


Figure 1 Network diagram

Installation procedure:

1. Configure the control interfaces (the ones used for management, heartbeat and FW1 traffic) on the gateways. **NOTE:** The hostname associated with the control interface must be the same as the output of hostname command (that is, the gateway's nodename). Create /etc/hostname.le0 files on both gateways that contain each gateway's hostname. **Do not configure any other interfaces yet.**
2. You should use /etc/hosts as a primary method for resolving hostnames. In Figure 2 there is a minimal /etc/hosts for this installation.
3. Define your default router in /etc/defaultrouter.
4. Reboot and make sure the hosts talk to each other through their control interfaces.
5. Install and configure the FireWall-1 Filter Modules on both gateways, and configure the FireWall-1 management station. Install a policy Any Any Any Accept. Make sure that the names of network objects for the gateways themselves are the same as their nodenames.
6. Install the StoneBeat™ "Beat Module" on the **Primary and Secondary gateways only**. Install the StoneBeat™ Control module on the management workstation.
7. Set the environment variable for user root in /.profile for \$SBHOME to equal the StoneBeat™ installation directory for example /opt/stonebeat on both gateways and the management workstation. You can also add \$SBHOME/bin to PATH and \$SBHOME/man to MANPATH.

127.0.0.1	localhost
192.168.3.1	fw1a
192.168.3.2	fw1b
192.168.3.100	fwmgmt

Figure 2 /etc/hosts

8. Edit `$$BHOME/etc/systems` on both gateways and the management workstation to define the roles of the hosts.

<code>fw1a</code>	<code>primary</code>
<code>fw1b</code>	<code>secondary</code>
<code>fwmgmt</code>	<code>control</code>

9. Edit `$$BHOME/etc/interfaces` file on each gateway to define the operative interfaces. **Use exactly same file on both gateways.**

Figure 3 `$$BHOME/etc/systems`

10. Edit `$$BHOME/etc/onlineroutes.sh` on each gateway to flush the routing table and to define all routes the active gateway needs. For this installation a default route to the internet router is all we need. **Use exactly same file on both Gateways.**

<code>hme0</code>	<code>192.168.0.1</code>	<code>8:0:20:81:b8:59</code>	<code>255.255.255.0</code>
<code>hme1</code>	<code>192.168.1.1</code>	<code>8:0:20:81:b8:59</code>	<code>255.255.255.0</code>
<code>hme2</code>	<code>192.168.2.1</code>	<code>8:0:20:81:b8:59</code>	<code>255.255.255.0</code>

Figure 4 `$$BHOME/etc/interfaces`

```
/usr/sbin/route -nf add default 192.168.1.254 1
```

Figure 5 `$$BHOME/etc/onlineroutes.sh`

11. Edit `$$BHOME/etc/offlineroutes.sh` on each Gateway to flush the routing table and to define a default route to the control interface of the other Gateway.

```
/usr/sbin/route -nf add default 192.168.3.2 1
```

Figure 6 `$$BHOME/etc/offlineroutes.sh` on `fw1a`

```
/usr/sbin/route -nf add default 192.168.3.1 1
```

Figure 7 `$$BHOME/etc/offlineroutes.sh` on `fw1b`

12. Edit `$$BHOME/etc/secretkey` on each host so that they have exactly the same passphrase.

13. Edit `$$BHOME/etc/checklist` on secondary gateway to set the testing criteria for the StoneBeat™ daemons. For the purposes of this example

<code>multi-ping</code>	<code>1000</code>	<code>2</code>	<code>192.168.1.254</code>
<code>multi-ping</code>	<code>1000</code>	<code>2</code>	<code>192.168.2.10 192.168.2.11</code>

Figure 8 `$$BHOME/etc/checklist`

we will check the reachability of our DMZ segment and the Internet router through the primary gateway. We will switch if either the Internet router or both mail and web servers fail to answer. If one server on the DMZ is down, but the other one responds, we will not switch.

14. Reboot both gateways and the management workstation. Verify with "`sbcontrol status`" command, that primary (`fw1a`) is online, connected and that secondary (`fw1b`) is offline, connected. `fw1a`'s `hmeX` interfaces should be up and `fw1b`'s `hmeX` interfaces should be down.

15. Configure operative interfaces on Firewall-1 rulebase and install the policy.

16. To test the failover remove either the external or DMZ network cable from the primary gateway. StoneBeat™ should detect this and switch to the secondary. All traffic should now flow through the secondary gateway.

17. Once you have restored all the network connections on primary gateway, you can switch back to it by issuing a command "`sbcontrol online fw1a`".

For detailed information, consult the StoneBeat™ Installation And Administration Manual.