OpenAFS Status Report

Michael Meffie, OpenAFS Release Team

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Objectives

- Updates on work done for the OpenAFS stable release branches
- Report on work merged to the main development branch
- Status of planned future work

Google Summer of Code 2022

- OpenAFS Participated in Goggle Summer of Code 2022
  - Arnie Jhingran: Stress test harness
  - Virkram Rajsitpal: Reverse Index lookup
  - https://www.openafs.org/gsoc/2022.html
- Not participating in 2023, planning to apply for 2024

OpenAFS Release Team Meetings

- Stephan Wiesand, OpenAFS Release Manager
- Ben Kaduk, OpenAFS Guardian
- Every Thursday at 12:00 noon Eastern via IRC
  - channel #openafs-releaseteam
  - libra.chat
- Agenda:
  - Changes for OpenAFS Stable (1.8.x)
  - Changes for OpenAFS Development

Gerrit

- All code changes are reviewed on https://gerrit.openafs.org
- For information on how to submit code changes, see:

  https://wiki.openafs.org/devel/GitDevelopers/
- Changes for master should be based on the current master branch.
- Changes for stable must be submitted as stacks based on 1.8.x
  - Changes must already exist on the master branch
  - Limited refactoring patches may be accepted to allow for cleaner backports.
  - Please coordinate with the Release Team before submitting to stable branch on gerrit.

Buildbot

- Performs test builds of each gerrit submission
  - buildbot.openafs.org is hosted by MIT
  - Community provided builders for various platforms
  - Ansible managed configuration
  - Molecule used for local testing
  - https://github.com/openafs-contrib/afsbotcfg
- New contributed builders in 2023
  - AlmaLinux 9
  - AIX 6
  - AIX 7
  - macos11
  - macos12

OpenAFS Releases

- 1.8.9 December 2022
- 1.8.10pre1 May 2023

OpenAFS 1.8.9

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Platforms

- Linux 6.0 Support
- FreeBSD 12.3 support

OpenAFS 1.8.9 - Highights

- Reject negative inputs in the filesever FetchData RPC. (Previously, negative inputs resulted in the volume being taken offline.)
- Fix string buffer overflow in kernel module when queried with “cmdebug”.
- Avoid more panics in the kernel module in failure conditions.
- Warn when server processes are started without keys.
- Avoid DNS lookups in fs commands when not needed (getcellstatus, checkservers, setcell).
- Red Hat RPMs: defer loading the OpenAFS kernel module until it is needed.

OpenAFS 1.8.10pre1 - Platforms

- Apple macOS 13 “Ventura” support
- Apple Silicon support
- Linux 6.3 support
- AIX 7 support

OpenAFS 1.8.10pre1 - Highights

- Take the readonly volume offline during “vos convertROtoRW”
- Improved error messages and diagnostics
- Add fs getfid -literal option for Unix clients
- Trim trailing slashes from paths given to “fs lsmount” and “fs flushmount”
- Fixed potential cache inconsistencies for symbolic link metadata
- More kernel panic avoidance and removed all strcpy() calls from kernel module

OpenAFS master branch

- Support for newer platform levels upto:
  - AIX 7.2
  - Apple macOS 13
  - Apple Silicon
  - Linux 6.3 (with patches for Linux 6.4 RC)
- Support for newer compilers (clang-16 ang gcc-13)

OpenAFS master branch

- Operational improvements:
  - Fixed potential cache inconsistencies for symlink metadata
  - Fixed pag buildup
  - Improved fs flush to invalidate Linux's cached dentries
  - Improved error messages and diagnostics

OpenAFS master branch

- General code cleanup:
  - Replacement of string functions with safer alternatives, (e.g. strcpy => strlcpy, etc.)
  - Improved support for larger strings by using allocated memory instead of fixed sized buffers.
  - Removing obsolete and dead code, consolidating redundant code, etc.
  - Various fixes for memory leaks, range checking, validating pointers before use, out of memory conditions, potential panics due to memory
  - Improvements to the autoconf macros and build processes for detecting installed libraries, compiler flags and platform detection

Questions?

Thank you