Minutes of LHC-CP Link Meeting 18

Subject : LHC Controls Project

Date : 23 October, 2001

Place : 936 conference room

Participating Groups :

EST-ISS	no representative,
LHC-ACR	apologies,
LHC-ECR	no representative,
LHC-IAS	J. Brahy,
LHC-ICP	F. Rodriguez-Mateos,
LHC-MMS	no representative,
LHC-MTA	apologies,
LHC-VAC	R. Gavaggio,
PS-CO	F. di Miao,
SL-AP	no representative,
SL-BI	J.J. Gras,
SL-BT	E. Carlier,
SL-CO	A. Bland,
SL-HRF	Ed Ciapala,
SL-MR	R. Billen,
SL-MS	no representative,
SL-OP	M. Lamont (Chair),
SL-PO	Q. King,
ST-MO	P. Sollander.

Others : G. Beetham (SL-CO
A.Butterworth (SL-HRF)
A. Daneels
B. Puccio (Machine Protection),
R. Schmidt (Machine Protection),
M. Tyrrell (Alarm Project),
M. Vanden Eynden (Core Team).

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Agenda :

1. Matters arising from Previous Meeting
2. Timing functional specification G. Beetham
3. QRL planning A. Daneels
6. AOB

1. Matters arising from Previous Meeting

Discussion postponed in light of absence of both R. Lauckner and P. Gayet.

2. Slow Timing Functional Specification G.Beetham

Gary presented the first version of the Slow Timing Functional Specification for comments. The document had been distributed to the members before the meeting. A long discussion ensued; the points raised will be incorporated into the document where appropriate. Without going into too much detail:

- More detailed speciation of two separate timing modules to replace TG8 required. (To match users' needs rather than one generic solution. A sort of TG-lite to be provided. (QK))
- VME or compact PCI – decision to be made but not important at this stage
- Delays of 100 ms quoted – will be more like 200 – 300 ms (QK)
- Modifications to table 1 proposed (B.P, ???)
- 64 bit UTC via 3 or 4 four bytes frames, TG8 will reassemble (BP).
- Event history, TG8 to supply functionality (1 microsecond per call). Mechanism to be clarified.
- What if there's no VME, PCI or PLC without Profibus. (BP) Jacky's looking at it: NTP time via Ethernet with 1 ms accuracy, via IRIG-J. Siemens open to look for another standard (i.e. IRIG-B to Ethernet to PLC). 1 ms is good enough here. (RS)
- Alastair made a comment about pulses per seconds and NTP decollage, and rotating PLCs.
- Discussion about distributed data such as energy etc. via soft events. It's clear that the issue needs to be address in more detail elsewhere. Included in discussion: number of bunches, total current, mean current per bunch, intensity category, mode, beam loss and issues such as rates and reliability and failsafe mechanisms. (BI is planning to send from BCT to BST to the MTG.) Again the wisdom of piggy backing this on the timing system was questioned. The possibility of provided real-time functions to provide this data was also suggested.
- Backwards compatibility with TG8
- Long discussion prompted by Quentin on error detection and a possible weakness in the event of an event not getting through properly. A parity bit is present but not felt to be enough as it stands. Monitoring and the possibility of sending all events twice were suggested. To be followed up.

Members were encouraged to have a thorough look through the paper and make sure that their particular requirements are being met.

3. QRL planning A. Daneels

Axel Daneels presented the status of the QRL planning. Slides from his presentation and an up-to-date version of the QRL milestones are enclosed.

Axel stressed the need for a series of meetings to monitor progress. Rudiger suggested combining this with a forum for discussing technical problems, and raised the question of who was coordinating controls for the QRL. Action: R. Lauckner

4. AOB

There was no further business.

Long Term Actions	People
Attach leaves to EDMS tree	All, M. Vanden Eynden
Establish Post Mortem sub-project	R. Lauckner
Clarify Middleware Services to be used by LHC-CP	Core Team

Reported by M. Lamont

QRL Commissioning

Control System Planning:

Towards TRACKING Progress

Axel Daneels

Content

- Current Status of Controls Planning
- New Structure
- Milestones
- Tracking Progress

Current Status of Controls Planning

- QRL_Commissioning: ready for base lining
- Sector_Test: well underway
- Planning has been restructured and is available as MS-Project document on:
  - Server: *\\Srv2_home\div_s\D\LHC-Control-Planning*
  - Folder: *QRL & Sector broken into subprojects*
  - Guidelines as word doc. *"A Restructured Planning"*
- Warning: it is a work document i.e. will evolve …

New Structure (1)

- "Overall Planning"

concerned with "overall" projects integrates (QRL, Sector-Test, later LHC):

  - QRL Controls Overall Planning
  - Sector Controls Overall Planning

- "Specific Planning"

deals with project specific installation and test activities requiring controls

  - QRL_specific: installation, pre-commissioning, commissioning, reception, acceptance
  - Sector_specific

New Structure (2)

- "Shared Planning": (Link-Person)

planning of control tasks used in common by QRL, Sector, …

1. Alarms: (M. Tyrrell)
2. Communications_Infra: (P. Anderssen)
3. Control Rooms (CCR, PCR, TCR): ?, P.Charrue, P. Ninin, P. Gayet
4. Database_Calib: (R. Billen)
5. Front-end_Platforms: (P. Ribeiro)
6. General Services (WorldFIP, etc): (J-Cl. Guillaume)
7. Logging: (R. Billen)
8. Middleware: (K. Kostro)
9. PCR Applications SW for Operation: (M. Vanden Eynden, M. Lamont, T. Wijnands)
10. Post-Mortem: (J. Wenninger)
11. Sector_MCC: (Q. King)
12. Timing: (G. Beetham)

