PROJECT WORK PLAN

Organization: CERN – LCG project

Project name

SPI
Software Process & Infrastructure

Work plan 2004 H1

Date of Issue: 29 March 2004

Project Manager: Alberto Aimar

Document Change Control

This section provides control for the development and distribution of revisions to this Project Work Plan.

Revision Number	Date of Issue	Author(s)	Brief Description of Change
1.0	29.03.2004	A.Aimar	Initial Draft
1.1	5.4.2004	A.Aimar	Details on the milestones
1.2	6.4.2004	A.Aimar	Added Additional Info section
1.3	13.4.2004	A.Aimar	Small changes after LCG PEB

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1. Project Organization

1.1 External Interfaces

The SPI project reports to the LCG Applications Area manager T.Wenaus, to the PEB headed by L.Robertson and to the SC2 committee chaired by M.Kasemann.

In its current project definition, the users of the deliverables of the project are all the LCG software projects and any other CERN experiment interested in using part or the entire infrastructure. The first of such users are the Pool, Seal, Pi, and Simulation projects, as well as any future LCG project.

The project regularly interacts with all LHC experiments (Alice, Atlas, CMS, and LHCb) and with the main projects at the Laboratory (Geant4, Root, etc.) in order to receive advice and feedback.

1.2 Internal Structure and Resources

The project has now delivered all initial versions of the foreseen tools and services and it is in a steady state mode of operation. Manpower is extremely tight at present, sufficient for essential operations but impacting the responsiveness of the project to new requests for service and tool enhancements and extensions. Injection of experienced FTEs would improve the responsiveness and reduce the internal stresses arising from people being spread too thinly over the required tasks.

EGEE will use the SPI services and add resource in order to expand the existing SPI services to address their needs (e.g. development in Java and other tools).

Who	**FTE %**
E.Poinsignon	75
Y.Perrin	100
J.Moscicki	10
L.Mancera	20
M.Gallas	10
A.Undrus	20
A.Pfeiffer	70
A.Aimar	90
TOTAL	**375**
Y.Patois (*)	100
J.Benard (*)	100
(*) EGEE, starting in April-May 2004	

Several other people still continue to help, on a friendly-basis agreement, they are there in case of urgency or as backup to cover absences in SPI.

2. SPI Services and Tasks in 2004

Roles and Responsibilities SPI 2004		
Role	**Description**	**Responsible**
External Software	Install and upgrade, on the LCG platforms, all external software needed by the projects.	E. Poinsignon
Software Distribution	Basic release management (tarfiles only for the moment) to generate installation kits for the LCG software and provide a download site.	J.Moscicki and E.Poinsignon
LCG Software Configuration	Provide software configuration and build information for the software projects on all supported platforms.	E.Poinsignon
Savannah Dev. Portal	User support. Maintenance of the service, development with the open source of Savannah.	Y. Perrin
Development of new policies, templates	Define new policies and templates on the existing activities; foster the definition of new standards looking at what projects are developing.	J.Moscicki (then A.Aimar)
QA and Policies Responsible	Quality Assurance metrics and measurements, generation of QA reports and verification of the policies in LCG projects.	J.Moscicki (then J.Benard)
Code Doc. And Web applications	User support. Maintenance, configuration, development of the tools used for the code documentation (Doxygen, lxr, ViewCVS).	L.Mancera (until May 2004)
Automatic Nightly Build	User support, configuration, development of the tools available for nightly builds (Nicos).	A.Undrus
Testing Frameworks	User support, maintenance, configuration, development of the tools used for testing (CppUnit, PyUnit, Oval, QMTest).	M.Gallas (then J.Benard)
NEW: Software Librarian, build and release (was Scram Responsible)	Define, develop and then support a release and packaging service according to the needs of the LHC experiments and LCG projects and following to the standards defined for the deployment on the LCG grid. First line support of the Scram software.	A.Pfeiffer
Web management	Basic web templates for SPI and for other projects. Web definition, support and editing.	A.Aimar
SPI project infrastructure	Collect user feedback, define and steer the project. Represent the project in CERN and in the LCG. Manage SPI resources. Backup of most of the SPI services.	A.Aimar
Workbook and Documentation	Development of a general infrastructure for a common LCG documentation and workbook. Basic workbook development and documentation for SPI. Not for the other projects.	A.Aimar

3. Main project milestones for 2004 H1

All SPI milestones are in one single list, not separated by work package or service. Milestones are added and changed following the decisions and priorities defined by the Architect Forum of the LCG Applications Area.

