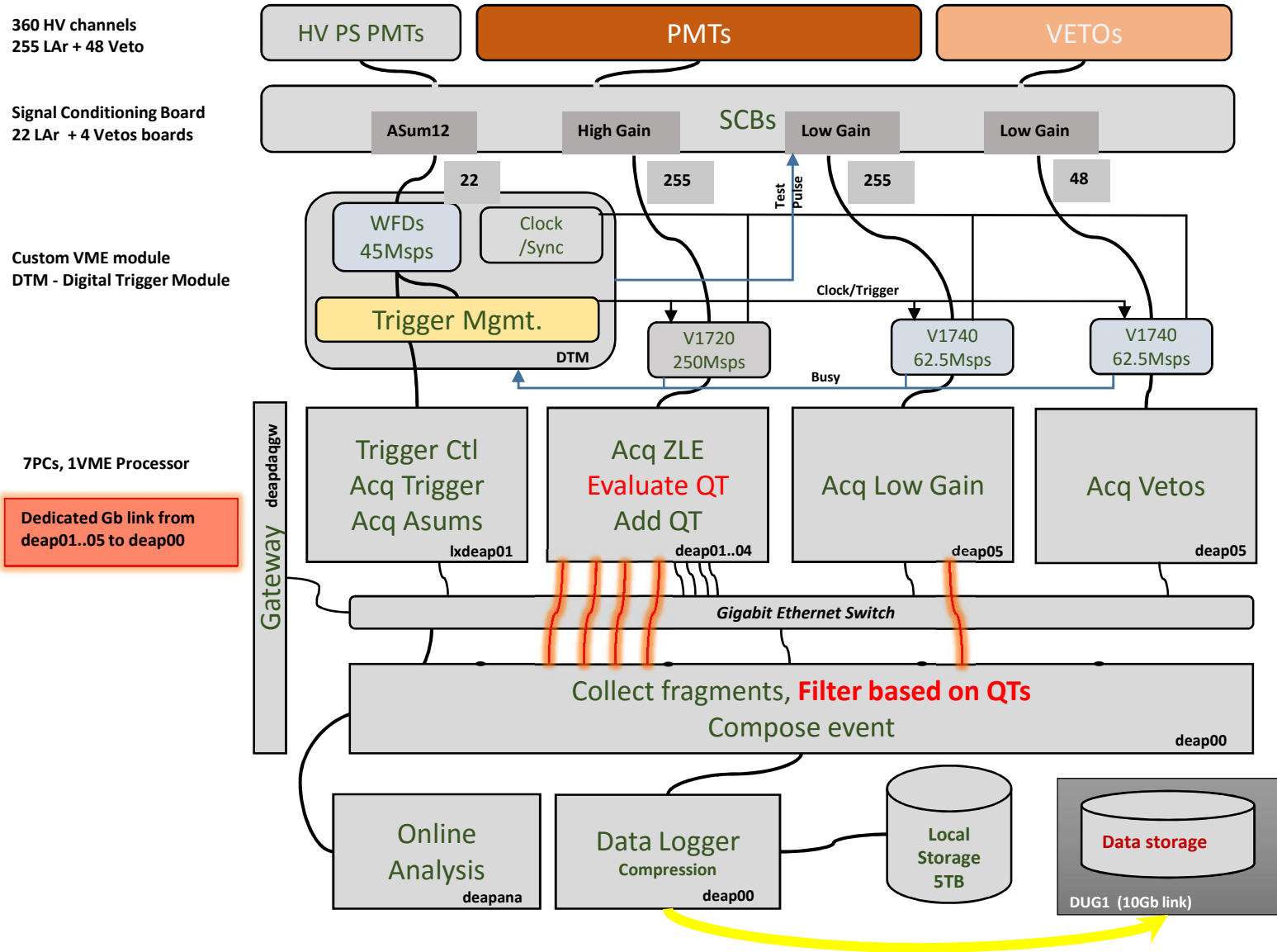# The Data Acquisition Architecture for the "Dark Matter Experiment" using Argon Pulse-shaped discrimination" - DEAP-3600 –
or
An "almost" generic data acquisition

360 HV channels
255 LAr + 48 Veto

HV PS PMTs | PMTs | VETOs

Signal Conditioning Board
22 LAr + 4 Vetos boards

SCBs

ASum12 | High Gain | Low Gain | Low Gain

22 | 255 | Test Pulse | 255 | 48

Custom VME module
DTM - Digital Trigger Module

WFDs 45Msps | Clock /Sync

Trigger Mgmt.

