

D0 computing in France

- The D0 computing in France is **specific** since we have
 - **6 labs/universities**: 3 of them have installs of releases for code development
 - **a computing center**: **CCIN2P3** located in Lyon
 - ~ 30 experiments
 - a farm of workstations (HP, IBM, SUN, Linux/x86)
 - all machines for common use, **no dedicated clusters**
 - a large tape facility (robot)
 - I will concentrate in the issues related to the CC

- **We have constraints:**
 - disks: use of **AFS, 2Gb partitions** at most \Rightarrow problems in installs of D0RunII
 - Linux: **CC will move quickly to RH 6.1**, in fact all new machines (40 2x700Mhz 1Gb RAM + 40 coming next month) will be with RH 6.1
 - **tapes: 9840** (aka Eagle) for the robot and **DLTs for import export of data.**
- Network reliability problems when transferring large files (MCC99–II). Experimenting with CC tool, **bbftp**, that splits a transfer in up to 10 streams: **optimize bandwidth usage for single file transfer**. If network down, only one file transfer to be recovered. Retry will be implemented. Daemon running in CC, FNAL can do put and get.

Network

	CC	CERN	US
04/2000	6	45	Mb/s
05/2000	34	45	
10/2000	34	155	
05/2001	155	155	

NB: grid project, if founded, 1Gb/s in a few months !

Usage

- **MC generation**: we will be able to generate **~5K events/day** if enough manpower in France and enough resources at FNAL:
 - if network: large cache disk and good uptime
 - if tapes: people to handle, copy facility ?
 - NB: SAM could be used
- **Code development**: both in CC and labs. eg, all code development from the Orsay group is done locally.
- **Graphics**: most probably in labs.

- **data analysis**: Our current plans are to import a **fraction of the μ DSTs** and a **selection of EDU250**, all related to analyses in France (mostly SUSY).
 - **$\sim 2\text{Tb} / \text{year}$**
 - network ? Seems difficult for a large dataset unless we really have 1 Gb/s...
 - tapes ? Will need a tape copy facility
- **database**: Not clear. What is needed for the MC generated and analysis of the relevant subset of data. We have **ORACLE**, are there **import / mirror / proxy tools** ?

- **Code installation:** no longer that painful but still need semi-experts and rather time consuming. Most machines are not FNAL Linux and a direct copy of the binary distribution do not seem feasible.

