CyberInfrastructure Grid Education

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- ***Paul Avery, University of Florida Physics***
- ***Vasken Hagopian, Florida State University***
- *Julio Ibarra, FIU CIARA/AMPATH*
- *Zhonghong Jiang, FIU College of Education*
- *Laird Kramer, FIU Physics*
- ***Pete Markowitz, FIU Physics PI***
- *Ed McClintock, FIU College of Education*
- ***Harvey Newman, Caltech Physics***

- *Sergio Novaes, USP Physics*
- *George O'Brien, FIU College of Education*
- *Alberto Santoro, UERJ Physics*
- *Sanjay Ranka, University of Florida*

FIU CyberInfrastructure

- Deployment of Grid fabric at FIU
  - 20 Dual CPU Servers
    - 2.66 GHz, 2GB RAM, 2 x 120GB Hard Drives
  - Networking: Cisco Catalyst 3750 switches
    - 24 Gig-E ports, stackable
  - ROCKS cluster management system
    - Additional capabilities provided by UFL
    - Used at UFL, Caltech, UCSD, Chicago (ATLAS)
    - Plan to export to other universities

FIU CyberInfrastructure: Grid3

- ## FIU CHEPREO Site and Grid3
  - FIU joined Grid3 as a Grid3 development site
  - Helped debug Grid3 software distribution
  - Will join Grid3 prod. environment in late July
  - Expertise and help by Jorge Rodriguez@UFL

Grid3: An Operational National Grid

- **29 sites: Universities + national labs**
- **Running since October 2003**
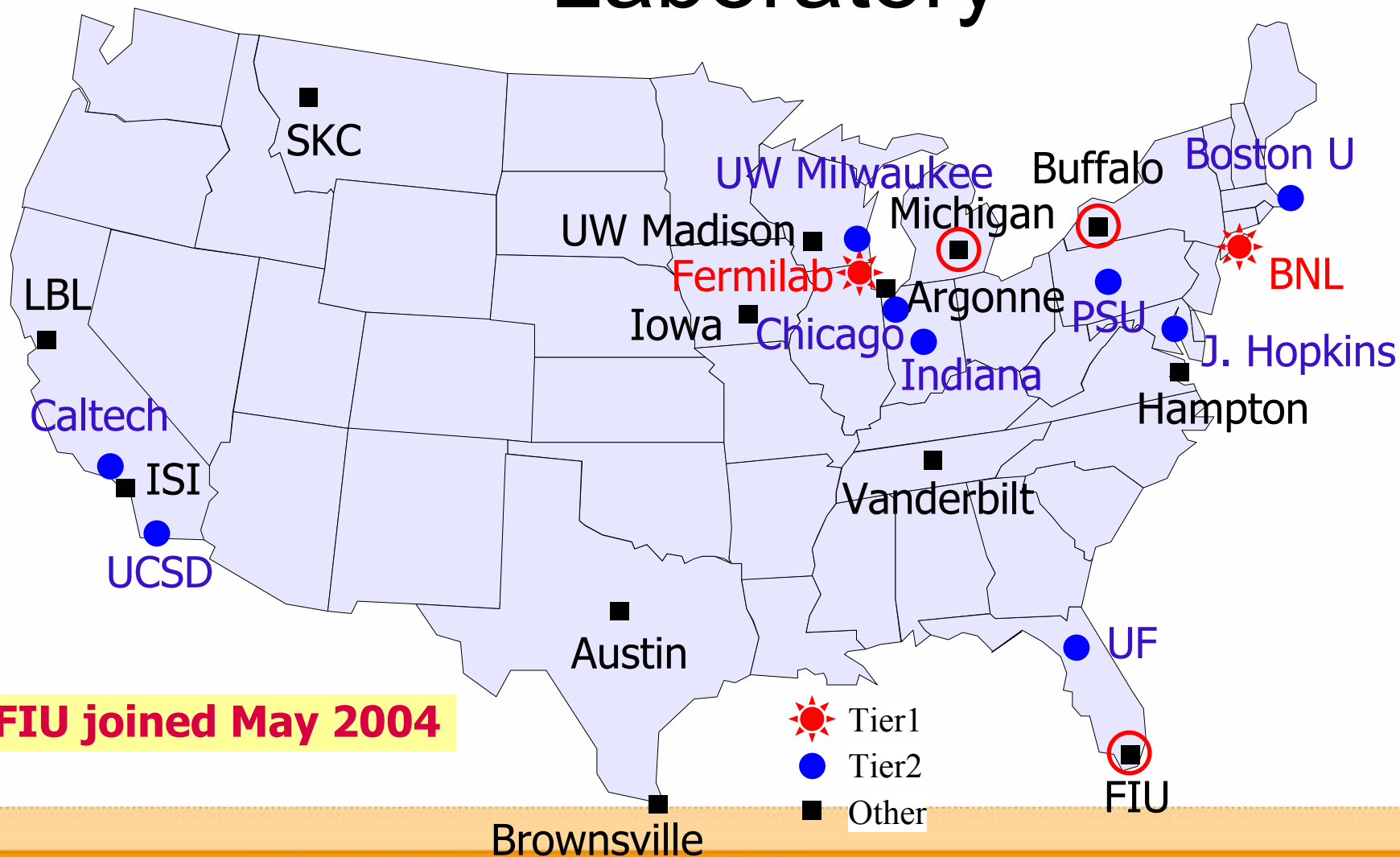- **FIU: development Grid ⇒ production Grid**

