



AFS FILESERVER IN HIGH AVAILABILITY

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Outline

- How it all began
- Requirements
- Heartbeat for High Availability
- Pros and Cons of Heartbeat
- Our Heartbeat Configuration
- Our Layout
- Conclusions

How It All Began

Move AFS FileServer (FS) to new hardware.
At that time we had

- 2 HP (DL380), dual path Fiber Channel card
- Disks through SAN: production & backup

Requirements

AFS is a critical service: Web data, HOMEDIR and also some data of the Physics experiments


Goals:

- Avoid as much as we can to work in emergency state
- Minimize inefficiency time

Heartbeat for High Availability

Heartbeat is a daemon providing cluster infrastructure (communication and membership) services to its clients. This allows clients to know about the presence (or lack) of peer processes on other machines and to easily exchange messages with them.

<http://linux-ha.org/HomePage>



The screenshot shows the High Availability website. At the top is the logo "HA HighAvailability" with the tagline "Providing Open Source High-Availability Software for Linux and other OSes since 1999." Below the logo is a navigation bar with links: "Homepage", "About Us", "Contact Us", "Legal Info", "How To Contribute", and "Security Issues". The "Security Issues" link is highlighted with a red circle. Below the navigation bar is a section titled "Project Goal" with the text: "Provide a high availability (clustering) solution for Linux which promotes reliability, availability, and serviceability (RAS) through a community development effort." Below this is a section titled "What Is Heartbeat". On the right side of the page, there is a sidebar with a list of links: "CRM Successor", "Pacemaker", "Documentation", "Introduction", "Fact Sheet (v1)", "Press Room", "Success Stories", and "Talks".

Our Heartbeat Configuration

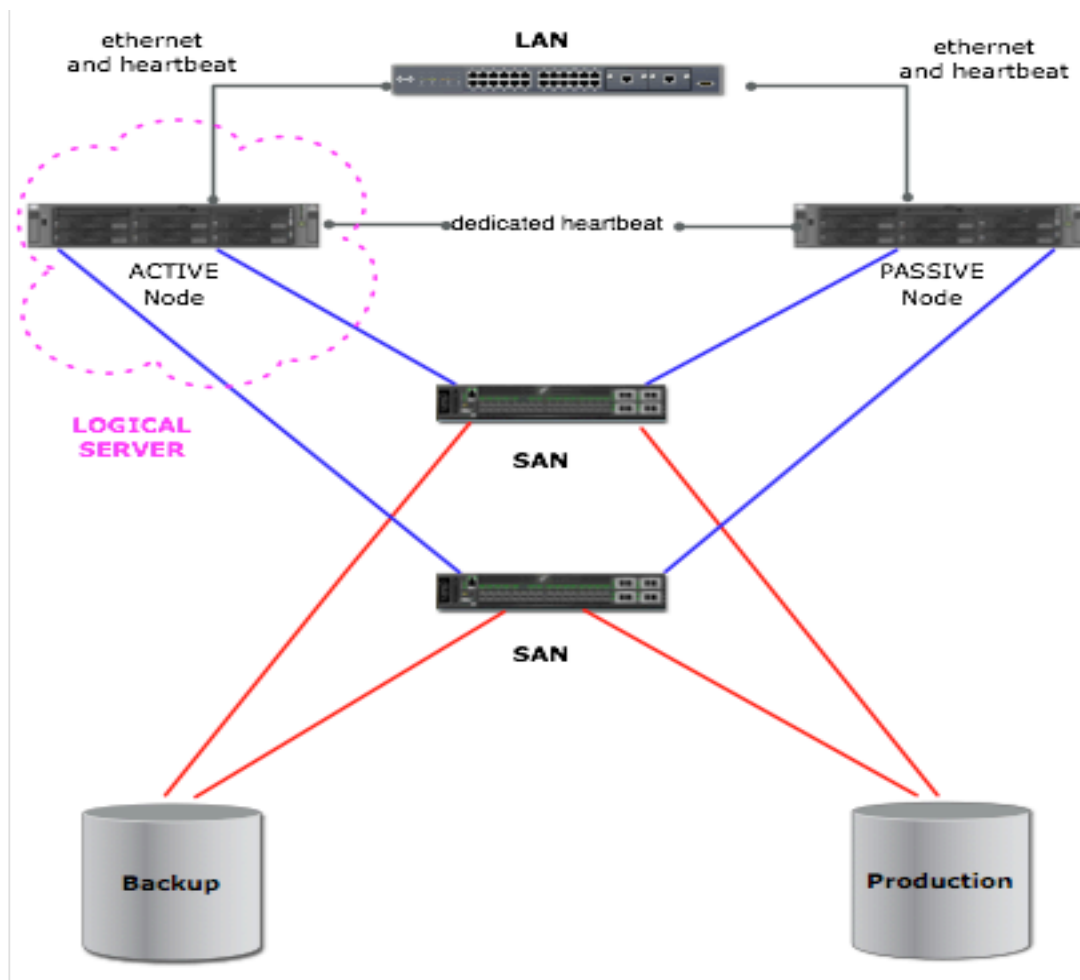
- Active/Passive: only one node at time is providing AFS
- Failover: when Active goes down, Passive takes over the AFS
- Failback ON: the process of returning one or more resources (service) to their Active node
- To avoid AFS rebound, the heartbeat daemon does not start on both nodes at boot time
- Heartbeat resources: AFS filesystem (prod and backup)

Pros and Cons of Heartbeat

Heartbeat adequate tool to reach our goals

- Pros
 - Active/Passive configuration (see previous slide)
 - Failover configuration (see previous slide)
- Cons
 - When AFS moves from one server to another, there is a risk of losing some data. (AFS callback)

Our Layout



Conclusions

We have been in production for a week and monitoring AFS up close.

We are so far satisfied with the system and hope to have reached our goals

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and Santa Claus (for those whom still believe in him)