

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered on the slide.

Parallel 6A: Open topics in physics lists and validation

Gunter Folger

Overview

- Short session, 60 minutes
- Three presentations
 - **Extensible PhysicsList Factory Status and Update**, *Robert Hatcher*
 - **Geant-val**, *Dmitri Konstantinov*
 - **DoSSiER**, *Hans-Joachim Wenzel*

Extensible PhysicsList Factory Status and Update

g4alt::PhysListFactory Status ...

Complete: does exactly what it says on the box.

Works for all build setups:

- unix vs. windows

- shared libraries vs static libraries

- cmake global vs. gmake granular libs

See my talk in the parallel 6B session on extensibleFactory example.

Outstanding question: Swap current one to “legacy”
this one in without the namespace g4alt?

Short talk ... huh?

So what's the issue...

The design is tangled due extra complications from static libraries and the split of granular libraries for the physics constructors and a touch of to windows specific bits ... much of this was covered previously:

So what's the issue...

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Conclusion

- This should satisfy both static and shared library builds, without a circular dependency, even when using “granular” libraries
- Can things still go wrong?
 - Possibly leave PhysCtorRegistry unfilled if all the following are simultaneously true:
 - Using static libraries
 - Using PhysCtorRegistry (aka ctor factory)
 - Not using PhysListRegistry (aka extensible factory)
 - And not explicitly referencing a standard PhysList
 - Non-standard PhysList doesn't use self-registration

of this

WG Mt

<https://>

WG Mt

<https://>

2nd talk

30 2/4/18 Robert Hatcher | A Tale of Two (or more) Libraries

Huh?

Turns out there are such cases... [deep sigh]

2018-02-27 ... after my commits to resolve all the issues I talked about at the previous WG meeting:

Windows build of CDash tests fail

Investigated and found issues w/ `example-ext-medical-dna-*`

Technically not a *PhyListFactory*, ... but ctor factory issue

Trying to Fix....

- Add few lines to 7 DNA examples,
- That should have, in principle, fixed everything
- But some weird oddity w/ MS Windows and the static variables when using shared libraries -> Could not figure it out.
- In the end, disabled include for all WIN cases

Jonathan suggested he knew what the problem was...

Result not yet known

Geant-val

<https://geant-val.cern.ch/>

Slides contributed by Dmitri Konstantinov

Conclusion

We have developed a web application **geant-val** facilitating validation of Geant4 which have **intuitive user interface, nice graphics**

The app provides:

- **consistent storage of test results**
- **overlaying plots and ratio plots for regression testing**
- **possibility for comparison with experimental data**
- **simple statistical evaluation for regression testing**

The geant-val works and used by CERN Geant4 team.

We are working on new version of **geant-val** which will try to accommodate more generic cases and our current understanding of validation aspects.

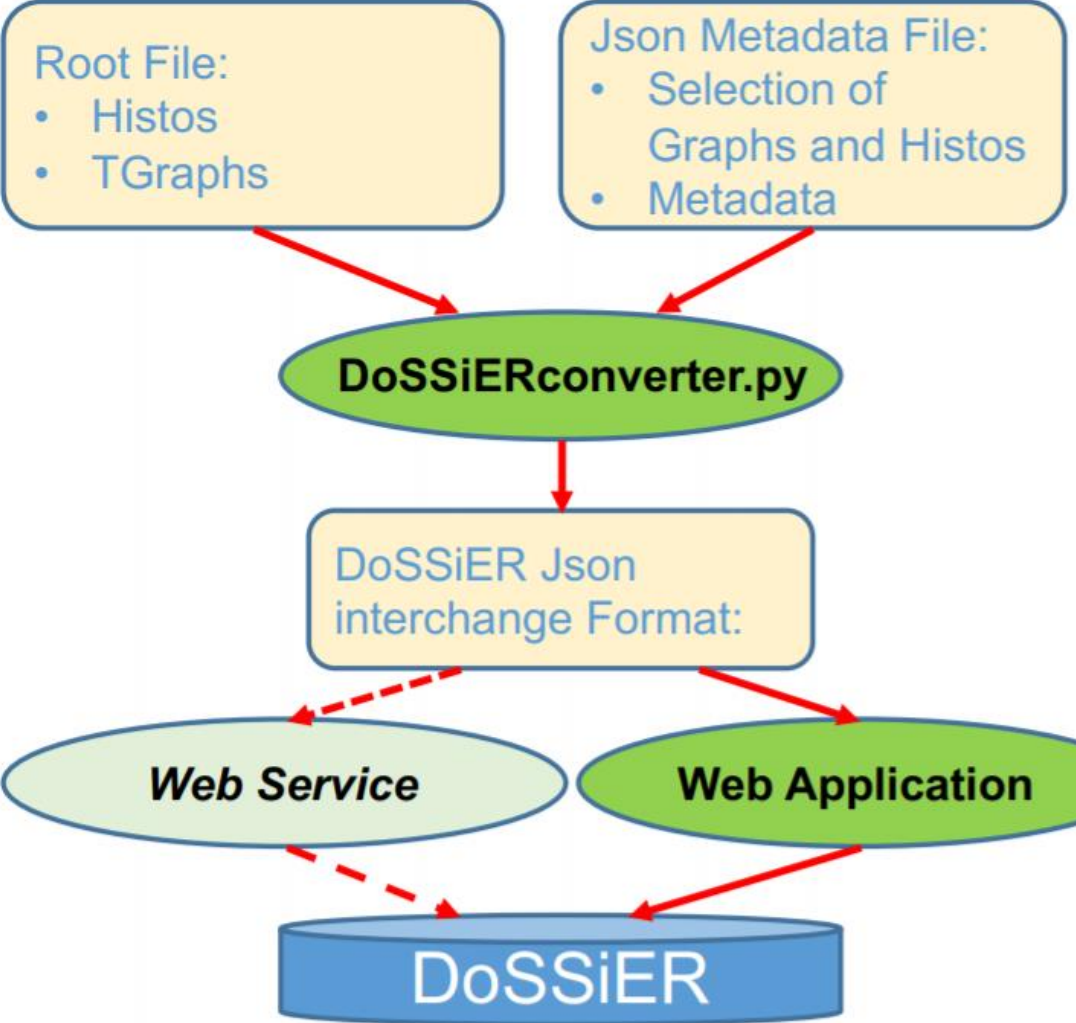
DoSSiER

<http://g4validation.fnal.gov:8080/DoSSiER/Welcome.xhtml>

Hans Wenzel

- Contact me -> create a new test in the db:

```
0:  
  testid: 19  
  mctool:  
    mcid: 2  
    mcname: "Geant4"  
  wgroups:  
    wgid: 2  
    wgroupname: "Geant4 hadronic working group"  
    testname: "test19"  
  description: "High energy Experiment, _pro  
  responsible:  
    0: "Julia Yarba (Fermilab)"  
  keywords:  
    0: "inclusive production"  
    1: "high energy"  
    2: "thin Target"  
  referenceid:  
    0:  
      refid: 43  
      inspireid: 786183  
      authors: [-]  
      title: "Large-angle production o...ton  
      journal: "Phys.Rev."  
      ern: "10.1103/PhysRevC.77.055207"  
      pages: "055207"  
      volume: "C77"  
      year: 2008  
  Abstract: "Measurements of the doub...ear  
  keywords: []  
  linkurl: "https://inspirehep.net/recor
```



Note!
Json Metadata file only needs to be defined once then probably only the Geant4 version changes.