Evolution of Unidata’s Software Development Environment

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Unidata Joint User/Policy Committee Meeting

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What are the Goals?

• Increased transparency
  – Plans, Features, Issues, Fixes, Testing
  – Users, collaborators, Unidata developers

• Simplified contribution process
  – Improved documentation on how to contribute
  – Tools that make it easy to contribute
Steps Taken/Planning

• Distributed Version Control System (DVCS)
  • Increased flexibility in contribution workflow
  • Testing git - THREDDS, IDV, LDM, NOAAPORT Ingest

• Publicly available issue tracking system
  – Using JIRA: netCDF-C, TDS, netCDF-Java

• Build/Test/Release Framework
  – Nightly testing / continuous integration
  – “Automated” releases
  – Soon: Try out Bamboo (JIRA sibling)
**DVCS**

- Each user has full copy of code repository
  - Function as backups
  - Allows developers to work offline
- Supports multiple workflows

*Images from ProGit document*
Issue Tracking
Issue Tracking
(Planning)
Issue Tracking
(Planning)
### Issue Navigator

#### Displaying issues 1 to 43 of 43 matching issues.

<table>
<thead>
<tr>
<th>T</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>P</th>
<th>Status</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCF</td>
<td>107</td>
<td>'make check' bug: tst_create_files.c: too many arguments in function call</td>
<td>Ed Harinett</td>
<td>Sean Arns</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>52</td>
<td>test release candidate on bluefire</td>
<td>Ed Harinett</td>
<td>Ed Harinett</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>55</td>
<td>Performance Difference between netcdf-3 and netcdf-4 using nc_get_vara and vars.</td>
<td>Ed Harinett</td>
<td>Dennis Heimbigner</td>
<td></td>
<td>Closed</td>
<td>Cannot Reprod</td>
</tr>
<tr>
<td>NCF</td>
<td>95</td>
<td>stridc1 uninitialized in var1.c</td>
<td>Ed Harinett</td>
<td>Ed Harinett</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>100</td>
<td>v2 API function ndims calls netCDF internals instead of the v3 API</td>
<td>Ed Harinett</td>
<td>Ed Harinett</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>100</td>
<td>nocache is sometimes ignored</td>
<td>Dennis Heimbigner</td>
<td>Dennis Heimbigner</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>59</td>
<td>python bug in netcdf-4 that doesn't happen in C</td>
<td>Ed Harinett</td>
<td>Ed Harinett</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
<tr>
<td>NCF</td>
<td>53</td>
<td>ngen does not appear to be handling _Fillvalue correctly in some cases.</td>
<td>Russ Rew</td>
<td>Dennis Heimbigner</td>
<td></td>
<td>Closed</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

#### Summary
- Project: NetCDF-C
- Fix For: 4.2
- Sorted by: Status descending, then Priority descending

#### Operations
- Save it as a filter
Issue Tracking
(Comment and Watch)
Build/Test/Release Framework

- Web UI and services
- Automates build, test, deploy, release
- Manages builds/tests on agent machines
- Create a release workflow