EPICS
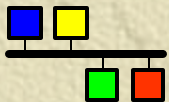
PV Names at the APS
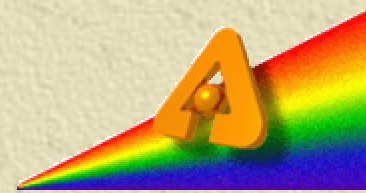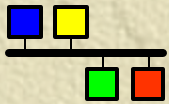
❈ There has never been an attempt to implement a site-wide PV naming convention at APS.

❈ Historically, there was little need for such a convention since PV broadcasts were <by default> constrained to a local subnet.

❈ This was short-sighted …
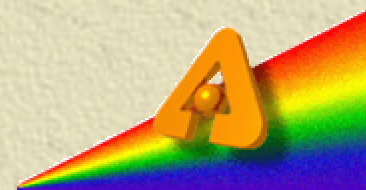
What's the Problem?

✳ With the advent of PV gateways, reverse PV gateways, and liberal use of EPICS_CA_ADDR_LIST, the "isolated-subnet" assumption is no longer valid.
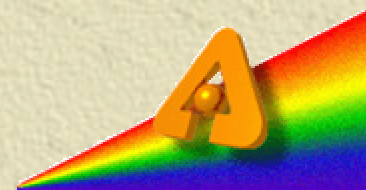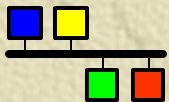

CAT Subnet

Accelerator Subnet
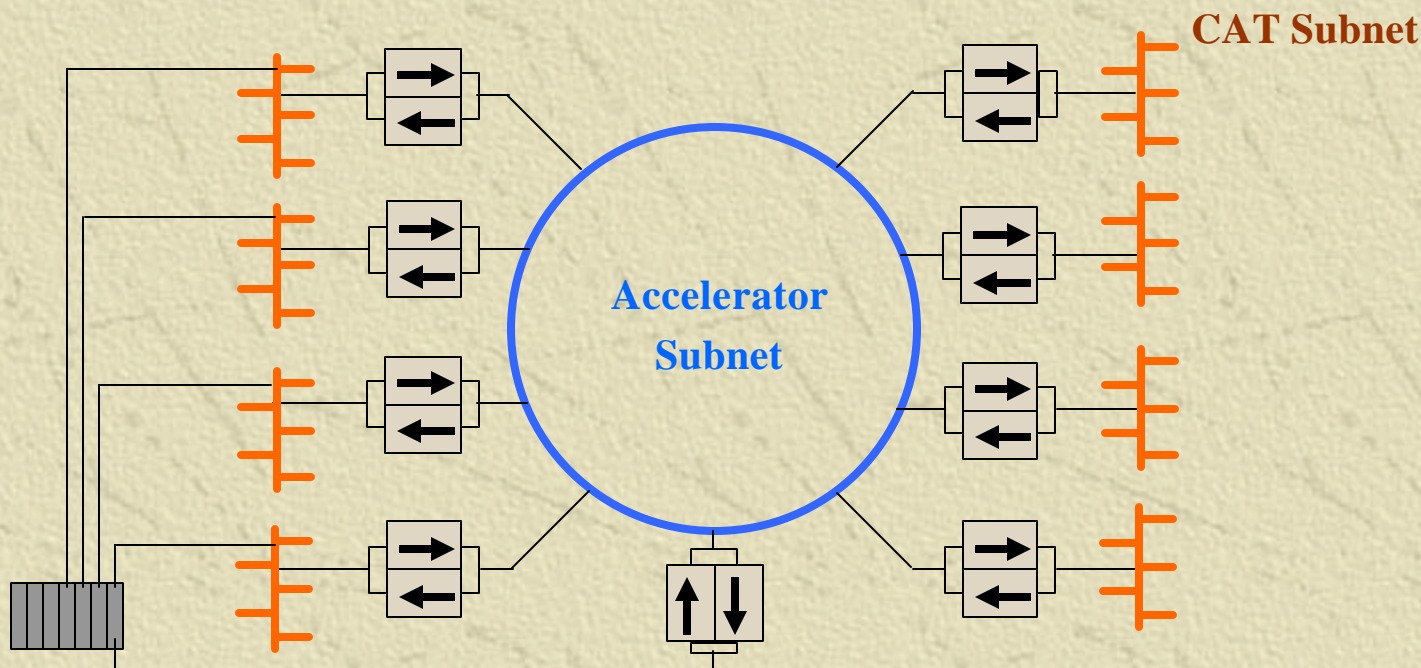
What's the Problem?

