TF-A OpenCI System Introduction

- TF-A Project CI (Continuous Integration) System Challenges
  - TF-A was originally an Arm project before establishing as a Trustedfirmware.org project
  - TF-A project has relied on Arm Servers to provide a TF-A project CI
  - CI invocation and reporting to contributors is a manual process
  - CI results reporting is opaque to broader project membership
  - Barrier to efficient processing of contributor patches
  - Limited opportunities for contributor community to extend

- OpenCI System Solution
  - Migrate the existing CI onto Trustedfirmware (Linaro Hosted) Servers in phases
    - Funded as part of Trustedfirmware.org board budget allocation
    - Redesigned and secured for more public use/access
    - CI results available directly to project contributors
    - Leads to a more transparent reporting of the quality assurance performed on the project code base
    - All CI scripts and Jenkins jobs shared in opensource repositories, so extensible by the community
TF-A OpenCI System Introduction

• Current OpenCI Capabilities
  • Daily runs of the CI on the Integration branch.
  • Manual gerrit instigated CI runs on patches under review. Two levels of tests (L1 and L2)
  • Relies on Jenkins and LAVA to coordinate build/tests jobs
  • Static Analysis checking
  • Makes heavy use of FVP models and the Arm Juno board as test targets
  • Uses TF-A Tests and Boot tests to test various Feature and System build combinations
  • Builds all platform code upstreamed, however these are not runtime tested

• Status
  • OpenCI undergoing public availability commissioning
    – Identifying functional and performance faults
    – Rolling out fixes for items identified
  • Arm TF-A CI running in parallel while OpenCI stabilizes
TF-A OpenCI System Introduction

• Future Evolution
  • Developer guidance and documentation for work flow usage
  • As OpenCI stabilizes ArmCI will be decommissioned
    – Will occur in phases
  • Future ArmCI items under consideration at different priority levels
    – Missing public FVP’s + test enablement
    – Windows Build Server
    – Code Coverage
    – Quality Metric Tracking
• Partner Platform Testing
  – Project platform contributors engage with Trustedfirmware.org

• References
  • https://citrustedfirmware.org
  • https://reviewtrustedfirmware.org/q/project:TF-A/trustedfirmware-a
  • https://gittrustedfirmware.org/ci/tf-a-ci-scripts.git/
  • https://gittrustedfirmware.org/ci/tf-a-job-configs.git/