

Informatics interests:

Fang-Pang Lin, Hsiu-Mei Chou, Yi-Haur Shiau, et al.

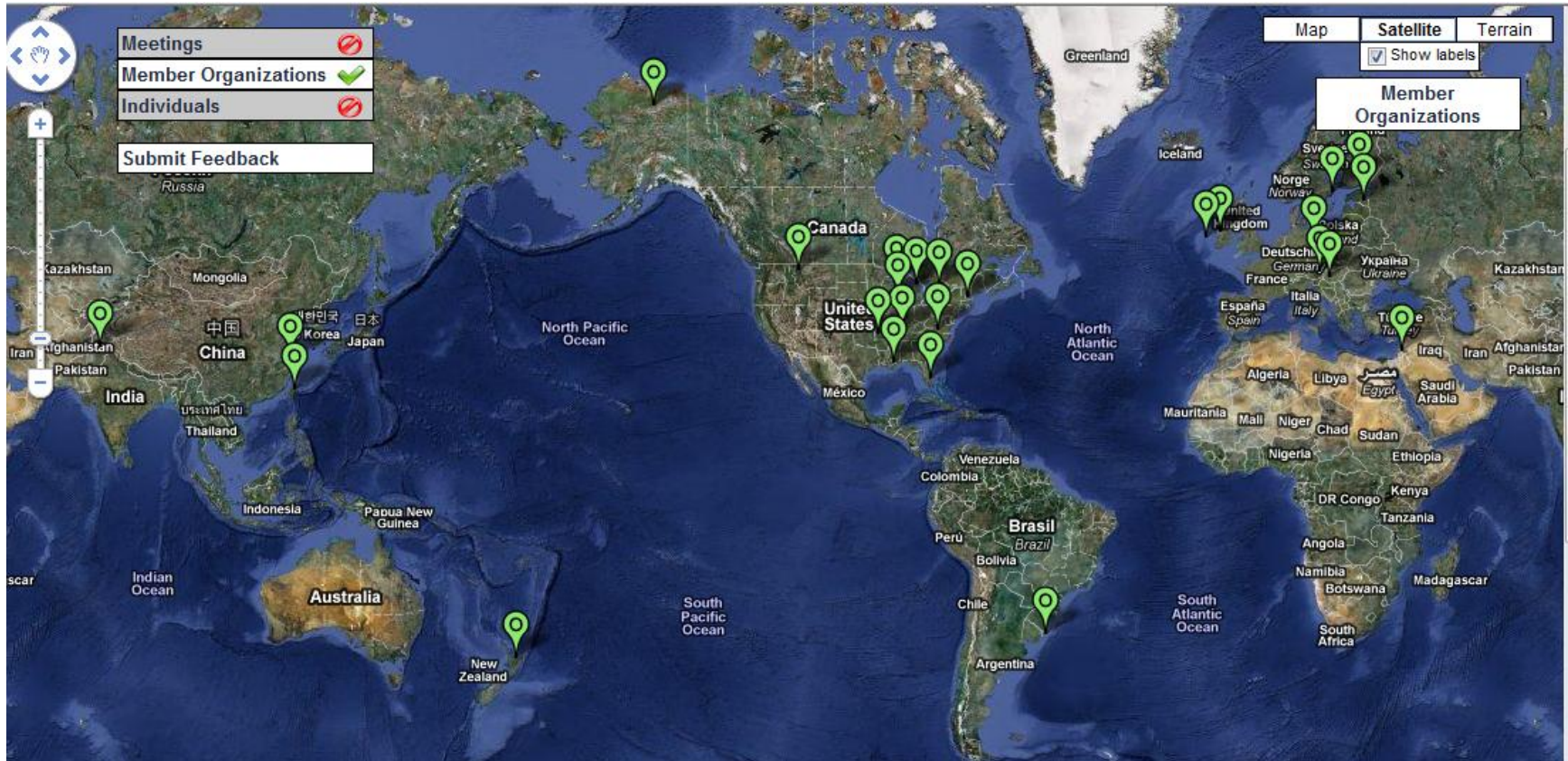
- NCHC – NSC funded Center that Operates National Network, Compute and Storage Resources for Research and Conducts Advanced Research on HPC. (3 sites at Taiwan)
- Working on Applications of CI
 - International Research Networking: PRAGMA/GLEON/CREON
 - Fish4Knowledge
 - Wide Area Flood Monitoring
 - 3D GIS Taiwan

