Updates on Intercoms / Interfaces

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List of updates (1)

- Shortcut ways of defining user commands (9.6)
  - G4GenericMessenger
    - G4AnyType / G4AnyMethod as helpers
  - G4UImessenger::
    - CreateDiretory(path, description)
    - T* CreateCommand(name, description)

- new UI command, /control/macroPath (9.6)
  - ":" separated list of macro search path
    - */control/macroPath "A-dir:B-dir:C-dir"*

List of updates (2)

- Code cleanup in terms of const, G4String argument (9.6)
  - ReceiveG4cout/cerr(string) of G4UIsession
    - G4String -> const G4String&

- G4UItcsh, command completion method, reviewed and changed (9.6)
  - TAB-> completion + show full path instead of relative path

- update on G4UIExective (*9.6*)
  - run-time session selection by multi-ways

- continuous evolution on Qt (ref. Laurent's talk)

Run-time session selection in G4UIExecutive

Selection policy

- — key: *qt, xm, win32, wt, gag, tch, csh* *(case insensitive)*
- — If a specified driver are not build, then skip and try next candidate

1. specify by argument as string
2. specify by env. variable (backward compatibility)
   e.g. G4UI_USE_XX (selection order: gui-> cl)
3. specify in $Home/.g4session
   ```
   # .g4session (as comment)
   tcsh (first entry as default)
   app_name (arg[0]:tail)  qt
   …
   ```
4. best guess (qt -> tcsh -> xm)
5. csh as fallback

Remind of G4MPI

- located in examples/extended/parallel/MPI
- work with different MPI libraries
  - openMPI, Inte lMPI, LAM/MPI, MPICH, …
- work on (heterogeneous) cluster nodes
- tricky implementation only G4UI can do
  - independent from G4 kernel
  - implemented in interface layer
  - not MPI-mode, but MPI-session
  - support both CL-mode and batch mode
- broadcasting UI commands from master to slaves
- cowork on G4MT (thanks to A.Dotti)

G4MPI

- some minor updates on 9.6
  - migration to CMake
  - add support of macro search path
  - guess of session-type
  - fixed infinite-loop of slave when macro does not exist.
  - docs as Mark-Up, cowork with doxygen