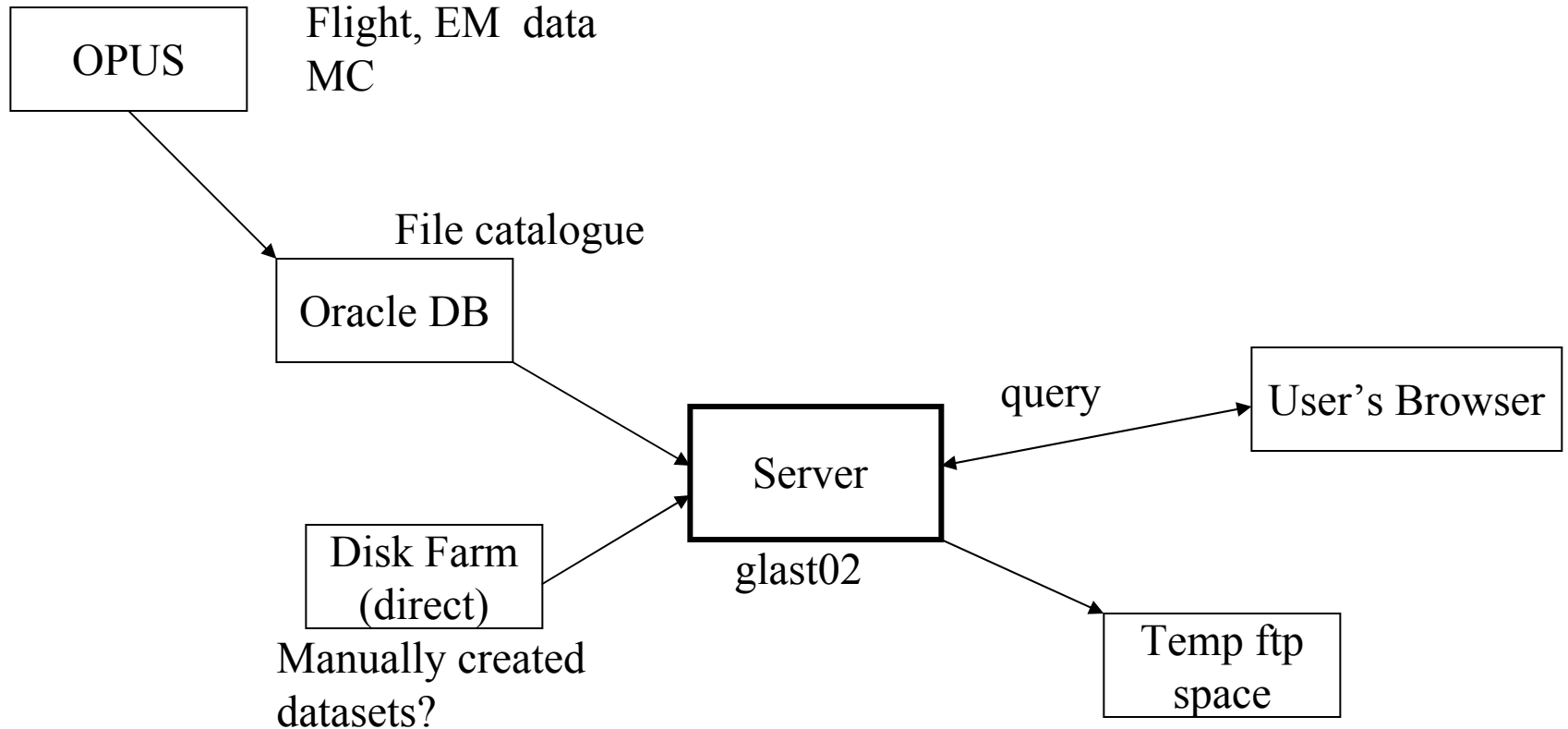# LAT Data Server Overview

- **Server's Purpose**
  - **deliver all LAT ground event data to collaborators**
    - **not only FITS files**
    - **MC**
    - **EM/Integration data**
    - **Flight data**
  - **Perhaps act as US West Coast portal for FITS data access (if needed)**

- **Desirements**
  - **Hooked up to dataset catalogue (as generated by OPUS)**
    - **Full list of all "tasks" and their constituent datasets**
    - **Provide task selection to users**
  - **Perhaps access to manually generated files**
  - **Access to all farms' data?**
  - **ftp access to**
    - **ntuples**
    - **Full MC/Digi/Recon trees**
    - **FT1, FT2**
  - **Event display server?**
  - **Not slow as mud**

Server Diagram

OPUS

Flight, EM data
MC

File catalogue

Oracle DB

query

User's Browser

Server

glast02

Disk Farm
(direct)

