

JCOP Proposal for the use of SCADA for Control Supervision



Clara Gaspar, November 1999

COP - Joint COntrols Proje

Primary Goals

- Understand the needs of the experiments
- Evaluate, select and support interim solution(s)
- Technology Survey for SCADA systems
- Select tools with which to build control systems
- Produce guidelines for hardware interface and communication protocols

Some Common Projects

Architecture Working Group

SCADA Evaluation (completing)

GAS Working Group

Hardware and Middleware:

- FieldBuses, PLCs
- OPC Evaluation (completed)

SCADA Engineering (starting)



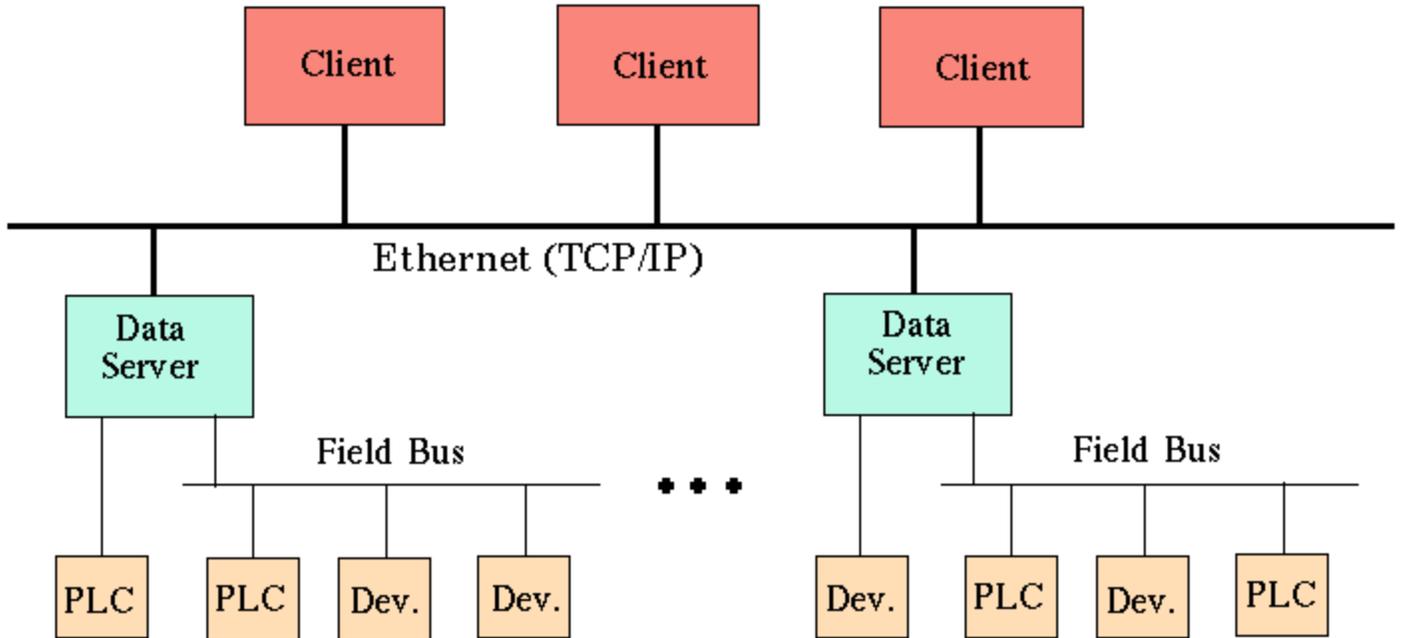
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SCADA - Supervisory Control and Data Acquisition

