Status of the DCS for the 2014 DY Run

COMPASS Technical Board
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2012 DCS Recapitulation

- DCS main distributed project

  - PVSS 3.8 SP2

  - SLC5 32 bit

  - JCOP Framework 4.3.0 (Core)

  - PVSS Oracle DB schema v8.1

- DCS scattered projects

  - PVSS 3.8 SP2

  - Windows XP SP3 32 bit

  - OPC servers: CAEN, Iseg, Wiener, Schneider, CANOpen

- SLiC servers

  - SLC5 32 bit, custom kernel build

  - CAENet driver

  - DIM (CAEN)

External support of software

- PVSS 3.8 SP2 version and patches not supported after LS1
    - Replaced by WinCC OA 3.11 SP1 version and patches
        - Only 64 bit operating systems supported
            - SLC6, Windows7, Windows Server 2008 R2

- SLC5 and SLC6 supported

- CAENet discontinued product (used by SLiC servers)
    - Last update – 2008

Validation of software in COMPASS
Tests and problems found

- DCS main distributed project, SLC6 64 bit

  - Upgrade errors from PVSS 3.8 SP2 to WinCC OA 3.11 SP1

  - WinCC OA 3.11 SP1 MySQL driver missing

  - User privileges not working

  - Historical alarms not/incorrectly retrieved from the database

  - String data not retrieved from the database

  - Stricter error checking at runtime

  - Deprecated and renamed functions

  - Degraded performance of remote UIs

Validation of software in COMPASS
Solutions

- DCS main distributed project, SLC6 64 bit

  - New releases of WinCC OA 3.11 SP1, JCOP Framework, PVSS DB schema fix reported problems

  - Rewriting of code to fix the deprecated and renamed functions problem – done

  - Degraded performance of remote UIs: control room in Bdg 892

    - Use compression flag for ssh sessions (-C)
    - WinCC OA 3.11 SP1 scattered UI project

Validation of software in COMPASS
OPC server tests

- DCS scattered project

  - Windows 7 64 bit

    - Installation and validation* of current and new recommended OPC server versions

      - No problems found

*Reduced setups, limited time and reading only mostly

Validation of software in COMPASS
SliC server tests and adopted solution

- SLC6 32 bit, custom kernel build

  - No errors while compiling CAENet driver, but unable to load it

    - SLC6 32 bit crashes while loading driver

- SLiC servers will be frozen in SLC5 32 bit

  - No changes compared to 2012

  - No DIM problems were noticed while performing a limited test on a CAENet line (with only one crate)

2014 planned DCS setup

- DCS main distributed project
  - WinCC OA 3.11 SP1
  - SLC6 64 bit
  - JCOP Framework 5 (Core)
  - PVSS Oracle DB schema v8.7

- DCS scattered projects
  - WinCC OA 3.11 SP1
  - Windows 7 64 bit
  - OPC servers: CAEN, Iseg, Wiener, Schneider, CANOpen

- SLiC servers
  - SLC5 32 bit, custom kernel build
  - CAENet
  - DIM (CAEN)

- Remote control room PC
  - SLC6 64 bit

Migration to 2014 planned setup

- DB scheduled to be inaccessible for a period of 2 weeks (max) due to PVSS DB schema upgrade and verification

  - Done by CERN EN-ICE (2 days)

    - Unable to connect 1 DCS project to DB – solved

  - Migration of the DCS project to 2014 planned setup while the DB schema is being upgraded and verified – ongoing

