BRAT

- Status
- Near term plans
  - DB access
  - BRAT Reorganization issues
- Online Monitoring

Status

- Successfully used to analyzed RHIC 2000 Run data.
- First BRAHMS paper. All analysis done with BRAT
- DB access coming into it's own, but needs to be used.
- Automation and streamlining
  - Currently have some ad-hoc programs which are put together to do reconstruction, reduction etc.
  - CH has put together a framework for using managers in a "consistent way"
- Analysis programs need to be committed so other people can use them.
  - BRAT where appropriate
  - brahms_app subdirs otherwise

Near term goals

- DB access
  - Only real DB access in production mode at the moment is run DB
  - Need DB access for:
    - Calibrations
    - Geometry
    - Detector parameters???
- Reorganization
  - Current BRAT organization along detectors for most part.
  - Good for development, but now we need to expand the paradigm
- Expand use of manager framework.

Geometry DB Access

- Currently using ASCII files with a bunch of if statements in a PERL script to decide which one.
- Worked, but is tedious, very un-automatic and error prone.
- BrGeometryDbManager now has MySQL mode which can be set to use BRAHMS MySQL DB. Organization of tables still needs some discussion, but working prototype+ exists.

Geometry DB Access (continued)

- Current Incarnation
  - Table of detector positions on platform (approximately one per year)
  - Table of platform positions (relative to nominal vertex) and angle (one for each run #)
    - Should angle come from run DB?
    - If we find that platform is off by some amount, would have to change run DB. Not good.
    - If we have this table, then have two copies of angle. Not good.
    - Have only one platform! On MRS, TPC sits on movable platform. Should specify position of TPC on that platform. Then need other table specifying position of that platform relative to MRS platform.
  - Script exists that can build these tables (based on script that decides which ascii files to use

Calibration DB

- Calibrations now exist in a series of ASCII files in the $BRATSYS/params subdir (or even worse in peoples private directories!!!)
- Some progress in making calibration structures based on DB framework, but actually read ASCII files for now (CH stuff; tiles, si)
- NEED TO GET THIS IN ORDER because it is very to use if not an expert in the detector.
- Progress:
  - BB (first guinea pig; but not used I think)
  - Tiles and Si
  - Tof (nice calibration software, but also not used as far as I can see)
  - ZDC (in it's infancy; based on Tof example)

Detector Parameter DB

- Have a set of detector parameters ASCII files in $BRATSYS/params.
- Some overlap with calibration params that are not used anymore (I think).
- Some are still used.
- Should probably be put into real DB with revisions and all and implement automation for when they are updated.
- How to do? I don't know!!!
  - Copy of ASCII file in DB (easy; but useful?)
  - Need input from detector people!!!

