

Databases

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FIFE Workshop

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Major Areas

- Collaborative Tools
 - Running the collaboration
- Data Management Applications
 - Data storage, maintenance, access and delivery using databases
- Infrastructure

Collaborative Tools

- Electronic Logbook
 - 30 instances, many IF experiments
- Shift Scheduler
- Speakers Bureau
 - Developed for DES, but can be used by IF experiments
 - D0 (legacy)
- Members Database

Data Management Applications

- Run II legacy applications
 - D0 Trigger
 - D0 Luminosity
 - CDF Frontier
 - D0 Calibration
 - Overlap with Data Preservation Project

Data Management Applications

- Intensity Frontier
 - Minerva Conditions
 - NOvA Hardware
 - NOvA Conditions
 - Could be 10-100 TB
 - 500K channels

Data Management Applications

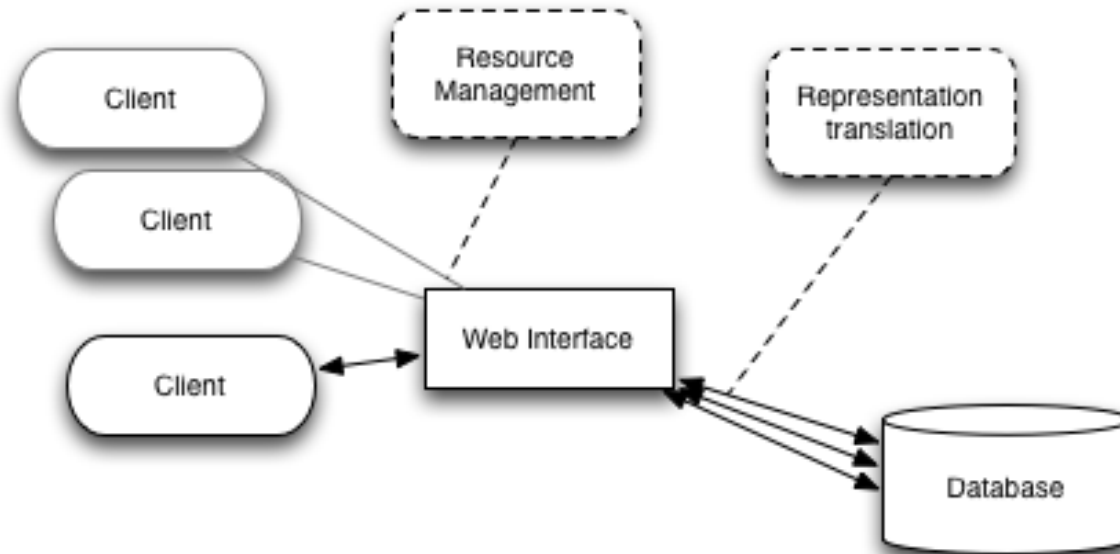
- IF Beam Conditions
 - Online monitoring
 - Offline data processing
 - Runs since Sept 2011
 - 0.5 TB
 - 1.2 Billion measurements
 - Set of variables to collect and store is configurable via GUI
 - ~500 variables stored for 1 month
 - ~50 forever

Data Management Applications

Common approach to scalable data access
problem for IF experiments

Put a (redundant) web service, in the middle

Web Server Functions



Resource management

Request throttling, resource competition between clients, application specific data cache layer

Representation decoupling

translation between application and DB representation, hide DB specifics from the client

Data Management Applications

- Astrophysics (DES)
 - Interactive Applications
 - Telemetry Viewer
 - Alarms Viewer
 - Constants
 - Exposure Viewer

Infrastructure

- Web Data Access Library
 - C-library for REST HTTP-based data access
 - Common tool to access data via CSV/REST/HTTP
 - Contributed to ifdh library
- Redundant Web Services Infrastructure
 - Distribution of data access requests among redundant web servers to increase performance and availability of the service
 - Used both for data and interactive servers

Short Term Future

- Data Management
 - NOvA Conditions
 - Database schema, API, web server in place
 - Schema based on Minerva Conditions, yet different
 - » allow data compression
 - » handle different approach to data storing
 - Need to integrate with NOvA DBI, put in production
 - LBNE Calibrations, Conditions
 - Will try to reuse what we have done for NOvA and Minerva

Short Term Future

- Data Management

- IF Beam

- After the end of the shutdown, we expect increase of user activity
 - Adding CR monitoring tools – variable monitor, real time charts – *mid June 2013*
 - Upgrading to Postgres 9.2 to take advantage of better data replication – *mid June 2013*

Short Term Future

- Collaborative Tools – *Summer 2013*
 - Create Speakers Bureau instance for G-2
 - Need to resolve issues with Members DB
 - Rework ECL GUI to split into 3 separate applications or “modules” – *June-July 2013*
 - Logbook
 - Shift Scheduler
 - Members Database
 - Add Speakers Bureau at the same level as 4th “module” – depends on Members DB progress
 - Collect requirements for Members Database

Short Term Future

- Collaborative Tools
 - Continue improvements of ECL
 - 16 open issues in RedMine
 - ITIL – *June-July 2013 ?*
 - Onboarding of Logbook and other collaborative tools
 - Mobile client development
 - iOS ECL Client ion beta testing. Still needs work.
 - Android – need to start working on this

Short Term Future

- Astrophysics (DES)
 - Publication Board – *we are behind the schedule (Fall 2012)*
 - Telemetry Viewer Improvements – *June 2013*