

2024 OpenAFS Workshop

OpenAFS Platform Support Update

June 11, 2024



About us

Cheyenne Wills

Software Engineer
cwills@sinenomine.net

Marcio Barbosa

Software Engineer
mbarosa@sinenomine.net

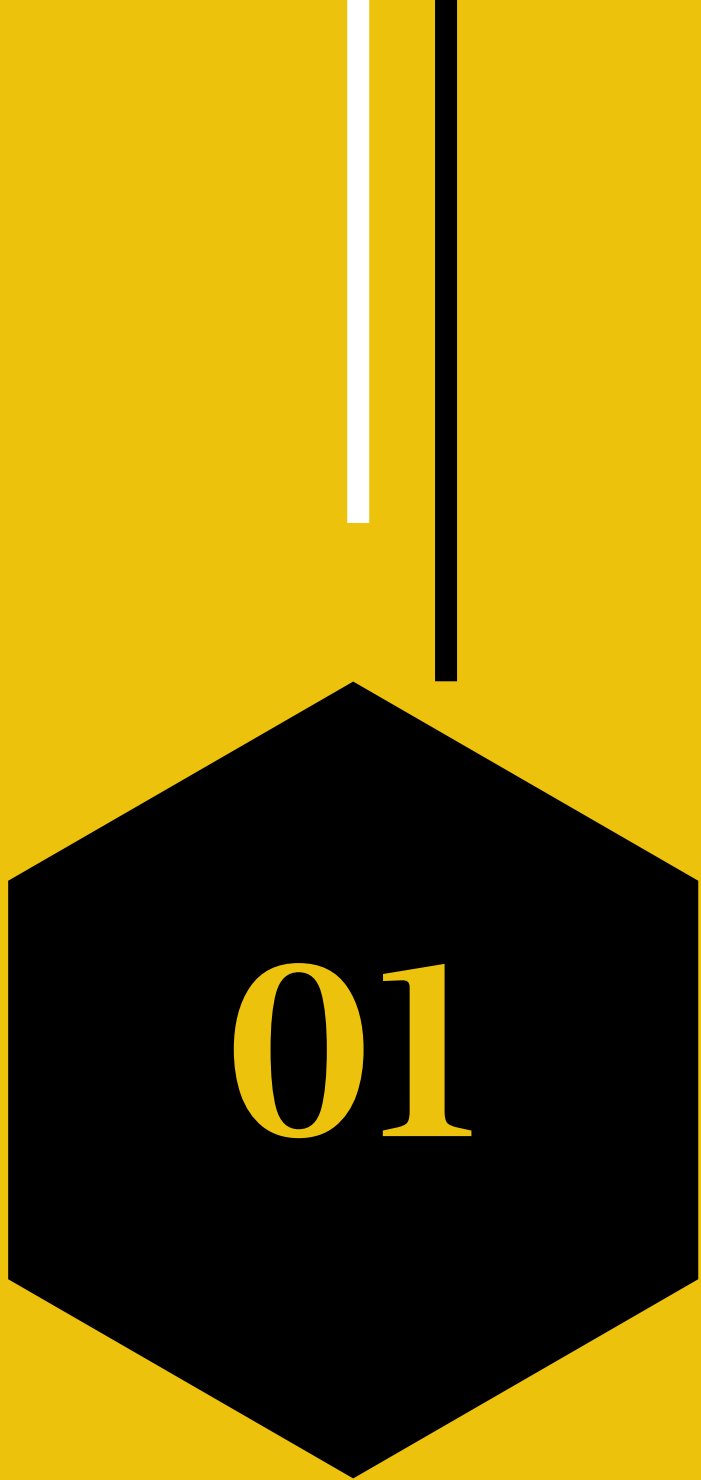
Sine Nomine Associates

Commercial support for OpenAFS

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A decorative graphic on the left side of the slide. It consists of two vertical lines at the top: a thin white line on the left and a thicker black line on the right. Both lines extend downwards and terminate at the top vertex of a large, solid black hexagon. The hexagon is centered vertically and horizontally on the left half of the slide. Inside the hexagon, the number '01' is written in a large, yellow, serif font.

01

Linux

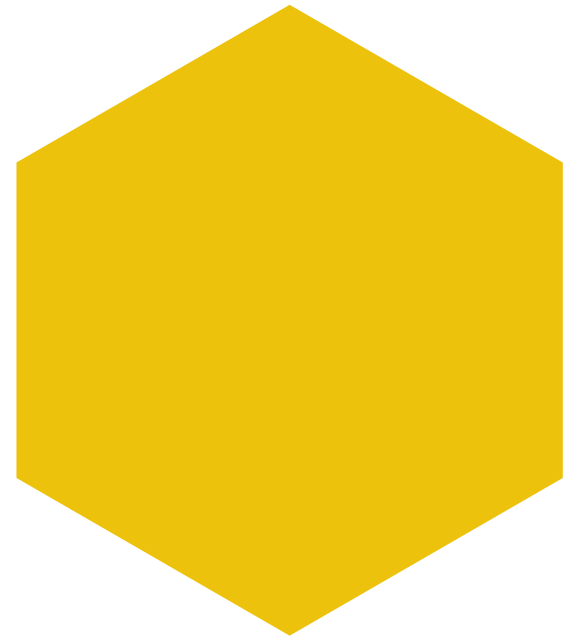
Cheyenne Wills
cwills@sinenomine.net

01.

