

CAD Data Sharing

Technical Committee Meeting

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PDM Configuration Support

Sandia National Laboratories

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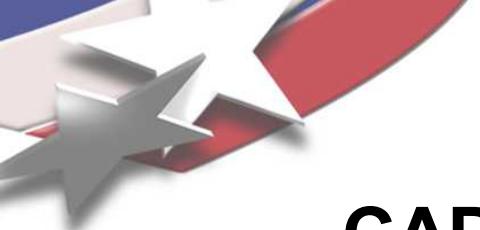
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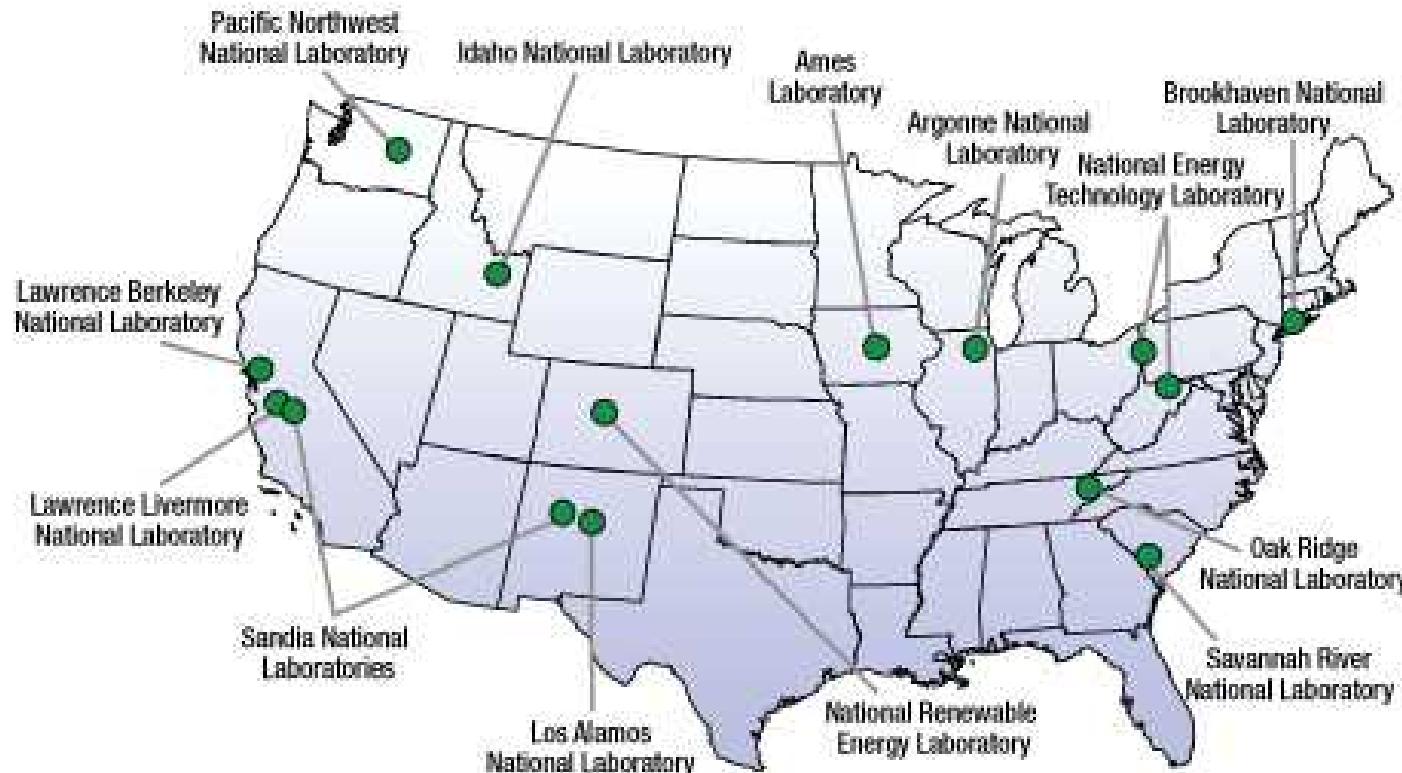
CAD Sharing

- CAD data is required to be shared with other Department of Energy (DOE) sites and other companies for design and manufacturing
- CAD data consists of native ProEngineer files and various CAD neutral formats
- 24/7 access to latest CAD data at all times
- Compatibility of hardware, software and networks used across all sites
- CAD Quality



CAD Sharing Across Multiple Sites

- CAD data is required to be shared with other Department of Energy (DOE) sites and other companies for design and manufacturing



The Office of Energy Efficiency and Renewable Energy provides funding to each of these National Laboratories.



CAD Compatibility

- CAD data consists of native ProEngineer files and various CAD neutral formats
 - PLM System: Windchill PDM 9.X, Build X
 - ProEngineer WildFire 4, MXXX
 - CAD Neutral Files: STEP, IGES, STL, 3DPDF
- Very challenging to maintain compatibility of software versions and builds across all sites
- Difficult to verify geometry of CAD neutral files and ensure PMI (Product Manufacturing Information) is sufficient for product fabrication



CAD Access 24/7

- **Goal is to have 24/7 CAD access to latest information and to all “as-stored” configurations**
- **Separate Windchill PDM servers at each site is a barrier**
- **Lack of synchronization software to efficiently transfer data between PDM servers is a barrier**
- **Difficult to identify the one “authority” model as duplicates exist on multiple servers that all have the same file name.**



CAD Hardware/Software Compatibility

- **Maintaining compatibility of hardware, software and networks used across all sites**
- **Difficult for all sites to update software versions and builds together**
- **Upgrading to next versions (Windchill 10 and Creo X) are extremely costly and time consuming**
- **Retraining time/cost is significant**
- **Difficult to remain compatible with corporate Operating Systems (Desktop Windows OS, back-end servers OS) and secured network connections.**



CAD Quality

- **Multiple sites creating or modifying CAD for their own immediate purposes that often are not compatible for top-level integration or other uses such as model analysis**
 - Inconsistent file naming
 - Lack of density information
 - Missing parameter information
 - Models used for fabrication drawings that don't match how actual item is shown when installed
 - Suppressed models or features without explanation
- **Different ProE default start parts, parameters, relations, and accuracy settings that creates many challenges during integration into upper level assemblies and into the different Windchill PDM systems**



Windchill PDM 9.1 Access Control

Solutions?