# Level-3 Status

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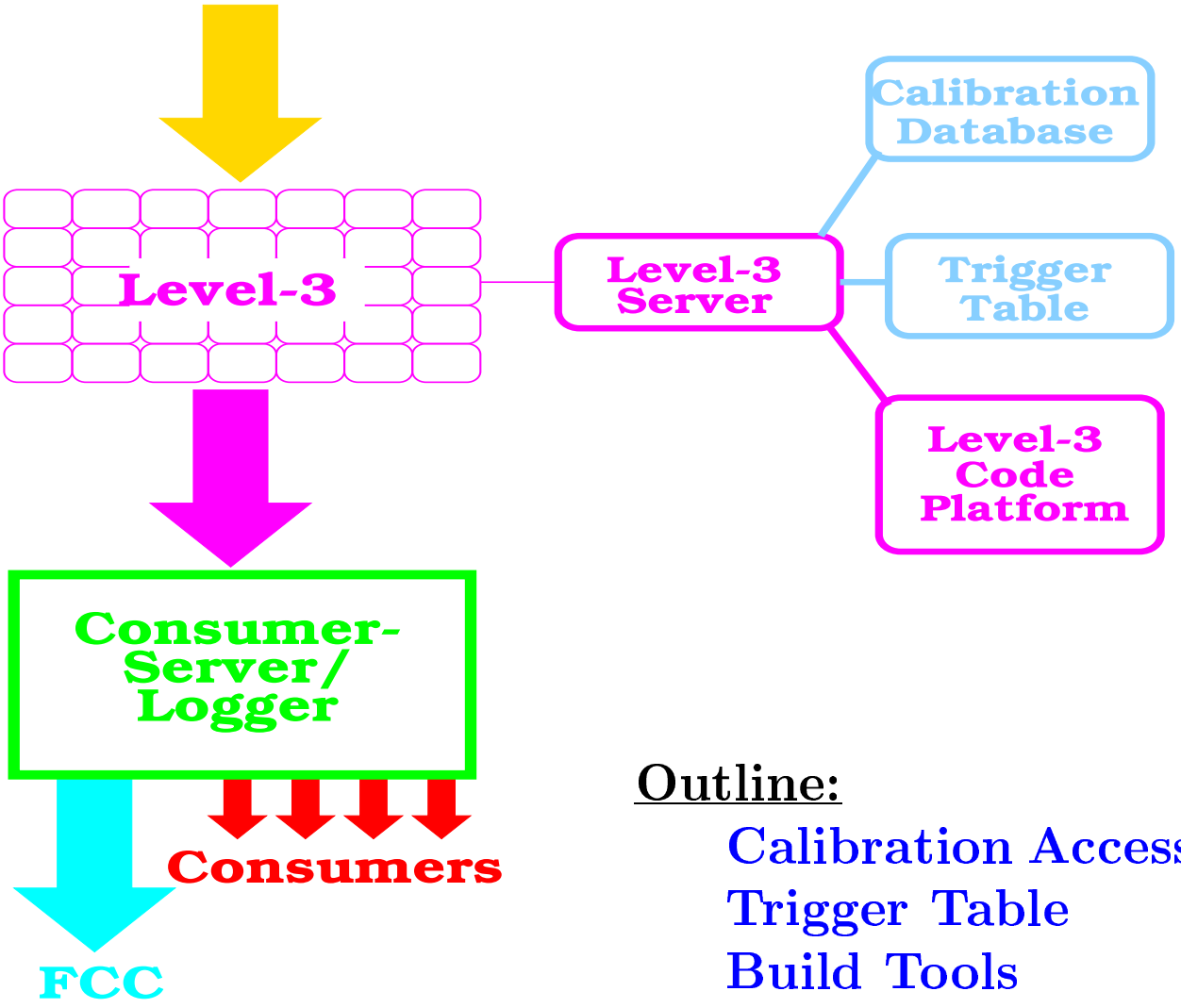
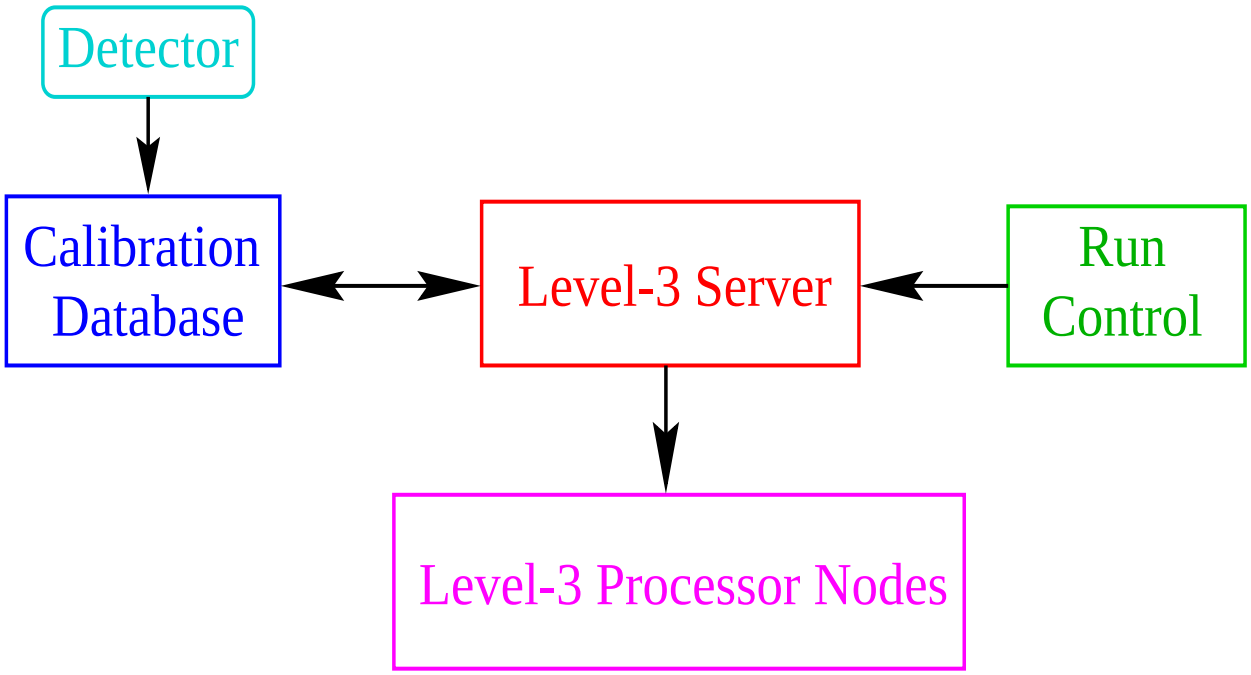
DAQ Meeting, May 19, 1999




