Geneva, 14 June, 2011

M E M O R A N D U M

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Subject: Proposal for central support of Issue Tracking software at CERN

Issue tracking software support at CERN beyond Savannah

When the LHC Computing Grid (LCG) project was started, the need for a common issue-tracking portal was identified. The LCG Applications Area rather quickly decided on using the open-source tool GNU Savannah as technical solution. The maintainers in what became the PH/SFT group established a strong connection to the developer community, and have, since more than 10 years, provided a stable and well-supported portal to all LHC experiments. Nowadays the almost 7000 registered users even include many projects in other CERN departments. For many of the supported projects, extensive efforts were made to customize GNU Savannah to the specific project requirements.

However, there are major changes going on, which have implications on the long-term future of Savannah. The Savannah instance at CERN is based on a development branch of GNU Savannah, which is no longer actively maintained, let alone developed. There are ongoing activities in the developer community to replace GNU Savannah with a complete rewrite, including a change in programming language. So far, this project has progressed slowly.

In the meantime more powerful tools have emerged in the software developer community. To be able to use state-of-the-art technologies, individual CERN groups have set up issue tracking tools themselves, mainly using the commercial tool JIRA from the Australian company Atlassian; these CERN groups include BE/CO, EN/ICE, GS/AIS, IT/GT and some LHC experiment groups, hence applications extend to other areas than just software development projects. This has triggered an email by Denise Heagerty regarding JIRA usage by the LHC experiments in February. Following this intervention, PH/SFT and IT/PES undertook an issue tracking survey intended to capture user requirements for an issue tracking service, addressing the Savannah, CVS and SVN user communities as well as other communities with a known interest in issue tracking tools. The main results of the survey are:

- Savannah is extensively used, and a migration out of Savannah will require a thoroughly planned and agreed migration strategy to a well-supported replacement. Owing to the large amount of project-specific customisations, such migration will take considerable effort.
- Those users who only need limited functionality in the context of the Subversion version control system (SVN) are happy with SVN-Trac as a “lightweight” solution currently provided by IT.
- JIRA is well appreciated by users using Agile software development methods as well as users of other projects (typically hardware ones). This commercially supported issue-tracking application is rather powerful and is attractive to software developers partly because of the potential integration with other powerful software development tools from the same company, which are partially in use at CERN as well.

Based on the feedback from the user communities, we conclude that JIRA meets the requirements of almost all user communities, and that a centrally provided service at CERN would be advantageous in terms of functionality, availability and the integral of CERN resources spent. We particularly note that JIRA has the potential to eventually replace Savannah.

The proposal

Given the increasing usage of JIRA in several departments at CERN described above, we suggest setting up a centrally supported JIRA service in the IT department. At the same time, a project to study the feasibility of migrating projects that currently use Savannah will be made by the PH/SFT group, working closely with the LHC experiments, which are the main clients of the existing Savannah service. In case of a successful evaluation, the exact migration strategy and timeline will be discussed with the LHC experimental groups.

We estimate that setting up such a central service will require 1 FTE (in IT) during 2 years, and that migrating existing Savannah projects to JIRA will require an additional FTE (in PH/SFT) for the same period. Once such a system will be fully operational, we estimate that in the order of 0.5 FTE will be (probably largely) sufficient to operate and maintain the service.

It should be noted that the CERN groups who have setup local JIRA installations are devoting significantly more resources due to additional software development process and project support around this tool. Such local project support would be outside the scope of a central JIRA service.

Further information:

- Issue Tracking survey: https://twiki.cern.ch/twiki/bin/viewauth/IT/IssueTrackingSurvey
- Feedback from experiments on JIRA use: https://twiki.cern.ch/twiki/bin/view/ITCoord/TactJiraUsage