Argonne NATIONAL LABORATORY

IRMIS SIG Summary

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EPICS Collaboration
DESY

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IRMIS SIG summary

IRMIS PV

- widely used tool to provide a ‘global’ view of the facility control software

PV Datamining

- basis for creating configuration files (archiever, alh, ...)
- examine inter-IOC EPICS logic
- CA-client crawlers

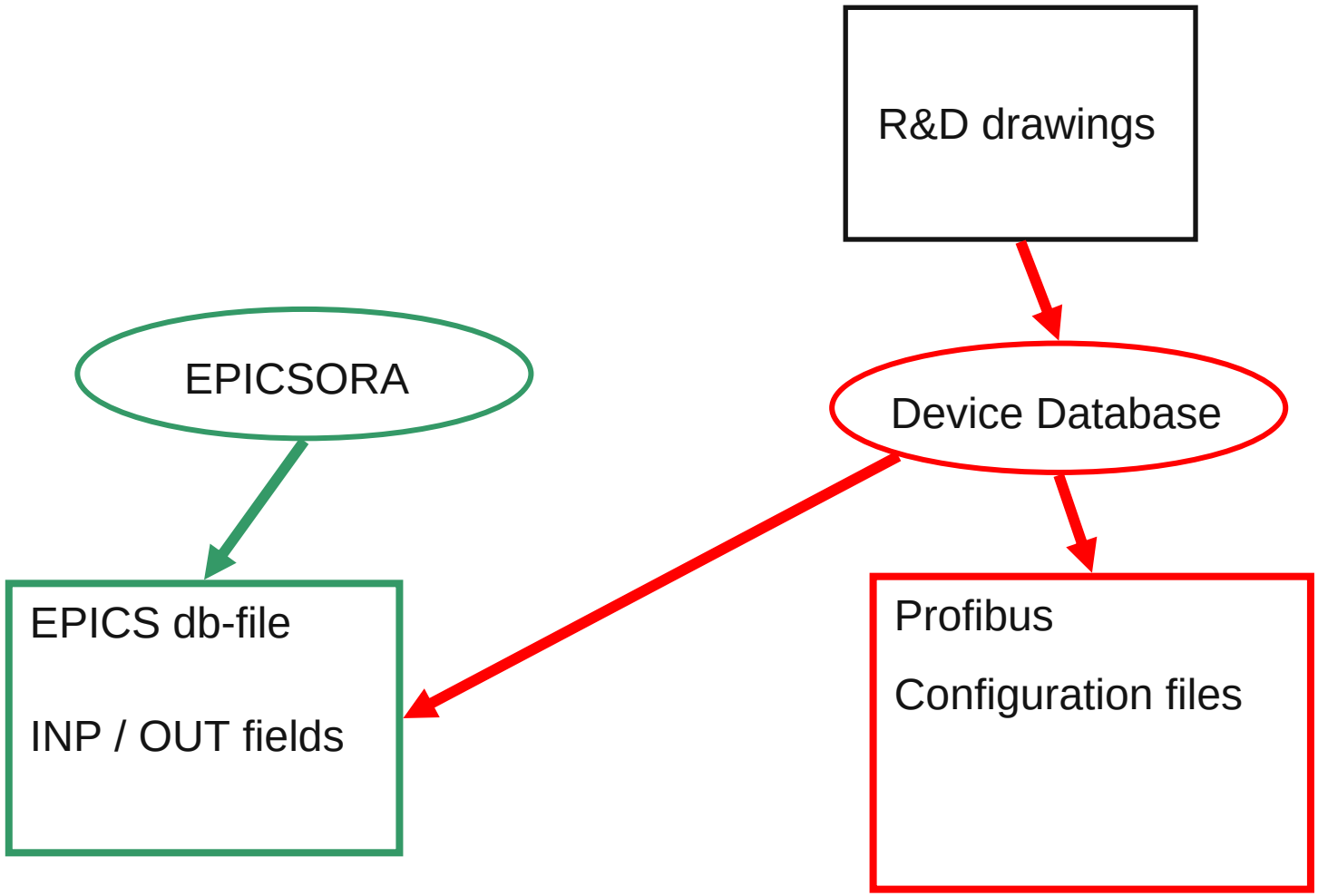
General community agreement on PV schema and crawler

How about for the hardware?

