ALICE-LHC Interface upgrading forum June the 28th 2019

Participants

In person:

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In Vidyo Connection:

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G. Valentino
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A. Dainese
R. Lietava
T. Gunji
T. Chowdhury
I. Kralik
A. Agustinus

Welcome and LHC_IF in Run2: af,gv and gdc

....
Taku requests to maintain in dedicated files the b-by-by beam info;

Luminosity and lumi region : Tatiana

FIT as new luminometer, not any longer T0 or V0. In the past the stability check was done by the ratio T0/V0;
FIT replace T0, V0 and FMD. V0 only on C side;
MB suggests new combination of detectors;
new electronics important for FIT;
CTP should provide logical combinations of triggers as luminometers;
T0 and T0(A and C) as best luminometer via CTP;
LM: combine LM and L0 at level of CTP would be good;

FIT will be ready to deliver the following triggers at LM level, as luminometer:
Online Vertex determination (like OTVX)
charge-amplitude in ranges (FV0 and/or FT0)
charge amplitude from individual FV0 rings (new, to be discussed in detail).
Only 5 triggers at the same time per detector. (?)

• FDD triggers to be discussed later.

Questions/Comments
Antonello: it seems the new T0 is not able to deliver info on beam-gas,
Tatiana: unfortunately yes, so far no info on beam background; to follow up;

LHC_IF-CTP: Roman

CTP connect LHC via LHC_IF, same setup and same services as in Run2;
Filling scheme as during Run2,
IR on GBT link available on FLP for b-by-b lumi calculation;
Class counters: any request for publication of classes over DIM?
Questions/Comments
P. Chochula: OCDB? not any longer available;
Roman: Offline contacts, afs will be kept up to the end of Run3.

LPC-LHC_IF data exchange: Brian Petersen and Filip Mortgat

b-by-b and lumi region text files (a.k.a. Massi files): New location since beginning of month (June 2019):
eos/project/l/lpc/public/MassiFiles/<year>/measurements/<experiment>/<lumi|lumiregion|beamgas>

LHC to ALICE: Lumi levelling, handshake and publication protocol: Sliwinski and Michi Hostettler

ALICE Lumi region, even after offline calculation, is of interest for LHC;
Eos (?) would be OK as new repository;
Sliwinski
For the middleware team, description of the CMW-DIP middleware infrastructure.
Questions/Comments
A. Franco: what about the Problems with DIP when the dp structure is changed?
Sliwinski: Clara Gaspar, implemented DIM wrapper in DIP (?) that doesn’t require the restarting of the DIP manager! to be checked! BE-ICS promised to notify any changes (Fernando from ICS (?)
P Chochula: suggests to give a 5 year contract to follow this issue, the contract for the DIP monitoring is progressing but not yet clear at which stage it is;

Michi Hostettler
LHC over DIP, handshake quite happy from the LHC side;
Lumi levelling: is OK.
REM: beam separation from step sigma to mm sent back to experiments over DIP;
other levelling technique used: beta star not very flexible.
Minor changes for VdM for Run 3: separated publication over DIP for different IP,
CMS ask for specific message over DIP, by adding the ‘MESSAGE’ command into the VdM scripts.
Questions/Comments
Ombretta: the handshake is operator or automatic based?
Michi: semi-automatic, manually checked; TTC service: who is looking after the publication over the relevant Vistar page?
Wojitek: CCC first;
Antonio: proposes a Boolean start/stop flag for VdM in each IP’s; Michi: message field can be used; Antonio: OK but still the Boolean?
G Valentino: What about the beam separation?
Michi: only the values automatically calculated are published over DIP. If the operator adds a manual contribution, this is not published over DIP. So, no guarantee about the correspondence between the real beam steering and what LHC publishes over DIP;

VdM scan: Kralik-Gagliardi

In Run 1-2 IRMON software provided b-by-b lumi via DDL1/2, only DDL2 in Run2;

Question for CTP:

- DDL1/2 will still exist in Run3? Roman: The format of IR yes, DDL1/2 will disappear,
- CTPinputs.cnf?

Ivan, Questions for LHC Interface:

will DIM/DIP be used in RUN3?

- where and how the MASSI files will be stored in RUN3?

Answers: DIM and DIP remain, the MASSI files should remain, different transfer mechanism, not yet clear where the repository will be, maybe will continue with afs;

Beam instrumentation and beam background monitoring: Antonello

- To set BCM thresholds Antonello will check the tolerated max current in gaseous detectors,
- check commercial devices to replace, if needed, the diamond sensors in the BCM;
- phase shift reset in FLATTOP since SQUEEZE will disappear;
- Establish procedures for alignment of new CTP and FIT;

Plans: In RUN3 entirely new system FIT (including upgraded T0, V0A and AD)
In principle similar capability/measurements available (to be worked out...)
New BKGD1 and BKGD2 publications to be discussed (and BKGD4, 5, ...)
Verify usage and integration in the beam instrumentation of the RADMONS system as well;
No changes in HW or SW, under study with LHCb possible alternative to CCPC not supported anymore (however enough spares available);
Ombretta: network infrastructure needed for the Beam instrumentation boards that upload the system files from the network!
O2 bookkeeping: Vasco

What received from LHC_IF in Run2 keep doing in Run 3;
same lhc parameter to be stored;
same mechanism of publication and e-log pickup;

lumi data and bkg trends: much easier to put data in the e-log. Run Coordinator should tell us what is needed: uploading from external systems will be much easier than in Run2;

Ombretta: publication with or without CERN authentication? Vasco: agreed with token to make simpler the login (?);

GRP for Online/Offline data processing: Ruben

Same structure as in Run2, to be stored in CCDB, possibly no delay between the publication over DIP of LHC parameters and the availability for the online reconstruction;

Available via DCS?

ALL_Lumi_Total_Inst in Run2 provided by CTP averaged over 1 min. New format to be discussed with CTP.

Questions/Comments

Roberto: DIP LHC data, provided synchronously or asynchronously to the PDP? Roberto suspect synchronous.

DCS for LHC_IF: Peter Chochula

HandShake simplification and automation in Run2; permits: so far so good. SL should be in charge for their control;

Info to the Online reconstruction via ADAPOS, old ARCHIVE in WinCC oa moves toward the New Generation Archive (NGA);

TODO and open questions:

- simplifications of the Handshake procedure
- Clarification on internal ALICE procedure (permits control, BCM, Post Mortem),
- details on new requirements:
  - what goes to O2?
  - Bunch by bunch creates anomalies, but no one is using it
- any hardware changes? (Tell1?)
- What happens to (Massi) teleport?

Changing into the ADAPOS Next Gen Archiver (NGA) technology in Wincc, is under final evaluation.
LHC_IF in the ARC : Taku

issues :
- levelling in Pb-Pb;
- only ALICE is not providing LHC the offline calculated lumi region;
- missing alarms on clock phase shifting or inst lumi beyond the target lumi;

Suggestions for improvements during Run3:
- alarm can remain for the DCS shifter but the SL notified and reacting trough O2
- for the RC : possibility to switch the Luminometer;
- for the SL: warning/alarms for
  o clock phase shift,
  o inst lumi above target,
  o beam background above thresholds,
- by only one click send the relevant info to the e-log.