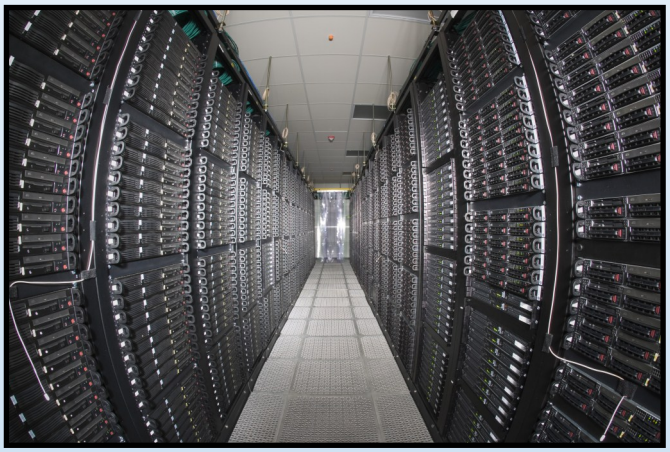
Fermilab Grid Computing Center Specifications

The Fermilab Grid Computing Center (GCC) is a 16,000 gross square-foot data center building containing computers, networking and data storage robotics with related power and cooling infrastructure, which serve the computing needs of the laboratory's research programs. Frontier computing techniques such as grid and cloud computing are employed to optimally utilize large clusters of computers and storage. These systems are connected using high-speed networking to other facilities at Fermilab and across the world to collect, archive, process, simulate, and analyze data from global scientific programs.



- Single story building built 2005-2008 with 10384 ft^2 of 24" & 36" raised floor space
- Flood Zone: Outside 100 year flood plain; Seismic: Zone 0
- 3 computer rooms / 2 communication rooms / 1 Tape Library room
- Three diverse underground 13.8kV utility feeds from the high-reliability 345kV Master Substation electric grid
- Electrical Capacity: 2700 (kW) of critical load
- Tap boxes to connect portable generators
- Over 950 tons of cooling capacity; air cooled DX CRAC units; N+1 cooling is maintained
- Hot aisle/cold aisle containment for added energy efficiency
- Blind plates in all racks for optimal airflow

- 255 cabinets for high density computers
- 10kW(120V) & 14kW(208V)/cabinet (typical)
- Raised floor cold air plenum supply
- 300 (lbs/sq.ft.) floor loading
- Overhead cable tray system
- Two technical work areas
- Card key security access control & digital video monitoring and recording
- Fire detection/suppression systems (including VESDA)
- 24x7x365 monitoring of building and environmental alarms
- EPA Energy Star Award five consecutive years
- Meets EPA Guiding Principles for High Performance and Sustainable Buildings

Fermi National Accelerator Laboratory (Fermilab) is a U.S. Department of Energy-funded national laboratory whose mission is to advance the understanding of the fundamental nature of matter and energy by providing leadership and resources for qualified researchers to conduct basic research at the frontiers of high energy physics and related disciplines.

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