

# CAD Data Sharing Technical Committee Meeting

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PDM Configuration Support

Sandia National Laboratories

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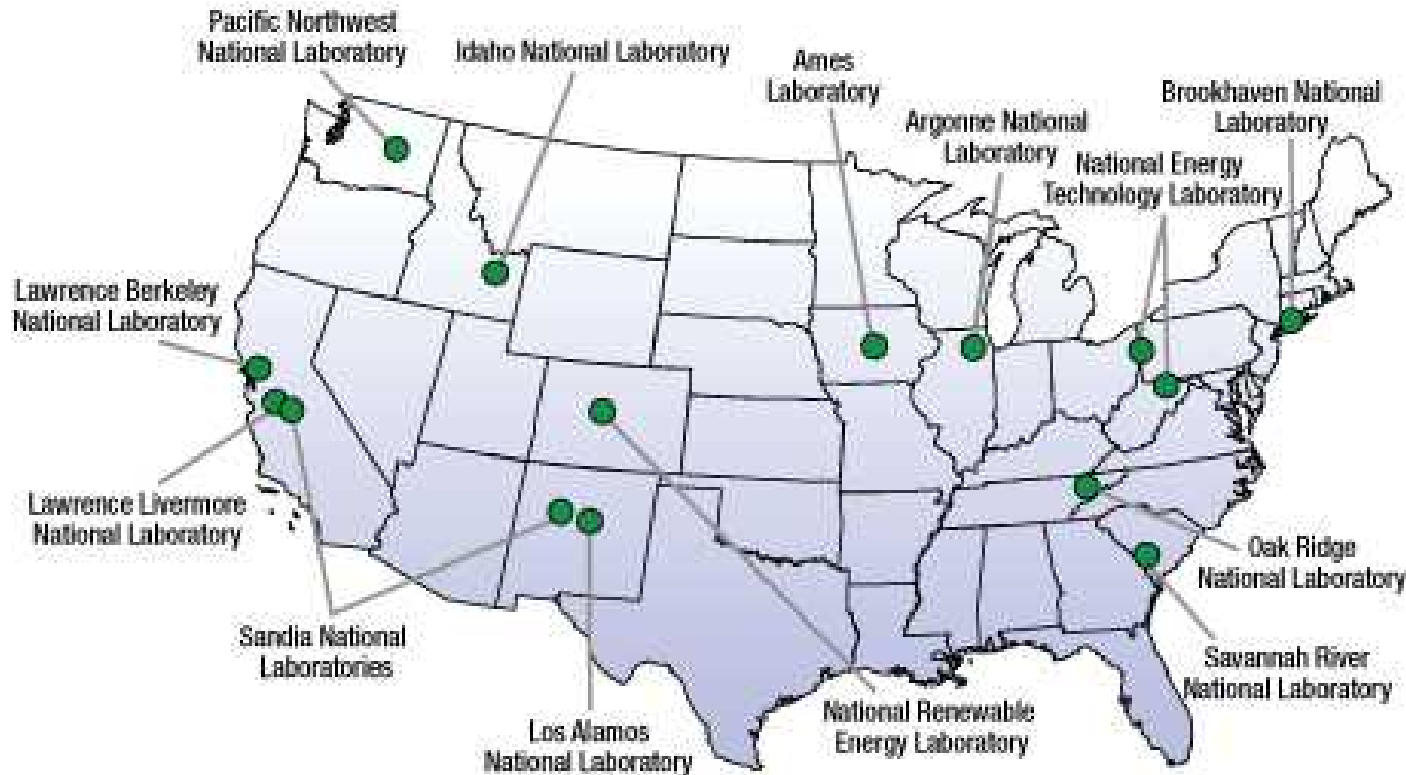
# CAD Sharing

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- **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

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- **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**

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- **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**

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- **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

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- **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**

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## **Solutions?**