

**LHC EXPERIMENT-ACCELERATOR DATA EXCHANGE WORKING GROUP
(LEADE)**

Minutes of the 32nd Meeting held on September 04, 2006

1. MATTERS ARISING

Injection inhibit - implemented in the SPS as a software input, this system will serve as an example for the software injection inhibit for the LHC.

This signal will then go into the BIC. Inhibit is "STOP INJECTION", also in the event of a missing signal for greater than a pre-defined period (e.g. 1 s) The idea is to provide "sufficient safety".

2. IMPLEMENTATION OF DATA EXCHANGE SYSTEMS (D. SWOBODA)

This talk covers the status of the implementation of the data exchange systems. DIP not covered in this talk - see talk later.

Have met with experiments/suppliers to determine what is needed, and to get agreement upon implementation and timescale.

A summary report is being prepared (draft exists), which details how the data exchange will be implemented.

There are issues to do with the coordination of the cabling and of the hardware to be resolved.

This report, "LHC Machine and Experiment Data Exchange Systems Implementation", will be presented to LEADE at a future date for comments and approval. A draft schedule is also being prepared.

All experiments will have the GMT. Practically this will be available to them as TTC signals on Front Panels.

The difference here for ATLAS is that they do timing in UTC rather than by orbit/time. Note, if need of GMT full quality - which is reliable to 5ns, use GMT rather than BST.

In terms of timescale, at the moment, the cabling is foreseen September - October 2006, the installation of the hardware between now and March 2007, and commissioning finished before August 2007.

3. DEVELOPMENT AND USE OF DIP DATA EXCHANGE (K. KOSTRO)

Purpose of DIP is to allow data exchange between differing domains (accelerators, machine, TS etc). Specification and implementation, as defined by LDIWG, completed 1999-2004. DIP supported by IT/CO. It is fully written up in EDMS document 457113. Other useful links to documentation on DIP are provided in the slides.

DIP is a publish/subscribe service. Each data item is named, and is self describing. Updates are on-change. The DIP namespace and published items can be browsed with a Java tool. It can be used directly from Java/C++ API, or as a CMW property of DIP device in accelerator control environment.

The data exchange between machine and experiments is via the existing CMW/DIP gateway. Available on-change at the moment. Each data item to be transmitted needs to be added. The minimum set of data to be exchanged is given in EDMS document 701510.

Suggestion on how to proceed - a Wiki page with item descriptions for all data items to be produced. This will contain the DIP name, a short description, a contact person, and when they are expected to be available.

Some data will be published at a faster rate than specified in 701510.

Should a gateway filter the extra data? No, as long as the rate/bandwidth is reasonable, data rates above those specified in 701510 should be permitted.

Note, if publication is on change then the data transfer rate will be slower than the specifications here.

Will the machine modes be published on DIP? Comes by GMT, but it should be published via DIP too.

4. STATUS OF GENERAL MACHINE TIMING – GMT (J. LEWIS, J. SERRANO)

There will be 1 rack per point. Aiming for a document for approval by the next meeting.

Provisional dates for the remaining meetings in 2006 (16:00 hrs):

October 09, room: 40-5-A01

November 27, room: 40-R-A10.

R. Hall-Wilton