

Long Time Logging

Adrian Dumitrescu

ThermoFisher Scientific

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Outline

Round Robin Database

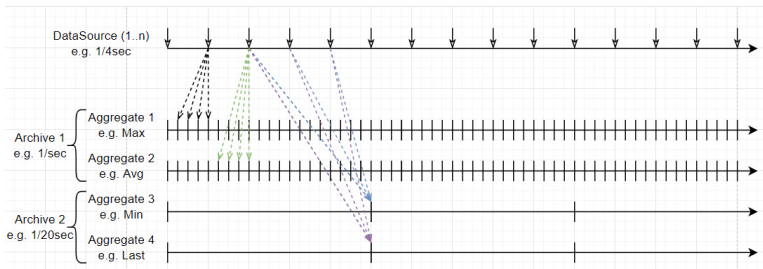
Data Aggregation

Section 1

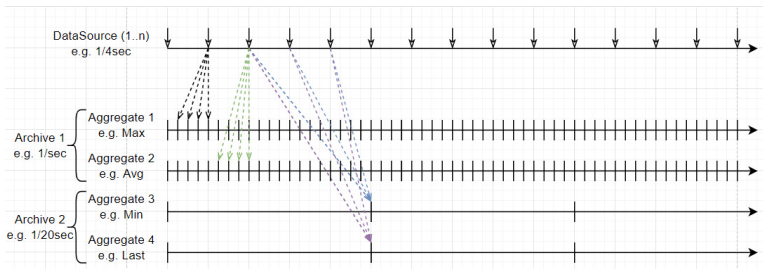
sub a

Round Robin Database

- ▶ Collects data from multiple data sources
 - ▶ each data source defines a specific data sample frequency (rate) e.g. RPM value once per second, temperature once every 5 seconds
- ▶ Stores collected data in multiple archives
 - ▶ archives are defined at database level
 - ▶ each archive defines a data sample frequency (rate) e.g. one value every second, every minute, every hour



Round Robin Database



- ▶ mismatch between the data sample frequencies of each data source and of each archive
- ▶ resampling needed before storing: aggregation
- ▶ each data source defines 0 or more aggregations (from Min, Max, Average, Last)

Round Robin Database

Trivia: the current database is setup with 3 archives containing data samples for

- ▶ every second for 72 hours
- ▶ every minute for 60 days
- ▶ every hour for about 9.75 years (probably a mistake; intended to be 10 years)

Data Aggregation

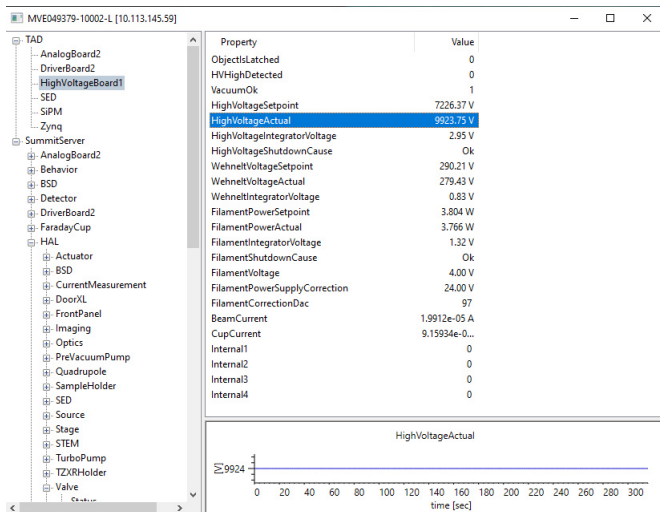
TAD Accessors

Some of the accessors are "tagged" as TAD

AnalogBoard2.TAD	DriverBoard2.TAD	HighVoltageBoard1.TAD	SED.TAD	Zynq.TAD
<div>+5 4.96 V -5.03 V</div> <div>+12 12.41 V -12.54 V</div> <div>+24 23.36 V 198.19 V</div> <div>-200 -199.81 V 321.22 K</div> <div>Short200V 0.60 <input type="checkbox"/> Overcurrent200</div> <div>DetectorBias 2.97 V Channel1 0.66 V</div> <div>Channel2 0.62 V Channel3 0.61 V</div> <div>Channel4 0.62 V Channel5 3.30 V</div> <div>Channel6 1.48 V Channel7 1.48 V</div> <div>Channel8 1.48 V</div>	<div>Main+24 24.13 V 0.00 V</div> <div>Aux+24 20.12 V 11.89 V</div> <div>-12 -11.94 V +5 4.93 V</div> <div>+3.3 3.25 V Temperature1 394.03 K</div> <div>Temperature2 394.03 K <input checked="" type="checkbox"/> HardwareSwitch</div> <div>CondenserLensVoltage 4.11 V ObjectiveLensVoltage 9.24 V</div>	<div><input type="checkbox"/> ObjectIsLatched <input type="checkbox"/> HVHighDetect</div> <div><input checked="" type="checkbox"/> VacuumOk</div> <div>HighVoltageActual 9923.75 V HighVoltageSetpoint 7226.37 V</div> <div>HighVoltageSh... Ok 289.72 V</div> <div>WehnetVoltageActual 279.43 V WehnetIntegratorVol... 0.83 V</div> <div>FilamentPowerSetp... 3.804 W FilamentPowerActual 3.758 W</div> <div>FilamentIntegratorVol... 1.32 V Ok</div> <div>FilamentVoltage 4.00 V FilamentPowerSupply... 24.00 V</div> <div>FilamentCorrectionFac 97 BeamCurrent 1.9912e-05 A</div> <div>CapCurrent 9.15934e-06 A</div> <div>Internal1 0</div> <div>Internal2 0</div> <div>Internal3 0</div> <div>Internal4 0</div>	<div>ScintillatorVout 9.76562 V ScintillatorIout 2.5332e-07 A</div> <div>Type SIPM</div> <div>SIPM.TAD</div> <div>Temperature 298.674 K BiasVoltage 9.30846 V</div>	<div>HwVersionId 2 HwPatchId 2</div> <div>MacAddress 0000801f12326913 SerialNumber N/A</div> <div>+1V0 1.00 V +2V0 3.23 V</div> <div>+5V 4.98 V +24V 23.61 V</div> <div>ScanXNeg 0.00 V ScanXPos 2.03 V</div> <div>ScanYNeg 1.31 V ScanYPos 0.00 V</div> <div>CommonModeZynq 1.49 V CpuTemperature 321.75 K</div> <div>FpgaVersionInfo Build date : Wednesday, 20220125 17:56:06 BranchName HEAD</div> <div>GitHash baac4f5badfde64ef BoardType DriverImageBoard</div>

TAD Accessors

Accessors "tagged" TAD are also displayed in the Service Tool grouped under TAD



List (itemize)

- ▶ Point A
- ▶ Point B
 - ▶ part 1
 - ▶ part 2
- ▶ Point C
- ▶ Point D

List (enumerate)

1. Point A
2. Point B
 - 2.1 part 1
 - 2.2 part 2
3. Point C
4. Point D

Columns

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Figure: caution!!