SystemC GitHub Repositories

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systemc.org
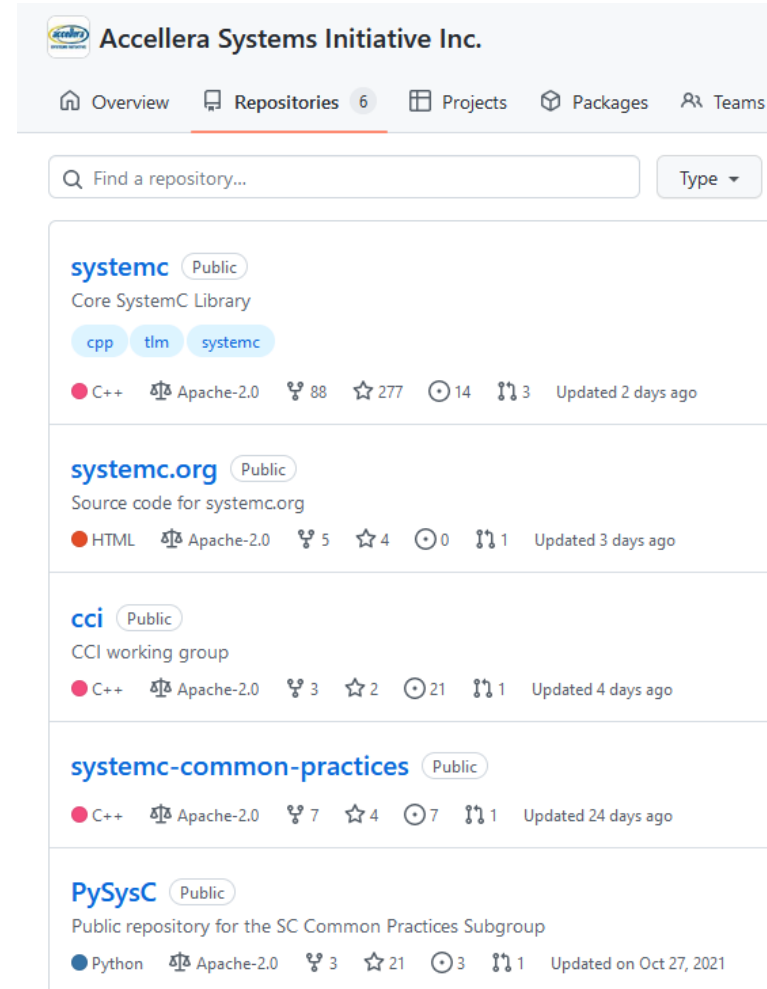systemc-evolution-fika@lists.accellera.org

Outline

- Accellera Public Repositories

- SystemC private vs public repository

- Why (keeping) two repositories?

- Encouraging community contributions

- Community contribution process

- SystemC branches and pull requests

- Summary

Accellera Public Repositories

- Accellera Public Repositories:
  https://github.com/accellera-official/

- 9 available repositories
  - SystemC libraries (systemc, cci, common-practices, PySysC)
  - SystemC.org website (systemc.org)
  - UVM (uvm-core, uvm-tests)
  - Other (crave, fc4sc)

SystemC private vs. public repository

Use model prior to SystemC 3.0	OSCI-WG/systemc (private)	accellera-official/systemc (public)
Owner	Accellera SystemC Language Working Group (LWG)	
Scope	**Standardization**, Reference implementation, tests	Reference implementation
Focus	Enhancements, features, bug fixes	Bug fixes only
CI (GitHub Actions)	not available	Limited use
Read access	Accellera members	Community
Pull requests	Accellera members	Sign-off using Accellera Developer's Certificate of Origin

SystemC private vs. public repository

Use model from SystemC 3.0 onwards
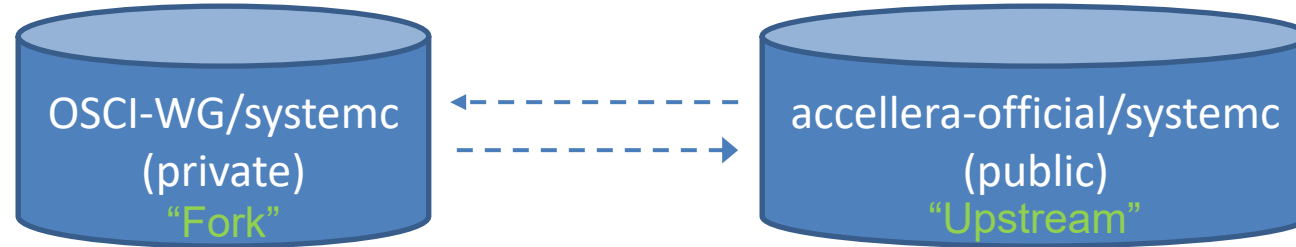
OSCI-WG/systemc (private) "Fork" ← → accellera-official/systemc (public) "Upstream"

	OSCI-WG/systemc (private)	accellera-official/systemc (public)
Owner	Accellera SystemC Language Working Group (LWG)	
Scope	**Standardization**, Reference implementation, tests	Reference implementation, tests
Focus	Enhancements, features, bug fixes	
CI (GitHub Actions)	not available	Increase use
Read access	Accellera members	Community
Pull requests	Accellera members	Sign-off using Accellera Developer's Certificate of Origin

accellera SYSTEMS INITIATIVE™

SYSTEMC™ EVOLUTION FIKA

Why (keeping) two repositories?

