MAUS - Feature #373

Configuration management

10 March 2011 06:14 - Rogers, Chris

Status:	Rejected		**Start date:**	10 March 2011
Priority:	Normal		**Due date:**	
Assignee:	Rogers, Chris		**% Done:**	0%
Category:	common_py		**Estimated time:**	0.00 hour
Target version:	Future MAUS release			
Workflow:				

Description

Need to figure out a way to manage configuration - the issue is that initialisation of configuration is relatively slow, but at present needs to be done once per spill. Suggestions:

- Optimise the configuration start/stop
- Singleton (perhaps lazy initialisation)

Configuration here is a somewhat hazy term, but includes at least geometry and fields, may include "data cards" and geant4 geometry bindings also.

Related issues:

Related to MAUS - Feature #179: docbooks?	**Closed**	**06 November 2010**
Related to MAUS - Feature #521: MAUSRun, MAUSProcess	**Rejected**	**23 June 2011**

History

#1 - 10 March 2011 08:44 - Tunnell, Christopher

How big is the data because that changes how it's done. If we just added the fields and geometry to the datacards then had a function that you could pass the datacards JSON and it returned an interpolated field, for example, would that work? I think if it's not bigger than a few MB then JSON can work (where a few MB is a number coming from CouchDB and MongoDB people when they say after that storing binary data because can become slow... at very least not human readable).

#2 - 10 March 2011 09:37 - Rogers, Chris

The 3d field maps are big, the 2d field maps not so much.

Humm, thinking about it can I take the issue? I'm mucking about with the simulation infrastructure and this somehow sits in there at least until the detector stuff comes on...

#3 - 12 April 2011 10:02 - Tunnell, Christopher

I think my pseudo datacards addresses this, right?

#4 - 12 April 2011 12:00 - Rogers, Chris

Do they build field maps?

#5 - 14 April 2011 09:15 - Rogers, Chris

- Assignee changed from Tunnell, Christopher to Rogers, Chris

- Target version changed from Future MAUS release to MAUS-v0.0.1

Need this for simulation stuff... so will pull forwards.

#6 - 14 April 2011 10:08 - Tunnell, Christopher

How big are the field maps? And do we store them as binary with some helper function in C++ with a swig interface for python?

4 bytes is a float. First question: if we run into space issues, we can ask the question of how many mantissa and exponent bits we need in the floating point representation.

Second question: can we just use a 2D map with a slowly varying error field? My naive studies of magnet measurements and wall stuff (the wall stuff repeated stuff I think you did) suggests this may be the case.

If we have to do 3D, then this:

4 bytes * 3 (15 m / cm) pi (1m / cm)^2

which samples every cm is equal to 1 GB, which means if we are smart we can do it on a single machine. But not parallelize to many cores.

Brainstorming...

#7 - 10 May 2011 18:23 - Tunnell, Christopher

- Target version changed from MAUS-v0.0.1 to Future MAUS release

#8 - 20 July 2012 10:37 - Rogers, Chris

- Status changed from Open to Rejected

[#839](#839)