Feature Branches vs. CI
(Как скрестить ежа с ужом?)

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How we test our products?

- Integration Tests
- Dogfooding
- EAP
- QA
Internal TeamCity installation

- VCS changes count per day – 1000+
- Build count per day – 1500+
- Maximum test count per build – 41714
- Registered build agents count – 126
- Average build duration – 1 h (max 6 h)
- Average time spending in queue – 1 h
TeamCity Team

- Perforce, Subversion, TFS, Git, Hg
- Nightly deploy to production
- Are global changes even possible?
Feature toggles

```java
if (TeamCityProperties.getBoolean("teamcity.vcs.cleanSources.forEachIncludeRule")) {
    for (SCheckedOutDir checkedOutDir : versionsInfo.getCurrentCheckoutDirsOnAgent()) {
        cleanRootDir(builder, checkedOutDir.getRule());
    }
} else {
    builder.delete("", false, false);
}
```

- Branching by abstraction
- New behavior can be easily disabled, sometimes on the fly
- Same toggles are used in production
- Increases code complexity
- Requires careful planning of your commits
Remote Run
.NET Products Team (a long time ago)

- Subversion (no FB)
- 33000+ tests (R#)
- Build duration 3 – 4 h (R#)
- Who broke the build?
- 42
- ‘Remote Run’ pain
‘Mixed Changes’ Problem Workarounds

- Higher priority for personal builds
- Incremental builds
- Dedicated build agents pool
### .NET Products Team (our days)

<table>
<thead>
<tr>
<th>Merge Event</th>
<th>Description</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSRP-276214</td>
<td>Merge with default</td>
<td>Sergey Kuks</td>
</tr>
<tr>
<td>Nullref fixed</td>
<td></td>
<td>Sergey Kuks</td>
</tr>
<tr>
<td>PdbPe...tCache</td>
<td>don't watch every two sec for ext. source mapping</td>
<td>kirill.skrygan</td>
</tr>
<tr>
<td>+ navigation to IPSiSourceFileWithLocation</td>
<td></td>
<td>Sergey Kuks</td>
</tr>
<tr>
<td>+ misc files project * provider for web generated files</td>
<td></td>
<td>Sergey Kuks</td>
</tr>
</tbody>
</table>

- **Hg**
- **Feature Branches**
- **Green builds!**
Feature Branches Support in TeamCity

- Status of all pushed branches
- Track test history per branch
- Track statistic per branch
- Changes from sub-repos (v8.0)
Shared .NET Platform
‘HUUUUUGE Merge’ Story

Platform sub-repo

new platform feature

vN

vN+1

resharper.release

resharper.default

platform.stable

dotTrace.default

dotTrace.release

dotTrace.vNext
Thank you!