**Outline:**

- Calibration Access
- Trigger Table
- Build Tools
- Framework
- Regional Tracking
- Schedule

# Calibration Access




## Current Plan:

- New calibration constants are validated and stored
- At **Begin Run** the **Level-3 Server** node acquires the latest validated calibration constants from the database and tags them
- The calibrations are saved to a flat file which is distributed to all of the Level-3 processing nodes

## Future Work:

- Implement **"save"** feature into the calibration database management system **(J. Kowalkowski, Calibration group)**

# Trigger Table

## Currently have:

- A **prototype** trigger table design implemented in **Oracle** database
- An example $\psi \rightarrow \mu\mu$ trigger in the trigger tables
- Successfully accessed the trigger tables and generated a **tcl** file for the Level-3 executable using **Perl DBI**

## Summer Work:

- **June** - 1st pass at real trigger table
  - implement triggers which have already been approved by TWG in prototype trigger table
- Finalize a trigger table design **(Trigger Working Group)**
- Automate input of Level-3 trigger information into database **(K. Tollefson)**

# Level-3 Executable Build Tools

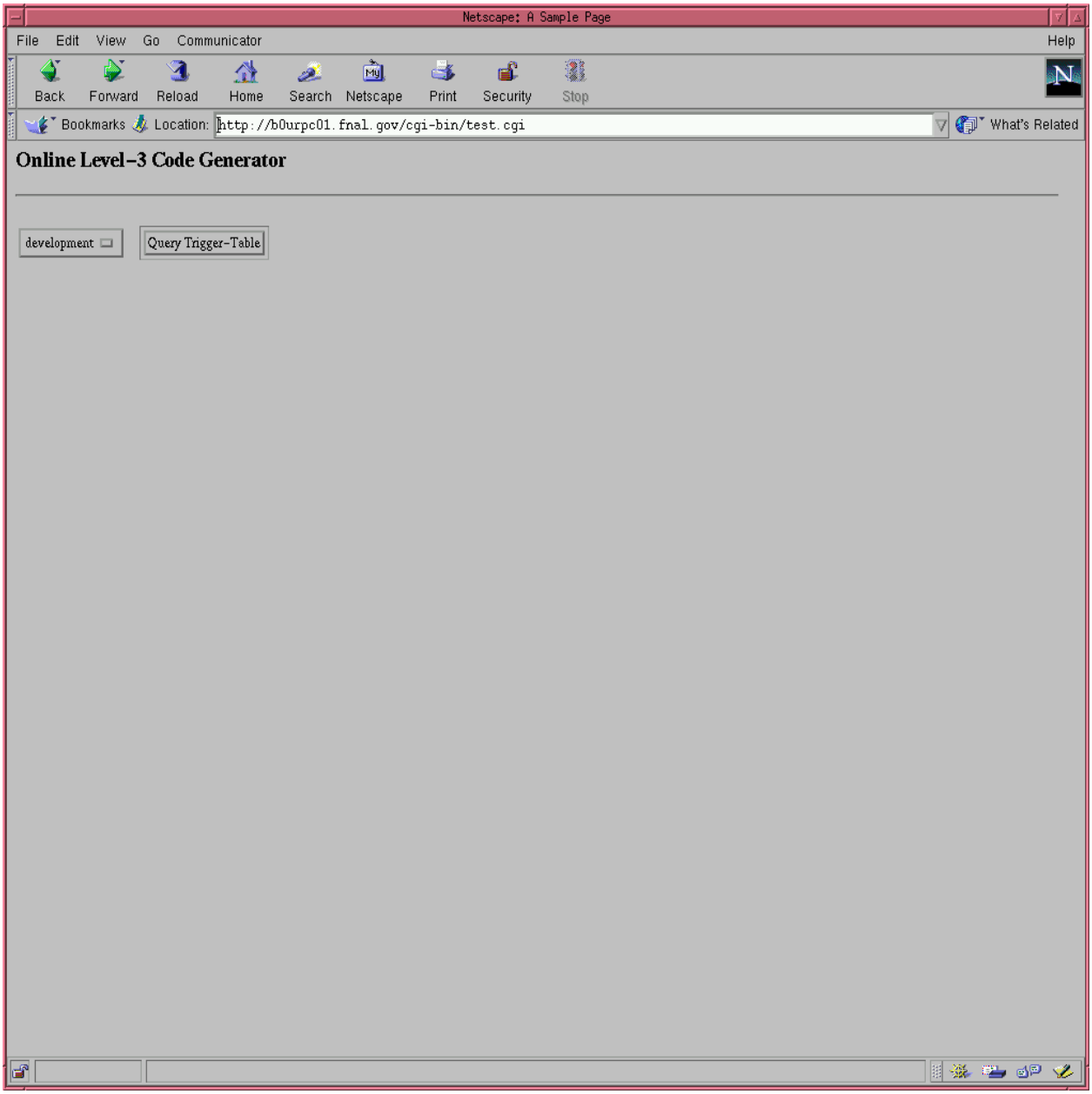
## Currently:

