

Outline

- Reminder - What is the controls system infrastructure
- Hardware (Workstations, FrontEnds, FieldBus, ...)
- Software (Operating System, ...)
- Services (Alarms, Timing, ...)
- Conclusion

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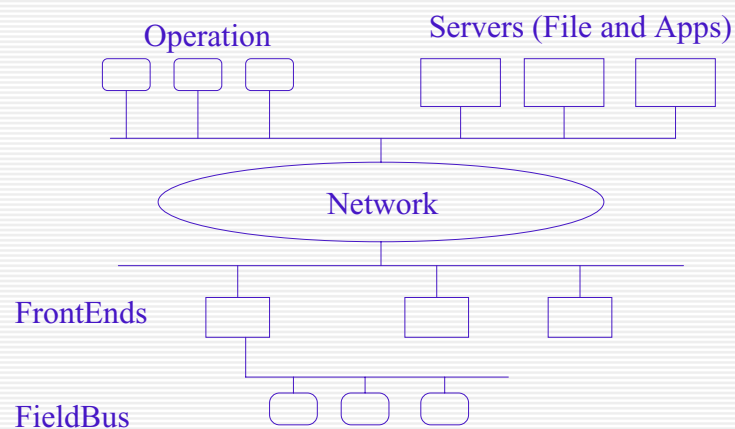
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Controls Infrastructure - General

Pierre Charrue
21 March 2002

Controls Infrastructure



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Hardware - Workstation

- We have HP file and application servers for 'old' system (but still very much used)
- We introduced W2K consoles to run new software (mainly JAVA applications) as well as 'old' software.
- Architectural split between GUIs and the business layer. The GUI runs in the W2K consoles while the business runs in dedicated UNIX servers.
- HELIX project to decide and install the future infrastructure (not yet decided).

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Hardware - FrontEnd

- VME, PowerPC and LynxOS will always be present and supported.
- Studies on how to integrate PLCs and CompactPCI for specific needs.
- Additional services offered :
 - Remote reboot
 - Remote console
 - Installation, Monitoring and Diagnostics

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Hardware - FieldBus and PLCs

- 1553 is still much used.
- WorldFIP is coming 'en force'
- For both we intend to offer the same support, in collaboration with LHC-IAS :
 - Expertise
 - Installation
 - Surveillance and Diagnostics
- PLCs are also coming 'en force'
 - But for the moment, no expertise in SL/CO
 - Collaboration with LHC-IAS
 - I hope to see more formal support after the restructuration...

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Network

- IT/CS is responsible for the network infrastructure (choice, installation, monitoring, repair, ...)
- SL/CO defines the requirements in terms of bandwidth, availability, specific demands (RT), etc.
- Part of the SL-IT Service Level Agreement

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Software - OS

- HP-UX 10.20 for file and applications servers - LynxOS for FrontEnds.
- W2K for the consoles - But very little OS support here as they are only used as terminal.
- Linux not yet officially supported. May arrive via cPCI or restructuration.

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Software - Applications

- See Veronique's talk.
- Support for JAVA development :
 - W2K development tools (Rose, JBuilder)
 - RAZOR support
 - WebStart for deployment
- GUI and business layer are (will) not running in the same machine.

Services - Alarms

- LHC-CP initiative for the LHC Alarm Package launched early 2001
- PVSS and in-house development were studied
- Decision has been taken to build the LHC-Alarm system using in-house development
- Old and New system will be put in place in parallel. First prototype for the QRL tests

Timing and Middleware

- Timing : Cf Gary and Alastair presentations later.
- Middleware : Cf Vito's presentation later.
- Message : "Move towards ONE unique solution for PS, SPS, LHC"

Conclusion

- Controls architecture will remain the same (GUI, Servers, network, FE, fieldbus) but is evolving over the years.
- W2K, linux, cPCI, PLCs, WFIP are knocking at the door and ad-hoc support is being defined
- Restructuration of controls will create some initial perturbation but it will evolve to a better supported controls infrastructure in the future.