

Parallel Session 3b Report “Tools for Development”

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Topics for Release 9.6

Documentation: Bug #1280

Installation Guide

General improvements
Bugs 1204, 1280, 1291

Integrate Walkthroughs

"How to build B1"

Remove "developers" section

App. Dev. Guide

First chapter will have more
on build topics

Appendices on CMake and
GNUmake?

README.txt

For advanced users

"Developer Guide"

Needed/Wanted?
If so, what is scope?

geant4-config

- ➔ Bugs 1203, 1290, 1328 in progress for 9.6
- ➔ Mike Kelsey to help with testing
- ➔ Add "--data-dir" argument to enhance interface.
- ➔ Fixes made with one eye on "G4GNUmake" retirement in "X"

Data Install: Bug #1285

- ➔ Data can now be installed in custom location
- ➔ Implement reuse of preinstalled data in 9.6, plus "promise-to-install" setup.
- ➔ Rationalize naming after 9.6 is out

Shipping Custom Modules

- Find modules used by examples will be installed in 9.6
 - FindAIDA.cmake, FindROOT.cmake, ...
- **VERY** important user support policy:
 - "Convenience" only, no support, extension
- Important use case of adding a custom module will be demoed in selected example.

Topics for Release "X"

Retiring "G4GNUmake"

- Agreed workplan

 - "Retired" in "X"-beta for user apps

- For 9.6

 - "Geant4Config.cmake" and "geant4-config" become main build interfaces

- For "X": Dec/Jan - May

 - B1 GNUmakefile with "geant4-config" and/or back-compatible layer.

Geant4 CMake "API"

"sources.cmake" API:

Architecture \leftrightarrow Build

- ➔ Parallel 3b highlighted several areas where code updates can help build interface:
- ➔ **Forward declarations** (implementation hiding)
- ➔ What classes/functions in your module are for use by a **client** of your module?
 - ➔ Which are only used **within** the module?
- ➔ Decouple each module as far as possible.

```
# - Optional sources
if(GEANT4_IS_MT)
    set(MT_SOURCES src/G4FooMT.cc)
    if(WIN32)
        list(APPEND MT_SOURCES src/G4FooMT_win32.cc)
    endif()
endif()
endif()
```

```
# - Define the Module
geant4_add_module(G4foo
PUBLIC_HEADERS
    include/G4Foo.hh
    include/detail/G4Foo_detail.hh
PRIVATE_HEADERS
    include/private/G4Foo_impl.hh
SOURCES
    src/G4Foo.cc
    src/G4Foo_impl.cc
    ${MT_SOURCES}
LINK_INTERFACE_LIBRARIES
    G4global
    G4intercoms
    MyExt
```

This is a sketch!!!

Final design
informed by
work in "X"

)

Modularisation* of libraries is a top priority for "X". We need a better structure, and we must work together to find a good solution.

*Neither global nor granular, but one single structure. Qt, ITK, Boost toolkits have faced this.

Please contact Software
Management* **A.S.A.P** if
you have requirements
for, or find bugs in, build

*Ideally contact me, but if not, all requests must
come up to me or to a Bugzilla entry **ASAP**