Linux

- 1.8.10 July 2023
- 1.8.11 March 2024
- 1.8.12 - in progress



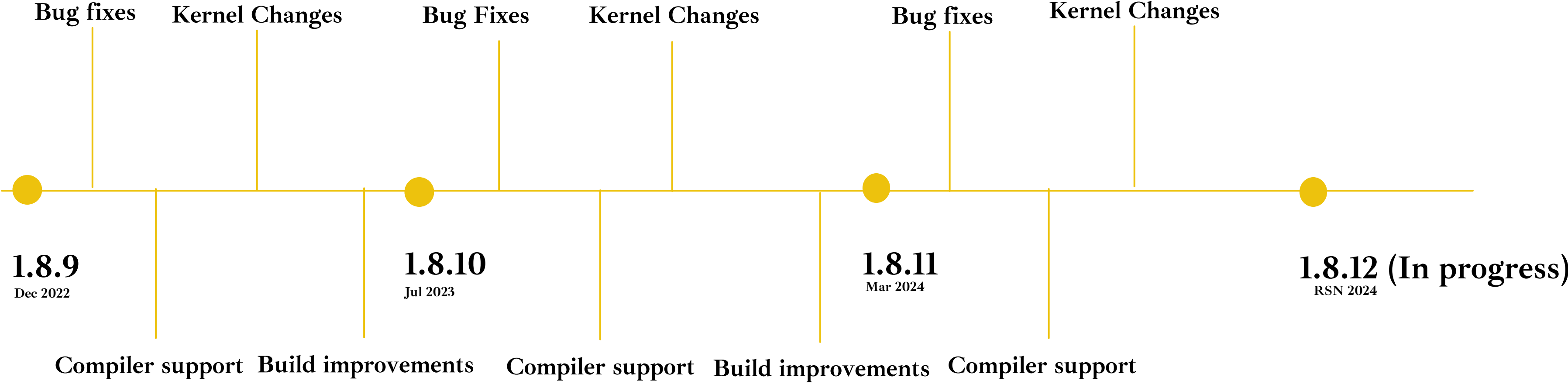


Buildbot workers

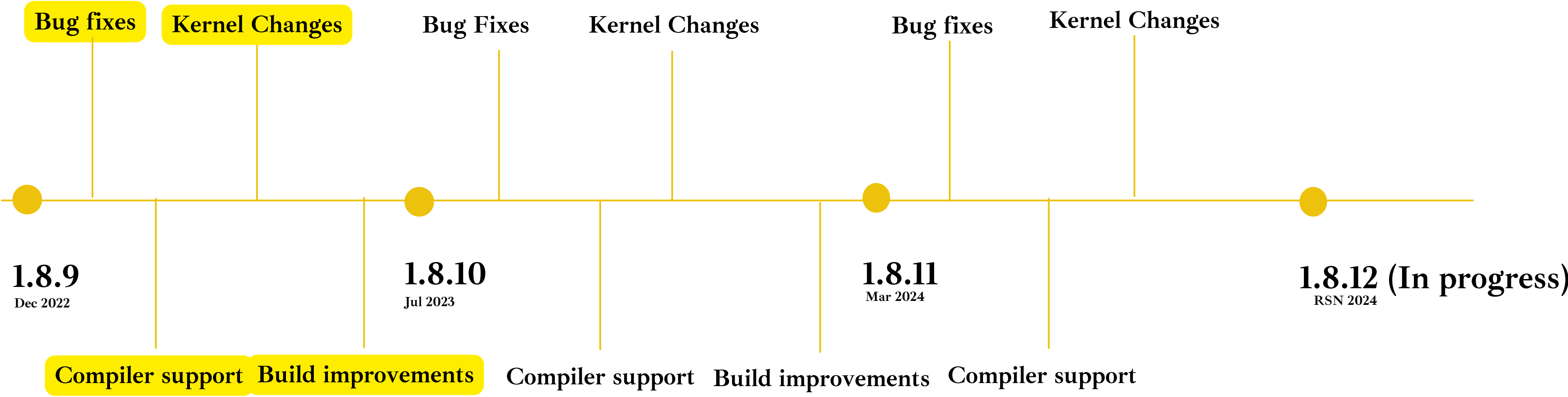
- **alma9**
- **centos6, 7, 8**
- **debian 10, 11, 12**
- **fedora 26-40**
- **opensuse LEAP 15.3**
- **ubuntu 20.04, 22.04**



Releases



Releases



1.8.10

Bug Fixes

NULL pointer references, stale metadata, kernel oops accessing sysctl.

Kernel Changes

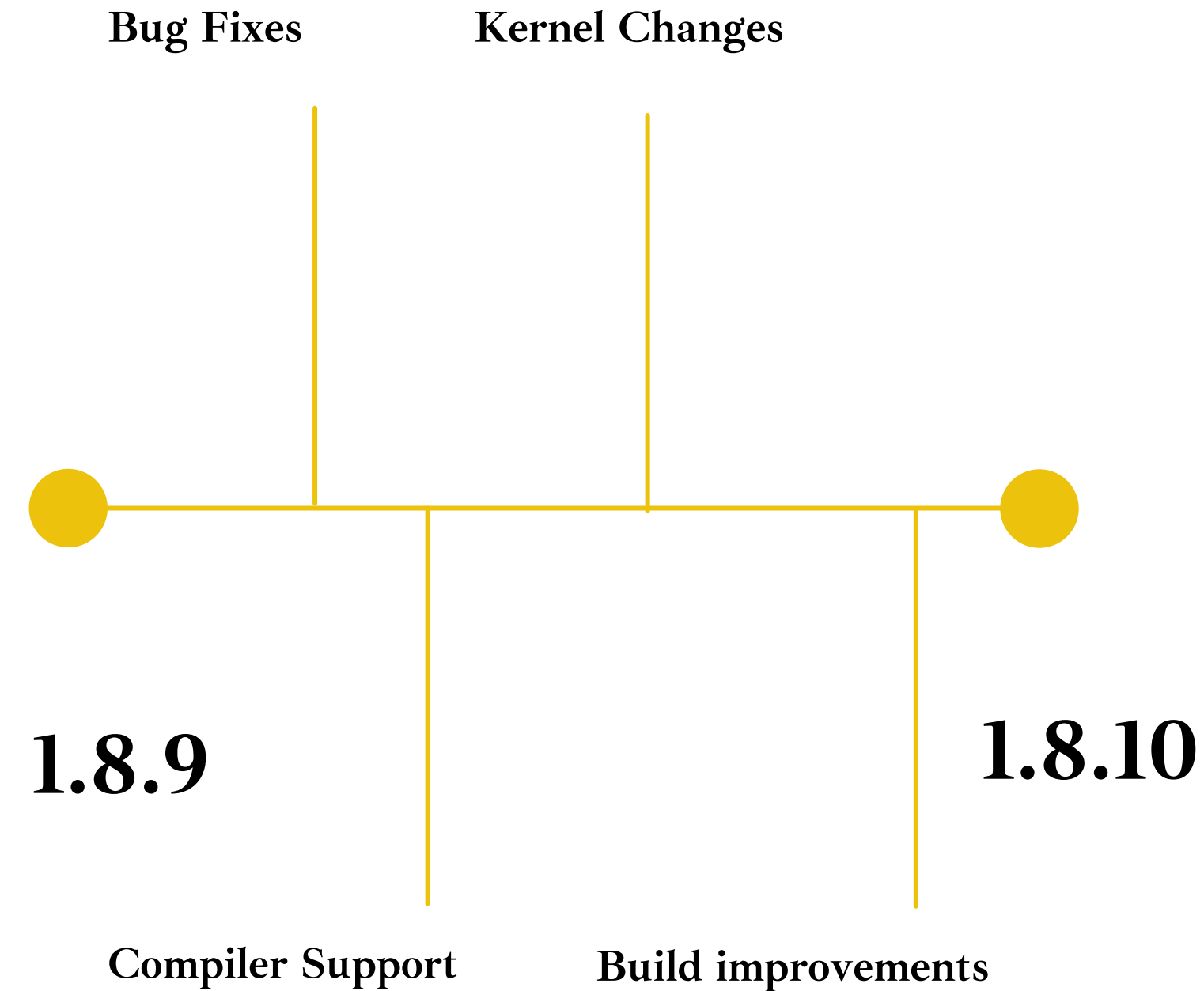
6.3 / 6.4 - folios, header file changes, id mapping.

Compiler Support

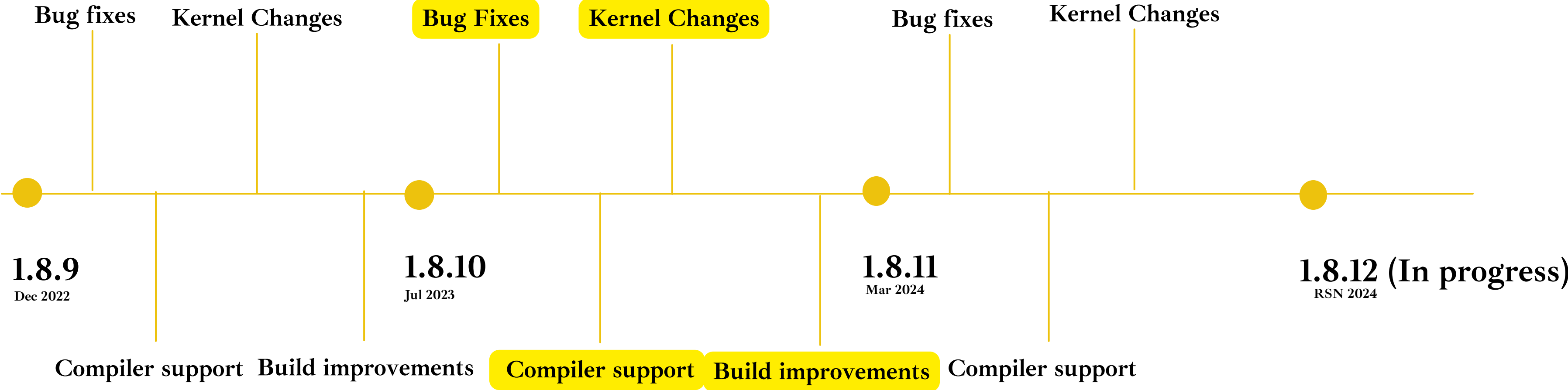
New clang-16 compile time checks

Build Improvements

Parallel builds, detection of libraries, out-of-tree builds



Releases



1.8.11

Bug Fixes

pag buildup, stale dcache metadata, dcache marked as corrupted, file sizes $\geq 4G$, improve vcache evictions, BUG directory names > 16 chars