Korea

http://www.ivdgl.org/grid2003

1:32 EST 2004
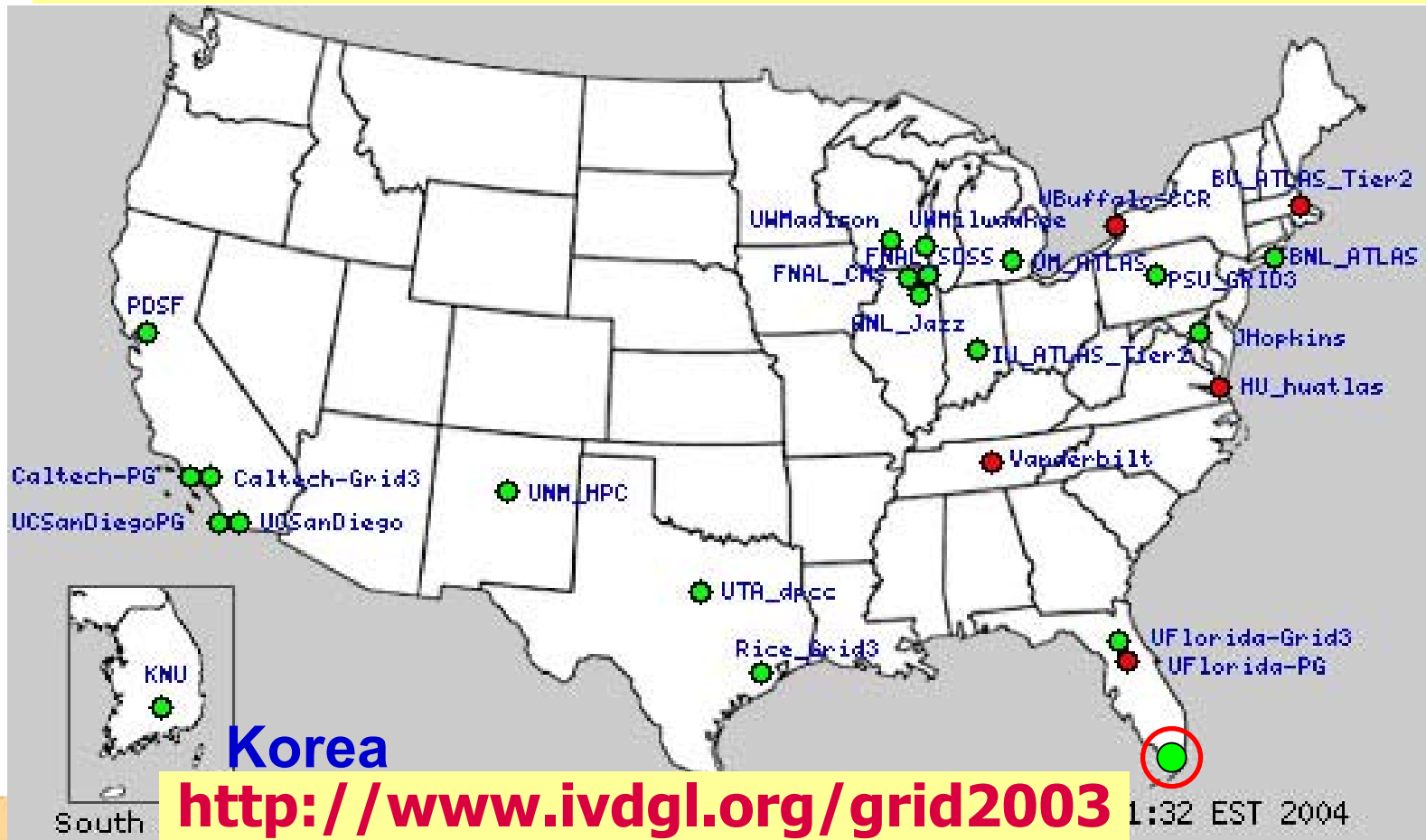
UFL/FSU/USP Collaboration

- Hardware recommendations to FSU for their CMS analysis environment server
- University of Sao Paulo (USP) will add resources to Grid3 by end of July
- Scientists and faculty from UFL/FSU and USP collaborating on these efforts
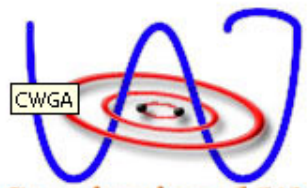
Grid Education and Outreach

- Developed tutorial on building, monitoring and maintaining a grid.
- 36 students, diverse origins (M, F, minority, etc)
- Presented at June 2004 Grid Tutorial by Pradeep Padala (M.S. graduate working with S. Ranka).
- Major plans for expansion
- Details at www.ivdgl.org

http://www-unix.mcs.anl.gov/~wilde/summer-grid/Lectures/L7-Build_Monitor_Maintain.v3.ppt

GriPhyN
Data Intensive Science

CWGA

Center for Gravitational Wave Astronomy

iVD gL

CHEPREO

36 students!

GRID Summer Workshop
June 21-25 2004

**Center for Gravitational Wave Astronomy
The University of Texas at Brownsville**

Grid Physics Network (GriPhyn)

International Virtual Data Grid Laboratory (iVDGL)

The Center for Gravitational Wave Astronomy, a NASA University Research Center at the University of Texas at Brownsville, the Grid Physics Network (GriPhyn) and the International Virtual Data Grid Laboratory (iVDGL) will sponsor a one-week intensive summer workshop in Grid Computing and Scientific Data Analysis.

This school would be held on South Padre Island, located on the Gulf of Mexico, twenty miles from downtown Brownsville.