- Use **Perl DBI** to access the trigger table and create a **build** file for a Level-3 executable
- Have set up a web page where a user can query the trigger database to create a **build** file and a **tcl** file **http://b0urpc01.fnal.gov/cgi-bin/test.cgi**
- Setting up a platform for building and testing Level-3 executables on a Linux PC **(K. McFarland, K. Tollefson)**
- Jim Patrick has placed order for the real build platform which should be here this summer

## Summer Work:

- Refine build tools **(Rochester,Production group)**

# Level-3 Code Generator Web Page



# Framework

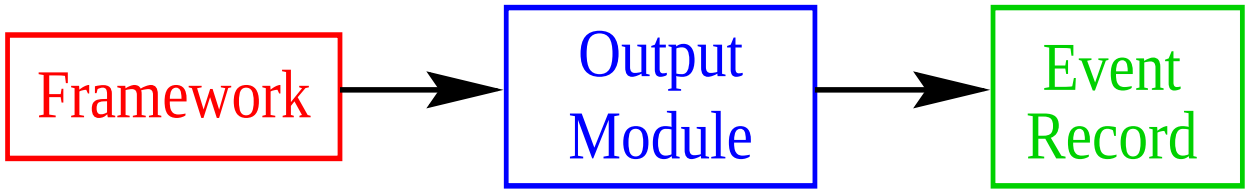
## Framework now allows:

- Dynamic cloning of modules
- Filter modules with on, off or veto
- Some monitoring tools for path statistics

## Summer Work:

- Additional functionality in the Level-3 Prerequisite and Output modules **(Rochester, L. Sexton)**
- More sophisticated monitoring of trigger paths **(M. Carew, L. Sexton)**

# Monitoring Trigger Paths




## Will Monitor:

- Dataset Profiles (*all events*)
  - **Level-3 Accept/Reject rates** by:
    - trigger
    - filter
    - cut
    - conditions (e.g. luminosity)
  - Physical **datastream occupancy by trigger**
- Data Quality Monitoring (*some events*)
  - Raw **detector occupancies**
    - from crossing trigger, after hardware trigger, after Level-3
  - **Level-3 checks**
    - prescaled auto-accepts
  - **Level-3 Reconstruction**
    - efficiency and resolution for control samples (e.g. offline tracking vs. XFT, extra jet rates after inclusive trigger)
    - competing algorithms (tracking)
    - high-level distributions from Level-3 reconstruction

# Level-3 Regional Tracking

## Since January:

- Chris Green, Oxford and Rochester groups have been working with Rob Kennedy to define how regional tracking is handled in the AC++ framework with the new **EDM**.
- Oxford group has been implementing the **framework** needed to handle regional tracking for both COT and Silicon tracking

## For June code release:

- Have implementation of regional tracking in Silicon and COT **(Oxford, Rochester, C. Green)**
- Have **use case examples** of regional tracking for summer users **(Rochester,Oxford)**
  - XFT seeded regional tracking
  - EM cluster seeded regional tracking
- Include wide regions in COT regional tracking **(K. Tollefson)**

# Schedule

- The main focus for the **summer** will be on:
  - Level-3 access to the **calibration database**
  - Improving **trigger table design**
  - Setting up a Level-3 executable **build platform**
  - Improving **monitoring** capabilities
  - Finalizing the framework for **regional tracking**
- A few projects have slipped by a few weeks:
  - COT regional tracking studies
  - Calibration database access
- Should have enough functionality in AC++ code to have physics groups **define Level-3 triggers**
- Most of the work this summer will be to finalize and improve current prototypes