

# RSF-1 HIGH-AVAILABILITY STORAGE CLUSTER



## OVERVIEW

Each RSF-1 node in a cluster (1-64 nodes), communicates with all other cluster nodes via a number of heartbeat channels, and manages the availability of up to 200 services (database, application or storage pools). Each service, generally supported with at least one VIP and file-system, can be failed over to any other node that has been configured with shared storage and networking available. Each service and controller can be set for automatic or manual (planned) failover.

Failover can be localized (within a single dual-controller chassis) or between nodes over a wider geographical area (network and bandwidth availability dependent).

RSF-1 clusters can be managed and administered from command-line or GUI and can be optionally integrated with vendors own services using the RSF-1 APIs.

Features	RSF-1 Capabilities
History	First released in 1996 on Solaris and Linux. Proven and deployed on thousands of enterprise-grade critical systems worldwide.
Technology	C, C++ with Unix shell interfaces, no kernel drivers
Design Philosophy	Easy to understand through it's simplicity of design. Unix-like
Platform Support	Solaris, Open Solaris / Open Indiana / Illumos, Linux, FreeBSD, Mac OSX
Hardware Support	Hardware agnostic. Virtualised server compatible.
HA topology	Active-Active, Active-Passive in 1-64 way configuration
Installation Options	Fresh Operating System installation, or back-fit options
File System Support	ZFS, UFS, XFS, EXT4, VxFS, SVM
Controller / Nodes Topology support	1-64
Services Supported	1-200
Heartbeat Mechanisms	Public network, private network, serial, shared disk, cloud beacons (for "stretch" configurations)
Failover Options	Controller and service specific Automatic or Manual
Geographic Topologies	In-chassis to "stretch" depending on network configuration and bandwidth availability
Detection Time	Sub-second detection; overall failover time dependent on application / storage
Disk Fencing Protections	MHD SCSI-2 Reservation / panic, STONITH integration
Network Availability	Intelligent networking monitoring integrated with service failover

# RSF-1 HIGH-AVAILABILITY STORAGE CLUSTER



RSF-1 Operation	Command-line, GUI, API, Web
API Services	C, C++, SWIG (Java, Python, Perl etc)
VIP Support	0-N VIPs per service
Application Agent Availability	Oracle, MySQL, Ingres, Sybase, NFS, Samba, httpd, JDBC, Port Monitor
Application Agent Framework	Flexible Java / Script toolkit for other applications

<b>ZFS Specific Support</b>	
COMSTAR / ALUA Cluster Support	Integrated STMFHA for managing iSCSI/ALUA target groups within cluster
ZFS cache file synchronization	Speeds ZFS pool(s) failover time
vdev heartbeat	Non-destructive (disk) heartbeats through pool vdevs
Parallel Pool Import / Export	Speeds ZFS pool startup and failover

<b>RSF-1 Integration Options</b>	
GUI Support	API access with C, C++, SWIG (Java, Python, Perl etc)
Licensing Integration	Automatic licensing server integration - Flexible framework

<b>Commercial Considerations</b>	
Licensing	Timed evaluation licenses, Permanent (perpetual) "bought" licenses
Pricing Model	Flexible volume / tiered pricing
Branding	Optional "white label" / OEM opportunity
Penetration	The "de facto" HA plugin widely used by many open storage vendors.

<b>High-Availability.Com</b>	
Company status	Privately owned, UK-based, profitable since 1996
Support	Global support offered 24x7