Training and Courses
An introduction to the discussion

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How to spread the use of Geant4?

- **The penetration of Geant4 in the user communities is a major issue in the production phase**
  - the success of a software product is determined by its use
- **What can be done to improve the penetration and use of Geant4?**
  - Information: seminars, conference talks, publications etc.
  - Help users to get started with Geant4

    the first step is always the greatest barrier to cross
- **How to help people to get started?**
  - Documentation
  - Training

    Play different roles, complementary

Issues to be considered

- **Large variety of user communities**
  - HEP, nuclear physics, space community, medical physics, accelerators etc.
- **Large variety even within the same community**, for instance in HEP
  - different physics environments (LHC experiments, ν experiments, cosmic rays, CP violation experiments etc.)
  - different structures: from large collaborations to small groups
  - various levels of technological background: many of our potential users still ‘speak’ fortran, not familiar with OO technology and C++
- **Maturity of the user communities** to appreciate the transparency of the physics and the different approach of Geant4 w.r.t. the past
- Other issues?
- ***How to address all this?***

Other issues to be considered

- Also to be considered from the developers' side
- **Who would be responsible for training?**
  - The Geant4 Collaboration?
  - Individual experiments/labs/national institutes?
  - A collaboration between the two?
  - What about non-members?
- **Training = more work for us developers**
  - can it also spare us some further work?
- Do we have the resources to do it?
- Who would do it?

Some concrete proposals to discuss

- **Geant4 Training Kit**
  - set-up and maintained by the Geant4 Collaboration

    advantages: workload shared among several people, avoid duplication of work, best exploit expertise in the collaboration
  - to be adapted to the needs of the 'local' communities by their Geant4 members

    to fit the variety of needs, best done by people who know the user community
- **Organizational matters**
  - Infrastructures for the training to be provided by the user communities
  - Coordination of the 'local' training to be done by the local Geant4 collaborators
- **Possible approaches**
  - training course
  - workbook
- Any other suggestions to discuss?

Some practical considerations

- No need to start from scratch, lot of material to reuse
- Background material for training in
  - Geant4 Documentation
  - Geant4 Examples
- Experience of Geant4 training in various user communities
  - BaBar, Atlas courses
  - user clubs
  - etc.
- INFN Geant4 course planned 13-17 December in Italy