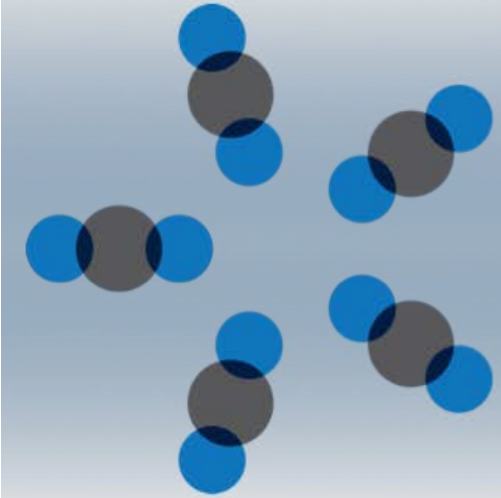


CCSI²

Carbon Capture Simulation for Industry Impact

CCSI² Toolset Support

Open Source Release Management

Keith Beattie, Valerie Hendrix & Deb Agarwal – LBNL

CCSI² IASB Meeting, Aug 23 2017

Omni William Penn Hotel, Pittsburgh, PA

CCSI² Open Source Toolset Support Executive Summary

- New CCSI² Open Source Approach
  - Increase Toolset Accessibility, Attainability, Visibility and Interaction
  - Increase Community Engagement
  - Extend reach and lifetime of Toolset
  - Contributions are optional: No loss of IP
- Work achieved and in progress
  - Approximately 60-70% complete towards first Open Source release
  - Movement of 7 bundles (including 33 individual products) from Subversion to GitHub
  - Itemized, per project lists of various IP issues to be addressed
  - Open Source TechTeam adoption, education and community building

CCSI² Open Source Toolset Support: Overview

- **Transition from CCSI to CCSI²**
- **What is Open Source?**
- **CCSI²: Path to Open Source**
- **Open Source Community**
- **Contributions: Pull Request Workflow**

CCSI² Open Source Toolset Support: Transition from CCSI to CCSI²

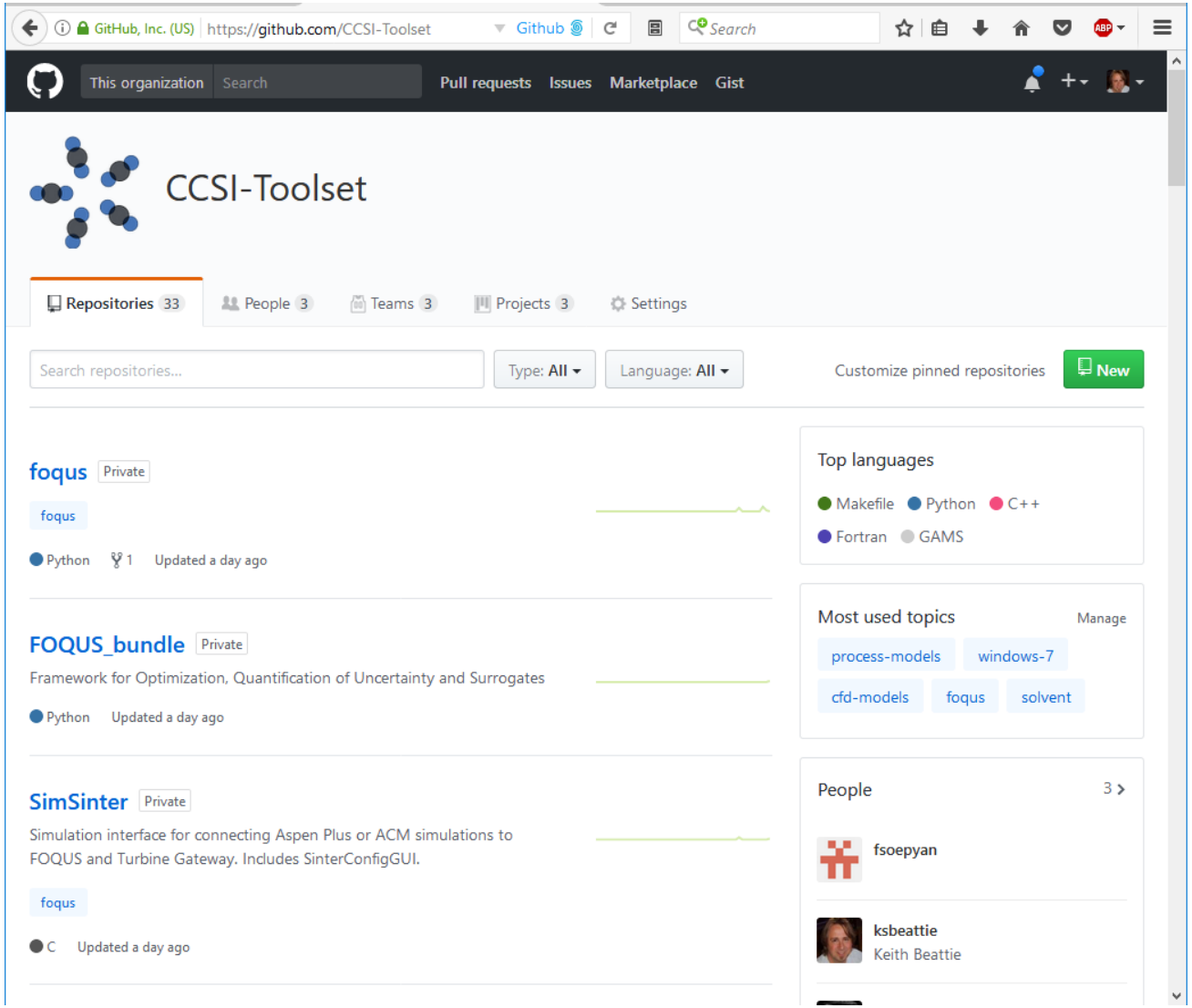
- **No T&E License**
- **Immediate access to Toolset releases and Toolset source**
- **Direct access and influence to development roadmap**
- **Direct Tech Team involvement and support**
- **Option to participate and contribute back**
- **Vibrant Community results in a net gain for all**