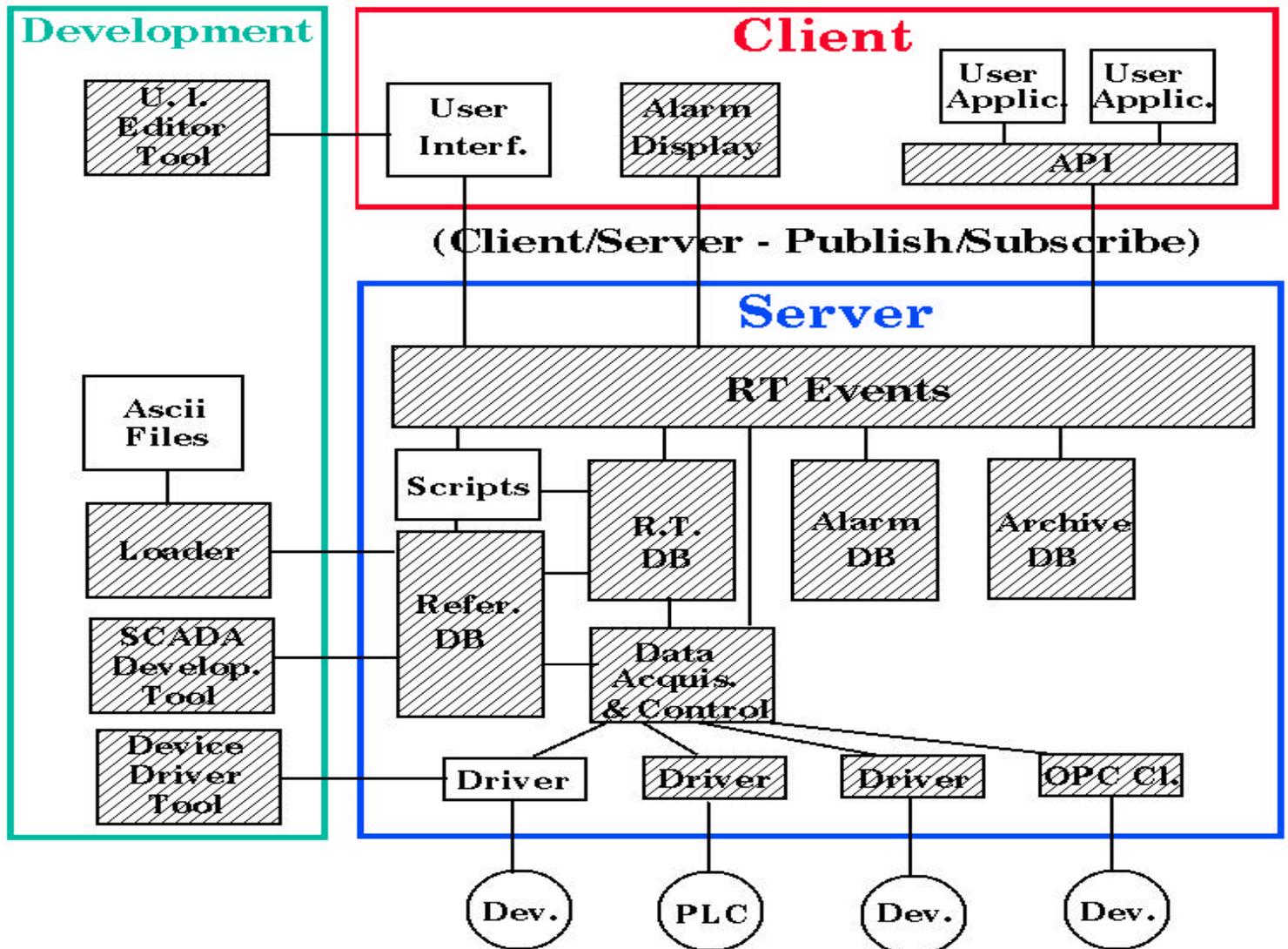
SCADA Systems Provide:

- DataBase and Tools for Device Description
- Many drivers and methods to access:
 - ┆ Commercial fieldbuses and devices (no VME)
- Distributed Environment (mainly NT)
- Archiving DataBase
- Alarm handling, archiving and reporting
- User Interface building tools:
 - ┆ including trending and graphics