- Standard vs. non-standard feature development
    - Incl. handover documents/tickets/issues to IEEE P1666 working group

- Accellera membership
    - Acknowledge membership to drive standardization and support

- Legal constraints
    - Not all companies are allowed to contribute to public repositories

- Distributed workflows/repos
    - This is why Git was invented

Encouraging community contributions

- Main objective: Transform SystemC public repository from a
  static reference into *active user community repository*
  - Facilitate a process to discuss and integrate pull requests from community
  - Accellera SystemC LWG to publish updates on a more regular interval
  - Leverage CI / GitHub Actions to support regressions on wide(r) set of OS/platforms
  - Repository containing the latest enhancements, features and bug fixes
- Community contributions will be recognized!
  - Accellera SystemC LWG currently exploring possible recognition schemes

Community contribution process

- Unchanged: Sign-off procedure required for each pull request
  - Acknowledge *Accellera Developer's Certificate of Origin*
  - `git commit –signoff`
  - Only real name allowed (no pseudonyms or anonymous contributions)
  - For non-Accellera members, the sign-off procedure is mandatory
- Notes
  - Only signed contributions are considered by the Accellera SystemC LWGs for inclusion
  - To guide the review & approval process, each signed contribution needs a LWG champion

```
Accellera Developer's Certificate of Origin

By making a signed-off contribution to this
Accellera project, I certify that:

1.  The contribution was created in whole or in part
    by me and I have the right to submit it under
    the Apache License Version 2.0 (see LICENSE).

2.  The contribution was provided directly to me by
    some other person who certified (1) above, and I
    am forwarding it without modification.

3.  I understand and agree that this Accellera
    project and the contribution are public and that
    a record of the contribution (including all
    personal information I submit with it, including
    my sign-off) is maintained indefinitely and may
    be redistributed in accordance with this project
    or the Apache License Version 2.0.
```

More information: CONTRIBUTING.md

SystemC branches and pull requests

- Default branches
  - **main**: containing all finalized and (LWG) approved features and fixes
  - **develop**: used for development, considered "staging phase" before it goes into **main**
  - **release**: used to create a release/tarball (based on **main** branch)

- Pull requests
  - Submit enhancements and feature development against **develop** branch
  - Submit bugfixes against the **main** branch

- More information
  - DEVELOPMENT.md

v2.3.4   v3.0.0

release

main

develop

feature *

→ time
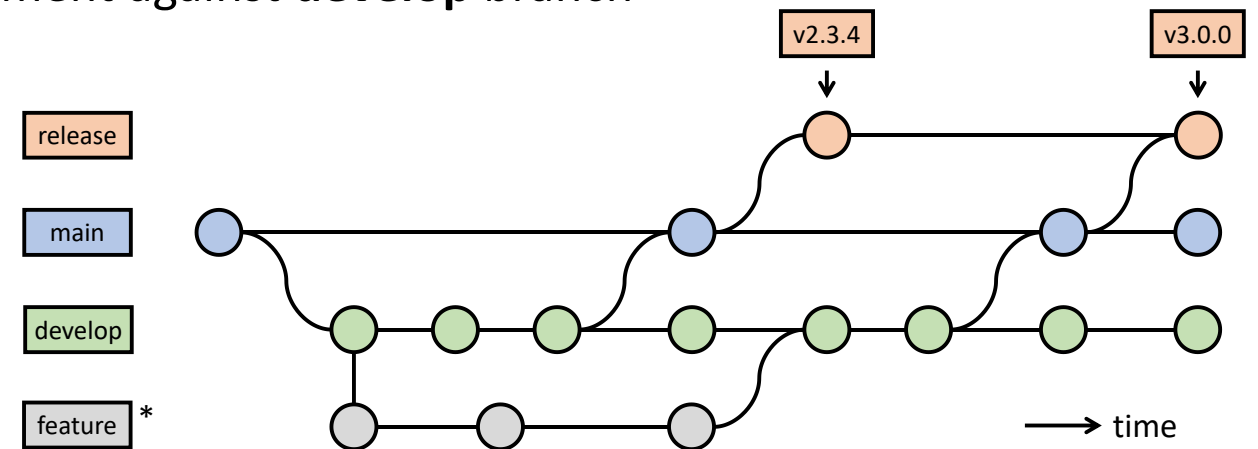
* note: feature branch optional, branch normally part of user fork

Summary

- SystemC public repository is an essential part of the SystemC ecosystem

- Advance the SystemC ecosystem together with the user community

- Repository `accellera-official/systemc` becoming *the* reference for any SystemC development

- We are encouraging community contributions – Stay tuned for more information!

- Latest news and announcements: systemc.org

Q&A