- Further and longer validation on real setup to be performed

  - All equipment should be switched on well before the start of DY Run
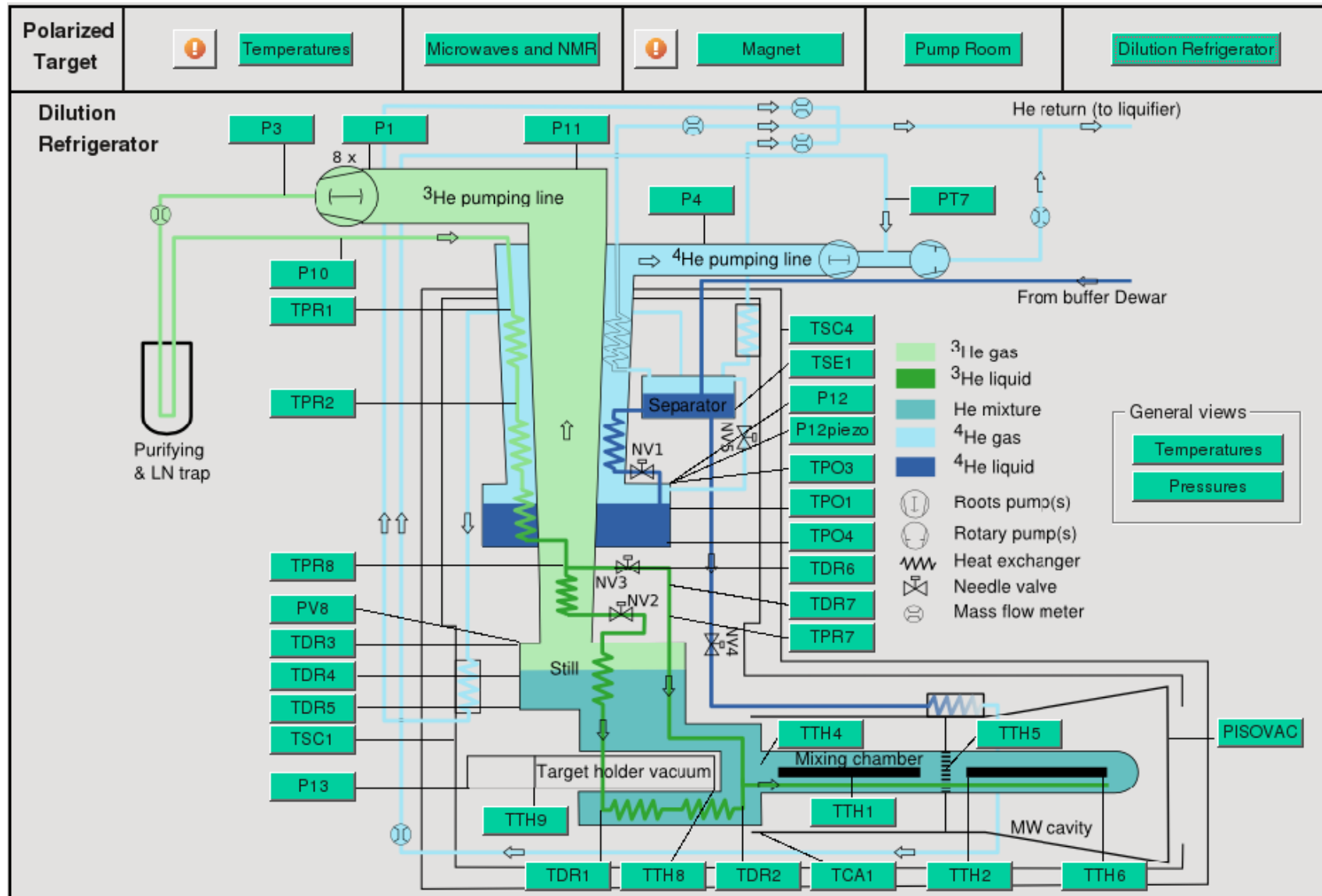
DCS 2014 integrations

- Polarized target

  - Dilution Refrigerator, Microwave → DIM

  - Magnet, He pumps → DIP

  - Dilution Refrigerator, Microwave, Pump room → PLC

- DY beam telescope and vertex detector

  - CAEN HV SY1527 → OPC

  - LV Hameg HMP4040 → DIM

    - Not a CERN standard/supported equipment
    - No direct way to integrate it in WinCC OA 3.11 SP1

DCS 2014 integrations

- DC5
  - CAEN HV → OPC
  - Temperature monitoring → OPC

- ECals
  - Cinderella needs to be updated → DAQ

- Adjustments to new spectrometer
  - Detectors, stations, mappings, triggers, drawings

Backup

Ptgt – Dilution Refrigerator

Links

SLC5/SLC6

CAENet

PVSS 3.8 SP2

WinCC OA 3.11 SP1

JCOP Framework

DIM

DIP

OPC (General)

ELMB & OPC CANOpen (ATLAS)

SLiC