



HIGH - AVAILABILITY

RSF-1 V2 Upgrade Guide

For RSF-1 Version 2.1 Migration to 2.7.0

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1 Preface

1.1 Overview

This document describes the process required to upgrade RSF-1 versions prefixed 2.1 to the latest version (currently, but no less than, 2.7.0).

1.2 Who should use this manual

This manual is written for system administrators who are responsible for installing and maintaining RSF-1 hosts and clusters.

It assumes you have familiarity with your chosen operating system and hardware platforms, and are familiar with high availability concepts and more specifically the installation of the RSF-1 solution.

1.3 Conventions

Throughout this manual the following conventions are used.

Names of RSF-1 services are in *italic*

File names and directory paths are in a monospace font

Shell environment variables are in a monospace font

Package names are given in **bold**

2 The upgrade process

2.1 Backing up and Removing RSF-1 V2.1

In order to perform an RSF-1 upgrade, all nodes in the cluster must be upgraded simultaneously. Furthermore, there is no support for running differing versions of RSF-1 on disparate nodes within a cluster.

The following guide is based upon a two node cluster running Check Point FireWall-1. Each node runs a live *firewall* service and an unused *dummy* one.

2.1.1 Record RSF-1 states

Capture and record the state of the cluster and the current running location of the *firewall* and *dummy* services with the following command:

```
# rsfcli -v list
```

2.1.2 Set services to manual

Based on the output generated in 2.1.1 above, use the RSF-1 command-line interface, *rsfcli*, to ensure switchover modes on all hosts in the cluster for the *firewall* and *dummy* services are set to manual mode:

```
# rsfcli -i=0 manual firewall
# rsfcli -i=0 manual dummy
```

Note: With all versions of RSF-1 V2.1 and above, the requirement for a *dummy* service in an asymmetric cluster is now obsolete and thus can safely be removed from the configuration. Please see the latest RSF-1 Administration Guide for further information.

2.1.3 Halt RSF-1

On each machine in the cluster, shutdown RSF-1 V2.1 monitoring and any running services with the following command:

```
# rsfctl stop
```

Verify no RSF-1 V2.1 processes are running using the following command:

```
# ps -ef | grep rsfmon
```

the output of which should show no *rsfmon* processes on the host operating system. If any are found running then stop them explicitly using the `kill -9` command.

2.1.4 Remove temporary files

Remove old RSF-1 V2.1 runtime files, if they exist, with the following commands:

```
# rm -f /etc/rsf.pid
# rm -f /tmp/DMZ-firewall.pid
# rm -f /tmp/in-firewall.pid
# rm -f /tmp/out-firewall.pid
# rm -f /tmp/psmon-fwd-firewall.pid
```

2.1.5 Backup old installation

Backup the old RSF-1 V2.1 `/opt/RSIrsf` directory structure, start, stop and init scripts and the `/etc/services` file with the following commands:

```
# cd /opt
# cp -r RSIrsf RSIrsf.old
# tar -cvf RSIrsf.old/etc.tar /etc/rc2.d/S97rsfrc
/etc/rc0.d/K10rsfrc /etc/init.d/rsfrc /etc/services
```

2.1.6 Remove the version 2.1 RSF-1 package

Remove the old RSF-1 V2.1 **RSIrsf** package with the following command:

```
# pkgrm RSIrsf
```

2.1.7 Remove all remaining files

Remove the old RSF-1 V2.1 `/opt/RSIrsf` directory structure with following commands:

```
# cd /opt/  
# rm -rf RSIrsf
```

2.2 Installing RSF-1 V2.7.0

2.2.1 Install the new package

Install the new RSF-1 V2.7.0 **HACbase** and **HACrsf** packages with the following commands:

```
# cd /install_dir  
# pkgadd -d HACbase-solaris-5.6-sparc.REVISION.2003-09-17.pkg  
# pkgadd -d HACrsf-1-solaris-5.6-sparc.REVISION.2003-10-03.pkg
```

2.2.2 Update paths

2.2.2.1 Bourne/BASH shell

Edit root's `/.profile` file and add `/opt/HAC/bin:/opt/HAC/RSF-1/bin` to the `PATH` and `/opt/HAC/man` to the `MANPATH` environment variables.