Kernel Changes

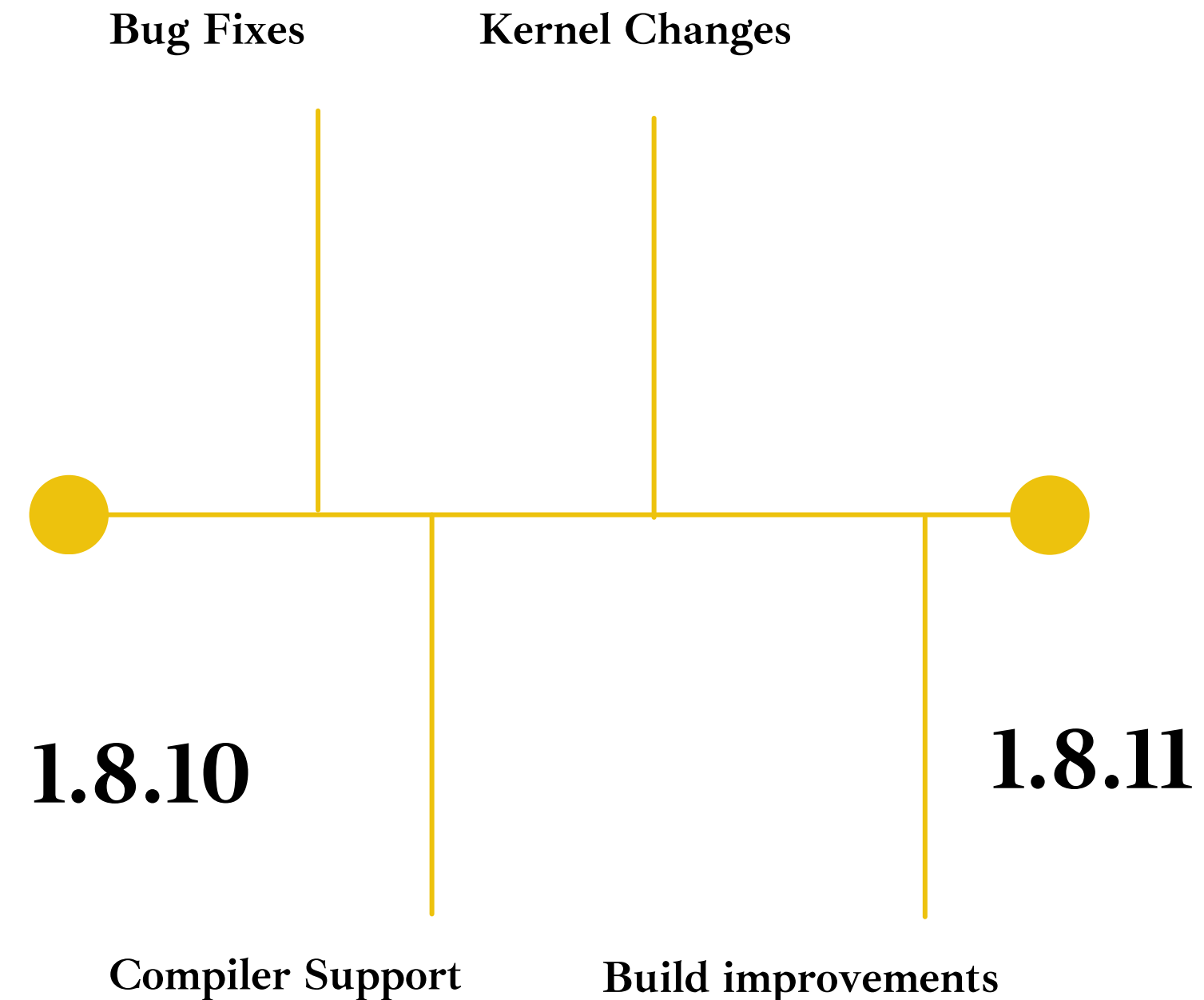
6.5, 6.6, 6.7 - sysctl interfaces, inode time accessors, misc VFS interface changes.

Compiler Support

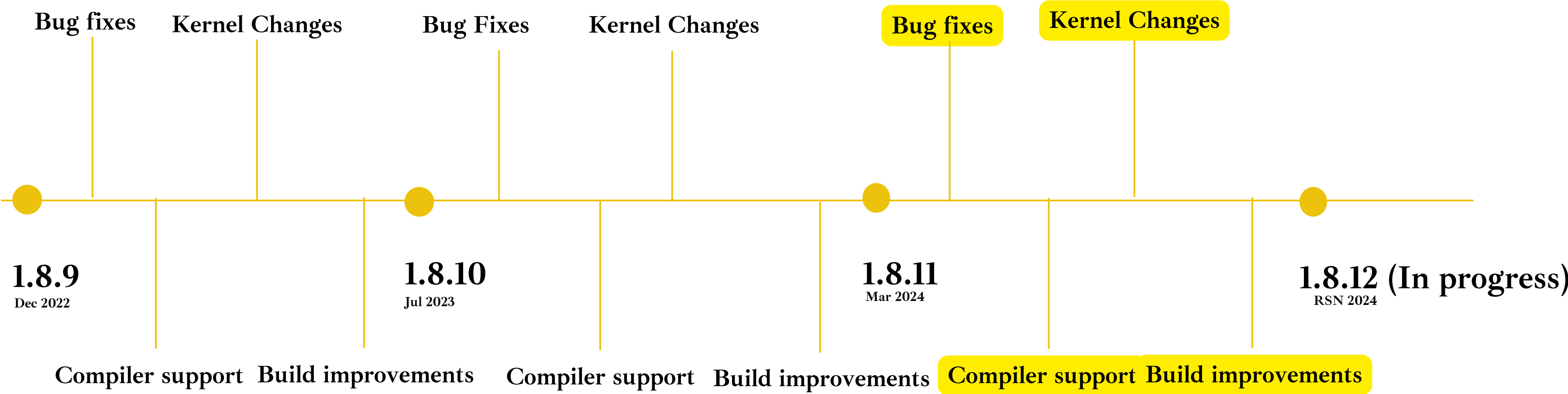
Additional compiler code checking, workaround for compiler check (false positive on a use-after-free), remove use of gcc specific features in autoconf tests.

Build Improvements

Better support for creating RPMs, improve autoconf checks



Releases



1.8.12 (in progress)

Bug Fixes

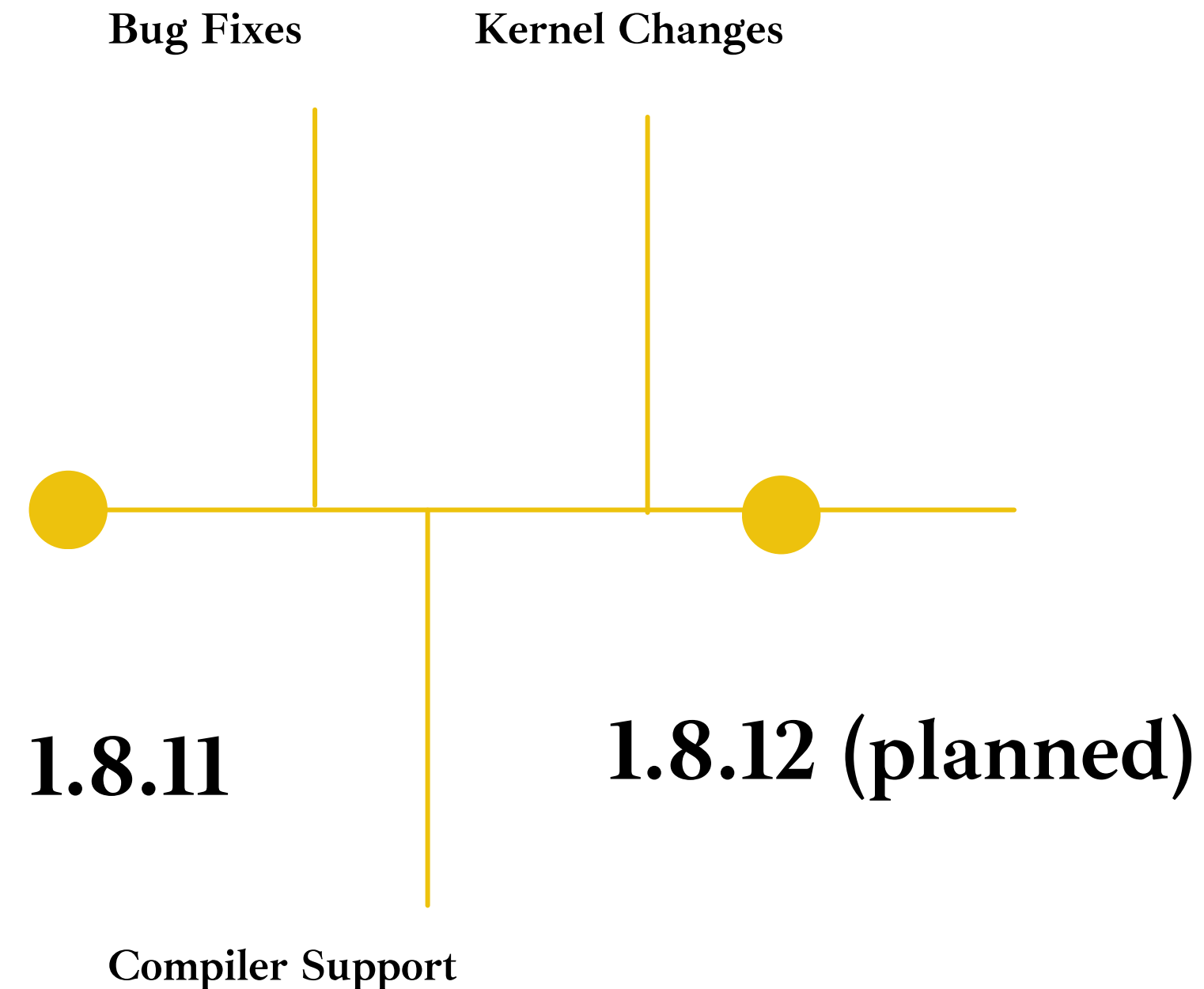
Panic under certain contains with an error when writing to dcache

