



*CD FY10 Budget and Tactical Plan Review*

**FY10 Tactical Plans for**  
**Scientific Database Application**

Scientific Database Applications	3462

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# FY10 Tactical Plan for Scientific Databases & Applications

- Tactical Plan Leader: [Igor Mandrichenko](#)

## Service Activity List

- Runll support
- CRL support
- Project X – Ground Motion Database support

## Project Activity List

- Nova Hardware DB
- Minerva Hardware DB
- DES/SISPI: Telemetry DBViewer, Constants DB
- DES/Data Management
- JDEM/SOC Databae
- Large Scientific Database research

# Service Activity: RunII Support

- **Goals Related to this Activity**
  - 1. Support scientific CDF and D0 operations by supporting database applications:
    - D0 Trigger DB
    - D0 Speakers Bureau
    - D0 Luminosity
    - CDF – general expert support
- **Key Metrics**
  - Planned and unplanned downtime for applications
- **Service Documentation:**
- **Issues and Risks (specific to this activity, includes allocation impact)**
  1. We need to replace old development server rexdb01
  2. Need to migrate application server from d0trigdb01/02 to d0trigdb03/04
  3. Need to move D0 Luminosity application server from SAM web server machine to d0trigdb03/04

# Service Activity: Control Room Logbook Support

- **Goals Related to this Activity**
  - 1. Take over support for CRL application
  - 2. Provide support for CRL application
  
- **Key Metrics**
  - Planned and unplanned application downtime
  - Time to create new instance of CRL for a new user
  
- **Service Documentation:**
  
- **Issues and Risks (specific to this activity, includes allocation impact)**
  1. At this time, we do not have manpower available. We anticipate to get additional resources in November
  2. Once we have resources for this, it will take a while to gain necessary expertise in CRL to be able to support it
  3. CRL is used by multiple experiments and IF plans rely on CRL support

# Project Activity: DES-SISPI

- **Goals Related to this Activity**
  - 1. Design and develop Constants DB
  - 2. Design and develop Telemetry DB viewer
- **Key Milestones**
  - Collect requirements – by November 2009
  - Develop Constants DB schema and GUI – by March 2009
  - Develop Telemetry DB Viewer – by March 2009
- **Project Documentation:**
- **Issues and Risks (specific to this activity, includes allocation impact)**
  1. At this point, we do not have resources available to start development. We can only work on requirements.

# Project Activity: Large Scientific Database Research

- Goals Related to this Activity
  - 1. Find commercial or freeware product suitable to build high performance scientific database of 100TB – 1PB scale
- Key Milestones
  - Research of available products
  - Selection of promising candidates
  - Testing and benchmarking
- Project Documentation:
- Issues and Risks (specific to this activity, includes allocation impact)
  1. This project needs funding both in terms of effort and M&S. Ideally, we need small (5-10 node) cluster to deploy one or two candidate products to test them in house, to evaluate their features, scalability, maintainability, support cost, etc.
  2. Resources requirements estimate is about \$100K and 1.0 FTE year
  3. Results of this research can be very beneficial to Cosmic Frontier experiments (JDEM, DES, etc.) as well as HEP.

# Project Activity: JDEM SOC Database

- Goals Related to this Activity [from Tactical Plan]
  - 1. Design and develop JDEM SOC database prototype
  
- Key Milestones
  - Find a database product to build ~100TB database
  - Collect requirements for SOC database
  - Build prototype
  
- Project Documentation:
  
- Issues and Risks (specific to this activity, includes allocation impact)
  1. At this point, there is no funding available for this project, neither effort nor materials
  2. We hope that results of Large Scientific Database Research will be useful for JDEM SOC

# FY10 FTE and M&S: Request vs. Allocation

## Level 0/1 Activity: Scientific Databases & Applications

Activity Level 2	Project or Service	Project Priority	FY10 FTE Request At Activity Level 2	FY10 M&S Request At Activity Level 2	FY10 FTE Allocation At Activity Level 2	FY10 M&S Allocation At Activity Level 2
Run II DO	Service	High	0.25	\$0.00	0.25	\$0.00
Run II CDF	Service	High	0.15	\$0.00	0.15	\$0.00
DES-SISPI	Project	High	0.5	\$0.00	0.5	\$0.00
DES-DM	Project	Low	0.25	\$0.00	0.25	\$0.00
JDEM-SOC	Project	High	0.35	\$0.00	0.35	\$0.00
Large DB Research*	Project	Medium	0.95	\$100,000.00	0.95	\$0.00
CRL	Service	High	0.25	\$0.00	0.25	\$0.00
NOvA	Service	High	0.4	\$0.00	0.4	\$0.00
Minerva	Project	High	0.5	\$0.00	0.5	\$0.00
Procjet X	Service	High	0.1	\$0.00	0.1	\$0.00
General	Project	High	0	\$47,000.00	0	\$47,000.00
<b>Total</b>			3.7	\$147,000.00	3.7	\$47,000.00

- Large DB Research M&S was not entered into Budget Input because we were in the middle of negotiation with the vendor
  - Hardware (10TB cluster) \$40K
  - GreenPlum 12 months development license, training, support \$55.5K
  - Other software licenses, miscellaneous \$4.5K

# Impact of Preliminary Allocation



- Preliminary allocation will allow us to achieve all our goals except for Large Scientific Database Research

# Tactical Plan Summary



- 3 components of our mission:
  - Application support
    - Move all Run II activities into support mode
    - CRL and similar applications
  - Cosmic Frontier and Intensity Frontier application development
  - Database technologies research and development

## (Overall Guidance: *not part of the presentation*)

- If a presentation covers more than one tactical plan, please cover each tactical plan with its own slides 2-9 and one overall title slide 1.
- See DocDB # 3272 and 3278 for activity naming scheme for FY10.
- Support material at: [Projects & Services](#) page (FY10 planning section)
  
- Activity = Activity Level 2 or lower explicitly listed in Tactical Plan
- Activities are classified in Tactical Plan as Project-like or Service-like
  - Projects: finite defined lifetime, defined deliverable. Includes R&D work.
    - A.k.a Upgrades, ...
  - Services: same operation or task repeatedly.
    - A.k.a. Operations, Maintenance, Support, ...
- Terminology you may come across...
  - Obligation Budget: Allocated budget. This may differ from the budget request.
  - YTD Obligations: Fully incurred expenses. Does not include RIPs, Req.s in CD, etc.
  - Current FY10 Forecast: Estimate of all obligations to be incurred by the end of FY10.
  - M&S: Equipment + Operating. Operating includes Travel, Material Purchases, Professional Services (contractors), Maintenance (licenses), and Other.
  - RIP: Requisitions in Progress

## (Budget and Tactical Plan Schedule)

- High-Level Schedule (: **DRAFT**... Some topic areas by day)
  - Tue Sep 29, 12:30pm – 5:00pm: Central IT Services, CPTA
    - Mark K: Sep 29 is Security Awareness Day, impacts Central IT Svcs.
    - Rob K: We will swap days for Central IT Services then....
  - Thu Oct 1, 12:30pm – 5:00pm: Enterprise/Info Sys, Networks
  - Fri Oct 2, 12:30pm – 5:00pm: Grid, CMS
  - Tue Oct 6, 12:30pm – 5:00pm: Run2, Neutrino, Astro, SCF.1
  - Thu Oct 8, 12:30pm – 5:00pm: Org Support, SCF.2
- Detailed Schedule and Times
  - To be posted this afternoon on [Projects & Services](#) page (see the FY10 planning section)
  - Early next week: to be setup in DocDB similar to last year's [FY09 Review event page](#).