Outline

- Bridge federations
- Other activities
  - Analysis
- Others
  - Objy releases
  - Communication
  - Manpower
- Future plans
Bridge Federations

- Reading (phase I) OK
- Writing (phase II) almost OK
  - delivered (in 10.4.4 and 11.9.0)
  - Used by skims, backed off last Friday due to internal bug and lock collisions
  - Current status
    - Both problems understood
    - Fixes will be provided within a week
Bridge Federations – cont...

- Phase III (output fd != input fd)
  - For data export, BdbServer++
  - Due 30 June 02. Good progress already

- Phase IV (multiple input fds)
  - For event mixing
  - Estimating benefits vs. implementation cost
No news
- ...is a good news
  - All working
  - Redesigning, main effort outside of bdb

Assisting Padova (REP, Linux servers)
- This effort will increase in the next few months
Bridge federations
- almost there

Data compression (due 1stQ’02)
- AMS decompresses the data
- Example compression factors
  - 3.1:1 (evsdhr), 3.6:1 (evt), 1.9:1 (aod), 1.6:1 (esd)
- On schedule, productizing
  - testing
  - fixing bugs
  - estimating CPU cost
  - working on plugging into production system
Analysis (2)

- Working on reducing size of event (expected to finish 2\textsuperscript{nd}-3\textsuperscript{rd} Q’02)
  - Current status: developing a tool for finding detailed statistics on sizes, overheads – almost ready

- AMS redirection and automatic load balance (due 2\textsuperscript{nd} Q’02)
  - Will improve performance
    - distribute load
    - reduce influence of disk failures
      - # disk failures grows (more disks, disks get older)
  - Still far away, coding in progress
Starting to seriously focus on performance

- “testbed” to measure sizes & performance
- Improving collection code
  - Fixed problems with crashes due to lock collisions
  - All lock collision problems will be fully addressed in ~ a week
  - Working on mapping collection → set of associated files
    - Much more difficult than expected due to “borrowing” events
    - No good time estimate yet
  - Other changes if manpower permits
- Plans to reduce disk & network traffic (2\textsuperscript{nd}-4\textsuperscript{th}Q’02)
Reworking Conditions DB
- Will address all current problems
- Lightweight and flexible
- Redesign in progress, due 15 Jun’02
- Tight schedule
**CondDB: Implementation & Deployment**

**Design**
- Jan: Design review
- Feb: Design of persistent data structures & operations
- Mar: Implementation of persistent data structures & operations
- Apr: Design of the Database Distribution Tools
- May: Implementation of the Database Distribution Tools
- June: Design review

**Implementation**
- Feb: Write Enabled Wrapper
- Mar: Write Enabled Wrapper
- Apr: Optimization for the persistent data structures and API
- May: Testing the Distribution Tools
- June: Testing the Distribution Tools

**Migration**
- Feb: Migrate sample client
- Mar: "Bulk" migration of proxies and loader applications to new API
- Apr: Remaining proxies and loaders
- May: Clients migration tests; old database
- June: Clients migration tests; old database

**Testing**
- Feb: ElfApp tests; converted database
- Mar: Implementation of transient API for new persistent structures
- Apr: Deep clone ops
- May: Optimize implementation for the persistent data structures and API
- June:ElfApp tests; converted database
7.0.1 available
- In 11.x.x series, starting from 11.9.0
- Lock traffic reduced 33-50%

Linux support
- Still RH 6.1, kernel 2.2.12 and 2.2.14, gcc 2.95.2
- Official certification from Objy coming end of Feb: RH 7.2, kernel 2.4.9-21, gcc 2.95.3

Next major release 8: ~1st Q’03
- Will get some useful features much sooner
Communication

- Bdb website (www.slac.stanford.edu/bdb)
  - Statistics show good interest
    - Especially Real Time Monitoring
- Error reporting & response
  - New HN: BdbSOS
    - Works well, high traffic, focused discussions
- Feedback, suggestions always welcome

Did you know…? You can track status of most major Bdb projects. See website for details
Manpower

- No changes since Dec’01
  - Development ~4 FTE
    - Working on hiring one person
  - Operations ~3 FTE

- Total ~ 43 FTE
Summary

- Do you remember OPR state ~2 years ago?
  (~8 Hz, 50 nodes, <10 pb\(^{-1}\)/day?)
- ~18 months of tuning \(\rightarrow\) >300 pb\(^{-1}\)/day
  + Objy no longer perceived as a bottleneck
  + “Keeping up with data, still room to increase rate”
  + Gained a lot of experience!

- We’re just starting to focus on Analysis…