Re-execute root's `/.profile` to inherit the new RSF-1 V2.7.0 `PATH` and `MANPATH` environment variables with the following command:

```
# . /.profile
```

2.2.2.2 C Shell

Edit root's `/.login` file and `/opt/HAC/bin:/opt/HAC/RSF-1/bin` to the `PATH` and `/opt/HAC/man` to the `MANPATH` environment variables.

Re-execute root's `~/.login` to inherit the new RSF-1 V2.7.0 `PATH` and `MANPATH` environment variables with the following command:

```
# source ~/.login
```

2.3 Migrating RSF-1 V2.1 configuration to RSF-1 V2.7.0

2.3.1 Update the /etc directories

Copy the contents of the backed up RSF-1 V2.1 `/opt/RSIrsf.old/etc` subdirectory to the new RSF-1 V2.7.0 `/opt/HAC/RSF-1/etc` subdirectory with the following commands:

```
# cd /opt/RSIrsf.old/etc/  
# cp -r * /opt/HAC/RSF-1/etc/
```

2.3.2 Modify scripts

Identify and change the old RSF-1 V2.1 command-line references in the following scripts (highlighted in **bold**) from `rsfcli="/opt/RSIrsf/bin/rsfcli"` to `rsfcli="/opt/HAC/RSF-1/bin/rsfcli"` respectively:

```
# cd /opt/HAC/RSF-1/etc/rc.firewall.d  
# ls -l  
total 58  
-rwxr--r--  1 root      other          338 Oct  8 15:43 S01announce
```

```

-rwxr--r-- 1 root other 2246 Oct 8 15:43 S30interface
-rwxr--r-- 1 root other 5640 Oct 8 15:43 S40arp
-rwxr--r-- 1 root other 1519 Oct 8 15:43 S60etherping-DMZ
-rwxr--r-- 1 root other 1524 Oct 8 15:43 S60etherping-in
-rwxr--r-- 1 root other 1534 Oct 8 15:43 S60etherping-out
-rwxr--r-- 1 root other 643 Oct 8 15:43 S95FWmon
-rwxr--r-- 1 root other 1026 Oct 8 15:43 S98psmon-fwd
-rwxr--r-- 1 root other 351 Oct 8 15:43 S99announce

```

The files `S60etherping-DMZ`, `S60etherping-in` and `S60etherping-out` should be modified at line number 27 and `S98psmon-fwd` at line 20.

Identify and change the Firewall monitoring agent `fwmon` and old RSF-1 V2.1 command-line references in `S95FWmon` on line 16 from `/opt/RSIrsf/bin/fwmon` and `/opt/RSIrsf/bin/rsfcli` to `/opt/HAC/RSF-1/bin/fwmon` and `/opt/HAC/RSF-1/bin/rsfcli` respectively.

2.3.3 Update symbolic links

Recreate the `firewall` service's symbolic 'k' kill scripts with the following command:

```
# rsfklink firewall
```

2.3.4 Install firewall monitoring

Copy the Firewall monitoring agent `fwmon` binary and `config` file from the backed up RSF-1 V2.1 `/opt/RSIrsf.old/bin` subdirectory to the new RSF-1 V2.7.0 `/opt/HAC/RSF-1/bin` subdirectory with the following commands:

```
# cd /opt/RSIrsf.old/bin/
# cp fw* /opt/HAC/RSF-1/bin/
```

2.3.5 Rename license file

Rename the old RSF-1 V2.1 licence file from `/opt/HAC/RSF-1/etc/license.<hostname>` to the new `/opt/HAC/RSF-1/etc/licence.<hostid>` format with the following commands (note the spelling change of licence):

```
# cd /opt/HAC/RSF-1/etc/
# mv license.<hostname> licence.`hac_hostid`
```

Please note the type of quotes surrounding the `hac_hostid` command above. They cause the enclosed command to be executed by the shell and the resulting output substituted for the original command.

2.3.6 Verify license file

Verify the new RSF-1 V2.7.0 license file with the following command:

```
# rsfmon -v
```

any errors discovered will be displayed on the terminal screen.