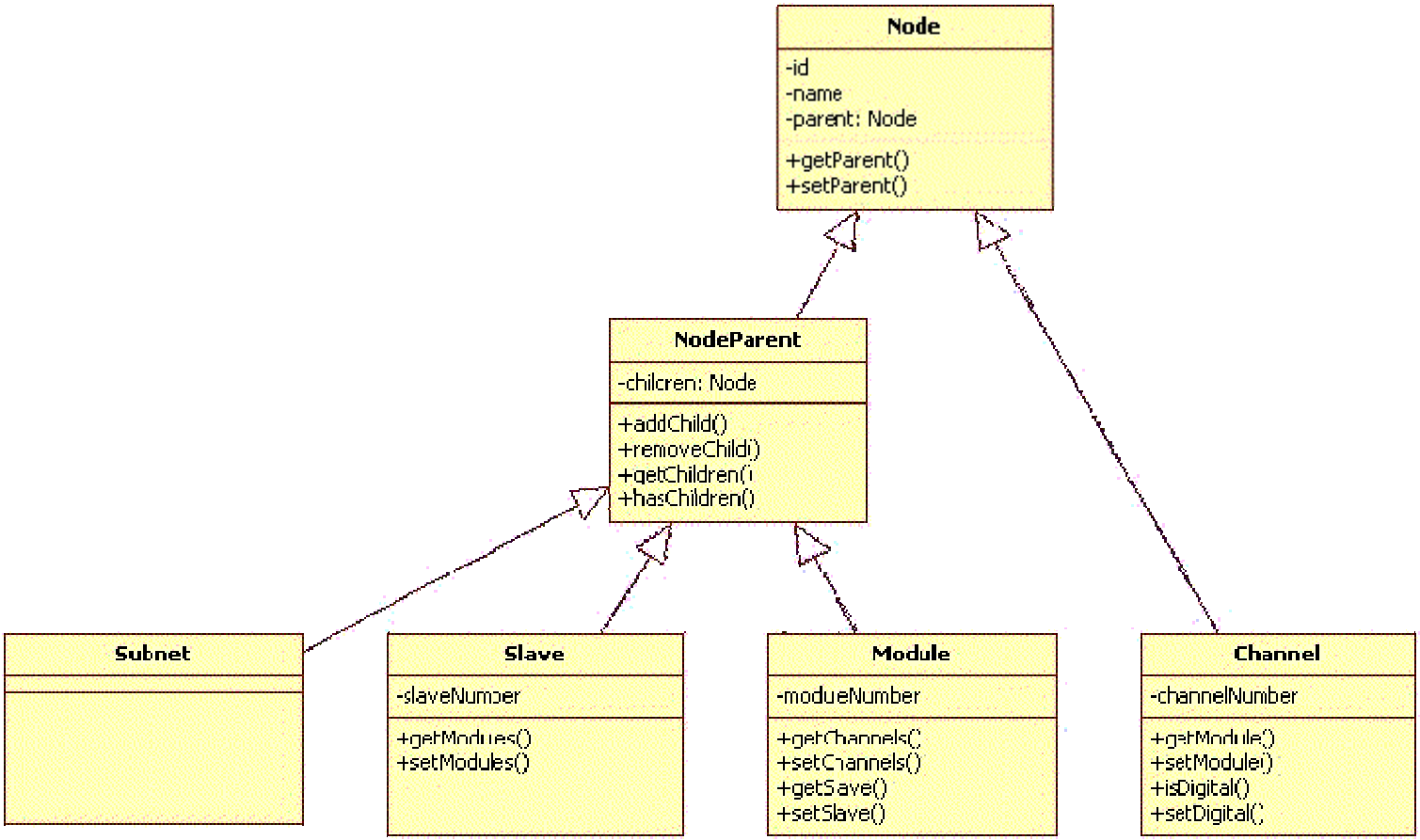
Configuration Control - capturing the control system hardware and connecting it with EPICS process variables

SLS - CIDB
GANIL - carl_master
SLAC - captor

DESY - deviceDB



DESY - deviceDb Object Model



SNS Configuration Control

- Mature relational database schema
- Issues of management ‘buy-in’
  - ‘global’ vs ‘private’ culture