CADA HW Environment



CADA SW Environment



ome Requirements

Scalability

Partitioning

Distributed Development

Device Orientation

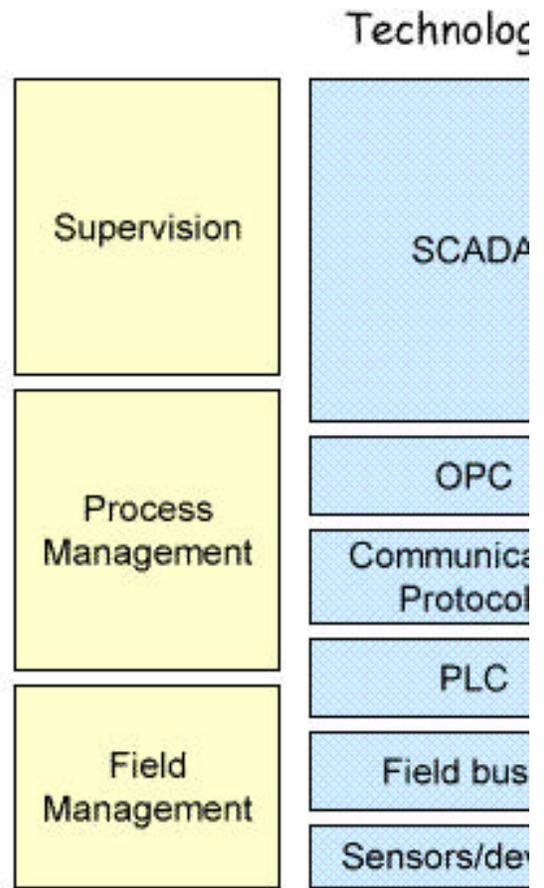
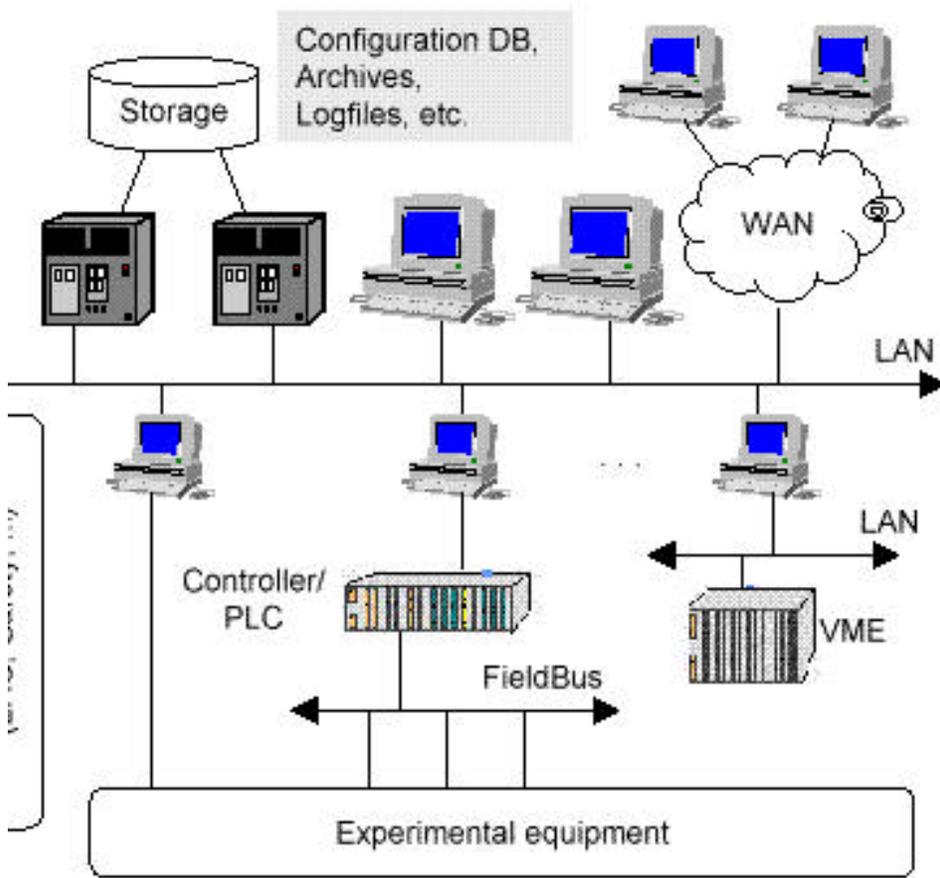
Openness (to add extra functionality)

- Non-Standard Devices
- Finite State Machines
- etc.



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HCb Control & Monitoring



SCADA = supervisory control and data acquisition
 OPC = OLE for process control
 PLC = Programmable logic controller
 Field buses = CAN, Profibus, WorldFip, etc.