The SPI services (in Section 2) have their own specific milestones and tasks lists, each with specific features, improvements, installations, etc. The list below includes only all project-level major milestones.

The resources in the SPI project are sufficient for the continuation of the existing services at current level, and also to fulfil the milestones that follow.

Due Date	Milestone
31 Jan 2004	IT CVS service verified and validated by SPI
31 Jan 2004	More code standards checks added to the QA reports (via doxygen)
20 Feb 2004	Upgrade of the Savannah service and installation of the Gnu open source version
28 Feb 20004	QA reporting tools available publicly
28 Feb 2004	Delivery of configuration files also for the CMT build system
15 Mar 2004	LCG software librarian in place
1 Apr 2004	Migration of all projects to IT CVS service
15 Apr 2004	Certification of external software for the new Linux platform
1 May 2004	Definition of the EGEE requirements
15 May 2004	RH 7.3 gcc 3.2.3 supported
15 May 2004	Documentation standards for workbook and user guides and documentation infrastructure in place
31 May 2004	RH 7.3 icc 8 supported
15 June 2004	Convergence plan for the LCG software infrastructure
15 June 2004	Appwork evaluation
1 Jul 2004	Common build and release solution in LCG App Area
1 Jul 2004	Validation and test of the external tools needed by LCG projects
31 May 2004	*Work plan for 2004 H2, including EGEE resources and tasks*

4. Milestones 2004 H1 in detail

31 Jan 2004
IT CVS service verified and validated by SPI

About 10 major projects from the LCG Applications Area and LCG Deployment are hosted on the SPI CVS server.

In order to see if the LCG projects can be migrated without damage or interruption, SPI will verify the correct functioning of the central IT CVS service, validating the CVS-related tools (Doxygen, LXR and ViewCVS), the access methods to the repositories (kserver and ssh) and also verifying the user documentation provided by the IT CVS service.

31 Jan 2004
More code standards checks added to the QA reports (via Doxygen)

The QA reports will have additional checks and they will also report on aspects of the quality of the source code. This will be done retrieving information from the warnings and errors of the Doxygen documentation tool. Such tool highlights when some C++ code is missing sufficient documentation or important information (comments, for instance) is not provided in adequate manner.

SPI will provide the solution to automatically execute these verifications and will improve the existing QA procedures in order to include this relevant information in the QA reports.

20 Feb 2004
Upgrade of the Savannah service and installation of the Gnu open source version

The Savannah service, that is now hosting more than 80 projects and 500 users, will be upgraded, in order to incorporate all improvements developed by SPI in collaboration with the open source project at the end of 2003.

SPI will move and transform adequately all data stored in the current service database. SPI will install the same software version currently used in the open source service provided by Gnu. In this way we can at best benefit of all improvements and fixes contributed by the Savannah community.

28 Feb 2004
QA reporting tools available publicly

In order to allow projects to generate and use by themselves the QA reports, the QA report generation will be of public access. The goal is to allow developers and project leaders to verify themselves the quality of the software produced by making direct use of the QA reporting facilities.

SPI will provide publicly, from the SPI web site, the current QA infrastructure to automatically generate such QA reports.

28 Feb 2004
Delivery of configuration files also for the CMT build system

Currently the build and configuration of the LCG software is done using the Scram build system. But libraries and packages produced are not dependent on Scram and they are usable without the tool. Actually several other projects make use the LCG software packages but the build their software using CMT.

SPI will provide and keep up to date the configuration files for CMT. This is done in order to facilitate the usage of exactly the same configurations by CMT and SCRAM users of the LCG software. Together with CMT experts, SPI will define such configuration files and the SPI will maintain them in order to provide the CMT software configuration at each new LCG software release.

15 Mar 2004
LCG software librarian in place

The LCG projects in the Applications Area use the same configuration and the same tools for building and releasing; but currently each project manages separately all its releases, as well as all coordination of dependencies between releases is done at project level.

SPI will appoint, and hire if necessary, a software librarian in charge of centrally build, release and validate all software developed in the various LCG Applications Area projects. This will increase even further homogeneity in the organization and build of LCG App. Area software and improve common standards policies among.

1 Apr 2004
Migration of all projects to IT CVS service

Upon successful evaluation, and after possible improvements needed, and after all verifications by SPI, the projects hosted by SPI CVS will all be moved to the central IT CVS service. And the SPI CVS service will cease to function.

