

eFigure 1FY10 Plan for Scientific Database Applications

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Relevant Strategic Plans –

- Strategic Plan for Cosmic Frontier
- Strategic Plan for Intensity Frontier
- Strategic Plan for Run II Computing

Goal –

- Support scientific program of the Lab by designing, developing and supporting scientific databases and applications

Intensity Frontier Strategy –

1. Develop and maintain expertise in modern database and application development technologies
2. Maintain close working relationship with experiments in Astrophysics and High Energy Physics areas
3. Develop common solutions usable by multiple experiments
4. Implement ITIL practices in software development and support activities

FY09 Accomplishments

1. Continued development and support of database applications for CDF, D0, NOvA, JDEM, DES

Objectives for FY10

- Finish implementation of new Luminosity Database schema for D0
- Design and develop Constants Database for DES
- Design and develop Telemetry Data Viewer for DES
- Continue development of Hardware Database for NOvA
- Design and develop Inventory Database for Minerva
- Evaluate available very large database products and propose solution for JDEM/SOC

ACTIVITIES

Activity= /Scientific Databases & Applications/Neutrino/NOvA

- Activity type: Project
- Description: Support and continue development of NOvA Hardware DB
- Timescale: FY10
- Milestones:
- Metrics: -----

Activity= /Scientific Databases & Applications/Neutrino/Minerva

- Activity type: Project
- Description: Design and develop Hardware Database for Minerva
- Timescale: FY10
- Milestones:
- Metrics: -----

Activity= /Scientific Databases & Applications/ASTRO/DES SISPI

- Activity type: Project, Service
- Description: Design and develop Constants DB, Telemetry Viewer; continue support of SISPI DB and Web Interface, continue support of SISPI DB replicator
- Timescale: FY10
- Milestones:
- Metrics: -----

Activity= /Scientific Databases & Applications/Large Databases

- Activity type: Project
- Description: Research available freeware and commercial products to implement very large (~100TB+) scientific databases
- Timescale: FY10
- Milestones:
- Metrics: -----

Activity= /Scientific Databases & Applications/ASTRO/JDEM-SOC

- Activity type: Project
- Description: Research, propose, prototype JDEM/SOC database
- Timescale: FY10
- Milestones:
- Metrics: -----

Activity= /Scientific Databases & Applications/Control Room Logbook

- Activity type: Service

- Description: Support CRL application for multiple experiments
- Timescale: FY10
- Milestones:
- Metrics -----

Activity= /Scientific Databases & Applications/ASTRO/DESDM

- Activity type: Project
- Description: Participate in development and support of DESDM database
- Timescale: FY10
- Milestones:
- Metrics -----

Activity= /Scientific Databases & Applications/Run II Support/CDF

- Activity type: Service
- Description: Support CDF applications
- Timescale: FY10
- Milestones:
- Metrics -----

Activity= /Scientific Databases & Applications/Run II Support/D0

- Activity type: Service
- Description: Support D0 applications – Trigger, Speakers Bureau, Luminosity
- Timescale: FY10
- Milestones:
- Metrics -----

Activity= /Scientific Databases & Applications/Project X

- Activity type: Service
- Description: Support ILC Ground Motion Database, participate in other projects
- Timescale: FY10
- Milestones:
- Metrics -----

Priorities:

1. RunII support
2. Cosmic and Intensity Frontier applications

Change control: Change management will be performed by respective CABs.

Risk Assessment: If compared to present resources allocation, this tactical plan is quite ambitious. Inadequate resources allocation will lead to failure to meet deadlines on research and development projects. However, amount of resources we have seems to be sufficient to provide application support.

Ageing hardware is another significant risk factor. Our development and some production computers are recycled farm nodes, which are close to their end of life. Although production servers are redundant, and failure of one of them will not immediately affect production, we do need to replace these computers in FY10.

RESOURCES REQUEST

Staffing Request per role (FTE-years)

- Database Expert - 1.25
- Developer – 2.45
- Total – 3.7

2.65 – existing personnel, 1.05 – new hire

Hardware Request:

• Replace development server rexdb01 –	\$5000
• Replace 2 production servers dbweb1,2 -	\$10000
• Desktop purchase, repairs -	\$5000
• GreenPlum cluster for large database research	
○ Hardware	\$30000
○ Software, development 6months license	\$50000
Total	\$100000