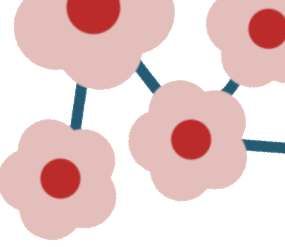# CHERI

QEMU Working Group

Introduction

Alfredo MAZZINGHI
QEMU WG Lead – CHERI Alliance

# Agenda

- Mission

- Activities

- Getting involved

Working Group Mission

- **Long term goals**
  - Coordinate development of CHERI architectures for QEMU.
  - Coordinate CHERI features upstreaming to mainline QEMU.

- **Short term goals**
  - Converge to a CHERI Alliance reference implementation.
  - Provide a stable version with initial support for
    - CHERI RISC-V standard draft architecture
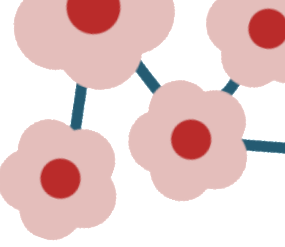   - Arm Morello architecture
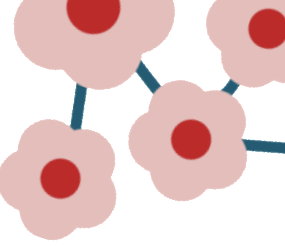
Activities

- ## Jan 2025
  - Initial QEMU implementation convergence plan.
  - Both Cambridge and Codasip forks based on QEMU v6.2.

- ## Feb 2025
  - Codasip QEMU version introduces support for Capability Levels.
  - Initial support for CHERI RISC-V draft encodings in common capability encoding library.

- ## March 2025
  - Candidate common QEMU implementation under test.

Getting Involved

- Relevant repositories

  - QEMU — https://github.com/CHERI-Alliance/qemu

  - Capability encoding library — https://github.com/CHERI-Alliance/cheri-compressed-cap

- Contacts

  - WG Lead — alfredo.mazzinghi@cheri-alliance.org

  - Mailing list — wg-qemu@cheri-alliance.org

    - Monthly meetings announced here

    - Subscribe — https://lists.cheri-alliance.org/mailman3

CHERI

THANK YOU

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22 April 2025