Data Challenges

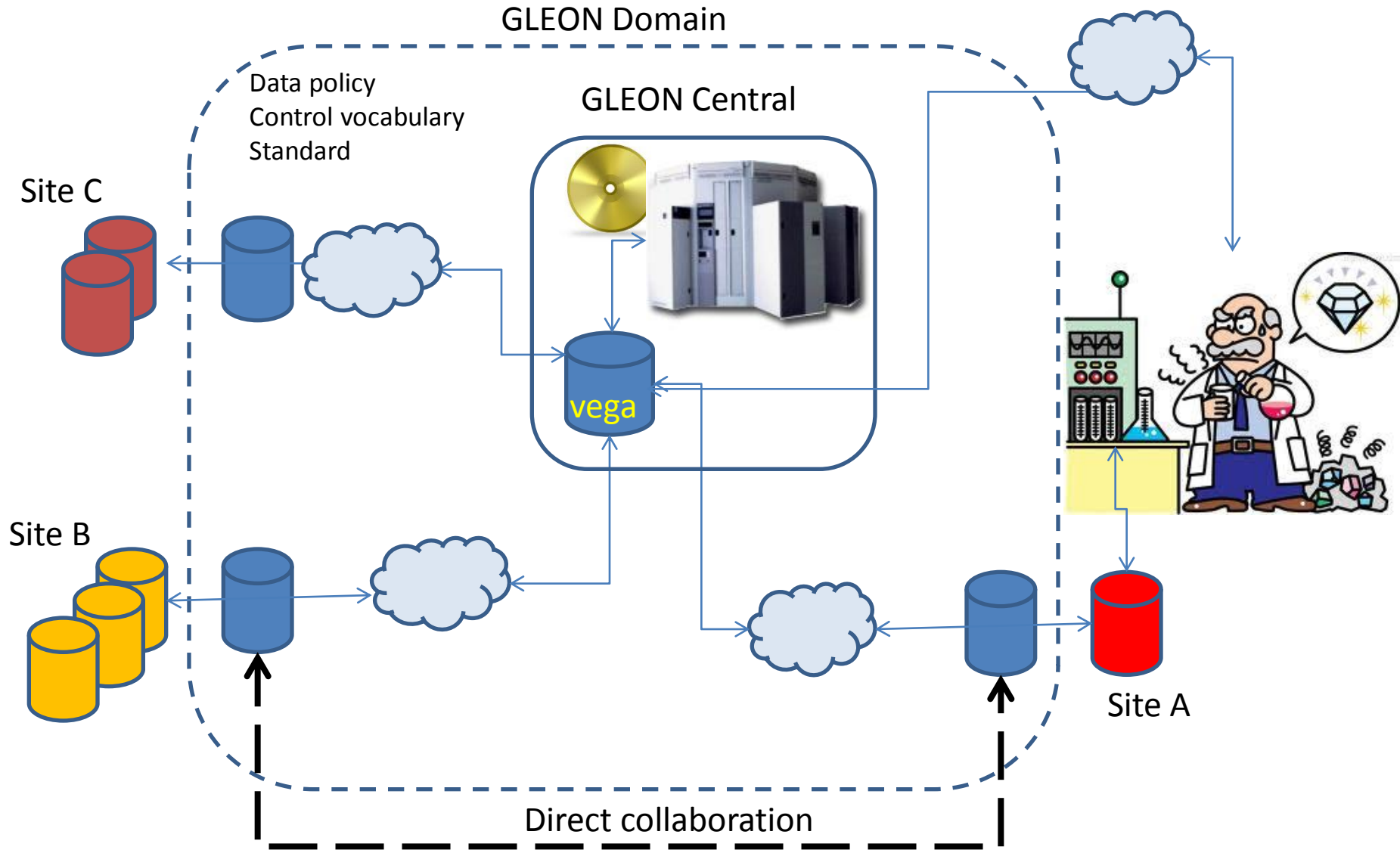
<Scale & Complexity>

- Use of data: parallelism, distribution, visualization, automation
- Data Sharing: system, standards, protocols, semantics, Policy etc.
- Data Sourcing: continuity, IP (ownership)
- Data sustainability (Data Life Cycles?! - Reed)

