Working Group #2: Experimental Data

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Significance of WG's Focus

- Addressing issues with large data sets from APS and atom probe
  - RSoXS (Nealey, Kline, Sunday)
  - Combinatorial super alloy XRD/XRF (Bedzyk)
  - 4D x-ray tomography 0.7 um 0.25 s (Voorhees)
  - Atom probe 4D tomography (Seidman)

Summary of WG's Goals

- Learn to handle heterogeneous data (metadata files – linked files, sample prep synergistic experiment files, samples in a series)
- Store share archive data
- Near real time and remote visualization
- Near real time and remote analysis
- Data reduction capabilities with data generation
- Computational capabilities with data generation
- Integrate with NIST systems (Materials Data Creator?)

Technical Requirements/Needs

- Large pipeline between APS and ALCF or a server at the APS
- Visualization and computational tools at ALCF while running experiments or on APS server
- Tree structures in GLOBUS
- Add information or file links to existing GLOBUS documents
- Computational and networking facilities at beamlines

Collaborations/Synergies

- RSoXS (Nealey, de Pablo, Kline, Sunday)
- Combinatorial super alloy XRD/XRF (Bedzyk, John Okasinski)
- 4D x-ray tomography 0.7 um 0.25 s (Voorhees, Henning Poulsen (DTU))
- Atom probe 4D tomography (Seidman, Dunand, Carrie Campbell)