IRMIS Crawler Extensions

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Please Sir, can I have some more?

- 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*
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.