



17th October 2002
TDAQ at Atlas Week
CERN 7-10 October 2002



For details, see info on the web:

TDAQ: <http://documents.cern.ch/AGE/current/fullAgenda.php?ida=a021483>

Electronics: <http://documents.cern.ch/AGE/current/fullAgenda.php?ida=a021407>

Crates: http://oraweb01.cern.ch/subracks/owa/subracks_public.services_frames

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Monday Afternoon – Data Collection

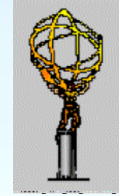


- **Data Collection:**

- Includes ROS; ROD-Crate DAQ (Dataflow part); RoiBuilder;
- ROS priorities take account of review, e.g. programme of switch- and bus-based measurements for TDR.
- ROD-Crate DAQ being coordinated (initially) by Ralf Spiwoks (previously chaired specification team)
- Bob Blair identified as RoiBuilder coordinator, under overall Dataflow umbrella.



Tuesday Morning - RoIB



- **Data Collection RoIB Presentation :**
 - Revised scheme addressing comments of reviewers
 - *Two 9U input boards with six full-spec S-Link inputs from RODs.*
 - *Up to four RoIBuilder modules each feeding (up to) 4 Level-2 Supervisors.*
 - *Events are duplicated by input boards to ALL RoIBuilder boards over Gigabit Ethernet or LVDS.*
 - *RoIBuilder boards exchange a token over VMEbus lines to agree which one of them will process each event. Other RoIBuilders ignore the event.*
 - Much more attention to flow control, error handling, performance monitoring, timeouts. >>>



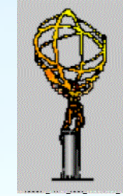
Tuesday Afternoon – TDAQ Plenary



- **General Points (Chris Bee):**
 - New TDAQ Structure: new web, agenda system reorganised.
 - Deferrals – TDAQ now asked for –13 (and –3.9 and – 4) MSFr with corresponding reduction in trigger rates. >>>
 - New TTCC Technical Coordination TDAQ & Computing
 - *Highlights lack of database strategy/coordination*
 - TDAQ Week Dec 2-6 is also CMS week
- **TDR Preparation (Livio Mapelli)**
 - Marc Docbson to be Technical Editor.
 - Timetable: Draft 1 (end Jan 2003); Design review Feb/March; Final version end April 2003; Submission end June 2003



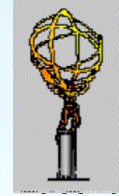
Wednesday Morning - DIG



- **Rod Workshop (Robert McLaren):**
 - Annecy 14/15 November. Bruce, Murrough, Norman will Probably go.
- **Global Issues – Run Number (Beniamino Di Girolomo)**
 - Run Number added to ROD S-Link header, set by DAQ at run start.
- **System Tests (Mihai Caprini)**
 - Tilecal, Muon MDT & Pixels in separate runs, then in a combined run with a common trigger. Several detectors now using Atlas DAQ software
 - Various utilities developed by detectors will be gathered into common software releases gradually including all parts of DAQ software.
 - Still planning for ‘Atlas Barrel 2004 ’ run.
- **LAR Calibration (Pascal Perrodo) >>>**
 - Calibrates stand-alone, running independently in parallel 2 EM barrel, 2 EM Endcap, 1 HEC and 1 FCAL partition
 - Pulser rate 10kHz, 300K Triggers. Takes 10 minutes including changing settings.



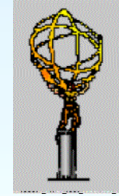
Wednesday Afternoon - Electronics



- **Crates & Racks (C Parkman) – I went to see them. >>>**
 - Heat Deflectors (define crate positions) will be Riveted into racks.
 - Failure rates: At Cern, 18 of 160 running Fastbus crates failed. So plan for 5-10% spares.
 - *No common pool of spares (Farthouat); Encouragement towards common standard.*
 - **ONE ORDER PER YEAR**, in early November for delivery following year. Committed when ordered, spent when delivered.
- **Local Trigger Processor (Farthouat) >>>**
 - Allows combined L1Calo & Calo runs!!



Wednesday Evening - TDIB



- **ATLAS Completion Plan (Jenni)**
- **Report from TDAQ Resources Committee (Nisati, Wickens)**
 - Fear that some institutes may use TDAQ resources to cover their own internal money shortages.
- **Proposals on what to defer (Mapelli)**
 - Multiplex S-Links; More Robins/ROS; Multiplex ROS outputs.
- **New member of TDAQ Speaker's Committee (Nisati)**
 - 7 candidates; email election
- **Next IB Chairperson Feb 2003 - Feb 2005 (Nisati)**
 - Search Committee appointed
- **Report from the TDSG (Ellis)**
- **2003 TDAQ Week outside CERN (Nisati)**
 - Possibly Lisbon, October 2003?



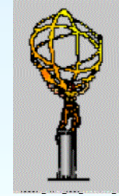
LVL1+ Lar + Tile Calibration Discussion



- **Joint LAr + Tilecal + Murrough, Norman, Thomas**
 - Discussion based on draft joint calibration document circulated previous week.
 - Understood that l1Calo needs an L1A to read out slices from PPr, so we need a combined run with a common trigger & Prepulse.
 - Agreed to do this via CTP, (but use of LTP more likely).
 - Agreed that Level-1 will produce the master signals to fire calibration systems (pre-pulse) and start readout (L1A).
 - LAr, Tile and L1Calo all have option to disable ROD S-Link output if not using ROS.
 - *but we can also use ROS/Event Builder if wanted.*
 - Now need common definition of run setup, no of steps, etc.



Calibration digression.



- **I wrote a short C program to measure time to process PPRod data, & ran it on a 1GHz cpu (no addressing/error handling) :**
 - Unpacking & histogramming PPr data: $57\mu\text{s}/\text{event} = 17\text{ kHz}$.
 - Finding the pulse centre timing: $140\mu\text{s}/\text{event} = 7\text{ kHz}$.
- **Using built events (16 PPRods), max rates 1kHz, 450Hz.**
 - Of course, can used several CPUs in event filter. But...
- **ROS (even non-deferred) can probably pass no more than about 1kHz of events to event builder anyway.**
 - Events are big since all calorimeter channels fire.
 - Cf. Calo needs 10 minutes with 10 kHz pulser.
- **Probably need to put a cpu daughter onto PPR RODs and sum all events per point there (similar to LAr technique).**



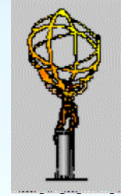
Ad Hoc Discussions...



- **1. Yuri Ermoline – when can the CTPD patch-panel be tested.**
 - No fixed requirement from his side. It needs a DSS + LVDS I/O.
 - We need it before we can use CTPD in slice tests (else no L1As!)
- **2. Bob Blair, John Dawson – when can the RoIBuilder be tested?**
 - Effort to manufacture is allocated by them ending Oct 2004.
 - Possible gap end 2002 if PPr or JEM not ready for slice??
- **3. David Francis - ROS**
 - Talked through proposed calibration scheme – in particular, ROS can be set to required or ignore input from our RODS and/or calorimeter RODs.



End



The End