Control System of VEPP-2000 Collider (software, hardware)

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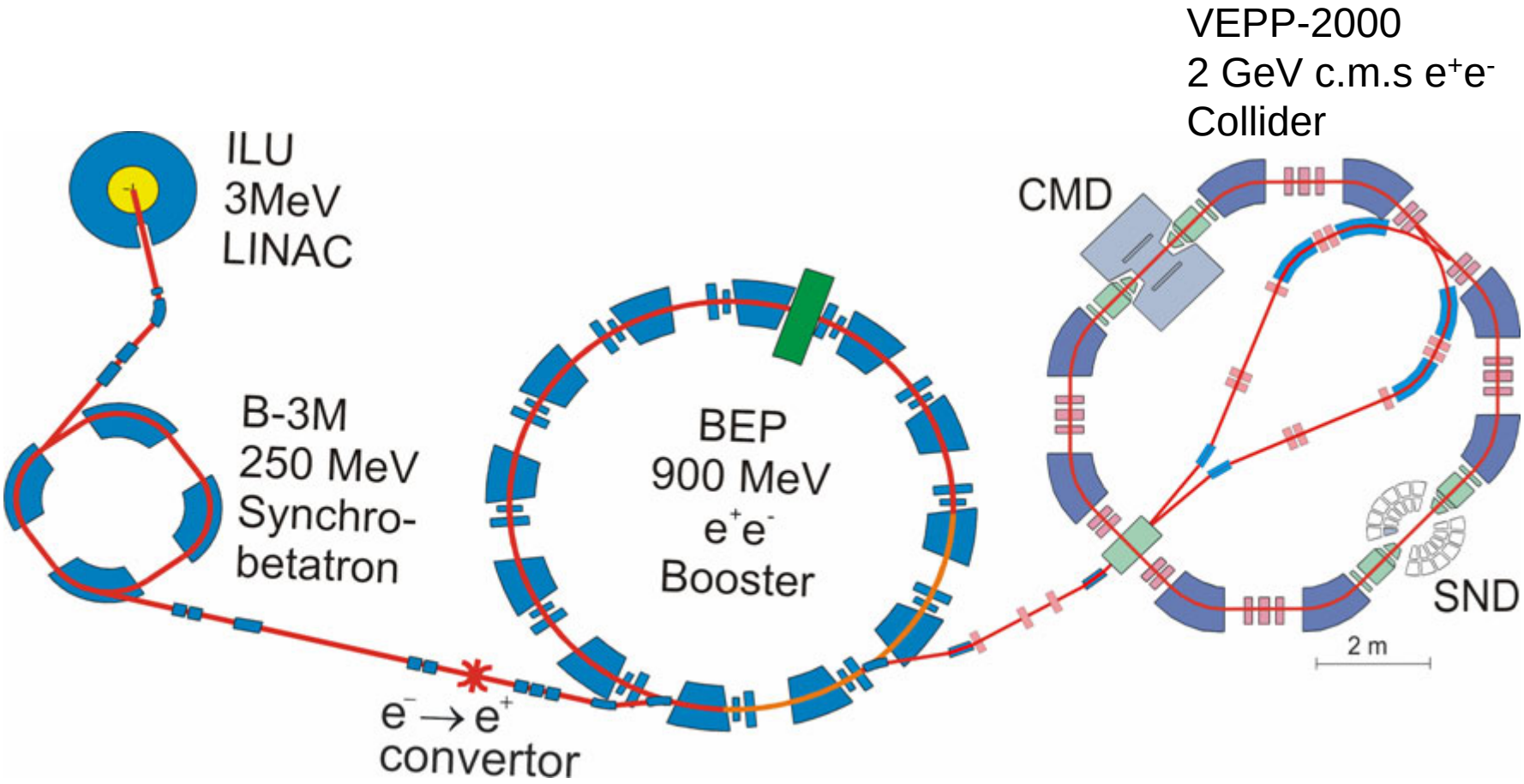
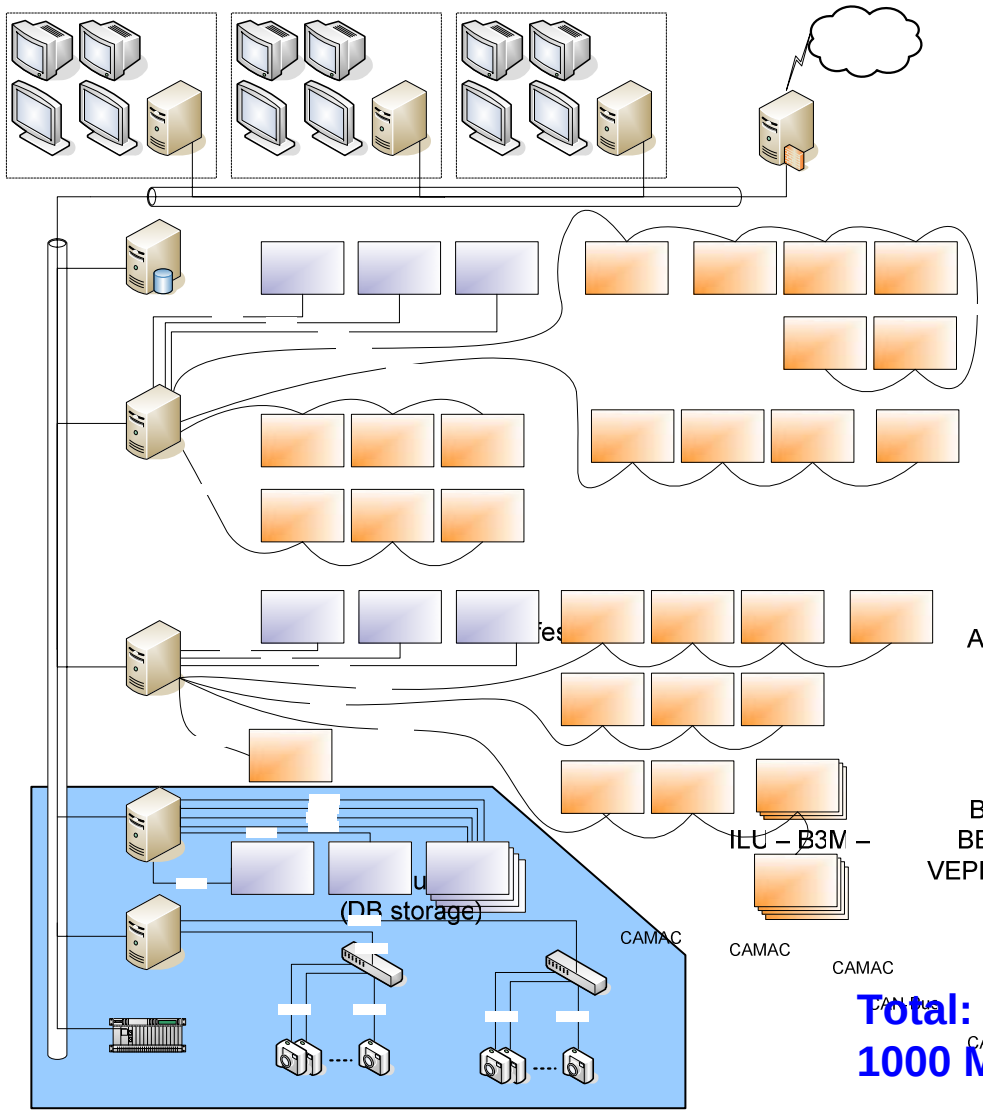
VEPP-2000 Facility



