

DOE Computer Graphics Forum 2012 Site Survey

Site Name:

National Renewable Energy Laboratory (NREL)

Site Division or Group:

Computational Science Center

Site Representative:

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Group Overview

Mission:

The Computational Science Center leads NREL's efforts in high-performance computing, computational science, applied mathematics, scientific data management, visualization, and informatics.

Past Year's Activities:

Visualization work has primarily been focused on the Wind and Biomass programs.

Plans and Priorities:

Occupy ESIF! i.e., complete construction and take residence of the Energy Systems Integration Facility (ESIF), bringing the new compute and visualization systems online.

Funding Sources

EERE & SC

Current Resources

Hardware:

RedRock/RedMesa: 200 TF cluster

RedEye: Small visualization cluster with thick nodes (96GB RAM, 2xTesla 2070)

Multiple LCD display walls and stereoscopic workstations.

Software:

Vapor, VMD, Avizo, ParaView, Visit, and various homegrown solutions (C++, R, Python, ITK, OpenGL).

Staff:

One lonely voxel pushing, data cleaning, hardware cursing, code slinging vis guy.

Planned Growth**Hardware Acquisitions**

ESIF HPC-1 System: ~1PF, with dedicated Data & Analysis (DAV) nodes

ESIF Insight Center:

- High-resolution display wall
- Immersive stereoscopic environment
- Insight Rendering Cluster (128 cores, 4 Nvidia QuadroPlexes)

Software Acquisitions

None.

Personnel Acquisitions

TBD – awaiting various funding decisions

Additional Comments