Kernel Changes

6.8, 6.9 - Kernel hardening turned on additional compile time checks, kernel removed strlcpy, misc API changes

Compiler Support

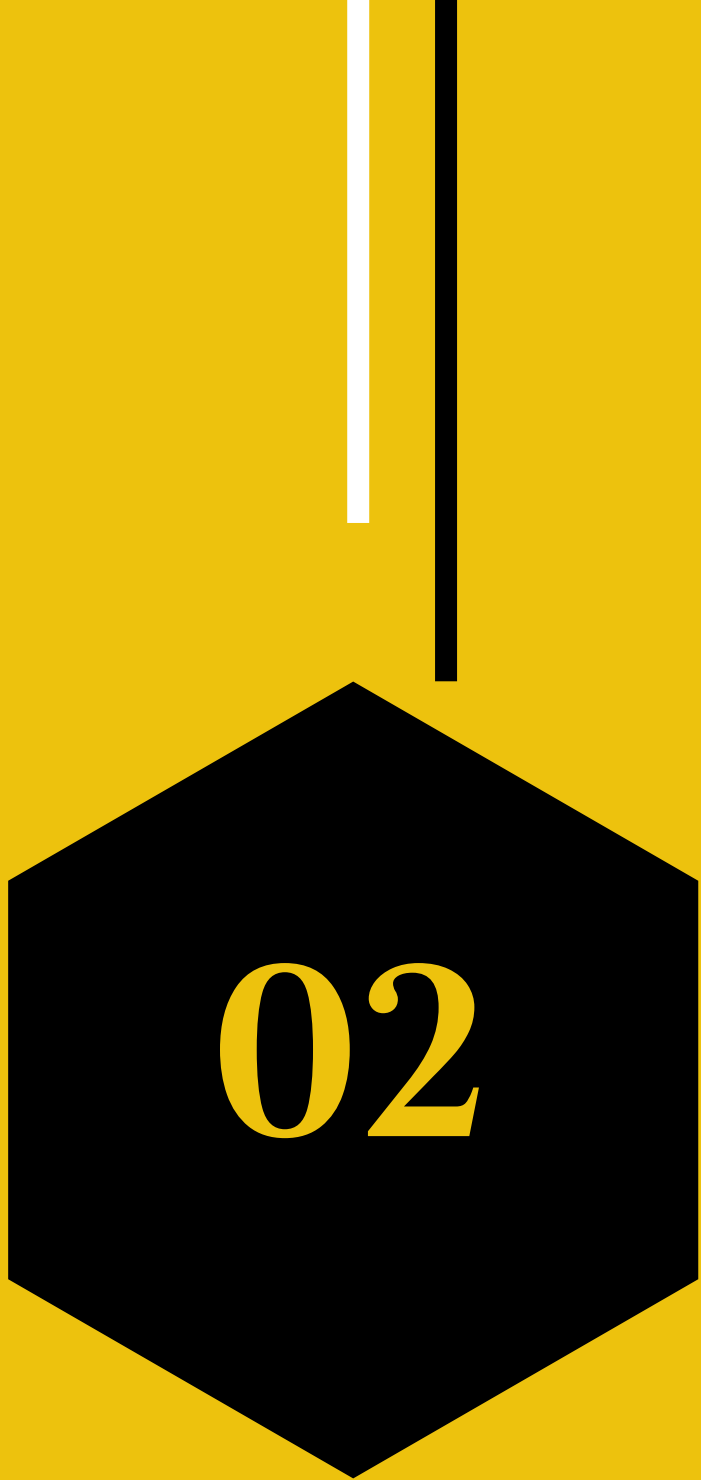
gcc false positive report on uninitialized variable, error loading kernel module on aarch64 + gcc-12



Future

- Keeping up with Linux Kernel API changes.
 - Taking advantage of folios.
- Keeping up with newer compiler versions.
 - Taking advantage of newer code analysis features.



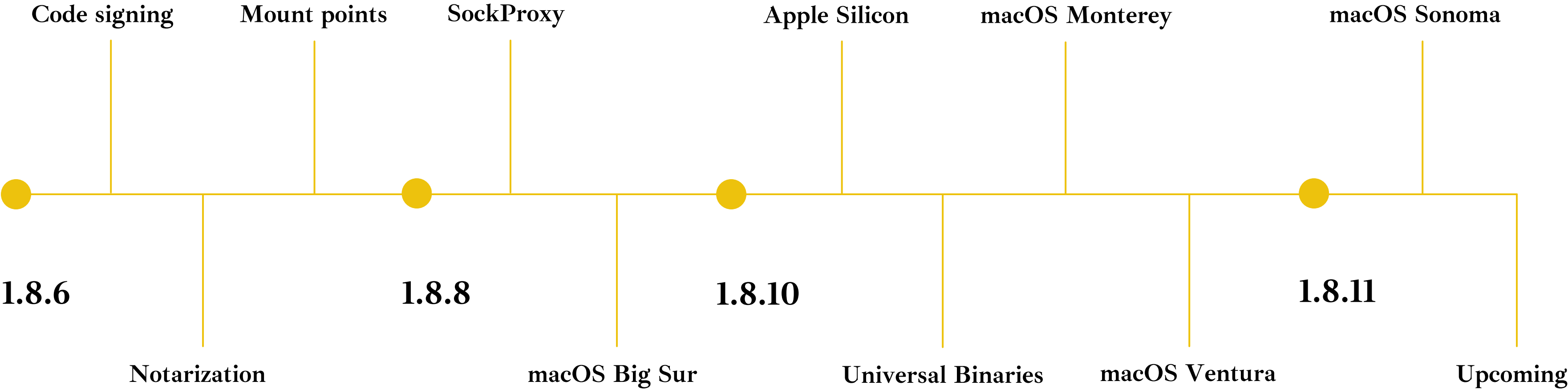
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02

