Technical specifications
cryogenics, interlocks, magnet protection, powering, vacuum

cryogenics, interlocks, powering

for supervision applications

for process definition

Instrumentation

from sensor to synoptic in supervision application
resource intesive
presence in the field required

around 1000 i/o channels

commissioning

coherent naming across components and systems

Instrumentation Working Group
common language

database as interface between owners, users, cablers, data acquisition system

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Front-end processing

we tried both !

were needed for all systems

industrial plcs

home-made special hardware

Ethernet between front-ends and supervision

local consoles for commissioning

Industrial fieldbuses & control networks

we tried both !

more resources !

Profibus

Worldfip and home-made gateways

Supervision

collaboration with BARC

n = 3

Specification effort

Iteration

Remote development

On-site refinement

On-site commissioning

Loss of local competence

were essential

Logging & Data Acquisition

data acquisition systems for post-mortem, embedded in the LHC systems, must comply

Web based configuration and data extraction tools

Database assisted configuration tool for the data acquisition

Interface definition both for configuration and for data transfer

Conclusion

String 2 is a valuable test-bed
digital controls for power converters,
industrial PLCs for vacuum,
home-made systems for magnet
protection.
next comes cryogenics with Unicos

String 2 is a valuable test-bed
to get a feeling, define and refine
methods & procedures for the
commissioning of the individual systems
and the system as a whole

String 2 has highlighted the fact that
presence in the field is required

was it really positive ? can we
extrapolate to LHC ?

strong indication that CP has to meddle
in the definition of the systems, in
particular to the interface defintions

Prototyping

Commissioning

Local supervision

Outsourcing supervision
applications

Post-mortem system