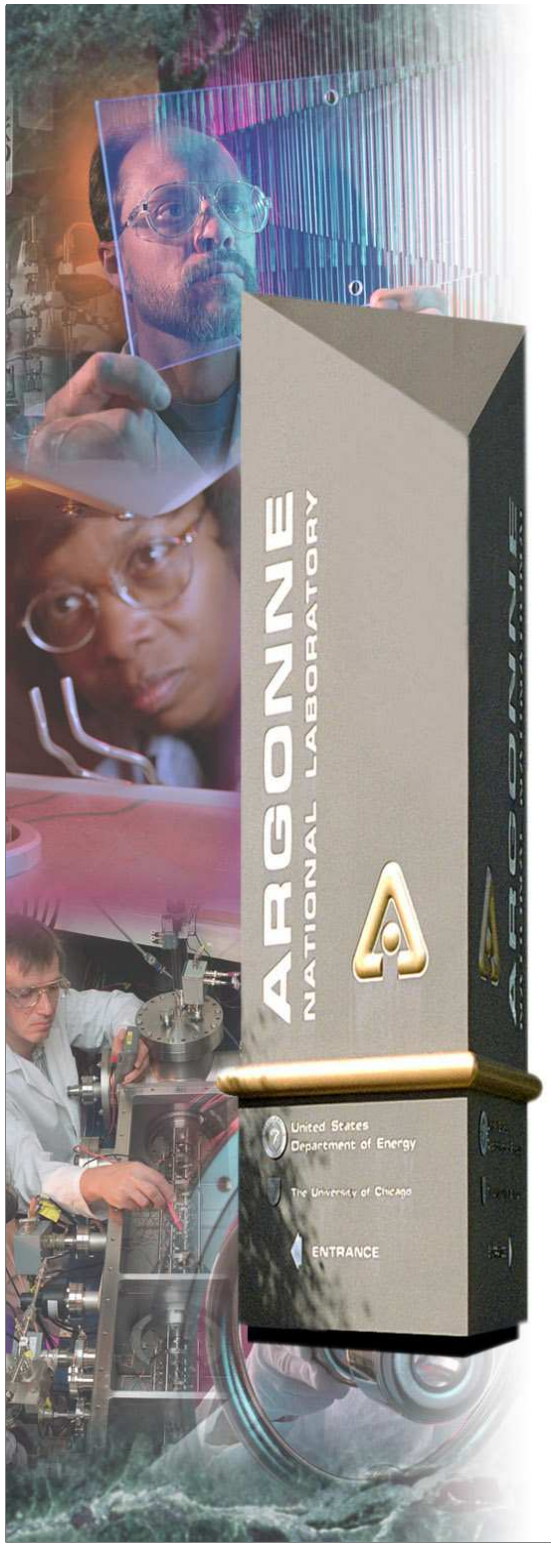

IRMIS Crawler Extensions

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Office of Science
U.S. Department of Energy

A U.S. Department of Energy
Office of Science Laboratory
Operated by The University of Chicago

Please Sir, can I have some more?

Advanced Photon Source

- **IRMIS is great for questions about PVs, or about IOCs and devices**
- **Not much currently connects them together**
- **I want to be able to ask questions like**
  - What PVs are:
    - *connected to each pin of this device?*
    - *communicating over this serial line?*
    - *connected to signals in this cable?*
    - *talking to the same PLC as this PV?*
  - Are there any other PVs that access this signal?
  - …

Here be Dragons!

- **IRMIS should map the system resources used in each IOC**
  - VME Address Space used:
    - *Show where all the cards are, in each address space,*
    - *Warn of card address overlaps,*
    - *Warn of any VME addresses used that the CPU can't access.*

The crawler would have to understand the startup script commands for every device and driver support used, which might include multiple versions of the same support – a hard problem.

I accept this may not be feasible at all where module_types.c is used, but we are phasing that out for R3.14 support code.

Dr Livingstone, I presume?

- **More system resource maps**
  - VME Interrupt Vector usage
    - *Table showing which drivers use each vector*
    - *Warn of vector clashes*
      - Careful though – some architectures can share vectors!
  - VME Interrupt Level usage
    - *Show relative priorities of different cards*
    - *Allow for multiple VME CPUs on the same backplane*

WIBNIF

- **IRMIS could store configuration data for each component**
  - Card jumper/switch settings, EPROM/Flash version numbers etc.
  - Settings can be cross-checked against the initialization commands in the IOC's startup script
    - *Addresses, interrupt levels & vectors*
  - Some settings are generic (Card #2 etc), others will be specific to a particular card instance
    - *I'd like to be able to ask IRMIS:*
      - How should I set up this new card in this IOC?
    - *It should look for space in my address map, interrupts etc.*

Maintaining this data could become a nightmare if taken too far.