What is Open Source?

- All are free to download, run, examine, modify and optionally contribute because internals are publicly available
- Facilitates the exchange of ideas, collaboration, and broad usage via community-oriented development
- Governed by terms of an open source license
- Participation results in more gained than contributed

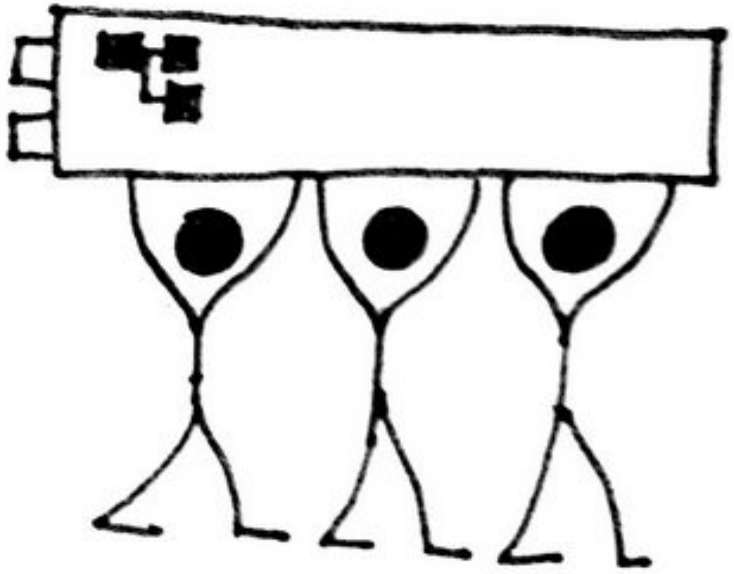
CCSI²: Path to Open Source: GitHub

- Central cloud-based service for publishing and managing software projects
- Free for open source projects
- Provides:
  - Version Control (git)
  - Issue Tracker
  - Web site
  - Community, User, Group, Team Management
- Integrates to outside services
  - Automated build & test (continuous integration)

