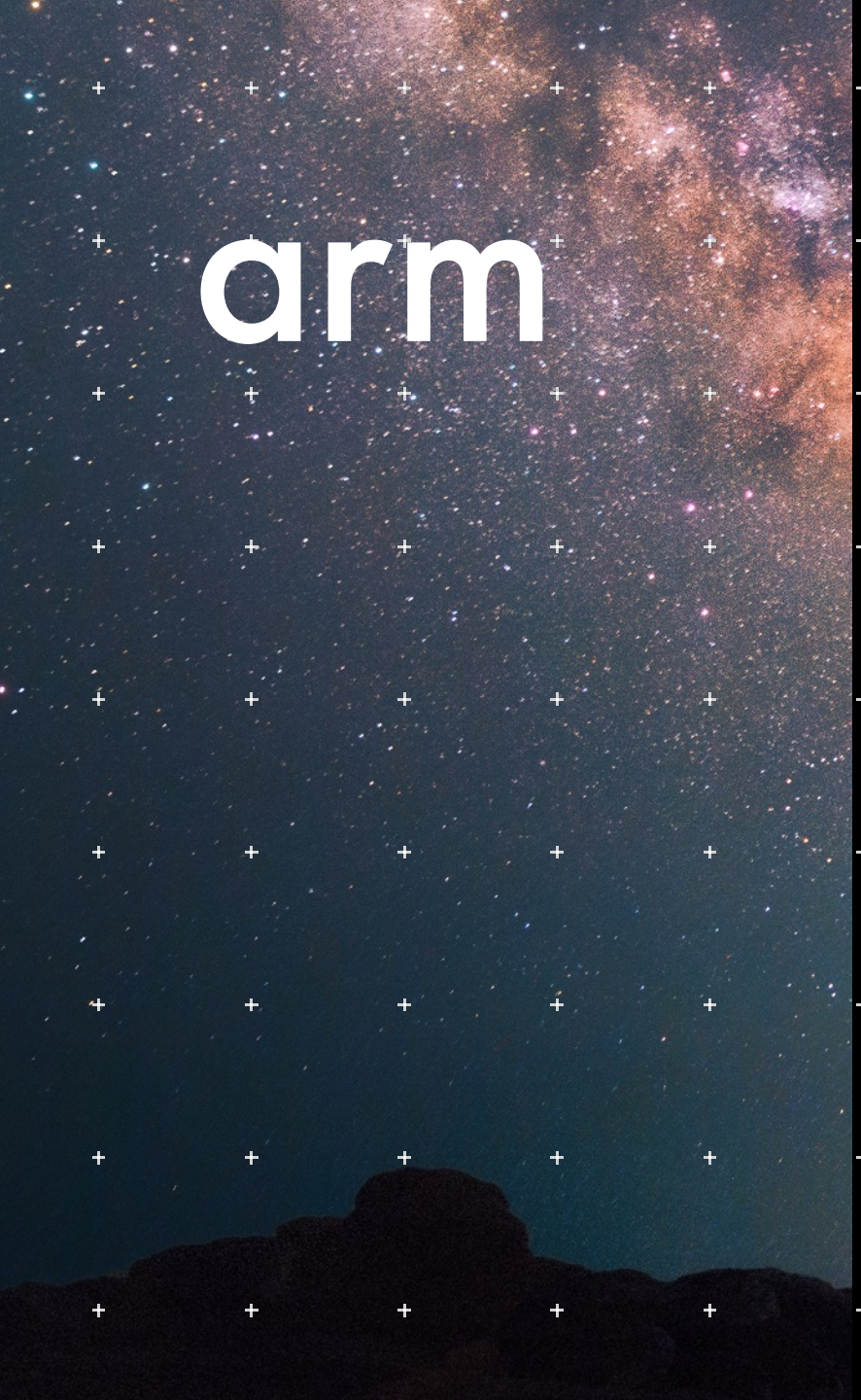

TF-A Release Process & TF-A v2.3 release

April 2020

Agenda

- Understanding the TF-A release process & Testing flow
  - Pre-release activities & code freeze
  - Talk through various testing, test plan updates, change log review and finalization, readme, version fixes, release assessments, post release
- Categories of tests
  - Talk through the categories of tests run(*daily, automated, manual and OoB*)
- TF-A v2.3 features
- Future improvements planned
  - Automations, open CI
  - Partner feedback request on code freeze and RC candidate testing

TF-A Release Process

Pre-Release

- Guidance on the release schedule can be found on project documentation [1]
- Announcing the code freeze date 2 weeks in advance in tf-a@lists.trustedfirmware.org
  - all patches to be included in the release to be merged ahead of the code freeze date

Code Freeze

- Creating the release candidates & communicating in tf-a@lists.trustedfirmware.org
  - Enables all including partners to test their platforms against the RC

Release Testing

- Test categories run
- If there are failures, debug and apply patches for bug fix, review and merge
- Complete all testing, retag all repositories to next RC and re-run all tests till clean tag is established.

Other release activities

- Internal Test plan updates (future plan to have an external version)
- Change log reviews (separated platform change log from generic code after v2.2)
- Assessments – include test plan review from assigned peer Open source teams internally

Release announcements

- External Release announcement in tf-a@lists.trustedfirmware.org
- Internal Release announcements to peer Open source teams.

