SystemC GitHub Repositories

Martin Barnasconi
Mark Burton
Laurent Maillet-Contoz

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/](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

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

<table>
<thead>
<tr>
<th>Use model from SystemC 3.0 onwards</th>
<th>OSCI-WG/systemc (private) “Fork”</th>
<th>accellera-official/systemc (public) “Upstream”</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Owner</th>
<th>Accellera SystemC Language Working Group (LWG)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Scope</th>
<th><strong>Standardization</strong>, Reference implementation, tests</th>
<th>Reference implementation, tests</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Focus</th>
<th>Enhancements, features, bug fixes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CI (GitHub Actions)</th>
<th>not available</th>
<th>Increase use</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Read access</th>
<th>Accellera members</th>
<th>Community</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pull requests</th>
<th>Accellera members</th>
<th>Sign-off using Accellera Developer's Certificate of Origin</th>
</tr>
</thead>
</table>
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](#)
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