- Separate PV name-spaces have essentially been shorted together into a global APS PV name-space.

- There is nothing to prevent duplicate PV names from being used.

- It will become increasingly difficult to determine the origin of a PV.

    e.g. S1:resetAll.

EPICS

What's Next?
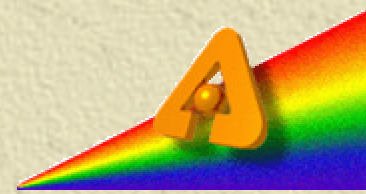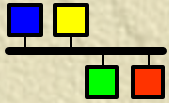
- BCDA will initiate a survey of PV prefixes in use
  - Sources:
    - Naming Conventions
    - List of PVs from iocs (does not require rebooting)
      - Script to identify unique prefixes
   - List of PVs sourced from Portable Channel Access Server applications

- Results of survey will be presented at the next TWG meeting

Executive Summary

- No catastrophic conflicts currently exist

- There are some significant conflicts, but we can accommodate the current conventions

- We propose a few recommendations that, if followed, would provide a smooth road to a well-defined site-wide naming convention.

- Just knowing where we stand is a *huge benefit* and we thank you for your cooperation!

EPICS
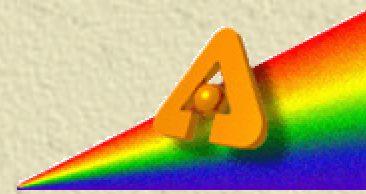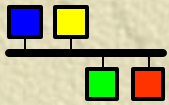
Survey Results

- Received responses from 22 sectors

  - (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,33,34)

- In general (with a few exceptions) …

  - *13 sectors use a convention that starts with the sector number (e.g. 9ida, 14BMD, etc)*

  - *5 sectors use a convention where the prefixes are lower case (pnc*, id*, bwi*, lax*)*

  - *2 sectors use S##[ID,BM] as a prefix*

  - *1 sector uses BM, BMT, and ID as prefixes*

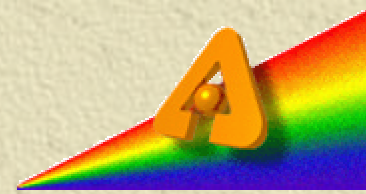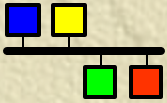 - *1 sector uses only PVs from APS supplied templates*
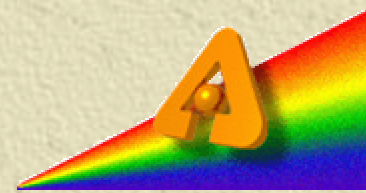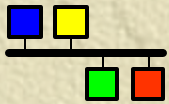
Survey Results
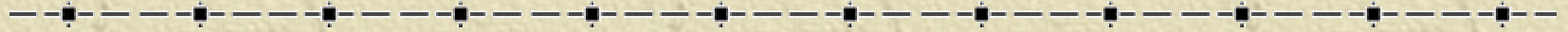
✳ Exceptions to stated conventions

- ◆ *Several sectors use template databases for a machine status link module and bunch clock modules that generate PVs of :*
  - *S$(unit)**
  - *BL$(S)**

- ◆ *A few sectors had PVs that clearly did not follow their convention (test databases, etc.)*

EPICS

Emerging Convention?