2.4 Starting RSF-1 V2.7.0

2.4.1 Start RSF-1

Start RSF-1 V2.7.0 monitoring with the following command:

```
# rsfctl start
```

Verify the new RSF-1 V2.7.0 processes are running with the following command:

```
# ps -ef | grep rsfmon
```

which should show a number of RSF processes running.

2.4.2 Set failover modes

Based on the information gathered in 2.1.1 above, use the RSF-1 command-line interface to set switchover modes for the *firewall* and *dummy* services back to automatic mode as appropriate with the following commands:

```
# rsfcli -i=0 auto firewall
# rsfcli -i=0 auto dummy
```

Verify the *firewall* and *dummy* services started on the correct node with the following commands:

```
# tail -100 /opt/HAC/RSF-1/log/rsfmon.log
# tail -100 /var/log/rsf_log
# rsfcli -v list
```

2.5 Testing RSF-1 V2.7.0

2.5.1 Fail services over

Using the RSF-1 V2.7.0 command-line interface, move the *firewall* service from the live node to the standby node with the following command:

```
# rsfcli -i=0 -h live-node -t standby-node move firewall
```

Verify the *firewall* service started correctly on the other node with the following commands:

```
# tail -100 /opt/HAC/RSF-1/log/rsfmon.log
# tail -100 /var/log/rsf_log
# rsfcli -v list
```

Optionally, use the RSF-1 V2.7.0 command-line interface to return the *firewall* service to the node it was originally running on:

```
# rsfcli -i=0 -h standby-node -t live-node move firewall
```

2.6 Post Upgrade

2.6.1 Complete file removal

Optionally, remove the backed up RSF-1 V2.1 `/opt/RSIrsf.old` directory structure, start, stop, init scripts and `/etc/services` file with the following commands:

```
# cd /opt
# rm -rf RSIrsf.old
```

Edit root's `.profile` and remove the old RSF-1 V2.1 `/opt/RSIrsf/bin` entry from the `PATH` and `/opt/RSIrsf/man` entry from the `MANPATH` environment variables.

3 Restoring RSF-1 V2.1

3.1 Overview

Should the need arise, this section describes the steps to take to reinstate a previous version of RSF-1.

3.1.1 Shutdown RSF-1

Shutdown RSF-1 V2.7.0 monitoring and any running services with the following command:

```
# rsfctl stop
```

3.1.2 Check shutdown completed successfully

Verify that there are no RSF-1 V2.7.0 processes are running with the following command:

```
# ps -ef | grep rsfmon
```

the output of which should show no rsfmon processes on the host operating system. If any are found running then stop them explicitly using the `kill -9` command.

3.1.3 Remove temporary files

Remove RSF-1 runtime files, if they exist, with the following commands:

```
# rm -f /etc/rsfmon.pid
# rm -f /tmp/DMZ-firewall.pid
# rm -f /tmp/in-firewall.pid
# rm -f /tmp/out-firewall.pid
# rm -f /tmp/psmon-fwd-firewall.pid
```

3.1.4 Remove packages

Remove the new RSF-1 V2.7.0 **HACbase** and **HACrsf** packages with the following commands:

```
# pkgrm HACrsf
# pkgrm HACbase
```

3.1.5 Remove remaining files

Remove the new RSF-1 V2.7.0 `/opt/HAC` directory structure with following commands:

```
# cd /opt
# rm -rf HAC
```

3.1.6 Restore backed up files

Restore the backed up RSF-1 V2.1 `/opt/RSIrsf.old` directory structure, start, stop, init scripts and `/etc/services` file with the following commands:

```
# tar -xvfp RSIrsf.old/etc.tar
# mv RSIrsf.old RSIrsf
```

3.1.7 Check shell start-up files

Ensure root's `.profile` or `.login` files contain the entry `/opt/RSIrsf/bin` in the `PATH` and the entry `/opt/RSIrsf/man` in the `MANPATH` environment variables.

3.1.8 Start RSF-1

Start RSF-1 V2.1 monitoring with the following command:

```
# rsfctl start
```

3.1.9 Verify RSF-1

Verify the RSF-1 V2.1 processes are running with the following command:

```
# ps -ef | grep rsfmon
```

which should show a number of RSF processes running.