- **General Information**
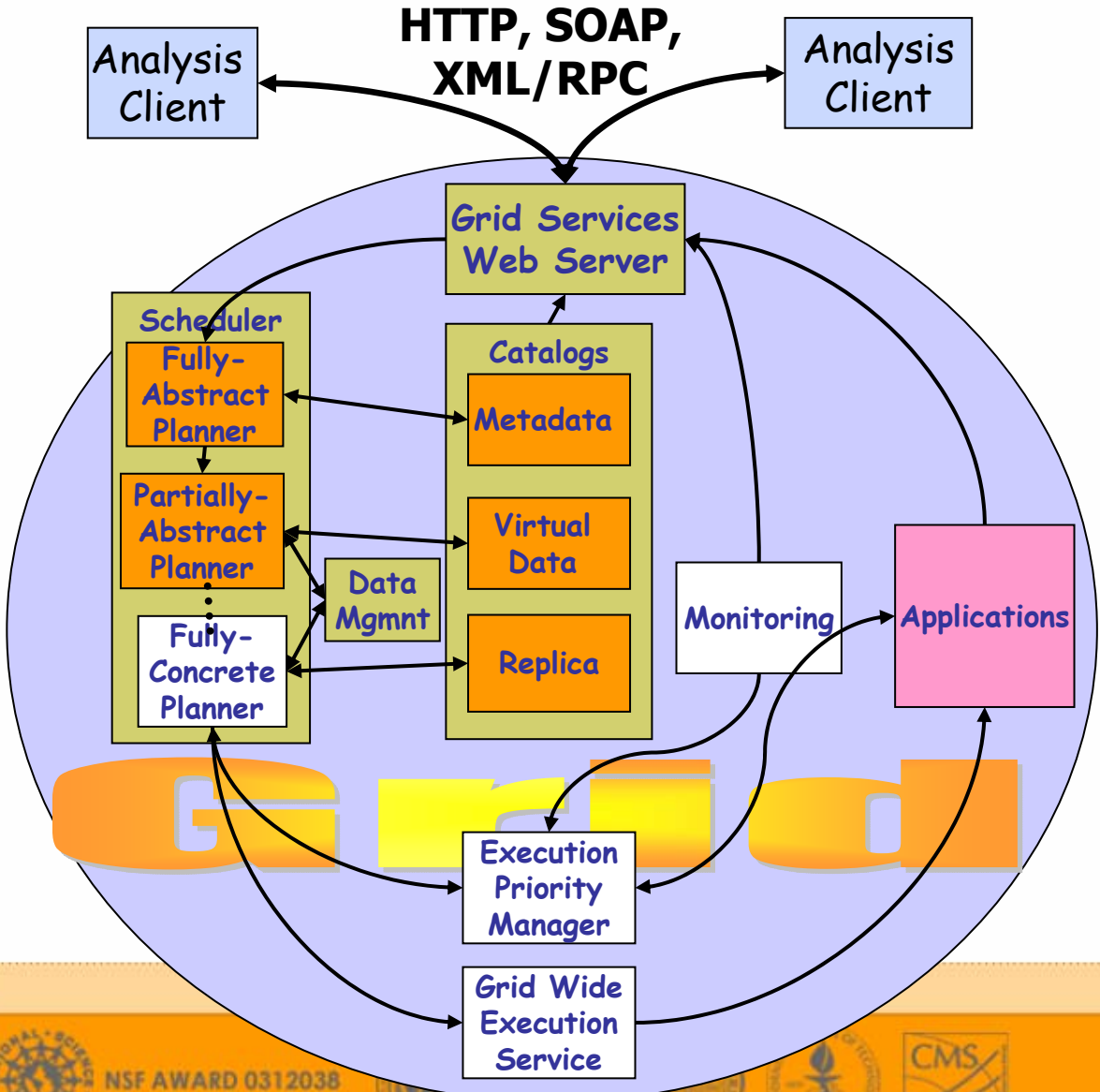- **Curriculum**
- **Summer School Location**

Grid Education and Outreach

- Developing new tutorial on development of distributed applications with following focus:

  – Existing Web services and grid services for the development of large-scale grid applications.

  – Evolution of Web services for grid computing (including WSRF).

  – Practical demos of grid applications using Grid service infrastructure developed by Caltech, UFL

- 40% complete. Expected completion Sep. 2004

Grid-Enabled Data Analysis

HTTP, SOAP, XML/RPC

Analysis Client

Analysis Client

Grid Services Web Server

Scheduler
- Fully-Abstract Planner
- Partially-Abstract Planner
- Fully-Concrete Planner

Catalogs
- Metadata
- Virtual Data
- Replica

Data Mgmnt

Monitoring

Applications

Execution Priority Manager

Grid Wide Execution Service

◆ Caltech, UFL

◆ Clients talk standard protocols to "Grid Services Web Server"

◆ Portal hides complexity of Grid Services from client

◆ Key features: Global scheduler, catalogs, monitoring, and Grid-wide execution service

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