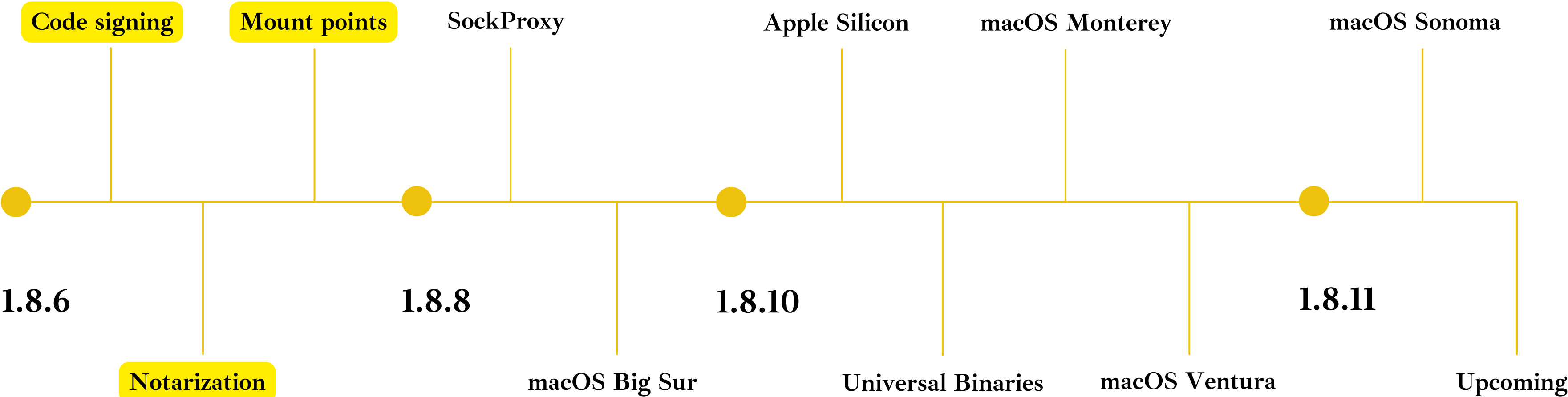
macOS

Marcio Barbosa

Releases



Releases



1.8.6

Code signing

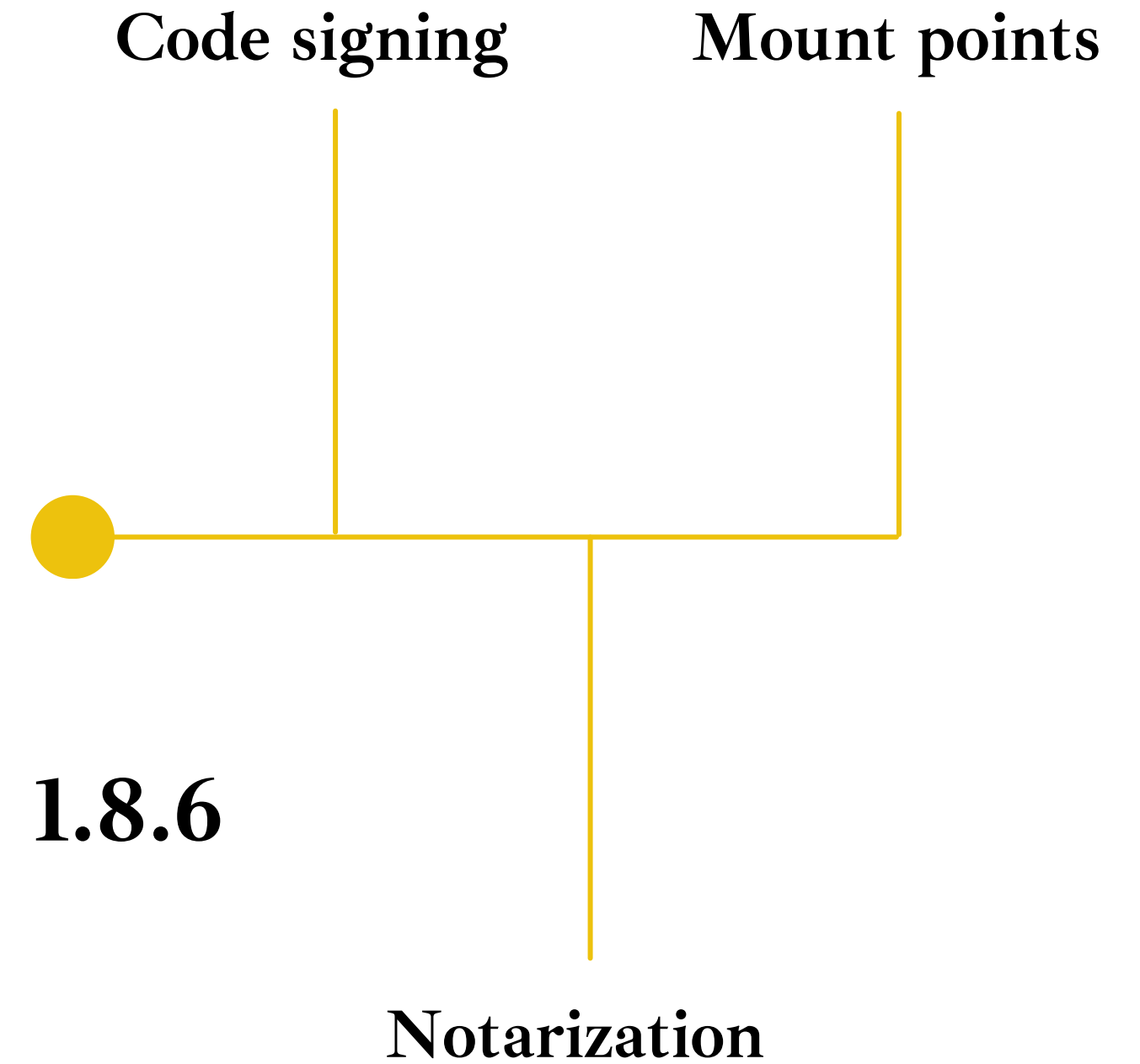
On macOS 10.10, Kext will not be loaded if it is not signed.

Notarization

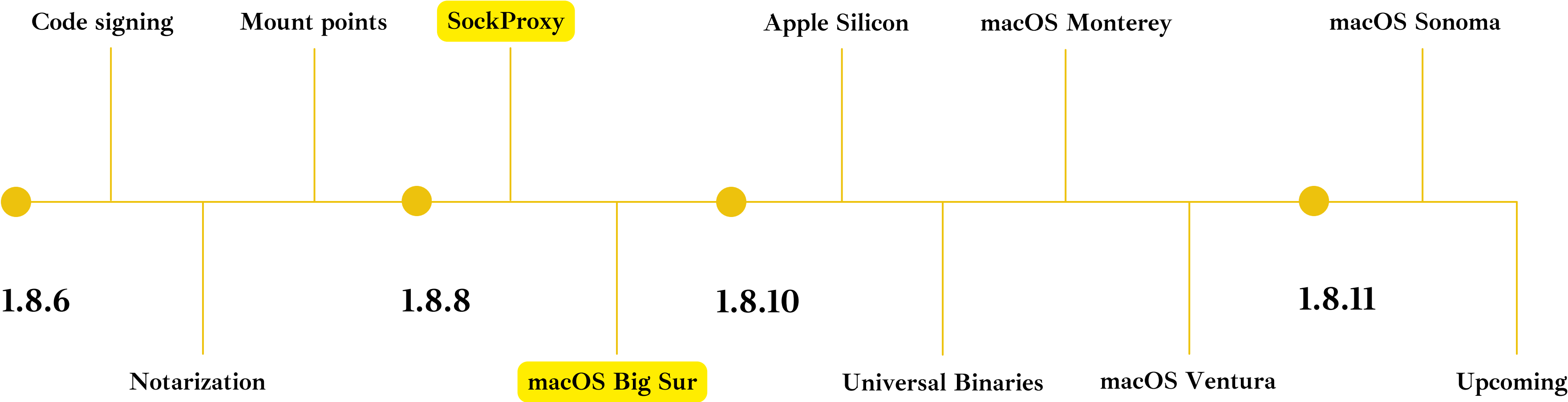
Since April 7, 2019, Kexts must be notarized.

Mount points

Root mount point is read-only as of macOS 10.15.



Releases



1.8.8

System Extensions

Introduced in macOS 10.15.

Apple deprecating macOS kernel extensions.

