

User support and requirements capturing processes

*Geant4 Collaboration organization, management and
communication review*

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Introduction

- User support and requirements capturing processes are the most important communication aspects with users.
 - User support:
 - Response to bugs & questions, announcements, tutorials, etc.
 - Requirements capturing:
 - Response to missing functionalities
- This communication has to deal with challenges:
 - Users' community is large
 - And keeps growing
 - Users' community is diverse
 - High energy, nuclear, accelerator, medical, space...
 - With a diversity which is itself growing
 - with a trend on simulating more media response: relaxation, phonon, electron-hole drifting, activation, etc.
- The Collaboration has set up various communication channels and tools, presented here, to help with communication with users.

Overview of user support and requirements capturing channels

- User support and requirements capturing rely on various channels:
 - Fora:
 - Technical Forum
 - HyperNews forum
 - Tools:
 - Announcement mailing list
 - Bug reporting system
 - Requirements tracking system
 - Workshops and tutorials:
 - Users workshops and meetings
 - Geant4 tutorials
 - Liaisons
 - Daily communications

CHANNELS FOR USER SUPPORT AND REQUIREMENTS CAPTURING

Technical Forum

- One of the most important and efficient ways of communication between users and Geant4 developers.
- Allows for detailed discussions on problem findings and on requirements.
- Typical agenda is:

- I. Geant4 collaborators presentations:
 - I. Release and/or patch announcements
 - II. Update on requirements
 - III. Possibly, detailed responses to problems
- II. Users presentations

The screenshot shows the Geant4 Technical Forum website. The main content area displays a timetable for Tuesday, March 27, 2012, at CERN. The timetable is organized into two sessions: 'Developers presentations and discussions' from 16:00 to 17:00 and 'Users presentations and discussions' from 17:00 to 18:00. Both sessions are held in room 32-1-A24 at CERN. A sidebar menu on the left provides navigation options: Overview, Scientific Programme, Timetable, Contribution List, and Author index. The top of the page features a blue header with the forum title and a search bar. The browser's address bar shows the URL: indico.cern.ch/conferenceTimeTable.py?confid=180738#20120327.

- Items (requirements or problems) are discussed during the meetings
 - To understand first if a solution is currently available
 - If not, item is taken on board to be further examined by Geant4
 - If needed, liaison is created between requesters and Geant4
 - Requirements are addressed, depending on criticality and resources

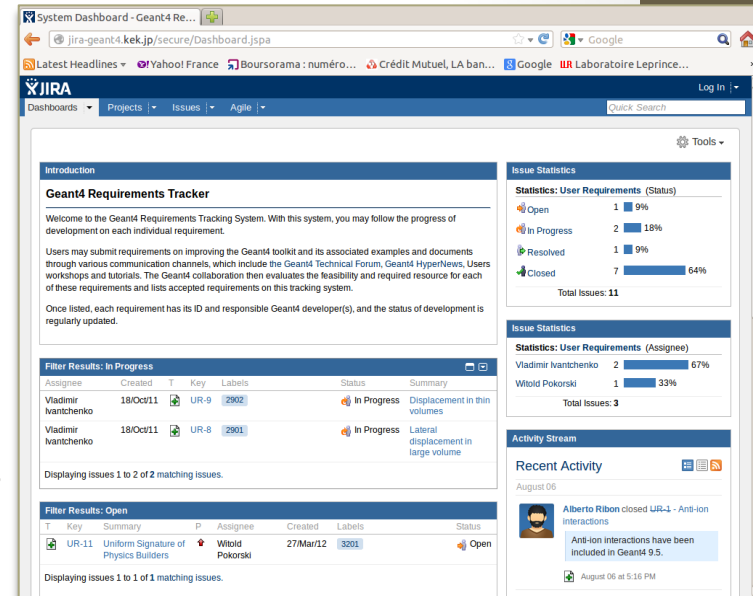
HyperNews Forum

- A copious open exchange medium, on a continuous communication mode basis.
- Web-based discussion forum:
 - <http://hypernews.slac.stanford.edu/HyperNews/geant4/cindex>
- Currently has 27 discussion threads corresponding to either Geant4 modules or application domains.
- Access:
 - Reading is public
 - Posting and receiving emails require minimal registration
 - name, email address and institution
 - At present, 2540 such registrants
- Moderation is minimal
 - Only 2 problems in 10 years
- Experienced users are encouraged to answering to novice/trivial questions.
- Often a place to initiate bug reports.