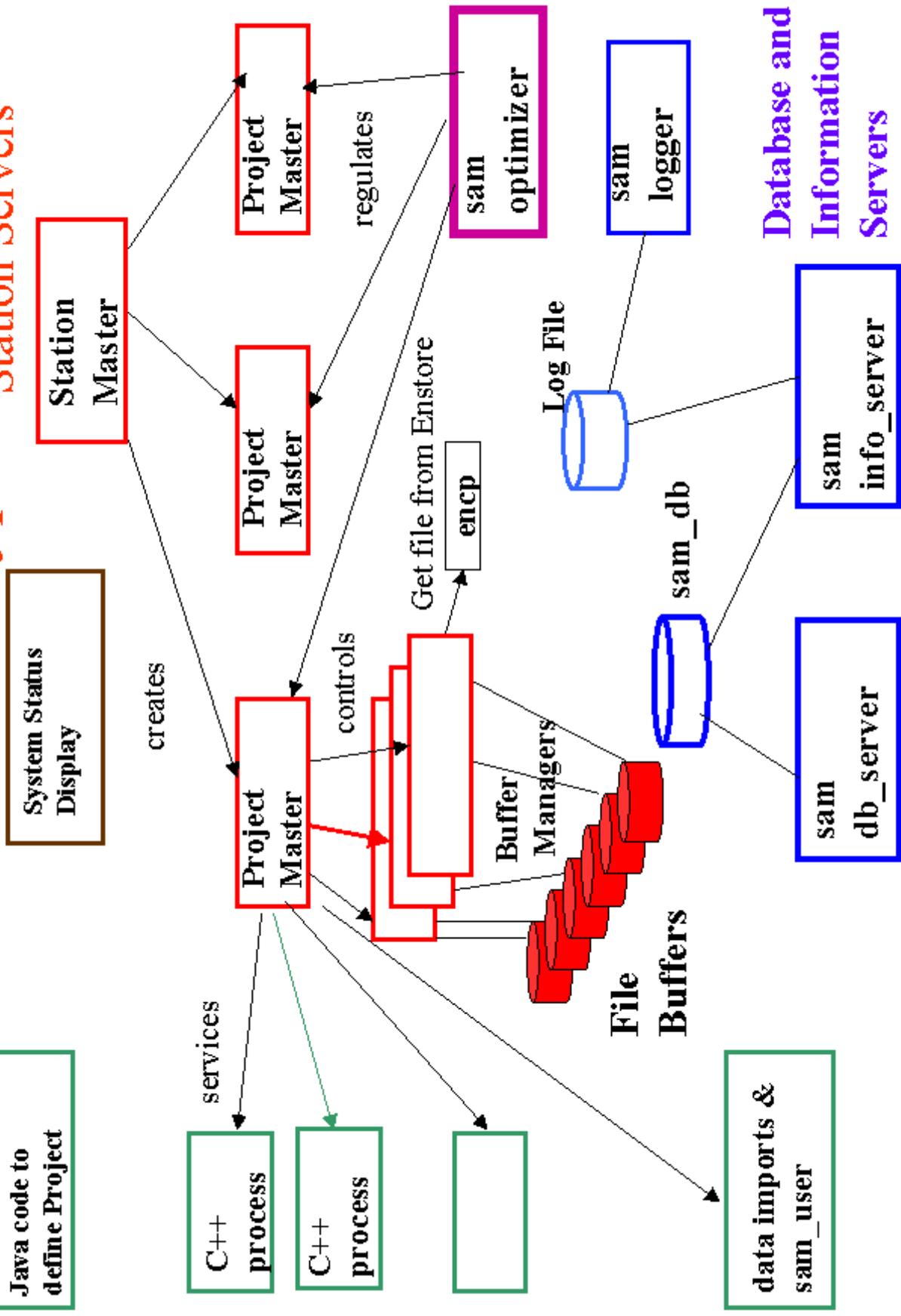
SAM installation

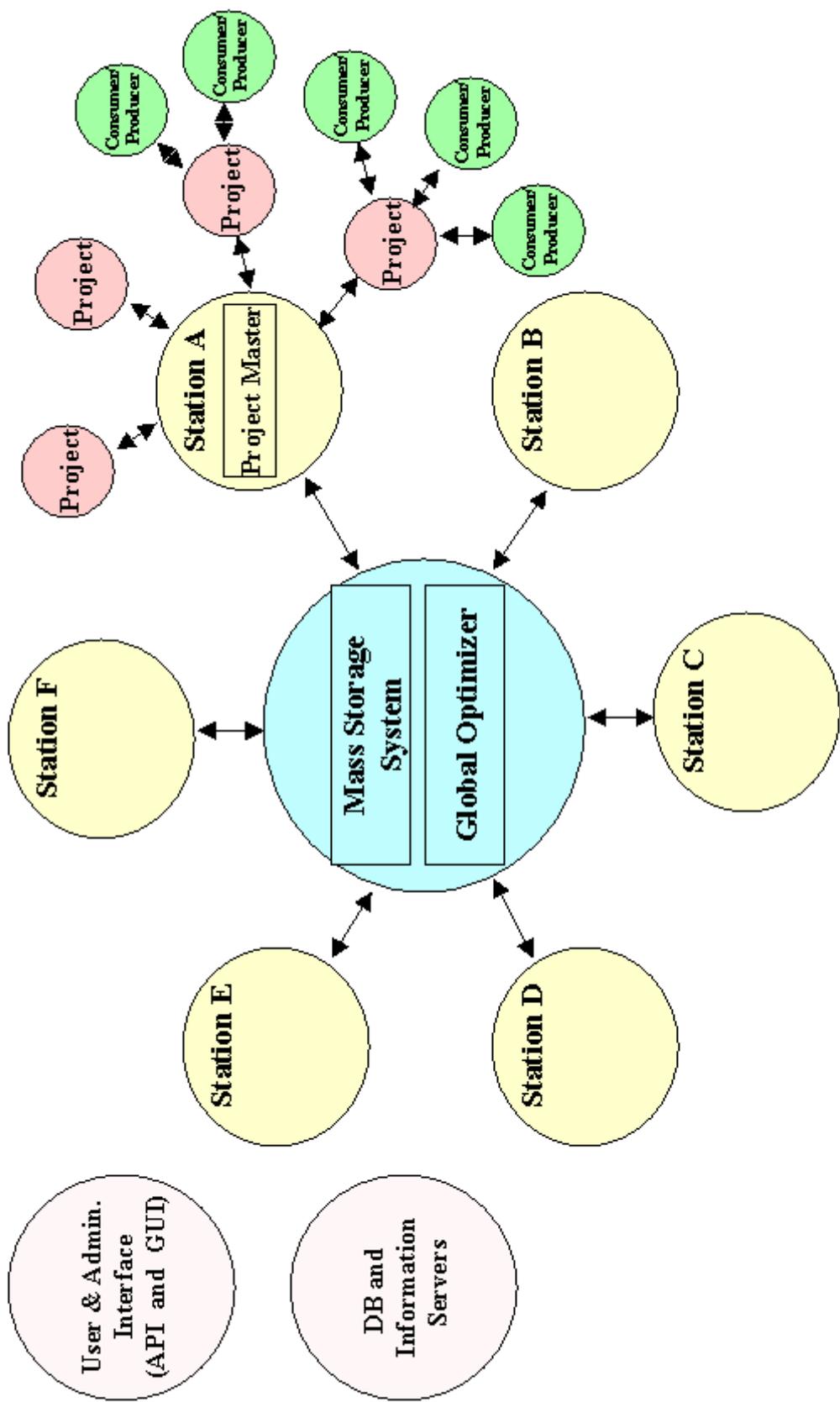
- Following the visit of Vicky in our computing center, we are trying to install SAM in CCIN2P3.
- Our test configuration is:
 - install and run `sam_station` in CC
 - modifications in `eworker` needed for access to tapes and/or HPSS
 - DB still at FNAL.

SAM Prototype

Station Servers

Users
Java code to define Project





- Step after step....
 - missing `.fnal.gov` for servers
 - `Fnorb` (Python interface to CORBA) bugs for cross-domain communications
 - Had to `recompile Python` because of problems with threads (CC incompatibilities with FNAL Linux).
 - `SAM team very responsive`
- Current status:
 - station `ccin2p3`–analysis is running
 - can query config from `d0mino` and `CC`
 - cannot add disk cache