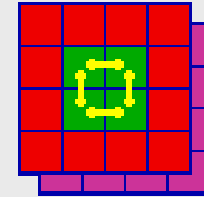# ATLAS Level-1 Calorimeter Trigger
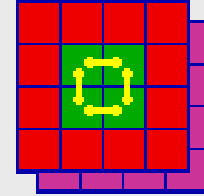
Module Services, ROS, RoIB, System Management

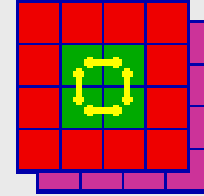… And all that ...

Bruce M. Barnett

Overview

- Module Services (6)
- ROS news
- RoiBuilder
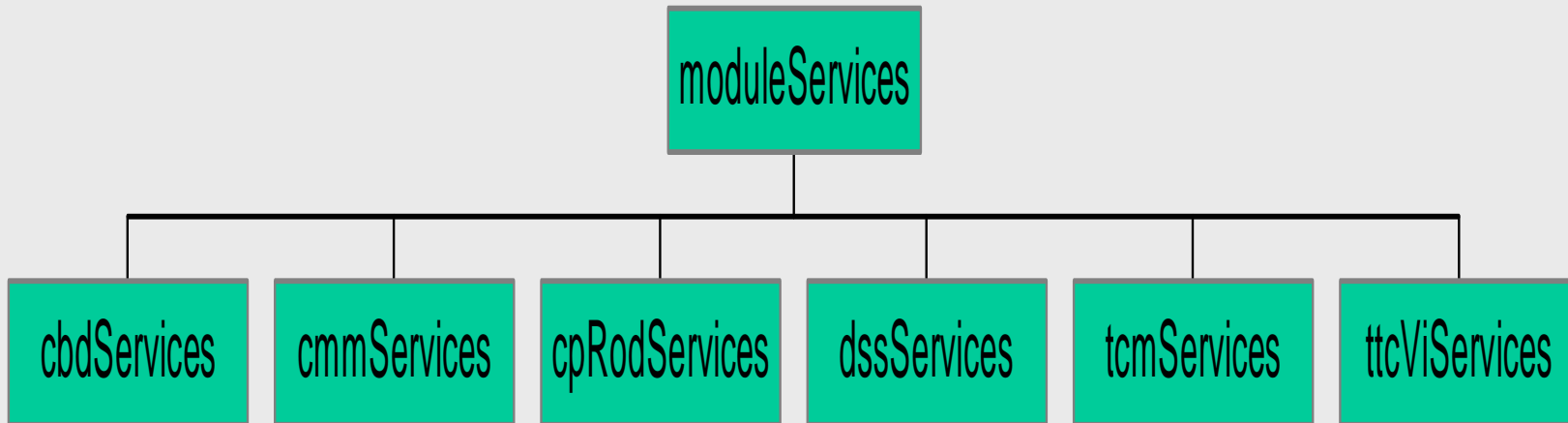- System Management {Sys Man} (2)

Module Services (1/6)

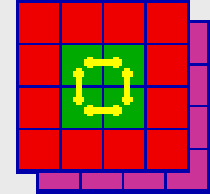- Much progress has been made towards "real" slice-test environment and software:
  - Module service packages for CpRod, Ttcvi and Dss
    - CpRod, Ttcvi, Dss and Cbd classes are now functional and use HDMC hardware access layer and parts files.
    - operational in "Looper" and "Kicker" code
  - New Modules
    - Tcm framework
    - Cmm framework -
      - Which Norman is filling with functional code.

Module Services (2/6)

```
                        ┌──────────────────┐
                        │  moduleServices  │
                        └────────┬─────────┘
        ┌──────────┬──────────┬──┴───────┬──────────┬──────────┐
```

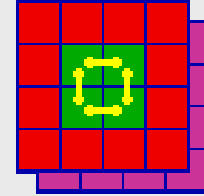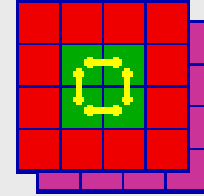| cbdServices | cmmServices | cpRodServices | dssServices | tcmServices | ttcViServices |

Module Services (3/6)

- DataBase and Run Control integration:
  - Incorporate use of L1Calo Database interface:
    - Use to setup specific registers on "load".
    - Reimplement (my) local database to use L1Calo db-interface
      - for test purposed.
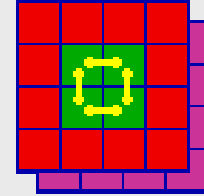 - Integration sessions with M.L.

