Status of GENSER

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- GENSER_1_4_0 is about to be released
- Many new versions of generators
- Current integrator M. Kirsanov (until 31 July)

GENSER

- The collection of event generators libraries and several service and utilities packages libraries, with examples
- SCRAM as a main libraries and executables build tool
- Both shared and archive libraries. Versions with NMXHEP=10000
- One of the service and utilities packages – TESTS. It provides level 1 testing of packages, the lowest level of physics testing
- The package TESTS contains jet reconstruction and lepton isolation tools (particles level), HepMC format
- 27 packages, 13 of them are currently tested by TESTS

GENSER releases

- Quarterly release scheme. Possibility of ”light” bugfix relese in between.
- Some packages are installed in external (LCG area). However, some of them are also tested by TESTS.
- One of packages installed in external – HepMC. It is widely used and tested in GENSER. Starting from 1_4_0 HepMC is also inside GENSER because LCG is sometimes late to include new HepMC versions.
- Two libraries depend on the LCG HepMC: ThePEG and PYTHIA8-HepMC interface.

GENSER and new platforms

- Help authors to prepare LCG – compliant code in conditions of appearing new platforms and compiler versions.
- gcc4 - gfortran and G95 is the example. Some work is performed in 2004 – 2005 in collaboration with the authors of PYTHIA and HERWIG.
- Experience with G95 and other packages: talk by Refael Yaari at this session

GENSER configuration

- Migrated to LCG_45. HepMC still at 1.26
- Dummy and pdfdummy substituted by dumm and pdfdumm in all scripts and BuildFile
- Added possibility of platforms slc3_ia32_gcc344, slc4_ia32_gcc345, slc4_amd64_gcc345

New versions of installed generators 1

- PYTHIA 6_327, 6_400, 6_402, 6_403 since 6_325 the subdirectory aux1 is added, the corresponding library can be used to build TPythia6 in ROOT
- PYTHIA8 052, 053, 053s (053s: HepMC interface compiled with 1.27.02)
- LHAPDF 5_1, 5_2_1 with GENSER fix, 5_2_2, several modifications for GRID (increased character variable size for path and file name)
- TESTS 1.02 (further development, HERWIGPP, ISAJET tests added, tests with HepMC event analysis tools)

New versions of installed generators 2

- ISAJET 7_74
- FEYNHIGGS 2_3_2. Makefiles fixed to use correct compilation flags
- PYQUEN 1_1, HYDJET 1_1
- HERWIGPP 2_0beta2 bugfix release
- ALPGEN 2_0_6
- CASCADE 1_2_10

Bug fixes

- Bugs found in PYTHIA interface to FEYNHIGGS. In GENSER fixed starting from 6_401. On PYTHIA site finally fixed starting from 6_403.
- A bug in ISAJET 7_74 fixed that prevented usage of LHAPDF.
- CASCADE 1_2_09 in GENSER_1_3_0 did not work: flag -fno-automatic was missing in BuildFile

New in examples

- A pair of author's examples added to PYTHIA
- Examples of HepMC and LHAPFD usage added to PYTHIA and HERWIG.
- ALPGEN: example of fragmentation with PYTHIA, HepMC and c++ jet reconstruction

Known problems

- EVTGENLHC cannot be compiled by gcc with version 3.4.3 and higher. Looks like a compiler bug. For several months cannot get support for EVTGENLHC. Nor there is a request of help from GENSER team. Not needed?
- In LHAPDF sets >= 70350 are removed. GENSER fix introduced in 5_2_1. HERWIG cannot finish run with 70150
- Platform slc4_amd64_gcc345: HERWIGPP and interfaces HepMC to Fortran generators do not work.
- FEYNHIGGS: second make fails (minor)

Conclusion about GENSER release 1_4_0

- 13 packages are tested in TESTS 1_02: it gains power. Practically before every release one – two bugs in generators and packages found. Still more important with introduction of new platforms
- Release 1_4_0 is in the release area since the beginning of July, but anouncement delayed: ”last moment request” of the old LHAPDF version.
- Next integrator A.Toropin (INR Moscow) from August

Plans

- Request of inclusion from the author of HELAC – PHEGAS. The code is in Fortran 95, not yet supported by LCG. To be discussed with librarian
- Request of change of implementation from the HERWIG++ team: Make managed, granular libraries
- SHERPA inside GENSER? If remains in external, who puts there new versions (last put 1.0.6, 1.0.8 available)?
- Asking the opinion from experiments: Strict bookkeeping may require to add GENSER subversion (CVS tag?) to generators versions.

Plans: CEDAR

- Include Fortran HZTool? Or go directly to Rivet?
- Include Rivet (nothing to download yet)? Jet algorithms?
- RivetGun (nothing to download yet) and HepML generators control? Participation of the GENSER team in in the development (experience with generators control)?
- Examples of using HepML event file format?
- Include RunMC. Get rid of CERNLIB?