✳ **IF:**

- … all "maverick" PVs were corrected
- … APS templates for the bunch clock and msl-mrd100 modules were "modified" (which would change PV names)

✳ **THEN A STATED CONVENTION COULD BE:**

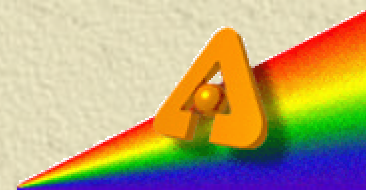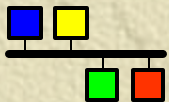- All beamline PVs should begin with their sector number [preferred] *or* lower case letters
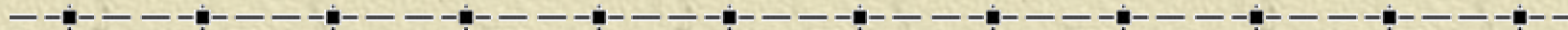- All accelerator PVs (those on the .2 subnet) should begin with capital letters (almost)
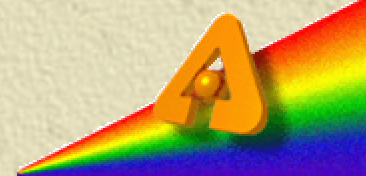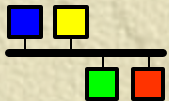
✳ **WITH THE FOLLOWING KNOWN EXCEPTIONS:**
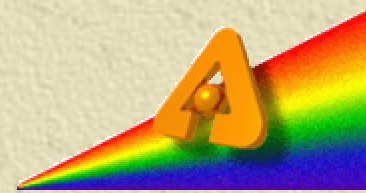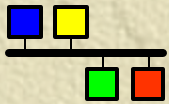
- <next slide>

Emerging Convention?

✳ **… WITH THE FOLLOWING EXCEPTIONS:**

- ◆ Beamlines
  - S10ID* (MRCAT)
  - S17ID*, S17BM* (IMCA-CAT)
  - BM*, BMT*, ID* (SBC)

- ◆ Accelerator
  - ioc*   (6065)
  - Other lower case: (156)
  - PV Gateway PVs on subnets; Snn (11/sector)

How Bad Are the Exceptions?

- BL$(S): - ☺
- S$(unit)BnchClk – ☺
- S10ID: - ☹
- S17ID: - ☹
- S17BM: - ☹
- BM – ☺
- BMT - ☺
- ID - ☹
- ioc* - ☺
- Other accelerator lower case - ☺
- PV Gateway PVs - ☺

- ☹ - conflict exists with other PV prefixes

Action Items

- **Beamlines**
  - Publicize your PV naming convention to whomever might create PVs
  - Correct "maverick" PVs that violate your own convention
  - Assist in installing new template databases
 - Consider "preferred" convention over self-created

- **BCDA**
  - Provide new template databases for APS modules
  - Provide a web page describing PV naming conventions and "grandfathered" exceptions
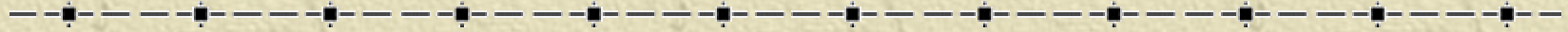 - Provide assistance in converting templates and client applications

- **Accelerator Systems**
  - Adapt to and stay consistent with the convention
  - Maintain PV Gateway access lists consistent with the conventions

EPICS
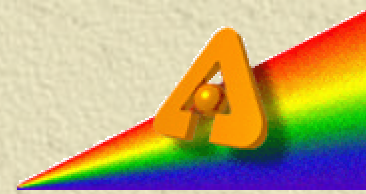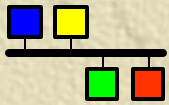
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