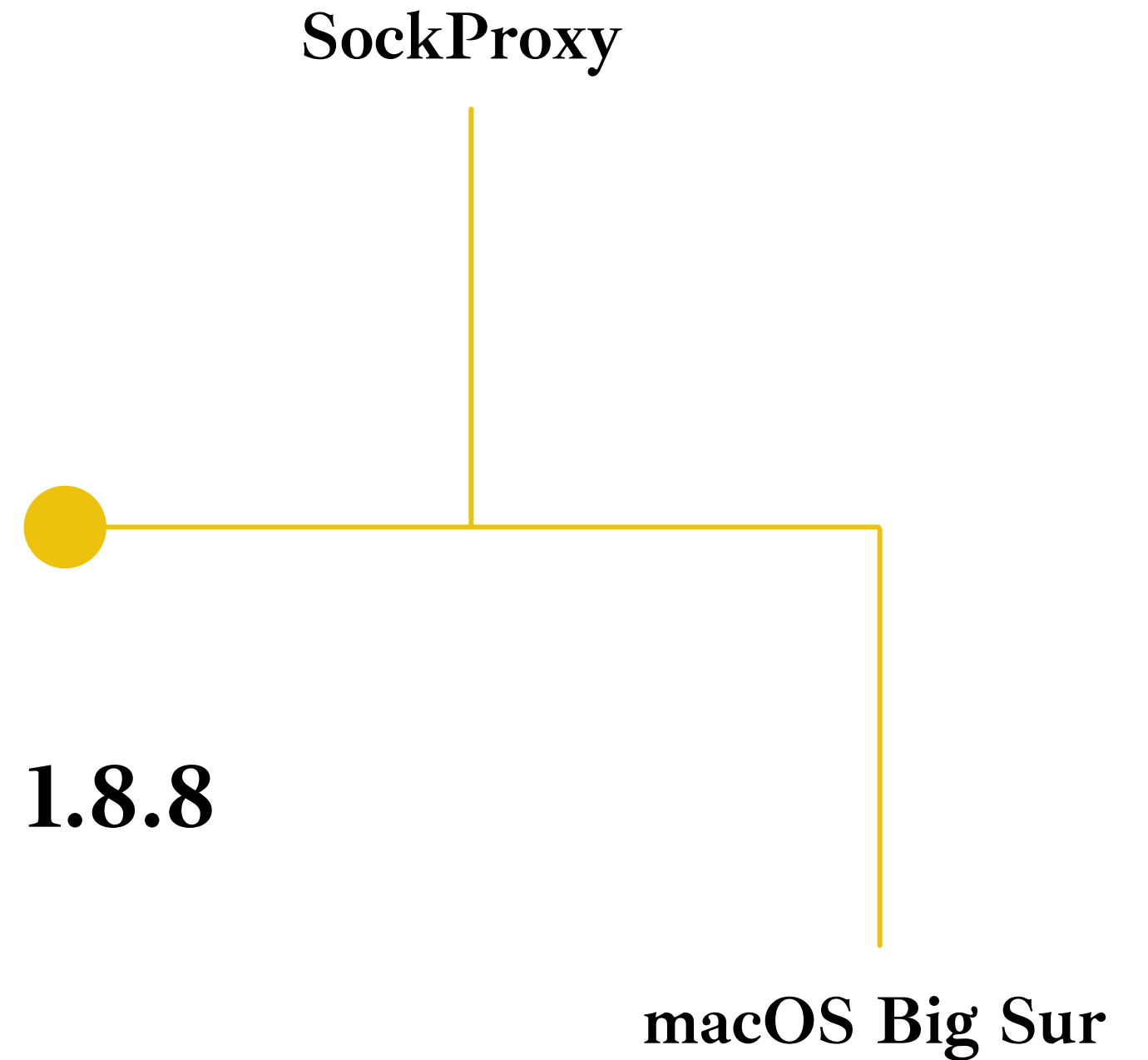
In macOS 11, Kexts using certain deprecated KPIs no longer load.

SockProxy

Move pieces of RX to user-space.

macOS Big Sur

Added support for macOS Big Sur.



1.8.8

System Extensions

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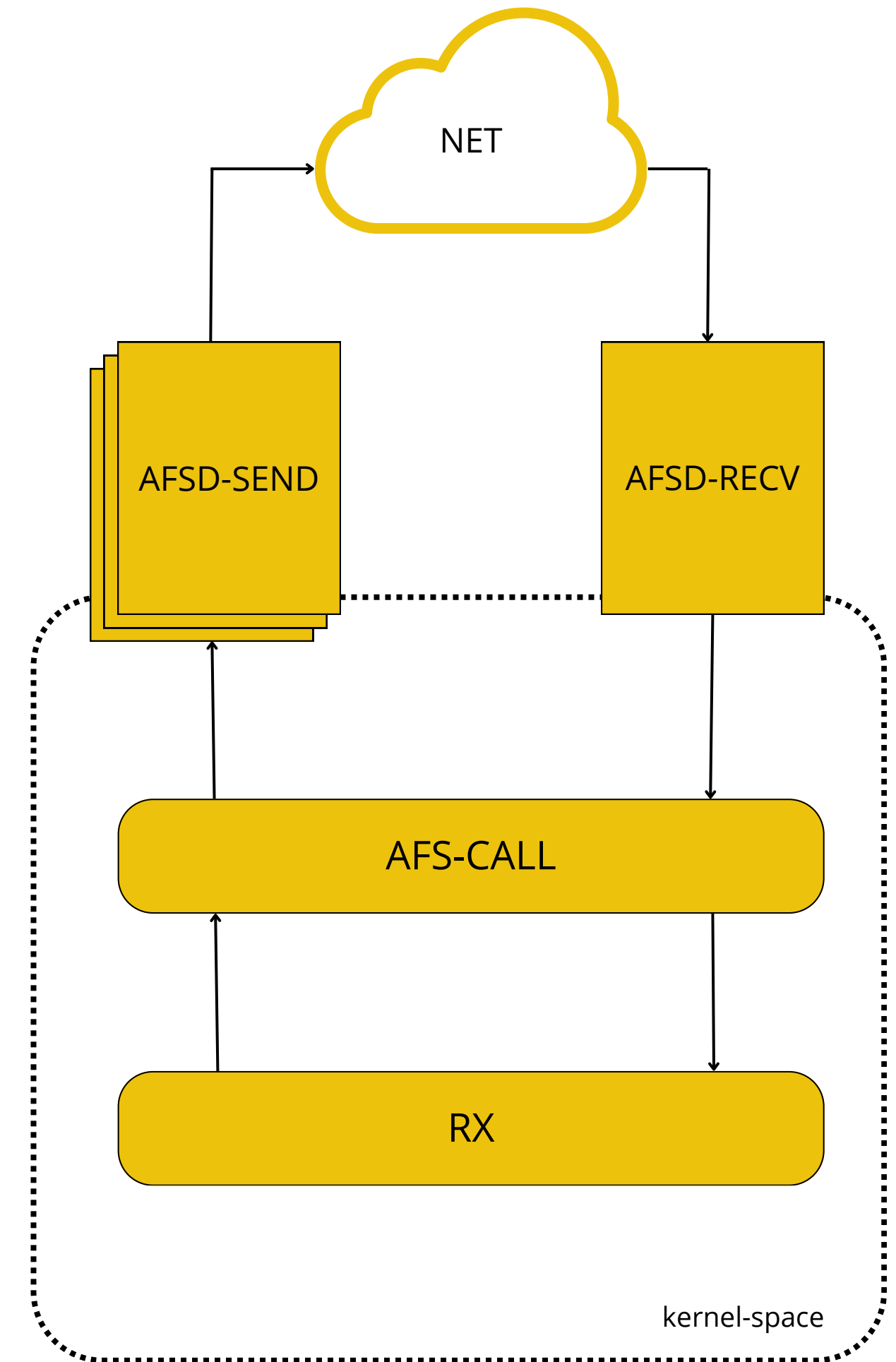
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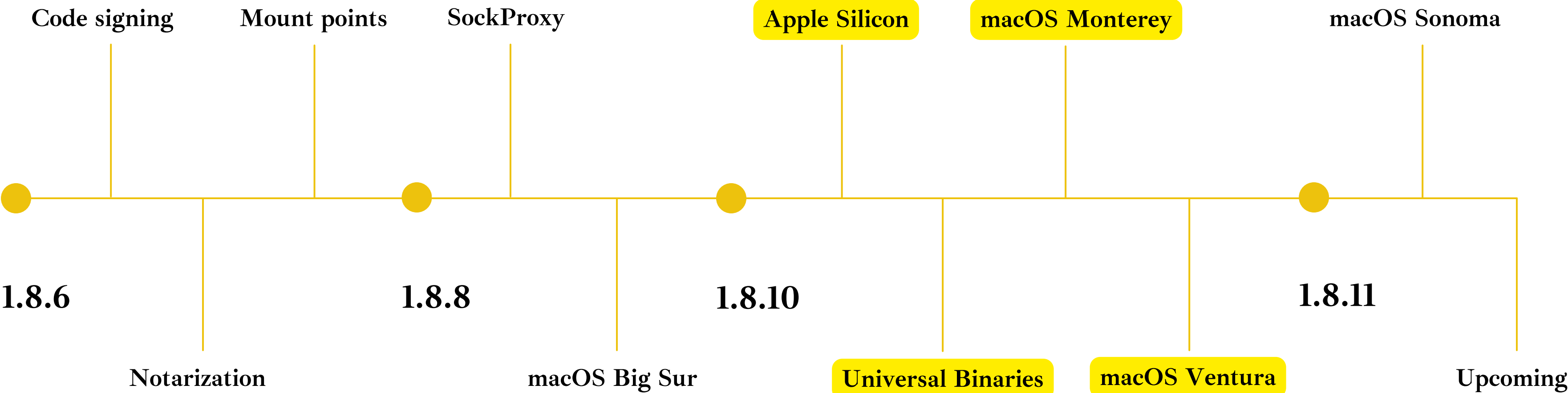
Move pieces of RX to user-space.