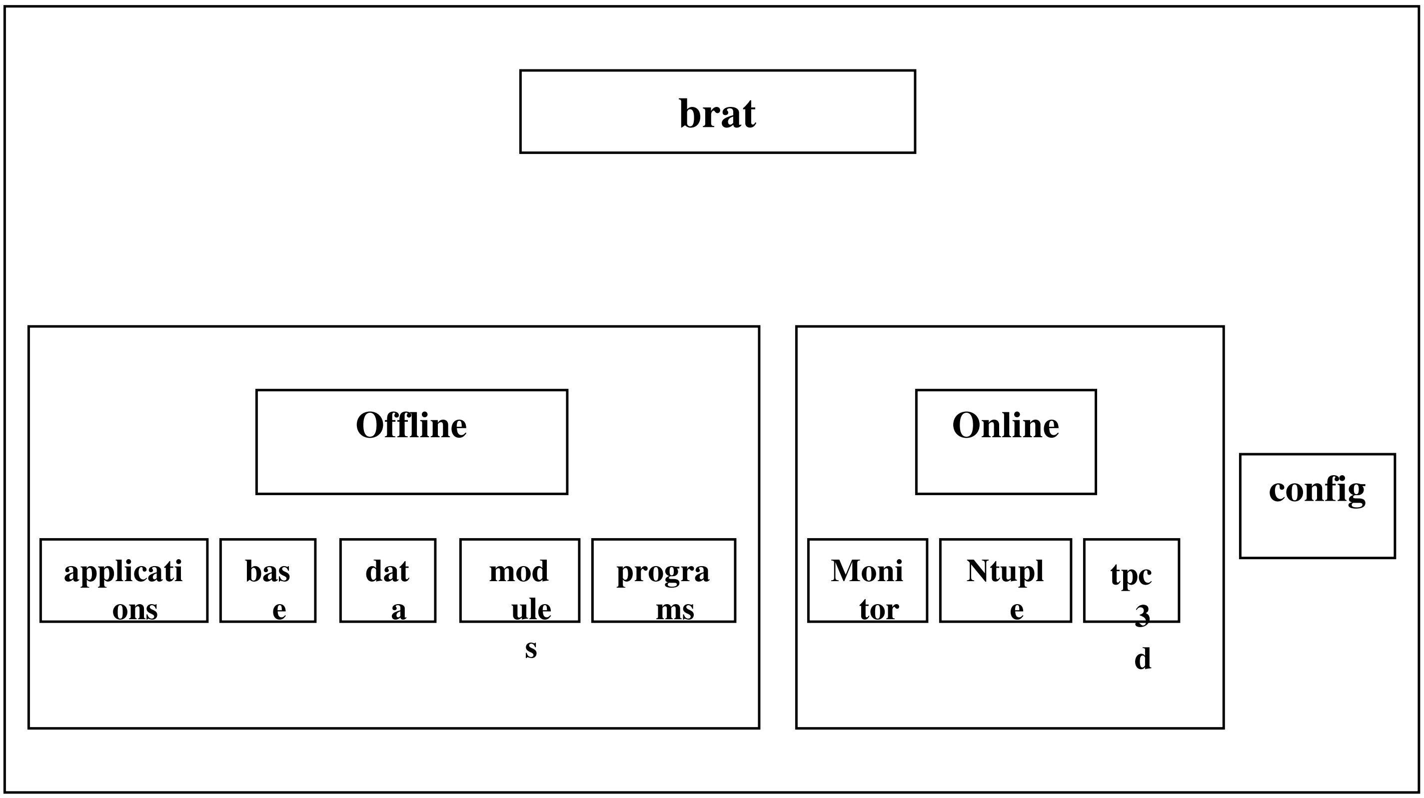
BRAT Reorganization

- Files
  - Current organization largely along detectors
  - Getting too complicated for that and situation demands another organization.
- Build procedure
  - Now we have "simple" make file that at least I more or less understand.
  - Should we change to go to a more guru type?
- Naming conventions
  - File naming convention now very loose!!! CH has written down a "strict" convention that all new files should follow.

Files

- Top Level
  - Offline
  - Online
- Organized along lines of functionality
  - data structures
  - modules
  - programs
- Implementation
  - Have a script which is a direct translation from current to new.
  - Makefiles and LinkDef files are worked out.
  - Can be done as soon as we decide and changeover should be transparent (more or less)

BRAT Reorganization



Build Procedure

- Currently makefiles.
  - Download BRAT
  - type make
  - done
- CH proposes something else
  - Download BRAT
  - type aclocal
  - type something else
  - type ./configure --prefix=/home/user/brat
  - type make
  - type make install
  - Supposedly “better” (CH has written me many pages of prose extolling virtues)
  - Fons Rademakers advised me to “just do it” if CH offers to do it
    - I didn’t agree with his reasoning either!!!
  - How do others feel?

File and class naming conventions

- Currently have loose naming convention which is not enforced (except by CH)
- CH has designed strict file/class naming convention
  - BrDigSi WRONG!!!
  - BrSiDig Right
- strongly proposes to rename overwhelming majority of files to conform to standards in changeover to brat 2
- I feel we should possibly impose the convention for future files, but keep existing files as they are to minimize confusion in changeover.
- How do others feel?

Manager Framework

- BrMainModule
- A module which encompasses all of the operations for a given session.
- Executes a script at beginning that can be used to configure analysis on the inside.
- Once implemented, many functions can be added in BrMainModule to provide information on what type of analysis is done, what results are etc.

Monitoring

- I have made a number of improvements to Monitoring software for use in NIMROD.
- Feed back into BRAT this week (kind of)
- Propose to make other modules to have online vertex, p, pt and pid spectra
  - calibrated bb, zdc (vertex)
  - online tracking and roughly calibrated tof (pid)
  - another reason to get tof into a module

Monitoring (continued)

- BrNtuple
  - very useful in last run
  - does it need any enhancements?
- Tpc3d
  - also very useful
  - would like to make a mode for automatic updating that can just be set; then watched
  - other enhancements necessary?

Conclusions

- Some work to do to make BRAT a fully production software product.
- Basically in good shape.