Flavored Data

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Statement of the Problem

- One set of instrumentation
- Multiple uses of the instrumentation
  - H-, H+, different pulse lengths
  - Description comes through on timing system
  - Clients are only interested in their "flavor"

Alternatives

- Create hardware that clients are able to reserve hardware for their application (LANSCE, SLS)
    - Hardware is only used by one client at a time
    - Timing system needs to manage requests
- Wait for channel access protocol change
    - Each client could describe the condition for receiving data
    - This may not be ready by December
- Make a record for each flavor
    - For SNS 8 flavors make push diagnostics performance
    - Expands the number of records required
    - Device support would handle flavor through event scan
- Make Record Support to demux data to clients
    - Timing system events now have no knowledge of client interest
    - Record can dynamically change monitor condition

Monitor DeMux Record

- Reads an input value from a scalar field (like BPM X Pos)
- Reads a trigger value from a record (like event number)
- Has some number of expressions for the trigger value
  - EXPA   Trig > 0
  - EXPB   Trig == 1
  - EXPC   Trig == 2
- Has some number of client channel values
  - A
  - B
  - C

Monitor DeMux Record – cont.

- Channel access client connects to <recordname>.A if it is interested in the BPM X position whenever the event from the timing system is not 0

- Another channel access client connects to <recordname>.B if it is interested in the BPM X position whenever the event from the timing system is 1

- Etc…….

Future Work

- Implement this same function for arrays

- Have channel access protocol support this