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Added support for macOS Big Sur.



Releases



1.8.10

Apple Silicon

Kexts must support the arm64e architecture.

Universal Binaries

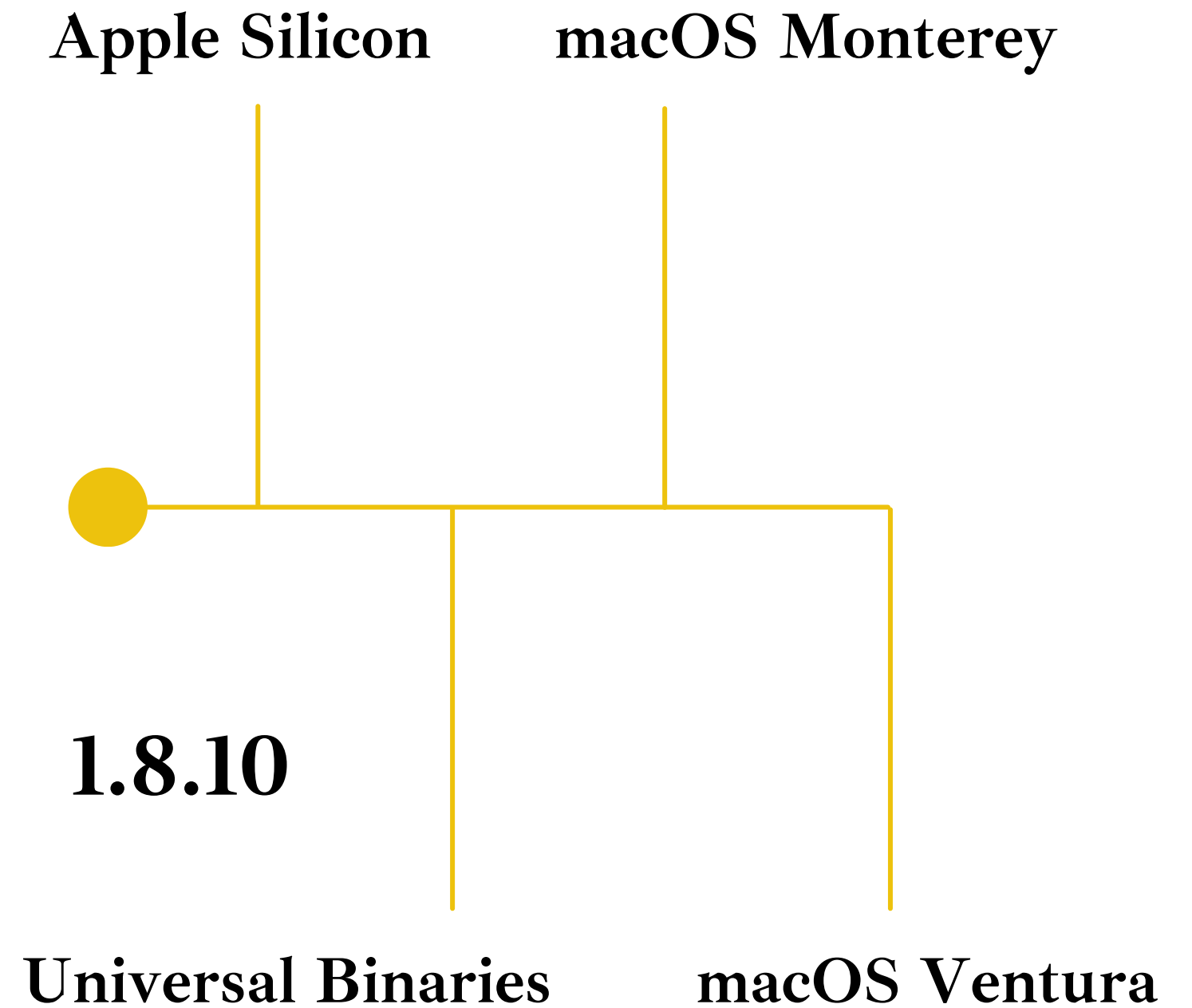
Both architectures merged into a single binary.

macOS Monterey

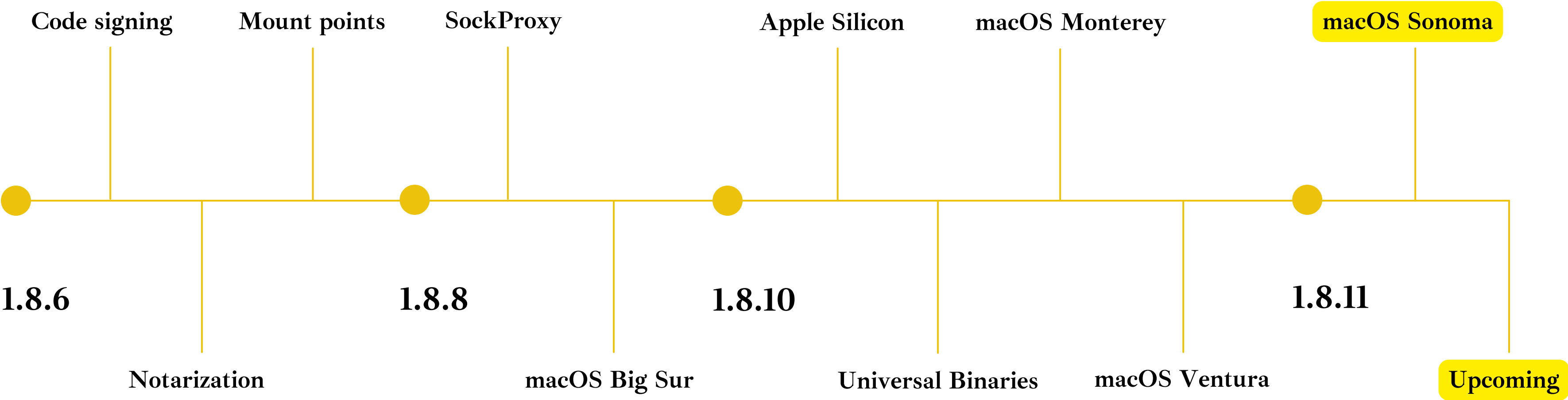
Added support for macOS Monterey.

macOS Ventura

Added support for macOS Ventura.



Releases



1.8.11

macOS Sonoma

Added support for macOS Sonoma.

Upcoming

Fully functional Preference Pane.

Add support for macOS 15.

Packages

Regularly released by Sine Nomine Associates.