Milestones

Cf. Excel tables

Tracking progress

- **Baseline Planning**
- **Track Progress**
  - regular meetings with link-persons
    - **report on progress**
    - identify possible problems (… the link-persons ring a “bell”)
    - analyse possible impact on other tasks
    - discuss corrective actions: parameters = resources, priority, scope, …
  - frequency of meetings:
    - e.g. every month in 2001 and in the first half of 2002
    - next at a higher frequency depending on how critical the tasks become, or in case a problem arises

QRL Milestones (Chronological)

	QRL Sub-Project	Tasks	QRL Milestone	Date	Who
	2001				
1	**Alarms**	Alarm UR	Alarm UR Document available	20.juil.01	Tyrrell
2	**Logging**		Logging Project Kick-off	17.sept.01	Billen
3	**QRL_specific**		QRL's Requirements for WorldFIP: Specification	28.sept.01	Riddone
4	**General Services (WorldFIP, etc)**		***MCC's Requirements for WorldFIP: Specification***	28.sept.01	King
5	**Front-end_Platforms**		Front-end platform: Choice	28.sept.01	Ribeiro
6	**Database_Calib**		Database: Choice of Product	28.sept.01	Billen
7	**Timing**		***MCC Timing Requirements Defined***	28.sept.01	King
8	**Front-end_Platforms**		Front-end Platforms: FG Gateways server LYNXOS3.1 Developt. System installed	1.oct.01	Ribeiro
9	**Alarms**	Technology Investigation	Decide on Alarms' Technology	11.oct.01	Tyrrell
10	**Logging**	Logging Analysis	Logging UR: preliminary report	21.déc.01	Billen
11	**Alarms**		***Middleware: Operational Subset available for 1st Prototype***	21.déc.01	Kostro
	2002				
12	**Logging**		Logging: Functional Specifications (version 01)	28.févr.02	Billen
13	**Logging**		Logging: Functional Specifications (integrated report)	28.mars.02	Billen
14	**Alarms**	Alarm System: Define Functional + Architect. Specs	Alarm System: Functional Specs available	29.mars.02	Tyrrell
15	**Alarms**	Alarm System Implementation	Architectural Specs Doc available	28.juin.02	Tyrrell
16	**Alarms**		Alarm Control Interfaces ('Public API', get, set) defined	28.juin.02	Tyrrell
17	**Logging**	Logging Architectural Design	Logging Architectural Design Document	28.juin.02	Billen
18	**QRL_CRYO**		CRYO Control System Ready	30.août.02	Gayet
19	**Logging**	Logging Implementation	Logging: Interfaces Published	27.sept.02	Billen
20	**Database_Calib**		Database available for QRL	25.oct.02	Billen
21	**Communications_Infra**		900 MHz leaky Feeder	20.déc.02	Anderssen
22	**Communications_Infra**		Optical Fibres installed	20.déc.02	Anderssen
23	**Logging**		Logging: full Functionalities available	20.déc.02	Billen
24	**Logging**		Logging available for QRL Vac	20.déc.02	Billen

QRL Milestones (Chronological)

2003

25	**Front-end_Platforms**		Front-end Platforms: Command server LYNXOS3.1 Developt. System installed	6.janv.03	Ribeiro
26	**Control Rooms**	CCR	CCR	6.janv.03	
27	**Control Rooms**	PCR for QRL Commissioning	PCR ready for QRL	6.janv.03	Charrue
28	**General Services (WorldFIP, etc)**		WorldFIP Network (2.5 Mbps) installed for QRL & Sector	6.janv.03	Guillaume
29	**Control Rooms**	CRYO Control room	CRYO Control room ready for QRL	10.janv.03	Gayet
30	**Front-end_Platforms**		WorldFIP (H/W & S/W) operational for QRL and Sector	15.janv.03	Ribeiro
31	**Alarms**		Alarm System: Operational Prototype available	17.janv.03	Tyrrell
32	**Control Rooms**	TCR for QRL Commissioning	TCR Ready for QRL Commissioning	8.avr.03	Ninin
33	**QRL_VAC**		QRL Vac fully installed	25.avr.03	
34	**QRL_specific**		QRL installed (Mechanical Elements, Alcoves et tutti quanti)	9.mai.03	
35	**QRL_VAC**		QRL Vacuum Control Ready	9.mai.03	Gavaggio
36	**Front-end_Platforms**		Front-end Platforms installed for Controls Tests	7.juil.03	Ribeiro
37	**Front-end_Platforms**		Controls LAN (FEC - PCR) operational	7.juil.03	Ribeiro
38	**Database_Calib**		Database available for Sector Test	8.juil.03	Billen
39	**QRL_specific**		QRL Acceptance	22.août.03	Riddone
40	**Logging**		Logging Acceptance	22.août.03	Billen
41	**Logging**		Logging: available for Sector Test	22.août.03	Billen
42	**Alarms**		Alarm System: new system installed for Sector Test	22.déc.03	Tyrrell

2004

43	**Control Rooms**	PCR for Sector Test	PCR ready for Sector Test	31.mars.04	Charrue
44	**Control Rooms**	TCR for Sector Test	TCR ready for Sector Test	31.mars.04	Ninin