

Minutes of the 2. ILC meeting,
DESY Hamburg, December 17, 2004

Agenda:

- general announcements
- Status report from the GAN/ communications work package: F. Willeke
- Status report from the Reliability/ Availability work Package: K. Floettmann

General Announcements:

The ILC web pages are online under <http://ilc.desy.de>. Comments about content, structure etc are very welcome and should be sent to the address indicated on the WEB page.

The ILCSC has officially declared the Snowmass workshop planned for 14-27 August 2005 as the second ILC machine workshop, in addition to the already planned detector and physics workshop. Web pages etc will be available soon and will be announced. For the machine the same working group structure and the same conveners as already in place for the 1. KEK ILC workshop will be used. In addition the same Programme Committee has been (re-)invited. An additional element this time around compared to KEK is an overall coordinating group of three people (one from each region: US - Tor Raubenheimer, EU - N. Walker - Asia - TBA [but probably Yokoya san]).

The EUROTEV annex 1 has been finished and sent to the EU. It is expected that the negotiations continue swiftly, contracts can be signed mid February and thus hoped that first funds can be released by end February.

Status report from the GAN/communications work package: F. Willeke

F. Willeke reported from the work of the EUROTEV GAN work package and the newly formed communication work package within the ILC@DESY project.

The truly international nature of the ILC makes it necessary to try to support global involvement at all levels from the early stages on. Previous large projects, where international contributions meant that parts were built on the outside, delivered to the host lab, and then installed and

operated by people from the host lab, this will not be possible any more at the ILC. Here institutions not at the host site will provide components, and take on responsibility for the complete life cycle of the components, including operation and maintenance. This makes it necessary to provide tools which allow the efficient remote operation and remote maintenance of components. Several models were presented how such „virtual labs“ might look like. The goal of the work package is to set up a prototype system soon, based on commercial hardware. A questionnaire is being prepared, which will be circulated to laboratories around the world, to develop a better understanding of the needs of the community. In total 9 institutions within EUROTEV are participating in this activity.

The [ILC@DESY](#) communications work package has had a number of meetings during the past few weeks, to discuss tools needed soon within the ILC community. High on the list is a light-weight collaboration tool, which supports data management, provides meeting support, and access to a data base to store parameters etc. An urgent question is how drawings from TTF can be made available to a larger number of collaborators. A number of solutions are being studied, ranging from commercial ones like EDMS to freely available open source solutions. At the moment the main question being studied is whether it is more sensible to start with a very light-weight system, and provide a migration path to a more complex system, or whether it more efficient to begin with a powerful system, hidden behind a simple interface. Discussions with the DESY group IPP are ongoing on this question.

Status report from the Reliability/ Availability work Package: K. Flöttmann

Availability and reliability of the ILC has been studied in some detail in the context of the US cold-warm study. Tom Himel from SLAC has developed a piece of computer code, which models the behaviour of a LC, based on inputs like the mean time between failure for components (MTBF), and produces an overall availability for the linear collider. This study has been used by the US to identify certain critical components for the cold (and the warm) designs.

While the usefulness of this study is undebated there is some discussion about the „running philosophy“, which has entered into the code. A number of issues have been identified where the assumptions made when formulating the study should be looked into once more. One example is the question of the positron source. The TESLA design foresees an undulator based positron source, which is driven by the electron linac.

One conclusion of the cold-warm US study was that this design is much less reliable than a conventional one, and in particular introduces long downtimes, should the electron linac break (and therefore the positron source be shut down as well).

Proponents of the undulator source argue that this line of argument is too pessimistic. It is foreseen to install a low intensity auxiliary electron source for the positron linac, which can be used in place of the undulator source, should the drive-linac be non-operational. This auxiliary source can be used to keep the positron linac in operation until the electron linac is up and running again, and it can also be used to commission the positron linac independently of the electron linac. The influence of this on the overall availability of the machine needs to be studied in more detail.

A number of other examples were discussed, where the results of the study depend heavily on the assumptions made. It is planned to study these questions in more detail over the next months, and thus to extend the scope of the Himel study.

Currently work is ongoing to understand the code and to study alternatives to the Himel - code - possibly commercially available reliability codes. To check the code running accelerators are being modelled and their availability is being calculated. At the moment the data needed to do this type of study for the HERA collider are being gathered. It is planned to make the same study for the TTFII linac, once it has entered into user-mode later this year.

The next ILC@DESY meeting will take place on January 7, 2005, 10am