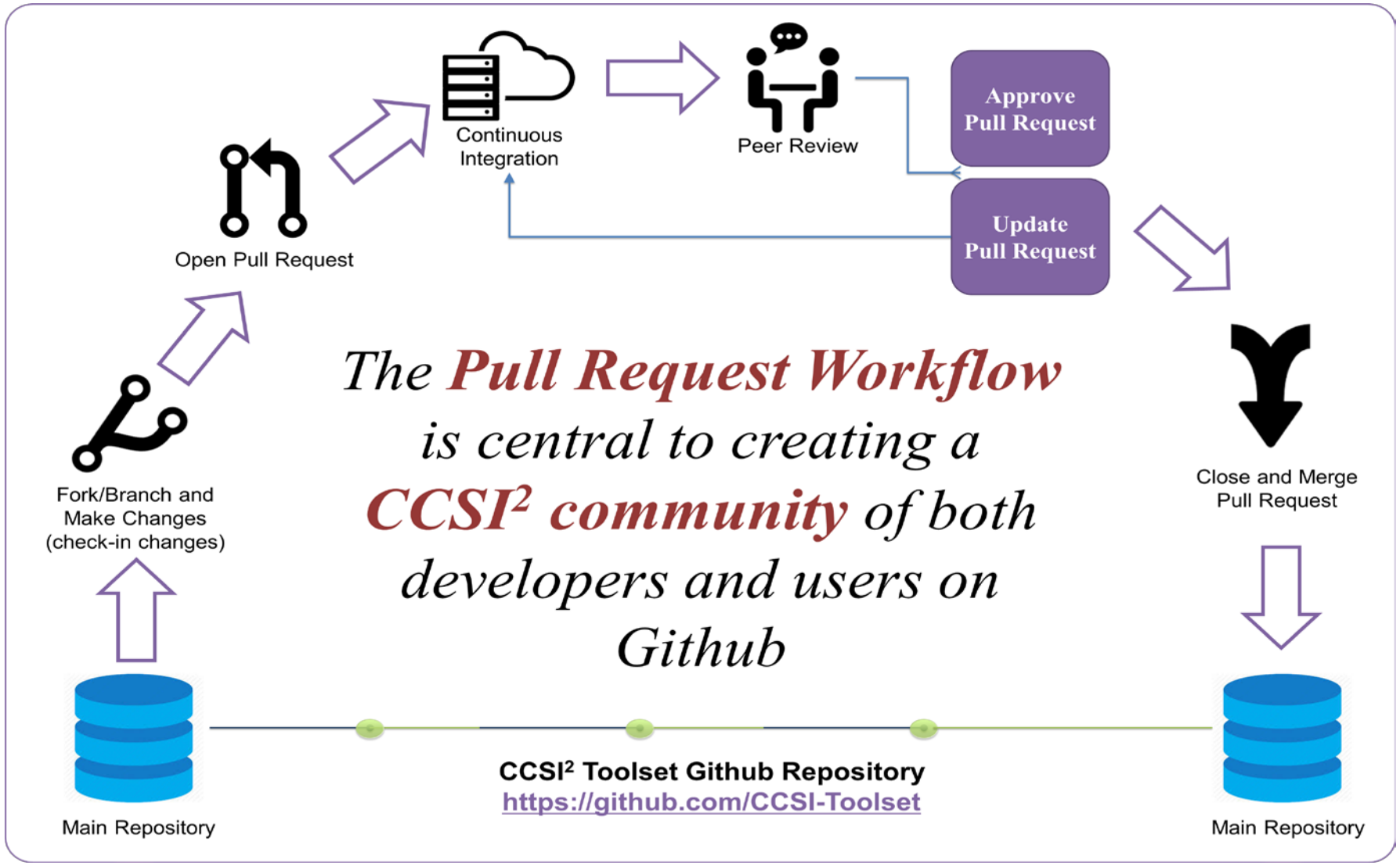


CCSI²: Open Source Community

- A vibrant and successful open source project depends on the community involved
- Active development directly in the GitHub repositories
- Product repos have owners/maintainer who
  - Manage roadmap, issues and releases
  - Review and approve changes
  - Publish releases
- Clearly communicate best practices for contributors
- Documentation, Testing, User Support



CCSI² Contributions: Pull Request Workflow



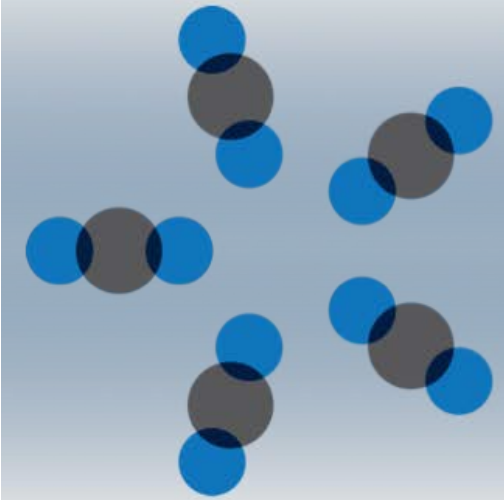
Pull Request:

How a contributor submits changes for review

Github provides interfaces that support the Pull Request workflow used to manage project contributions

CCSI² Open Source Toolset Support Executive Summary

- New CCSI² Open Source Approach
  - Increase Toolset Accessibility, Attainability, Visibility and Interaction
  - Increase Community Engagement
  - Extend reach and lifetime of Toolset
  - Contributions are optional: No loss of IP
- Work achieved and in progress
  - Approximately 60-70% complete towards first Open Source release
  - Movement of 7 bundles (including 33 individual products) from Subversion to GitHub
  - Itemized, per project lists of various IP issues to be addressed
  - Open Source TechTeam adoption, education and community building



CCSI²

Carbon Capture Simulation for Industry Impact

For more information:
https://github.com/CCSI-Toolset
https://www.acceleratecarboncapture.org/

Keith Beattie - LBNL
KSBeattie@lbl.gov

Valerie Hendrix - LBNL
VCHendrix@lbl.gov

Deb Agarwal - LBNL
DAAgarwal@lbl.gov