

GG2 summary preparation assignments
Marc Ross (and Snowmass week 2 GG2 members)
Thursday, September 1, 2005

I think that the groups are supposed to develop short summaries that address their charge and that these are to be submitted to the ILC directors. This was clarified (somewhat) on Friday morning. The purpose of this note is to collect these summary topics and outline who will be responsible for which section.

Goal of the sessions; what we did:

We developed lists of requirements, evaluated these with respect to the state of the art, and began to sum things up. We also flag those items consider risky and outline needed RD.

Controls:

A major conclusion is: There are no showstoppers.

We are concerned that the following are beyond the present state of the art for accelerator controls systems and require RD:

- 1) system availability,
- 2) Machine Protection System,
- 3) timing/LLRF/synchronizing data acq,
- 4) network management,
- 5) post mortem record handling and analysis,
- 6) data archiving – retrieval and analysis,
- 7) relational databases – integrated with the physics input,
- 8) links to modeling and simulation,
- 9) Machine Detector Interface.

Total estimated effort:

We briefly discussed the scope controls effort. If the controls are 4% of the total project cost, there could be roughly 1000 person years of software development required.

Some things were started this week : web, document control. John will write an announcement (I am happy to help distribute it).

Instrumentation:

There also appears to be no major showstoppers here, but many requirements are not clear. The requirements we think we understand, in addition to those we made up ourselves, are listed in a master table.

 There appear to be 2 dates for the delivery of this written material:

1. End of this week for the answers to the questions (1:43)
 There are only 3 that included GG2 (we can comment on others) and I intend to distribute a written version of my short presentation shortly. Steve Smith has already prepared his answer to the question about the linac BPM type and (if this has not been done already) I will be sending that also.

2. End of September for the working / global group writeups.
 We should put together a summary of the things we discussed, with an eye toward the development of the Baseline. The table below lists the writing assignments for our report, roughly divided into sections as discussed last week. These are in no particular order. There will have to be some assembly/editing. I apologize for the cryptic nature of the list; it basically captures (or tries to) our comments from last week's session. One item is not assigned...

Table of (general) topics and associated writers:

ATCA standard and related technology	Ray
integration issues associated with ATCA and how to take advantage of the redundancy in the standard	John C.
table of readout devices and rates	Manfred
table of instruments and associated RD	Marc
Definition of terms used to explain the collection, transfer and processing of data	Someone needed...
table of the data flow with the illustration of the linac BPM	Ferdi
controls structure international	Ferdi
things that have to be defined early – remote support/baseline, network interfaces must be defined interfaces	John C.
Application of standards and the integration of components and systems. Responsibilities and interfaces (example of the LLRF)	John C.
Timing	Frank Lenkszus
Machine Detector Interface	Fermilab
Interface of controls with the MPS	Marc
Modelling interface	SLAC
Relational database	Fermi & John (Dohan?)
Post-mortem handling and analysis	DESY
Data archiving	DESY
Network management	John C.
Diagnostic interlock layer - avoiding hard interlock using analog circuits	Ray