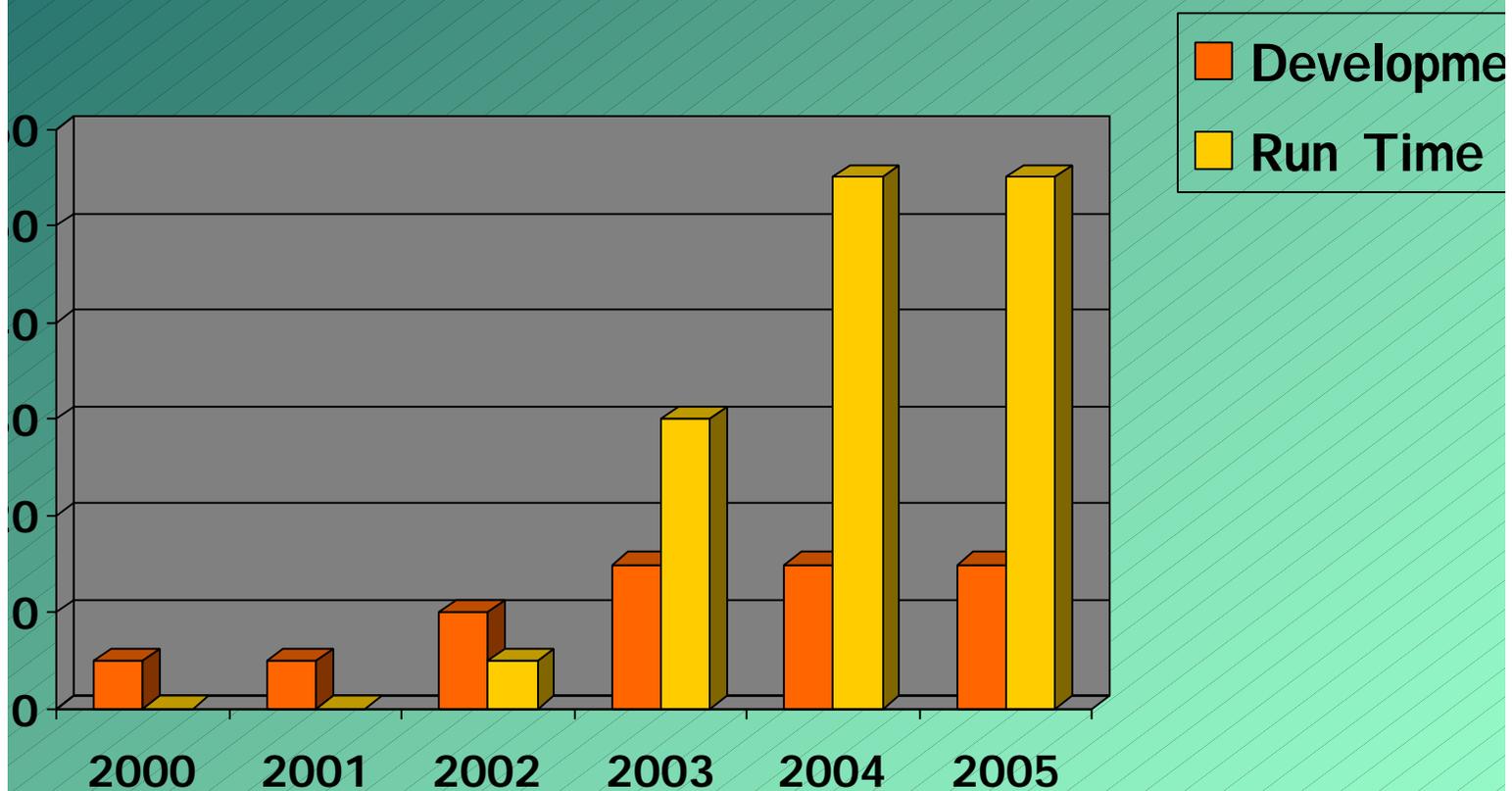
License Numbers:

	Dev.	R. T
Production System		
Main Control Servers:		5
Consoles in Control Room:		10
Sub-System Controllers:		30
Test Beams/Labs		
At CERN:	5	5
Institutes:	10	5
Total	15	55



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evolution in time



COP Proposal

CADA is a feasible solution for control supervision software, assuming:

- The technical requirements are met (a detailed list of criteria has been produced)

- Licensing scheme is flexible and licenses available to Institutes

- Controlled risk (escrow agreement for source)

Time Scale to have a product

- Earlier date is July 2000 (tendering procedure time cost)

- No final numbers: expected ~200K CHF for LHCb (including maintenance and support for 5 years)



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Conclusions

The LHCb Computing Group supports the recommendation to use a SCADA system. COP needs a decision/commitment from the LHCb collaboration in order to go on with the tendering procedure.

Do we want to use SCADA?

We are willing to provide any explanations or documentation necessary in order to reach a decision.



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