



# WAN Research Projects

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# Project Drivers & Scope

- Drivers:
  - [Common] Good Internetworking with present & potential partners
  - [CMS] DC06 CMS 20% Data Challenge
  - [CMS] DC07 CMS 50% Data Challenge
- Deliverables over last 2 months:
  - High bandwidth network paths(\*) via StarLight to the following sites:
    - Prague Institute of Physics/SURFnet & CESnet [D0]
    - NCHC/TWaren [SDSS]
  - 10 GE network connections at StarLight to the following R&E networks:
    - UltraScience Net (10GE & 1 GE paths)

(\*) StarLight 1 GE overflow channel



# Project Milestones

- |  | <u>Estimated completion</u> |
|--|-----------------------------|
| • <u>High bandwidth network paths(*):</u>          |                             |
| – Wisconsin [CMS]                                  | 6/30                        |
| – Purdue [CMS]                                     | 6/30                        |
| – SDSS [CMS]                                       | 7/31                        |
| – Univ. of Florida                                 | 8/31                        |
| • <u>10 GE network connections at StarLight:</u>   |                             |
| – MREN   | 6/30                        |
| – Second FNAL 10GE channel to StarLight            | 9/30                        |
| • <u>FNAL work group connections to StarLight:</u> |                             |
| – CDF upgrade from 1GE to 10GE                     | 6/30                        |
| – D0 upgrade from 1GE to 10GE                      | 6/30                        |
| – SDSS 1GE connection                              | 6/30                        |



# Effort Profile

- Local effort support:
  - ~1 FTE+:
    - Grigaliunas {~70% }
    - Bobyshev {~20% }
    - DeMar (~10%)
    - Fry, Lamore, Grigoriev {~5% each }
- Demand for effort is increasing:
  - Complexity and number of WAN data movement projects is increasing:
    - Working on improving US-CMS Tier-2 site access
  - Production WAN activities will increase as Chicago MAN planning & deployment efforts intensify
    - Support for the adjoining Research Technology Park will also require effort



# Risks

- Production network link congestion:
  - Chicago MAN implementation path & timing still are unclear
- Surmounting the “Wizards Gap”:
  - Getting realized throughput to approach achievable throughput typically requires expertise (Wizards...) beyond what end users normally have...
  - Complications:
    - Wizards come at many levels (network, system, & multiple application layers...)
    - Wizards are almost always a scarce & overbooked resource