VEPP-2000 Automation System



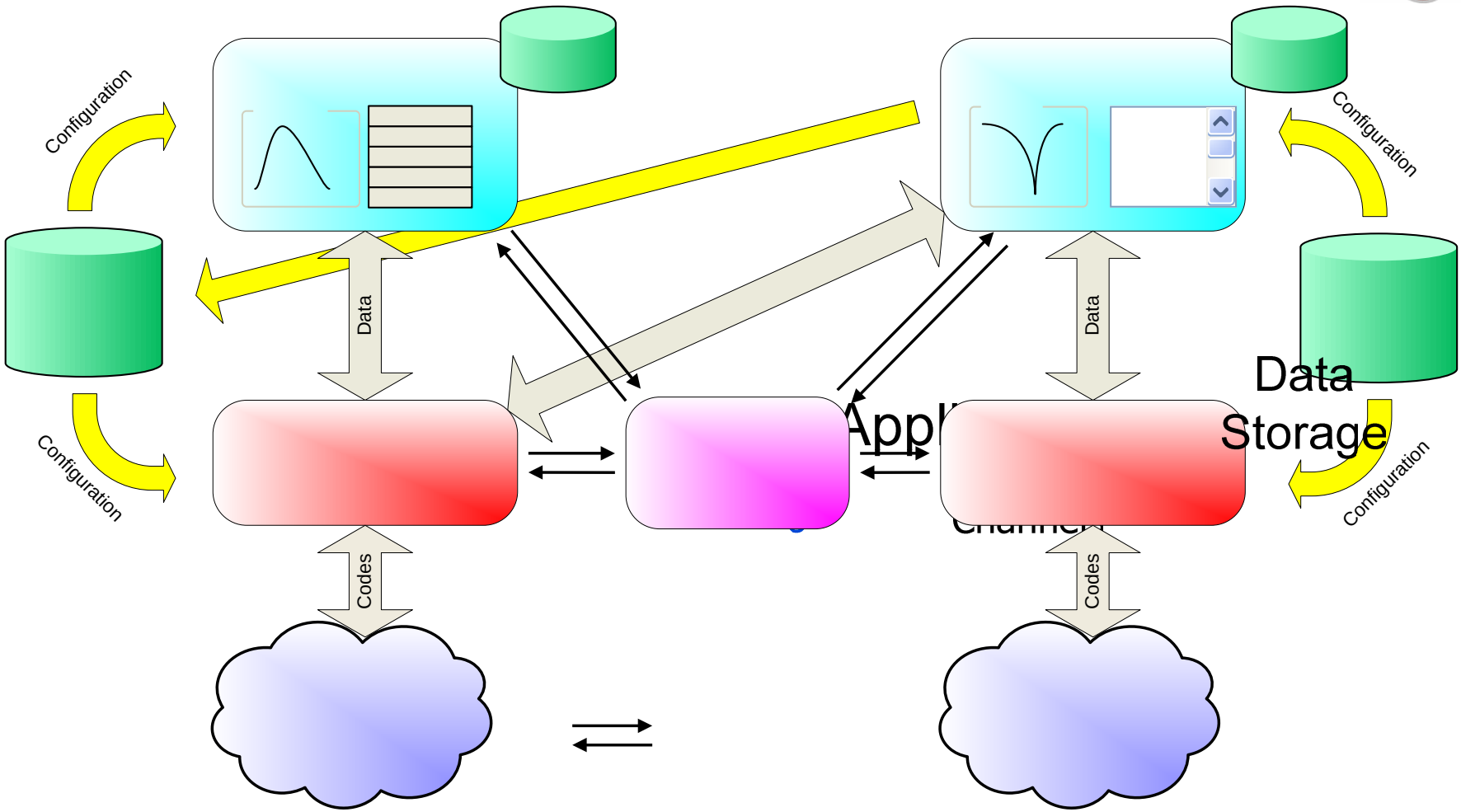
Subsystem	Sub subsystem	Protocol	N of channels
ILU & Channel	Pulse	CAMAC	50
		CANbus	40
	Steady	CANbus	30
B-3M & Channel	Pulse	CAMAC	50
		CANbus	40
	Steady	CANbus	40
			20
	RF	CANbus	
BEP	Steady	CANbus	500
	RF	CANbus	20
BEP–VEPP-2000 channels	Pulse	CAMAC	30
		CANbus	100
	Steady	CANbus	50
VEPP-2000	Steady	CANbus	500
	RF	CANbus	20
Common	Vacuum	CANbus	50
	Temperature	CANbus	80
	Cryogenics	CANBus	50

Total: ~500 Control channels & 1000 Monitoring Channels

Low power

Pulse BEP – VEPP

Software


Configuration
Data
Configuration
Data
Configuration
Data Storage
Configuration
Codes
Codes
Database 1

Hardware

- BEP Field Power Source
10 kA

- VEPP-2000
Field Power Source 9 kA

Hardware

- 300 A Power Sources

32
Channels

- Low-current corrections

~ 500
Channels

Hardware

- Pulse Elements (Septum Magnets)

9 Channels

- Pulse Elements (up to 1000 A)

Control Units (CANbus)

