# Continuous Technology Refresh (CTR)

| | 1999 | 2005/2006…..2012 | 2019 | Notes (custom converter scripts + multiple re-runs) |
|---|---|---|---|---|
| Revision control | ClearCase (LLNL/Yellow) | Subversion (NERSC) | Git (GitHub) | Binary content, git-lfs, anon access, svn->git full history |
| Issue Tracking | ClearQuest (LLNL/Yellow) | Redmine (ORNL) | Issues (GitHub) | Tied to code |
| Testing+Dashboard | B-Div Irix (LLNL/Yellow) | LLNL-CZ + (NERSC) | LLNL-CZ + (GitHub) | 3k image+2k txt, fix/rebase tests, exact vs. fuzzy match |
| CI Testing | N/A | | Cicle-CI → Azure | Presently ensuring only compile of core |
| User messaging | Majordomo (LLNL) | GNU Mailman (ORNL)<br>4-2Viz (LLNL) | Discussions (GitHub)<br>4-2Viz, Teams (LLNL) | Discoverable, attachments/size, notification controls<br>Privacy, where users are hanging out |
| Documentation | FrameMaker | OpenOffice | Sphinx (ReadTheDocs) | Mergeable, committed & versioned w/code (docs like code) |
| Website | N/A | Drupal (LLNL, WSC web) | Jekyll (GitHub) | Developers can edit directly, GitHub Pages |
| Configuration | AutoTools | CMake | | Native windows dev |
| Operating System<br>• Windows<br>• OSX/macOS<br>• Linux | • XP<br>• OSX-10.?<br>• RedHat | Vista 7 8 9 10<br>10.2 10.4 10.5/6 10.8 10.10 10.12 10.14<br>+ubuntu +(fedora, debian, centos) | | Early OS version history is sketchy<br>• Visual Studio, sys-call changes, manually trigger tests<br>• Security changes getting harder to manage<br>• No means to test variants fully |
| Core 3rd Party Libs<br>• Python<br>• Qt<br>• VTK<br>• GL | • Python 2<br>• Qt3<br>• VTK-5.0 VTK-5.8<br>• GL Drivers + Mesa | Python 3<br>Qt4 Qt5<br>VTK-6.0 VTK-8.0<br>(OpenGL, GL rendering changes) | | Qt+VTK+GL is a complex interdependency<br>• Able to run w/ 2 or 3<br>• Integration w/GL tricky, no automated testing for GUI<br>• API changes, baselines change<br>• hw GL when possible, driver compat, baselines change |