<https://download.sinenomine.net/openafs/bins/>

macOS Sonoma



1.8.11

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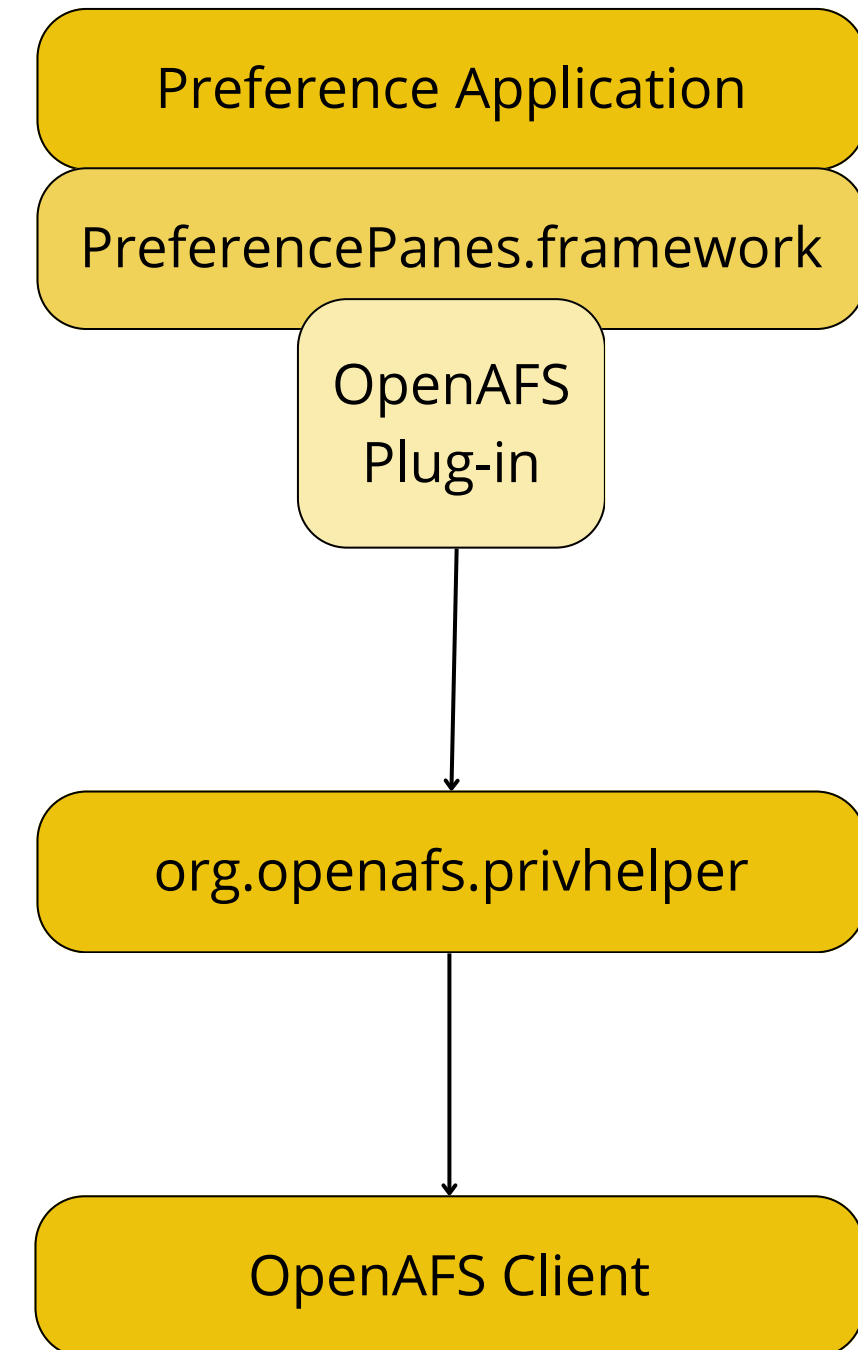
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Acknowledgment

Ganesh Chaudhari (IBM)

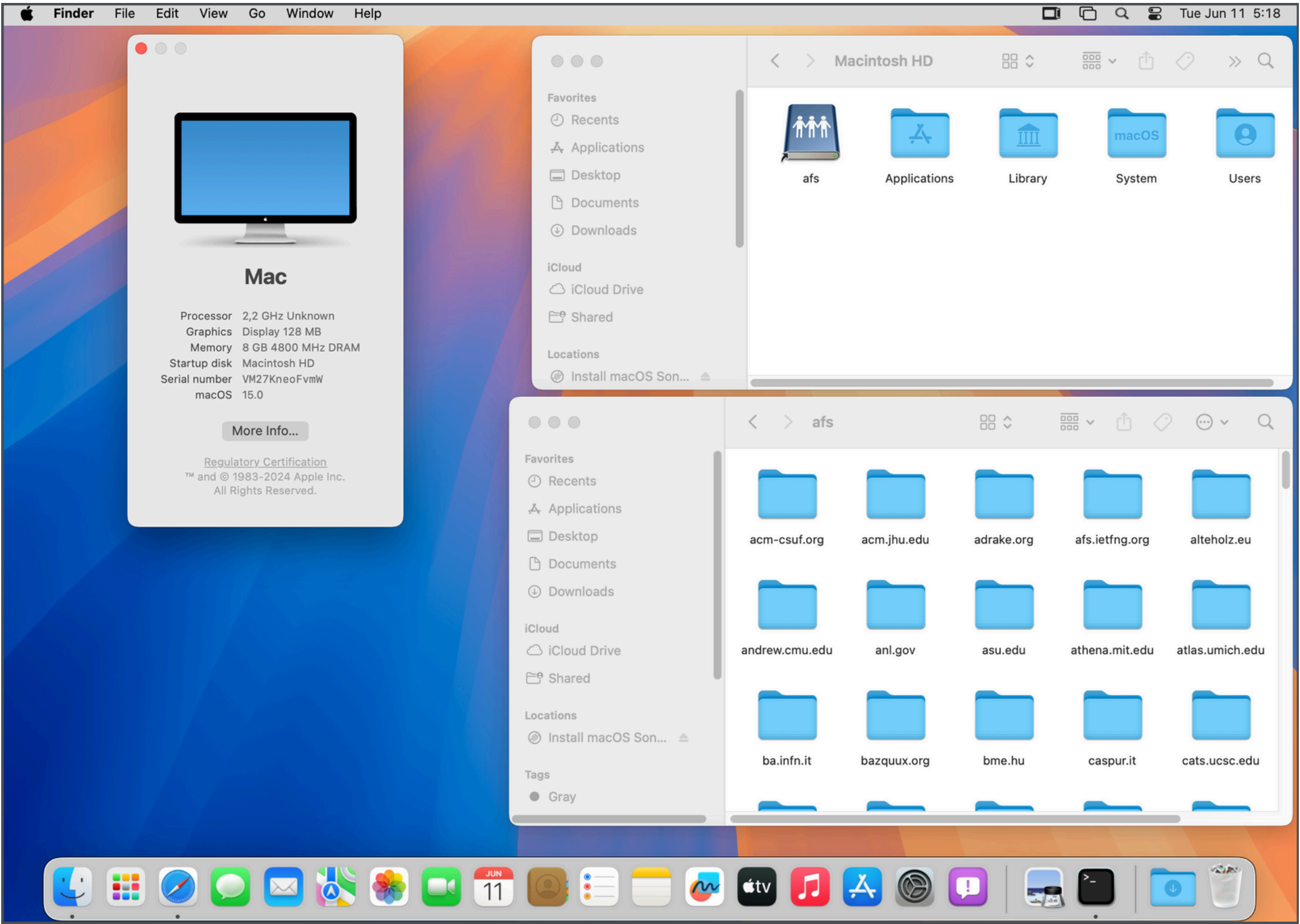
macOS Sonoma



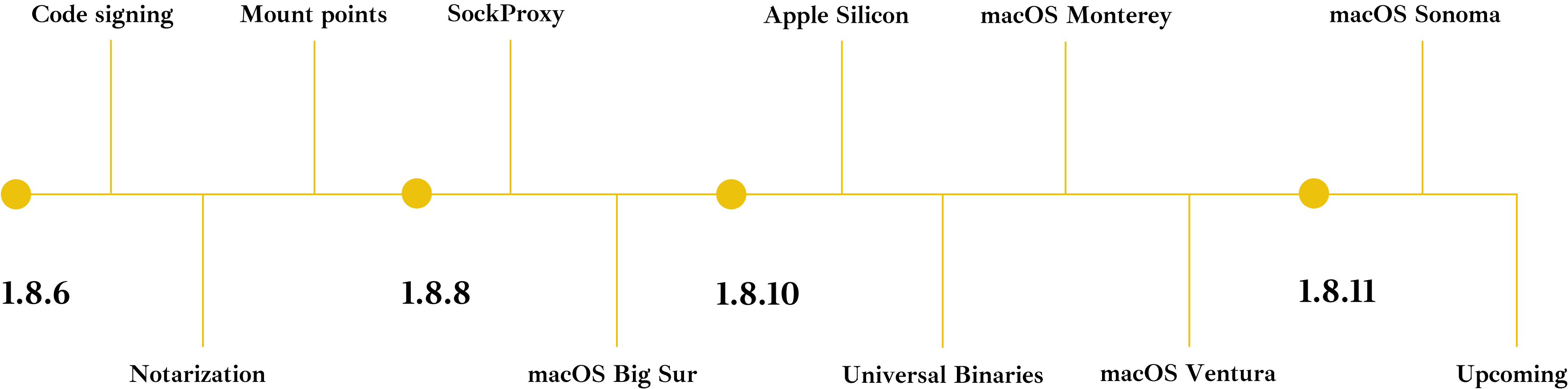
1.8.11

Upcoming

macOS Sequoia 15 Beta Release



Releases



2024 OpenAFS Workshop

Thank You