Module Services (4/6)

- Interfaces stabilizing
  - TestVectorReader
    - to define module reader interface which provides access to SJH simulation results:
      - » descriptor specified by database.
  - Modified DaqInterface Interfaces:
    - load() :
      - » set xoff where applicable
      - » load firmware
      - » do reset-type operations (pulse-register)
      - » select clock source
    - config():
      - » configure registers (not requiring reset) and playback buffers.
    - start():
      - » remove xoff, where applicable
      - » broadcast ttcrx commands (eg: start playback)
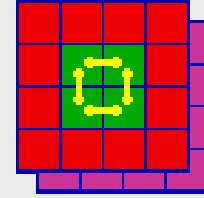
Module Services (5/6)

– Repositories

- Test code (Looper) move to CMT completed
  - module services, test code uploaded to archive
  - Package dependencies cleansed.
- HDMC:
  - Saved latest updates in interim repository (RAL).
  - Included new parts:
    » G. Mahout's DataSourceTV
    » VMEBusCERN (basic implementation).
  - Parts, bit-definition files
    » those relevant to module Services moved to "l1calo" tree.
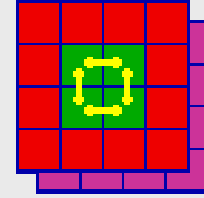 - Bin, Lib and Obj directory trees now "l1calo" compliant

Module Services (6/6)

– Update test software: (To Do)
  - Use a TestVectorReader to access Steve's simulation replacement for W. Stokes' code.
    – TestVectorReader interface for the old code now exists.
  - ROS readout. ROS distribution has now been tested.
    – Need to see what else can be done with what has been provided.
  - Check Dss Variants (identify un-implemented methods.)
  - Integration of moduleServices parts-file-read with HDMC GUI.
    – when using the GUI a number of parts files must be merged and reinitialised: should be automatic.
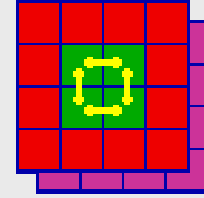 - Documentation

ROS News

- Public Distribution:
  - Made available for "beta++" test at end of April.
  - tested May.
  - Comments fed back to source:
    - Good as far as it goes, but …
      - Notes on advanced use are sparse.
      - RH6.1 and kernel 2.2 support only.
        - » RH7.2 and kernel 2.4 compliant version is now available.
      - DAQ-1 0.0.15 assumed.
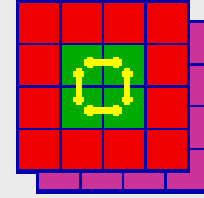   - » 0.0.17 current

RoiB News

- ## PDR took place
  - early 2002: Feb/March
    - suspended in order to address technical issues
    - issues which need to be addressed include:
      - flow control (at source and sink)
      - setting of timeouts
        » to recover, should data fail to appear
      - simulation

- ## New integration tests?
  - When significant new h/w is available
    - in an integrated s/w environment
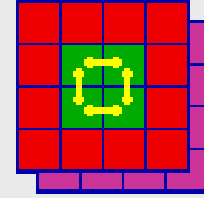 - Consistent with L1 Calo slice-test progress

Sys Man (1/2)

- **CERN Linux distributions**
  - on which
    - various common CERN and commercial packages are certified
  - are RH
    - CERN RH7.2 is now available (2.4 kernel)
      - Online and ROS are now RH7.2/kernel 2.4 compliant
    - RAL and Birmingham are now using RH7.2.
    - We should adopt this as our standard.
      - With common tool set (nedit, wget, java, lesstif, qt, qwt … etc. See L1Calo s/w web.)

Sys Man (2/2)

- Drivers:
  - CERN VME driver is quite stable:
    - API is well defined
    - has become a standard with many ATLAS users.
    - Multi-user
    - is now in use in a number of our institutes.
  - we should:
    - deprecate older drivers
      - hannappel
      - vmelinux