Motivation

- There are different types of diagnostics devices.
- The same readout card can be used for different device types.
- Each type of diagnostics device has a different desired Archiver policy.
  - For example, different channels of the same Pico8 card can be connected to a Faraday Cup and a Halo Monitor Ring, which have different Archiver policies.
- **Archiver Appliance** rules are created and enforced at runtime based on *info* tags associated with each PV by an independent agent called **PV Auto Provisioner**.
- Therefore, there's a need for assigning *info* tags in an IOC on a per-PV basis (as opposed to per-Record).

Centrally Managing Archiver Tags

- The creation of the *info* tags for the **PV Auto Provisioner** happens in the IOC itself, via **retools** functions.
- A tool was created to centrally manage the *info* tags for all IOCs, **IOC Manager**, which
  - Collects existing PVs from diagnostics IOCs when they are built in **Jenkins**.
  - Allows its users to create and modify tags, displaying their coverage in real time.
  - Automatically opens pull requests on **Stash** to update the tags of a specific IOC, when requested by the user.

Enforcing Archiver Rules at Runtime

- IOCs in production, upon start, publish their PV names and metadata to **Channel Finder**.
- The **PV Auto Provisioner** scans **Channel Finder** and looks for PVs that have *info* tags with key “archiver”.
- The **PV Auto Provisioner**, then, ensures that the configuration it found in the *info* tag is correctly reflected in the **Archiver Appliance**.
- IOCs are automatically restarted by **Puppet** whenever there is a change in the production branch of their source code repository.

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reAddAlias "DIAG_MTC01:PICO8_CH0:.*(\.*)" "FE_LEB:FC_D0796:\$1"

For each PV that matches PV prefix, create an alias for it by replacing PV prefix with alias prefix while preserving the suffix as is.

reAddInfo ".*:([FCHMR|ND])_D.*:AVG_RD" "archive" "monitor:2.0,retention:3mo"

For each Faraday Cup, Halo Monitor Ring and Neutron Detector average reading PV, add an *info* tag with key “archive” and value “monitor:2.0,retention:3mo”, meaning that the PV should be sampled at most at 2Hz and retained in the archiver for 3 months.