Manually created
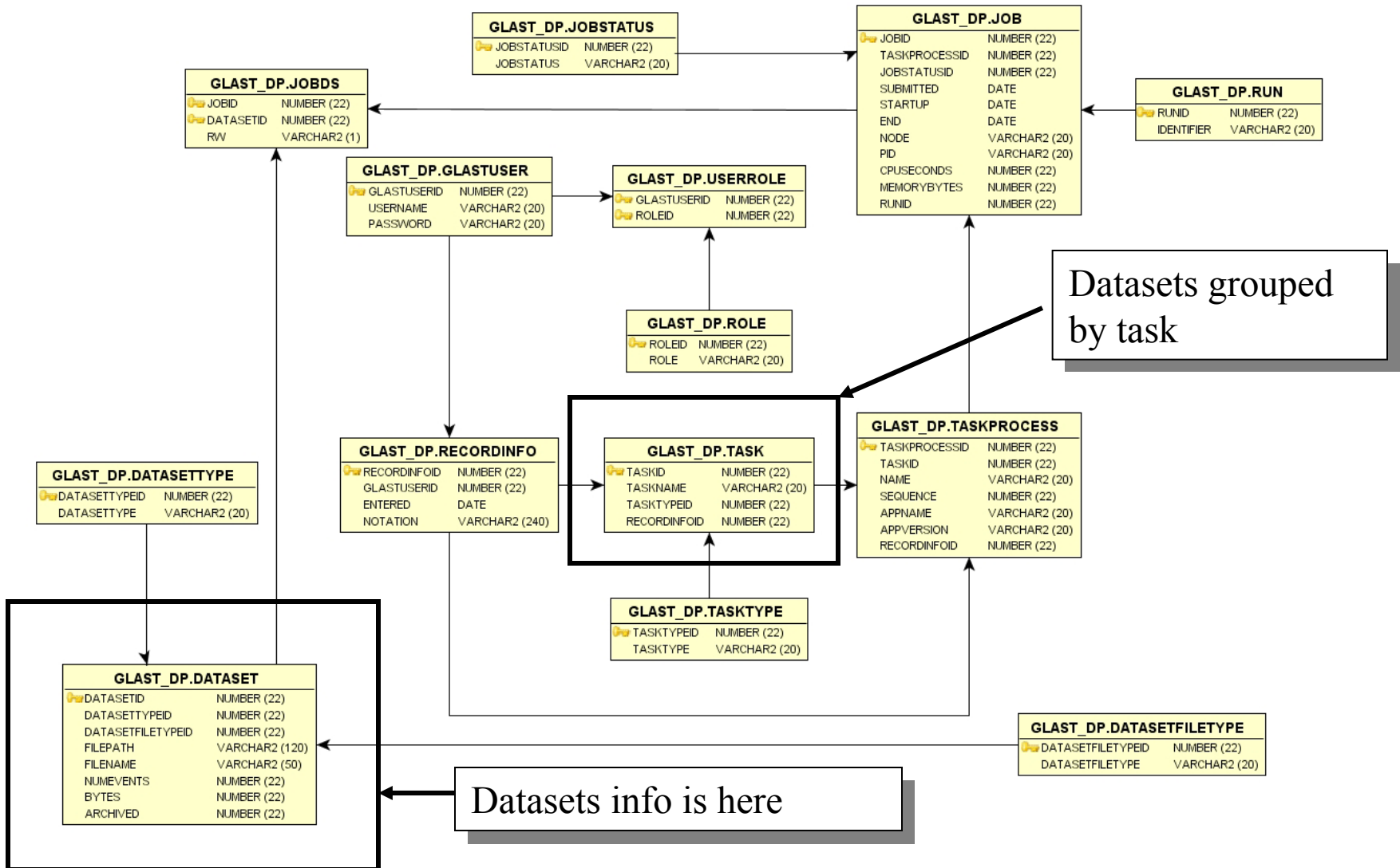datasets?

Temp ftp
space

Event Sources

- **Merit ntuple used as primary source**
  - **All indexed by Run/Event (for now)**
  - **FT1 is subset**

- **Apply selections to 200+ columns of Merit and generate output**
  - **new ntuple**
  - **FT1**
  - **find appropriate events in trees (currently - looks through the trees, not tuple)**
    - **Use RootIO random access to speed this up**

- **From all Farms?**
  - **Three farms at the moment: Lyon, Perugia (coming up) & SLAC**
    - **ntuples transferred to SLAC disk**
    - **Hand-ftp needed tree files for "peeling" as requested**
  - **Possible to have server access to all farms "locally"?**
    - **Knows where all files are and goes to the source…**
    - **xrootd?**
    - **GRID??**

Processing Dataset Catalogue

Misc

- **Event Display server**
  - **Seems a similar technology**
  - **Work with FRED to supply events?**

- **Customizable?**
  - **It was handy being able to set up rules for DC1**
    - **Not delivering MC, for example**

- **Possible speed options**

  - **Index files with Run/Event; use conditional branches**
  - **Custom macros for pruning (don't rely on TTree::Draw)**
  - **PROOF (parallel Root queries)?**