GLEON: revolutionizing understanding of aquatic ecosystems through an international grassroots network of people, data, and lake observatories



GLEON Service Model



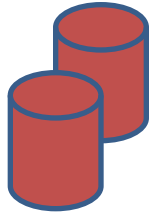
GLEON data exchange approach towards federation model

GLEON Central Archive



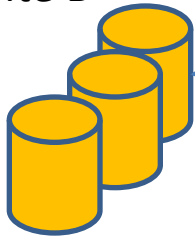
GLEON Domain

Site C

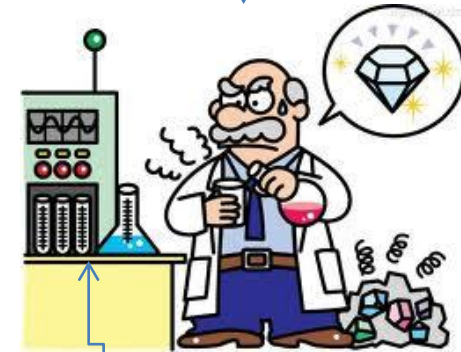


GLEON data policy
GLEON Control vocabulary

Site B

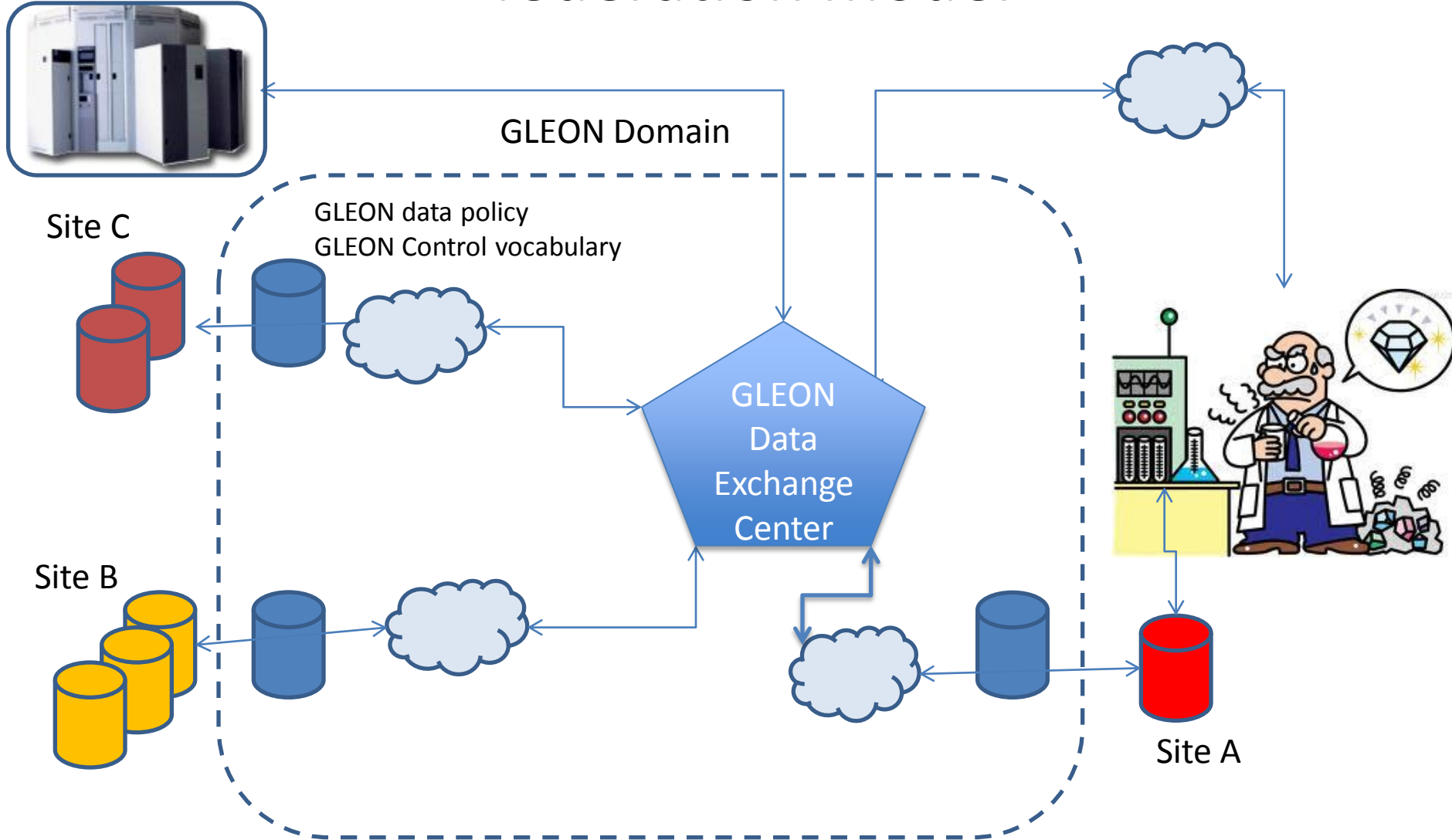


GLEON
Data
Exchange
Center

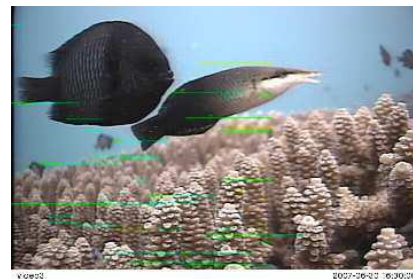


Site A

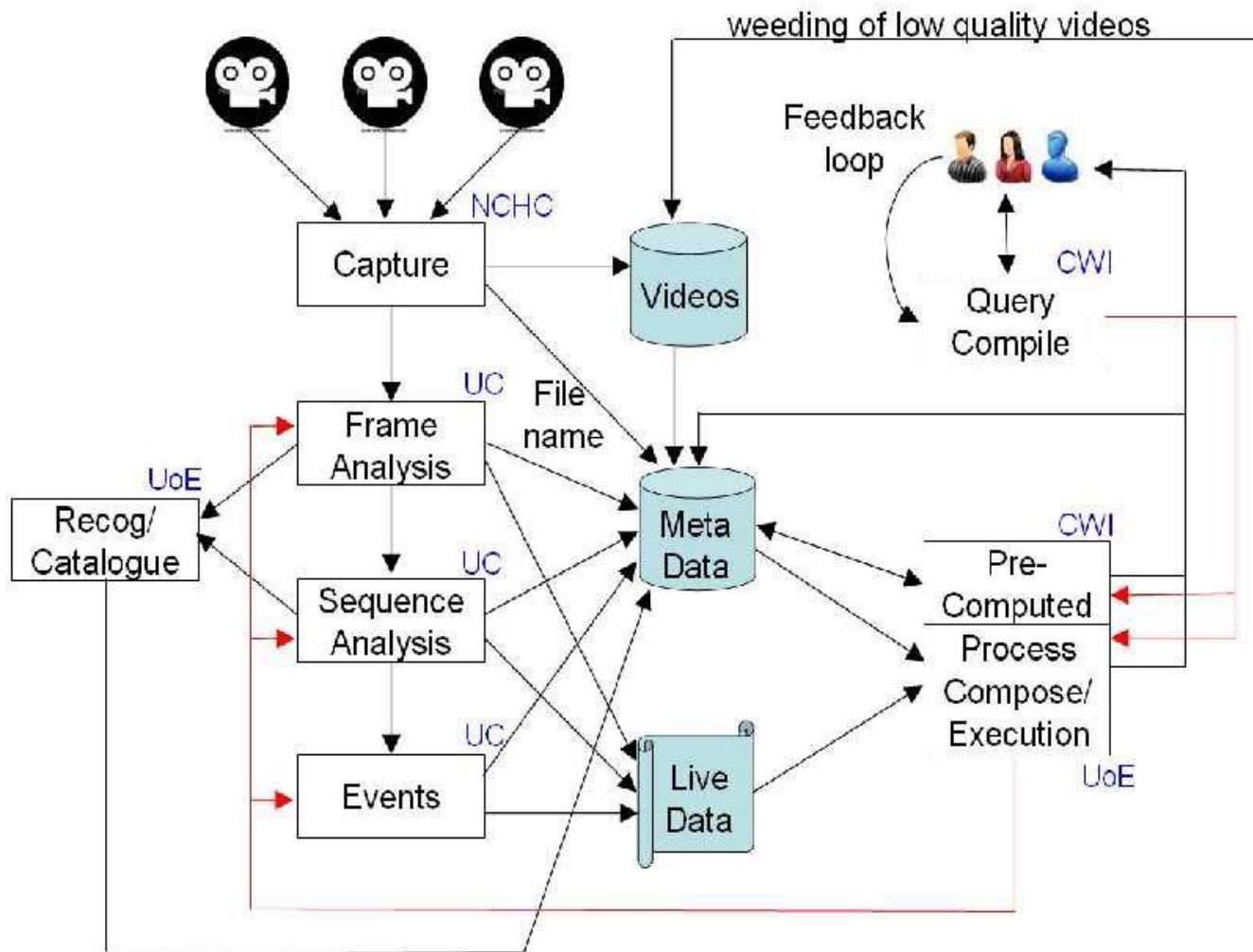