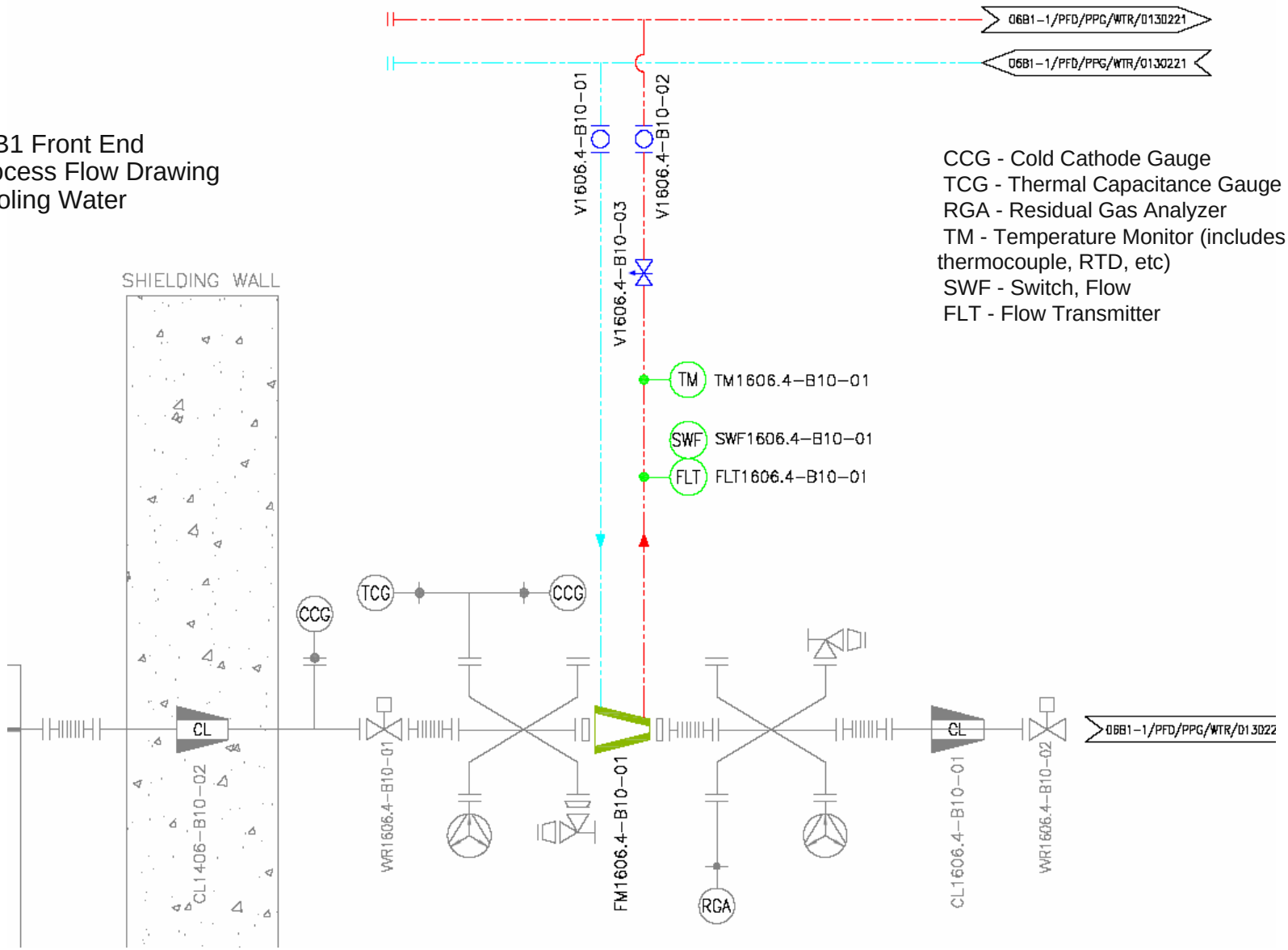
SNS - Wish List

- Standard prescriptive schema
- VDCT reads/writes to either ascii file or RDB
- Interface between EDM and RDB; maybe in CSS?

CLS: Process Flow Drawing

06B1 Front End
Process Flow Drawing
Cooling Water

CCG - Cold Cathode Gauge
TCG - Thermal Capacitance Gauge
RGA - Residual Gas Analyzer
TM - Temperature Monitor (includes thermocouple, RTD, etc)
SWF - Switch, Flow
FLT - Flow Transmitter



APS Component database

Consolidation of the IRMIS 3-hierarchy model

> 30000 components have been installed in the APS IRMIS database including their control, housing and power relationships

- rigorous test of the component and component-type schema
- component-type definition refinements (esp interfaces)
- general acceptance by controls group

Primary (first line of defense) for controls group on-call

- operations usage - ‘master source’
- pressure to relate PVs to components (MEDM->hardware)