SPI, in coordination with the project administrators of each project, will move all files and users of all repositories to the IT servers. SPI will also provide scripts and documentation for all changes needed, in order to reduce any inconvenient to the LCG developers.

15 Apr 2004
Certification of external software for the new Linux platform

CERN is currently certifying the next Linux desktop platform to replace Red Hat 7.3, the standard Linux desktop since 2002. Part of the certification process implies the verification that the current LCG App. Area software can compile, build and run on the selected Linux platform.

SPI will compile and install for the new platform all external software needed to produce a release of the LCG software for such platform. SPI will also help the projects to build the LCG software for this new platform. Finally SPI will also inform the LHC experiments on when they can start to use the LCG App. Area software on the new Linux

platform. This for the experiments to then check their own software based on the LCG Applications Area packages.

1 May 2004
Definition of the EGEE requirements

The EGEE project starts in April 2004 and it is looking into the services SPI is providing in order to benefit from what is already there and in order to have some homogeneity with the LCG software development projects.

SPI will collect the needs for new services or for improvements in order to fulfill the needs of EGEE software as well as LCG projects and LHC experiments. This should actually be also beneficial to LCG and LHC experiments as each new service or features will be added to the general services. Nothing will be specific to the EGEE project. EGEE will also contribute some resources to the SPI project.

15 May 2004
RH 7.3 gcc 3.2.3 supported

LCG Applications Area will add Red Hat 7.3 with the gcc 3.2.3 compiler as supported platform. SPI will compile and build all the external software needed in order to run the LCG App. Area software on this platform.

15 May 2004
Documentation standards for workbook and user guides and documentation infrastructure in place

SPI is currently managing the LCG workbook. In addition, LCG App. Area projects and in the LHC experiments there are several documentation initiatives and tools proposed (users guide with docbook, in Pool, etc.).

SPI will provide a common strategy, policies and tools to manage and produce documentation for the LCG Applications Area software. This will be done with the help of the current experts in the projects, and will define and provide a single common solution and service for documentation.

31 May 2004
RH 7.3 icc 8 supported

LCG Applications Area will add Red Hat 7.3 with the Intel compiler icc 8.0 as new supported platform. SPI will compile and build all the external software needed in order to run the LCG Applications Area software on this platform.

15 Jun 2004
Convergence plan for the LCG software infrastructure

The LCG Applications Area internal review encouraged the convergence on common tools and practices among different areas of the LCG where software development and deployment takes place. SPI is in charge of providing a plan of the possible convergence in order to possibly have a common infrastructure across all the LCG software areas.

15 Jun 2004
Appwork evaluation

SPI, if possible together with some of the software development LCG App. Area projects, will provide an evaluation of the solutions provided by the "appwork" build and release system. This will be done in order to investigate the usage on external commonly-used build tools for the Applications Area projects, instead of HEP home-developed solutions.

1 Jul 2004
Common build and release solution in LCG App Area

A decision on which is the build and release solution adopted will be taken. In any case SPI will continue to provide all configurations necessary to other build and release systems, such as SCRAM and CMT.

1 Jul 2004
Validation and test of the external tools needed by LCG projects

The LCG Applications Area software depends on several external packages that are installed for all platform supported. In order to speed up the release and build on new platforms there is the need to verify the installations of external software in an independent way from the LCG App. Area projects themselves.

SPI will execute, and if needed develop, a validation procedure that will verify if the external software is correctly installed in order to fulfill the needs of the LCG projects and of the LHC experiments. SPI will collect all use cases for such validation from LCG App. Area projects and LHC experiments.

31 May 2004
Work plan for 2004 H2, including EGEE resources and tasks

As soon as the EGEE needs and resources are clarified this plan will be revised. SPI will present the plan for the second half of 2004 that will include milestones to fulfill the needs of both LCG and EGEE.

5. Additional and Background Information

[1] May 2002 RTAG document to the SC2
http://spi.cern.ch/extdoc/finalreport.pdf

[2] SPI project plan presented to the SC2, A.Aimar
http://spi.cern.ch/plans/200210_spi_workplan.pdf

[3] Applications area internal review report 2003, CERN-LCGAPP-2003-16
http://lcgapp.cern.ch/project/mgmt/rev200310/aa_review_report_2003.doc

[4] SPI Material for the LCG App. Area internal Review, A.Aimar et al.
http://spi.cern.ch/ireview03

[5] Aug 2003 Project work plan for H2 2003 - H1 2004
http://spi.cern.ch/plans/2003_H2_SPI_WorkPlan.pdf