~ 200 Channels

Hardware

- Vacuum System

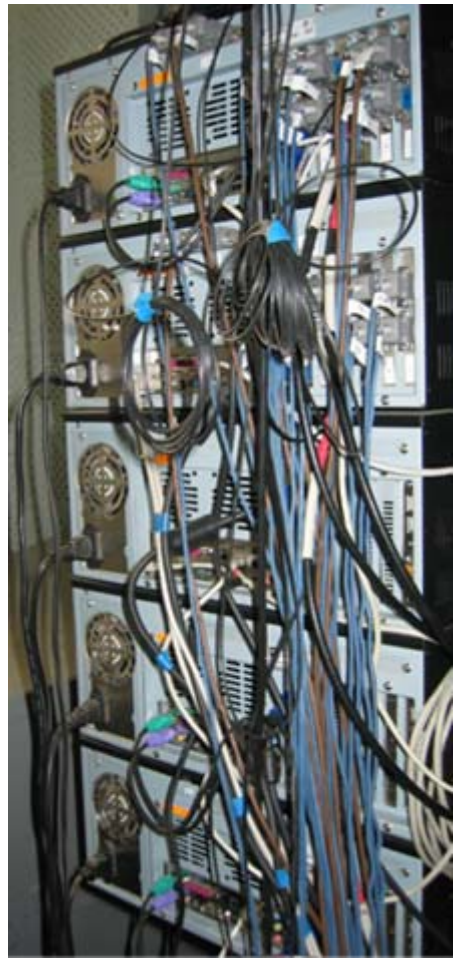
~ 100 Channels

- Temperature control

80 Channels

Computer Rack

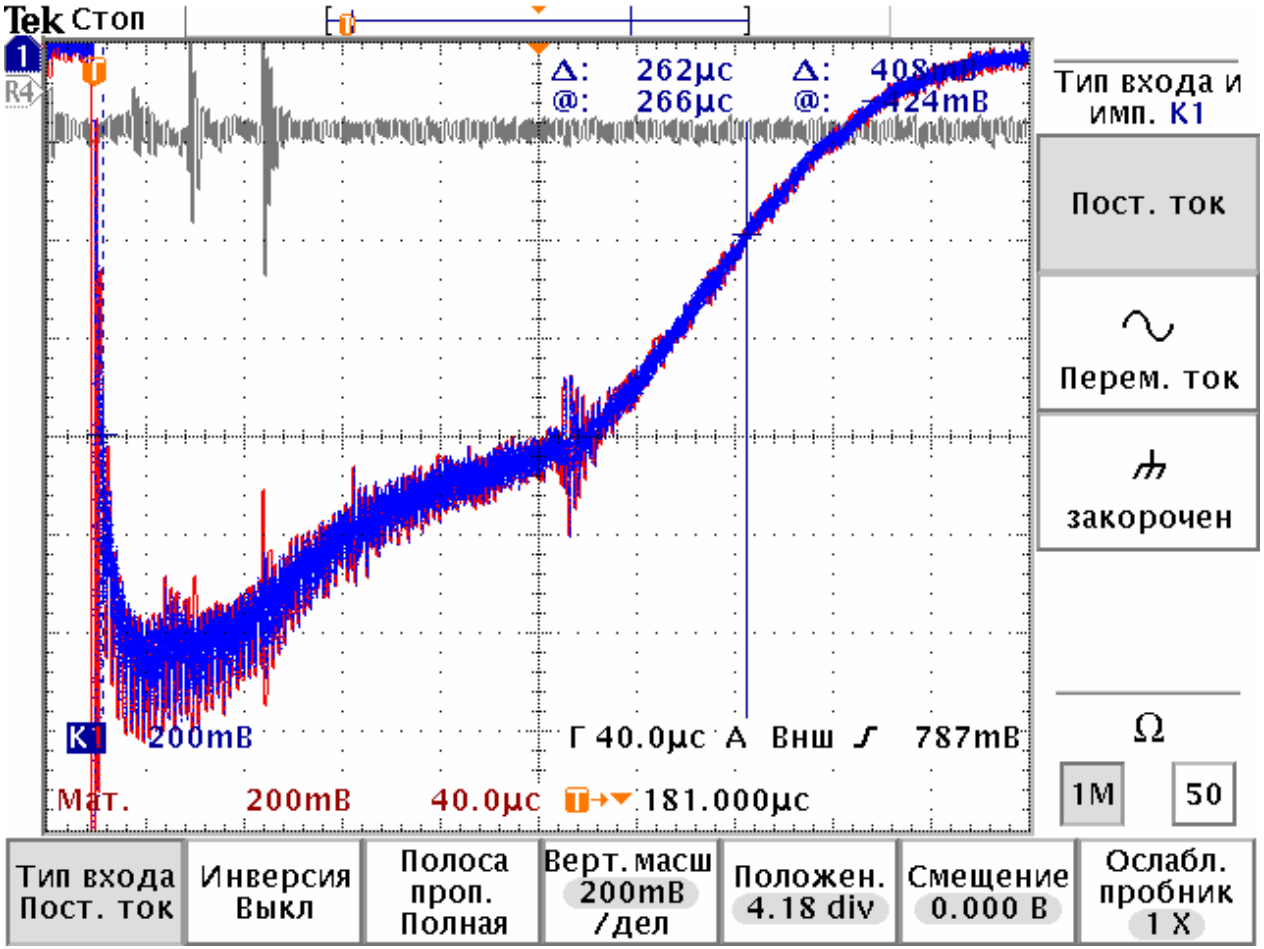
Five AMD
Athlon 64-3000
Under OS Linux



Rear
View

Main Control Room

Beam in VEPP-2000



τ ~ 400 mks
N of turns ~ 50 000
Energy Loss ~ 0.7%