[1] https://trustedfirmware-a.readthedocs.io/en/latest/about/release-information.html#upcoming-releases

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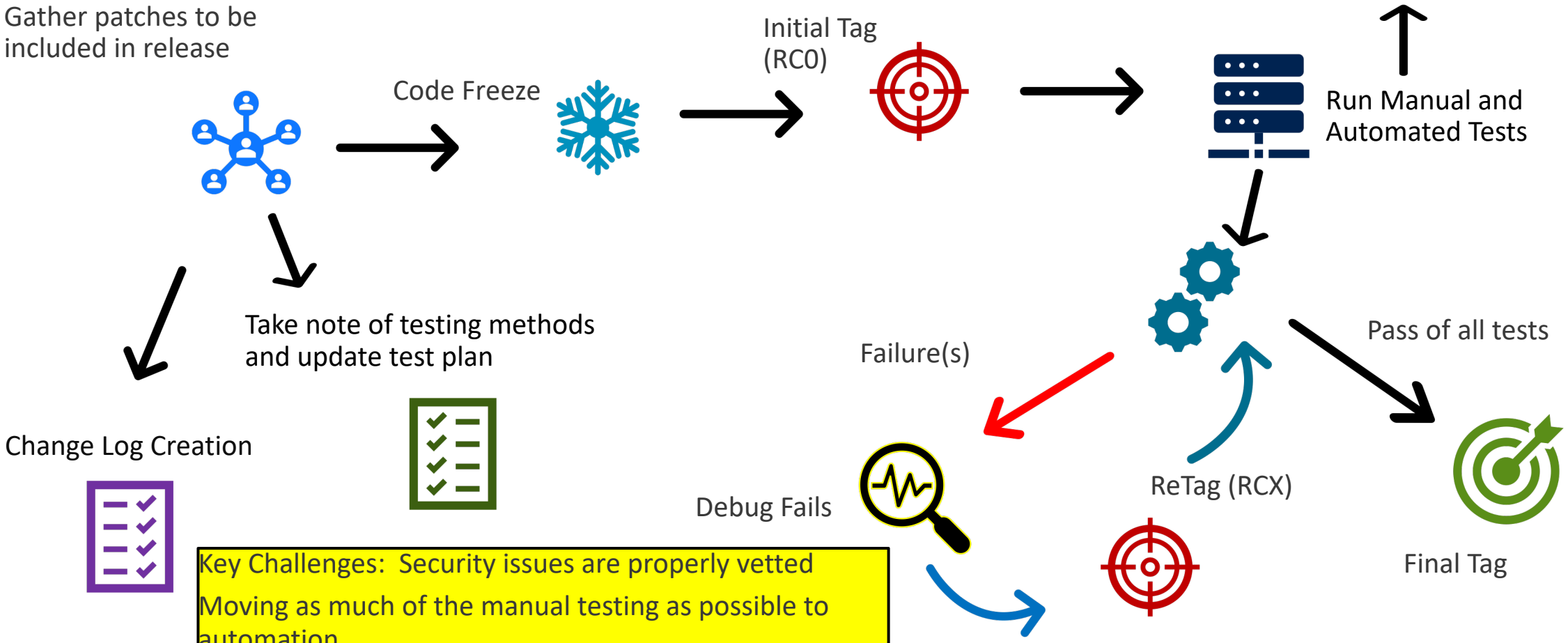
Release Testing Flow

Test Categories: CI automated, Manual->juno_tftf_extensive, >juno_fwu_mbedtls, ->get_change_mem_attributes->xlat_v2_unit_tests, ->Cryptocell, ->stress, ->linux, ->tftf_manual, >out_of_box



Key Challenges: Security issues are properly vetted

Moving as much of the manual testing as possible to automation

Many issues with Juno board platforms

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TF-A & TF-A_Tests v2.3 Highlights

TF-A Highlights

- Add support for Armv8.4-SecEL2 extension through the SPCI defined SPMD/SPMC components.
- Build option to support EL2 context save and restore in the secure world (CTX_INCLUDE_EL2_REGS).
- Add support for SMCCC v1.2 (introducing the new SMCCC_ARCH_SOC_ID SMC). Note that the support is compliant, but the SVE registers save/restore will be done as part of future S-EL2/SPM development.

TF-A Tests Highlights

- More tests are made available in this release to help validate the functionality of TF-A.
- CI upgraded to use GCC 9.2-2019.12 toolchain for tf-a-tests.
- Various improvements to test framework and test suite.

Please refer to the change log [1] & [3] for the complete summary of changes in TF-A & TF-A-Tests since v2.2. Further information about the release can be found at [4].

TF-A & TF-A-Tests v2.3 Documentation

[1] https://trustedfirmware-a.readthedocs.io/en/latest/change-log.html#version-2-3
[2] http://www.trustedfirmware.org/docs/tf-a
[3] https://git.trustedfirmware.org/TF-A/tf-a-tests.git/about/docs/change-log.rst
[4] https://git.trustedfirmware.org/TF-A/tf-a-tests.git/about/

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Future Release Improvements

Improvements we could look for in future releases

- **Improvements for release cycle**
  - Further automations by using Juno boards over network PDU
    - Potential for automating some manual tests
  - Failure signature categorization and automated re-run of known false failures based on signature
    - Could save run time by maximizing runs on weekends
  - Can change log entry for patches be closer to final by code freeze?
    - using review process to review change log updates too when patches are submitted?

- **Other improvements**
  - Future availability of openCI
    - enables partners to adopt similar test flows for their platforms
  - Partner use of Release Candidates for Platforms
    - Have the RC communicated on tf-a@lists.trustedfirmware.org been used?
    - Communication needs/criteria of additional RCs before final tag