Test on Korea & Taiwan Sites by G13

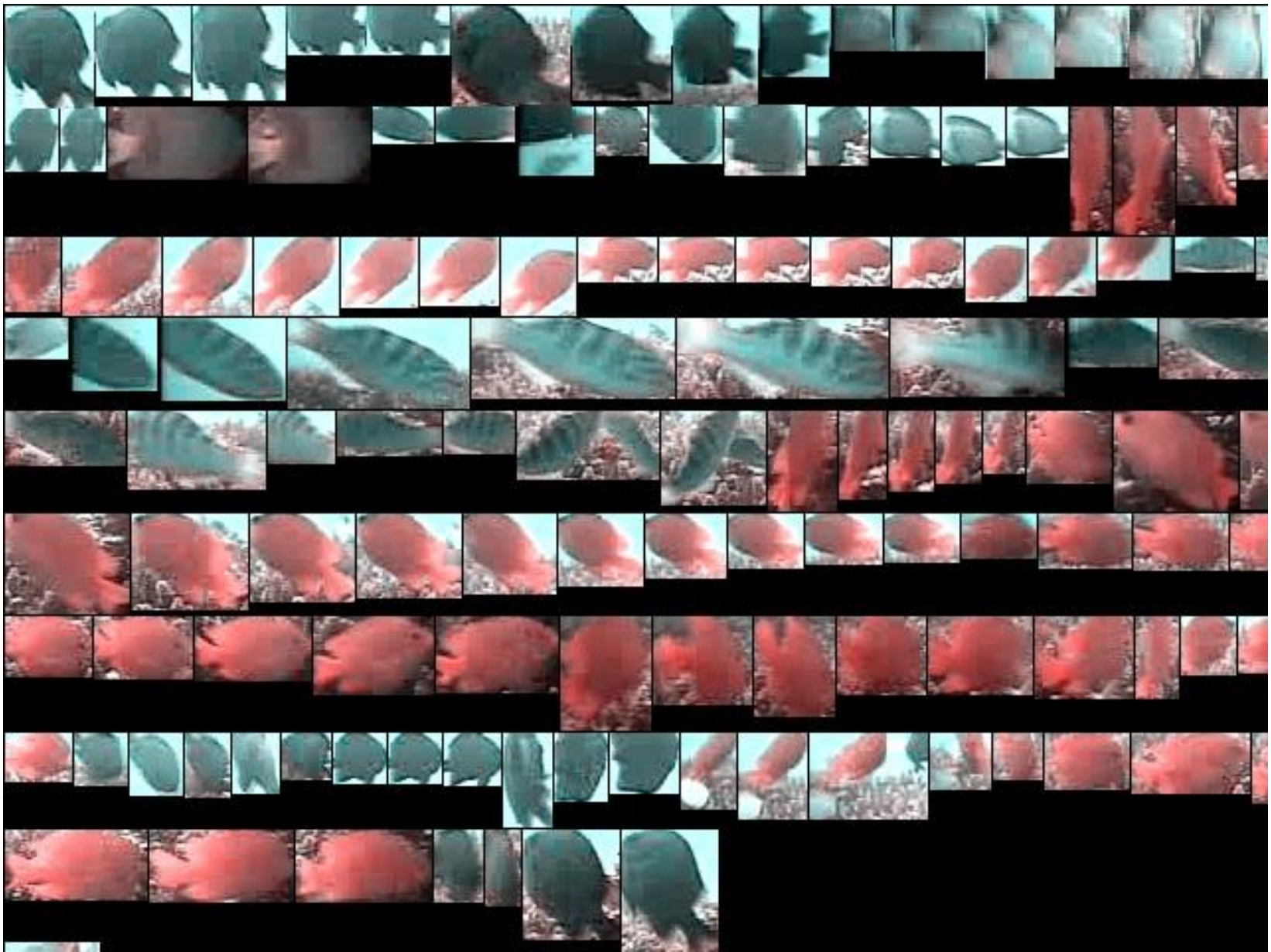


Fish4Knowledge Architecture



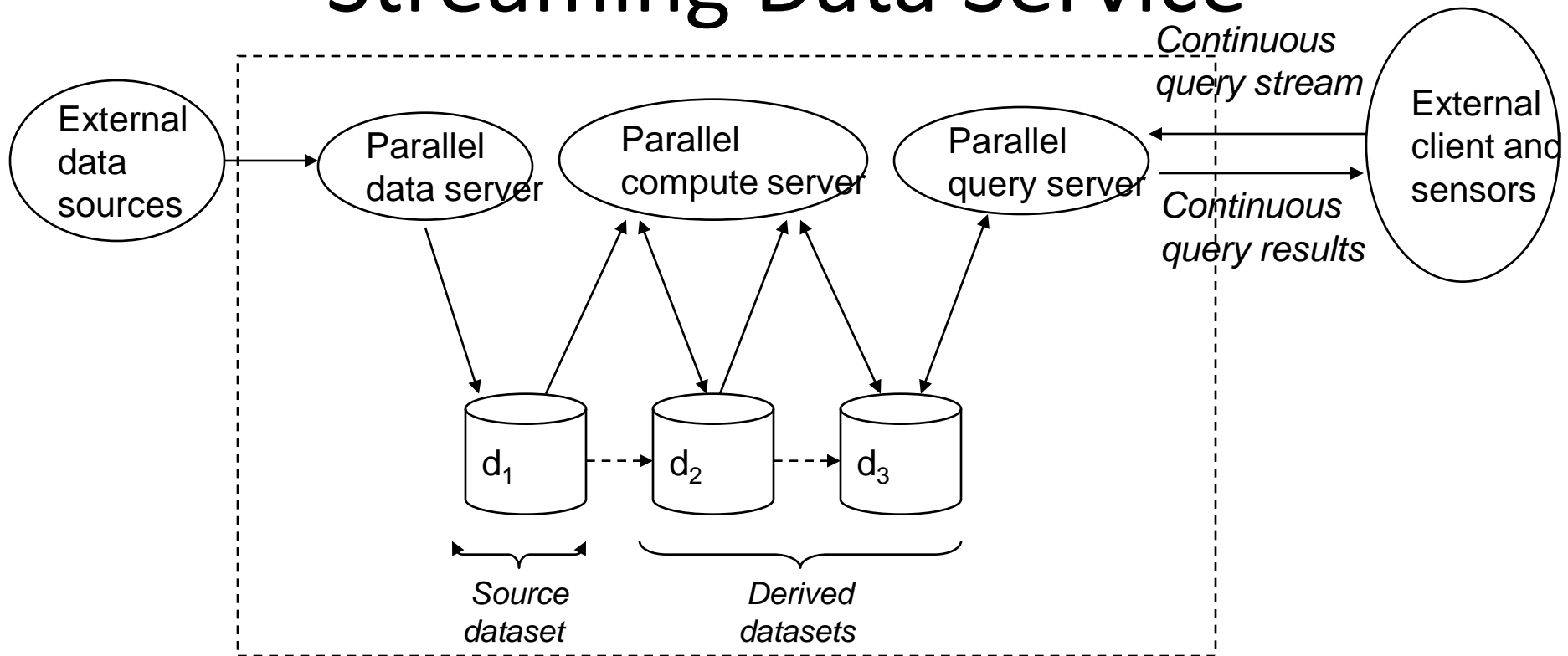
4.2 GB & 5000 image files per minute





Source: Fish4Knowledge – EU FP-7 project

Streaming Data Service



Characteristics:

- Application lives on client
- Client uses cloud as an **accelerator**
- Data transferred with query
- Variable, latency sensitive HPC on server
- **Often combines with Big Data service**

Examples:

Perceptual computing on high data-rate sensors: real time brain activity detection, object recognition, gesture recognition