DTM

Clock/Trigger

V1720 250Msps | V1740 62.5Msps | V1740 62.5Msps

Busy

7PCs, 1VME Processor

deapdaqgw

Gateway

Dedicated Gb link from deap01..05 to deap00

Trigger Ctl
Acq Trigger
Acq Asums

lxdeap01

Acq ZLE
Evaluate QT
Add QT

deap01..04

Acq Low Gain

deap05

Acq Vetos

deap05

Gigabit Ethernet Switch

Collect fragments, **Filter based on QTs**
Compose event

deap00

Online Analysis

deapana

Data Logger
Compression

deap00

Local Storage 5TB

Data storage

DUG1 (10Gb link)

Maximum Integrated Data Acquisition - MIDAS –
DAQ software package

- Advertisement break -
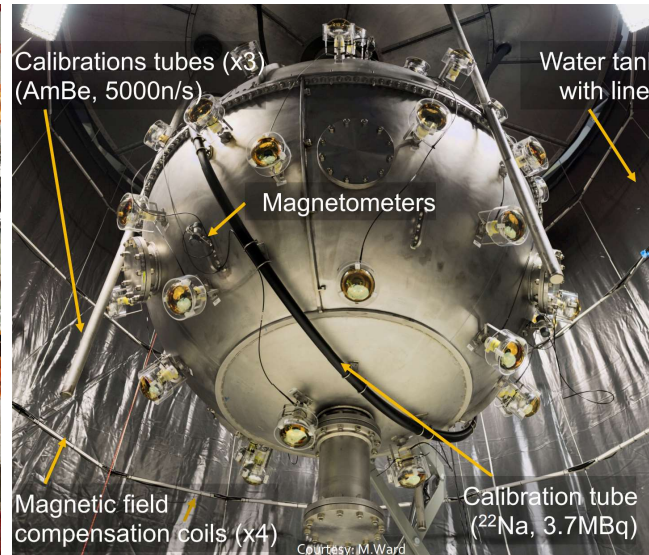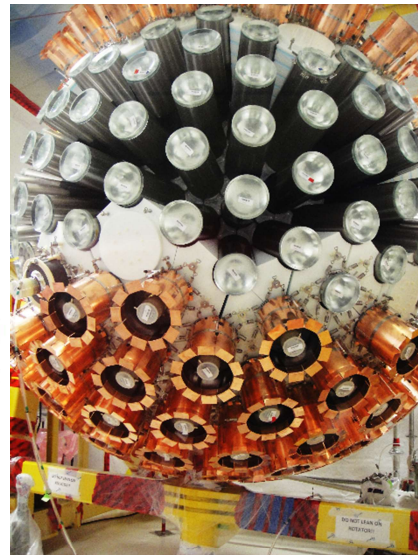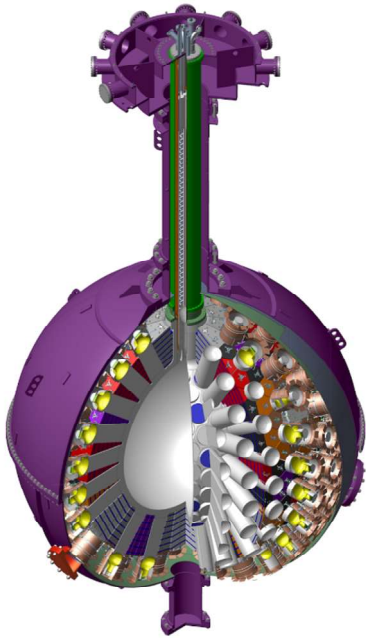
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The Data Acquisition Architecture for the "Dark Matter Experiment"
using Argon Pulse-shaped discrimination" - DEAP-3600 –

Poster# 264

Calibrations tubes (x3)
(AmBe, 5000n/s)

Water tank with liner

Magnetometers

Magnetic field compensation coils (x4)

Calibration tube
(^{22}Na, 3.7MBq)

Courtesy: M.Ward

Located at SNOLAB:

3600 Kg LAr detector
Acrylic vessel Dia. 2m
Steel vessel Dia. 7m
255 8" PMTs + Vetos

DAQ features discussed:
- Custom trigger configuration
- event fragment filtering
- event builder
- slow control aspect
- online monitoring
- remote operation and system recovery.