The screenshot shows a web browser window displaying the 'GEANT4 at hypernews.slac.stanford.edu Forum List by Category' page. The page features a blue header with the 'Geant 4' logo and navigation links. Below the header, the forum is organized into several categories, each with a list of sub-topics. The categories include: Applications (Educational, Industrial, Medical), Control of runs, events, tracks, particles (Event and Track Management, Multithreading, Particles), Experimental Setup (Biasing and Scoring, Fields, Geometry), General matters (Documentation, Announcements, Testing), Interfaces (User Interfaces, Analysis, Persistency), and Physics (Biased Scoring, Electromagnetic Processes, Fast Simulation). A footer note states: 'This site runs SLAC HyperNews version 1.11-slac-98, derived from the original HyperNews'.

Communication Tools

- Requirements tracking system
 - JIRA-based system to track major requirements
 - <http://jira-geant4.kek.jp/secure/Dashboard.jspa>
 - JIRA system for Geant4 launched about two years ago
 - Agreed major requirements are entered to JIRA
 - Read access is public
 - To allow users to follow progress on requirements.
- Bug reporting system
 - Bugzilla-based bug report tracking system.
 - [http://bugzillageant4.kek.jp/buglist.cgi?bug_status= all &list id=659&product=Geant 4&query_format=specific&order=bug id%20DESC&query based on=](http://bugzillageant4.kek.jp/buglist.cgi?bug_status=all&list_id=659&product=Geant4&query_format=specific&order=bug_id%20DESC&query_based_on=)
 - When a user identifies a problem, he/she creates a bug report.
 - Status of each ticket tracked and recorded on the Bugzilla system
 - and made visible to the public
- Announcement mailing list
 - Registered users receive announcement e-mails
 - Inform on patch or Beta releases, user workshops and tutorials
 - Currently 550 registrants on the mailing list.
 - Past announcements can be consulted for users having a CERN afs account.



Users Workshop and Meetings

- Collaboration committed to user workshops and meetings
- For example:
 - Geant4 Space Users workshop
 - <http://ec2-204-236-247-226.compute-1.amazonaws.com/>
 - This 9th G4SUW pages are still under construction
 - G4NAMU (Geant4 North American Medical Users organization)
 - <http://geant4.slac.stanford.edu/g4namu/news.html>
- Past events of relevance for Geant4 can be found at:
 - <http://geant4.cern.ch/pastevents.shtml>

Geant4 tutorials

- Geant4 tutorials held several times each year at many different locations and/or targeted audiences.
 - Tutorials are at the initiatives of Geant4 Collaborators, or of users' communities, etc.
 - Last tutorial organized last week, in Korea, by KISTI and NCC.
 - 5 tutorials in 2012, 8 in 2011, 4 in 2009, etc.
- Tutorial opportunities are announced on the Geant4 announcement mailing list and posted on the Collaboration web page.
- Past tutorials and training material are available at:
 - <http://geant4.cern.ch/support/training.shtml>
- Tutorial presentations and material remain publicly available for some time, so that new users who could not attend at a tutorial may also benefit.

Liaison and daily communications

- Liaisons
 - Liaisons appointed to major user groups.
 - Participate to user groups meeting, capture their requirements and inform our developments.
 - Existing current liaisons to ATLAS, CMS, LHCb, ALICE and GATE.
 - Past liaisons to BaBar and HARP.
 - Collaboration has also direct contacts with several other experiments: CALICE, ILC, Mu2e, CDMS, Belle-2, GERDA, etc.
- Daily communications
 - Each collaborator has also local communications with their local users for day-to-day assistance and private email communications with users.

PROCESSES FOR USER SUPPORT AND REQUIREMENTS CAPTURING

Processes for Bug Reports and Requirements

- Previous channels help in capturing Bug Reports and Requirements.
- Once captured, they have to be confirmed first:
 - This is done after further examination of the related WG coordinator(s)
 - This is done under the legitimacy hat of the Steering Board
- Confirmed Bug reports are then:
 - Signaled as such in Bugzilla
 - Assigned to a developer, who becomes responsible for fixing the problem
 - Weekly reminder is sent to related developers
 - Open bug report progress are examined at each Steering Board meeting
- Confirmed User Requirements
 - They may not always be addressed, if resources do not permit
 - In such a case, attempt to obtain expertise or resources are made
 - In other case, requirements are:
 - Simply assigned to a WG, if scope is limited to it
 - Or to several WGs, with coordination of the Steering Board and Architecture Team if needed
 - Progress on open requirements are examined at each Steering Board