Datamining the component database

~600 control systems applications - AOI

- CCMS control component montoring system

APS Component database

The IRMIS component-type model includes component ports
- port-port connections form the basis of the cable database

Each port contains a set of pins
- each pin represents an input or output ‘signal’

The ‘signal’ database ultimately relates an installed component to a set of software Process Variables

Integrated approach - the ‘I’ in IRMIS

Universal Component Types

- APS Control - now complete
- IPNS
- BCDA
- IT

===>

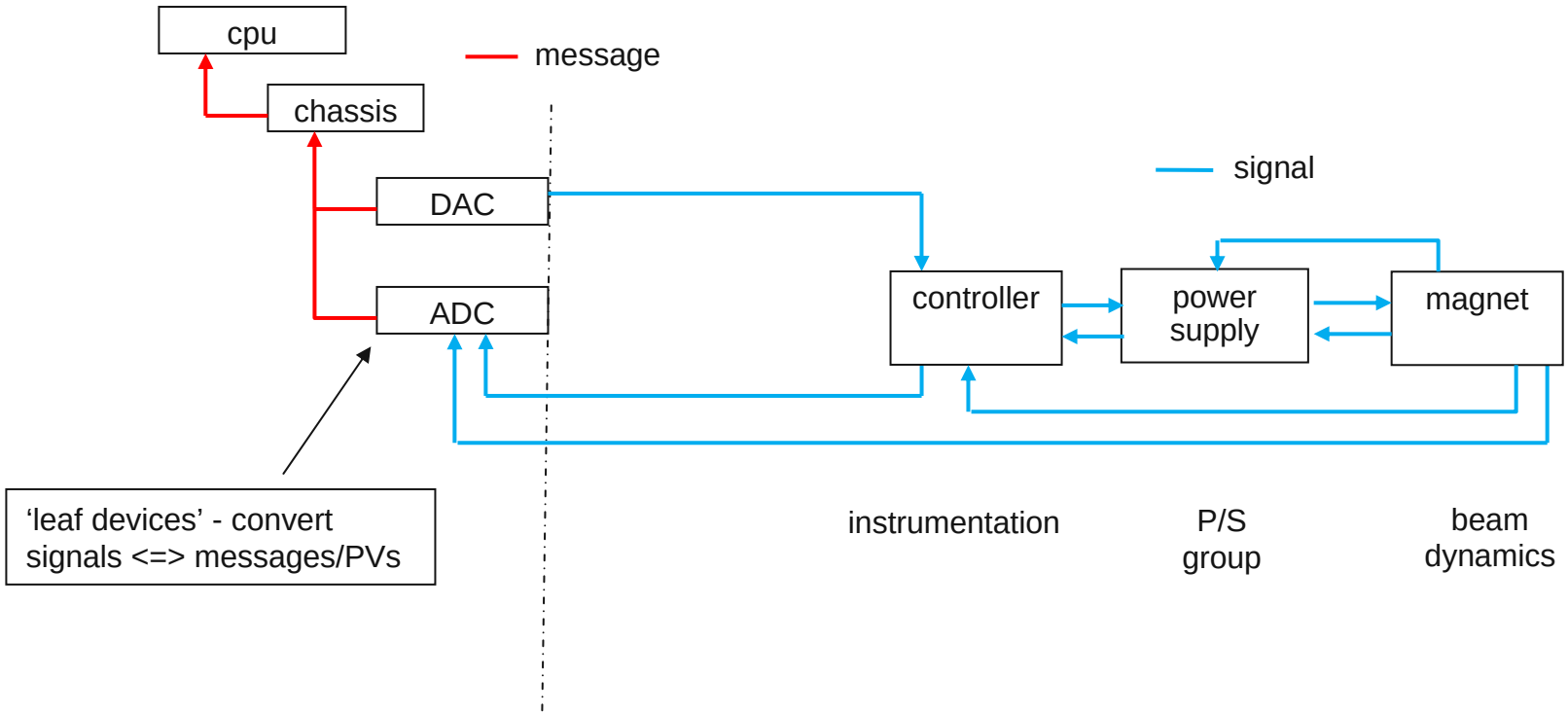
- universal component type definition
- associated device support

IRMIS SIG summary

Accelerator objects and signals

cmpnts - hierarchical topology

"accelerator cmpnts" - network topology
'master table' -- naming convention



extend IRMIS coverage to all components
modeling->controls->operation

Work in Progress