



# TS Requirements For Control Systems

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TS/CSE



# Facts

- Excellent support of AB/CO to TS
- Handled on a best effort basis
- Needs to formalise the support
  - We had to do for our clients



# Thanks

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# Systems Description 1

- **CV Applications**
  - **CV SCADA**
  - **CV VMware**
- **CSE Applications**
  - **ZORA.** Radiation Zone. Access System for undergrounds and radioactive zones
  - **SUSI.** Surface Site. Access System for all the rest. Site, buildings, LHC points



# Systems Description 2

- **TIM.** Technical Infrastructure Monitoring. System to transmit alarms and commands from/to the Control Room to/from equipment
- **EL Applications**
  - **MICENE.** Microprocessor Controller Electrical Network. Communication MIL1553. OS Front-end
  - **ENS.** Electrical Network Supervisor
  - **GATED.** Gateway to External Devices. Gateway between FE and ENS



# AB systems with hard dependencies on TS

- **Laser**
  - **ANS**
- **Timber**
- **XCLUC**
- **SL-EQUIP**
- **DIP publications**



# Hardware Support Scope

- **18 → 30** ProLiant HP (TIM and CV SCADA)
- **60 → 70** pc's (access SPS primary, SUSI, CSA, CCC, CV consoles)
- **2** PowerPC's servers (access PS primary)
- **10** workstations (access PS primary)
- **6** hp's servers (SPS north secondary zone, AD, PS, TIM and elsrv1)
- **10 → 0** hp's Xterminals (electrical operators interface)
- **17** VME LynxOS front ends computers (CERN front end: CFE)



# Field Bus Support Scope

- **Mil1553b** to connect CFE to remaining MICENE:
- In Meyrin sites (connected to CFE elmtcr)
- In SPS and north area (connected to CFE elmtcr)
- In BE area (ellse9)
- In LHC area (connected to ellse1, 2..)





# Software, Applications and OS Support Scope 1

- **SonicMQ** used by: TIM, LASER
- **FactoryLink** used by: SPS primary
- **OC4J** (oracle for java) used by: TIM
- **LabView** used by: SPS ventilation system



# Software, Applications and OS Support Scope 2

- **Linux RHES3** used by: TIM
- **Linux SLC3** used by: SPS primary, CV SCADA applications and general operations
- **HPUX** used by: TIM, PS primary, SPS secondary, applications and X servers



# Software, Applications and OS Support Scope 3

- **LynxOS** used by:
  - VME crates used as front end computer for:
  - Local mil1553b field buses driver for remaining MICENE
  - IED (intelligent electrical equipment) scanner where EFACEC URT500 not yet installed or protocol not yet ported
  - Runs the GATED software to interface to ENS
  - Runs local alarms service to send FS to CAS (LASER)



# Software, Applications and OS Support Scope 4

- **LynxOS** used by:
  - MICENE log and survey processes
  - PS primary
- **Windows XP** used by: CCC and general operational consoles, ANS and CV SCADA interfaces
- **PVSS UNICOS** (to be confirmed) used by: CV operation
- **VMWare** used by: CV SCADA and operation



# Hardware Support Requirements

- Diagnostic and repairing.
- Hardware purchases, contract and follow-up.
- Upgrades and spare parts.



# Software Support Requirements 1

- Upgrades and patches.
- Backups and recovering systems.
- Configuration and tuning.
- Security configurations. Firewalls.
- System administration. Logs, alarms etc.



# Software Support Requirements 2

- Development tools for CFE code generation
- CFE reboot (OS and applications download via bootp)
- NODAL with SL\_Equip access
- SL\_Equip servers with associated name server
- Remote reboot facility to reboot CFE's via XCluc



# Systems Requiring 24h/7d Support

- **TIM**
- **CV SCADA** ProLiant. VMWare.
- **SUSI** (when laboratory is opened)
- **ZORA** (in beam running periods)
- **MICENE** communication.
- **HP** server. ENS interfaces.





# Support Line

- TS should have only one entry point for asking support (email and phone)
- That could be organised by TI



# Performances

- Diagnostic the problem and information to the operators *should not exceed*:
  - 2 hours maximum in CERN working hours.
- Repairing the system *should not exceed*:
  - 4 hours maximum in CERN working hours.
  - 8 hours maximum out of the CERN working hours.



Thanks

QUESTIONS?