

Background

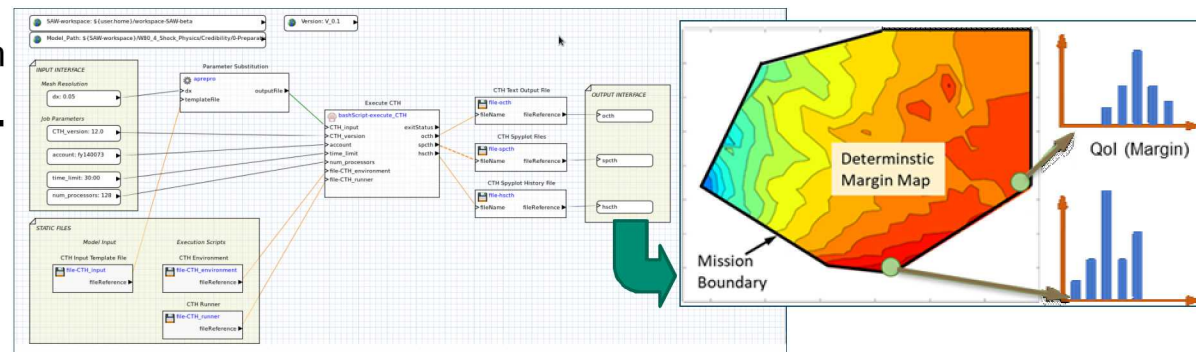
- **Integrated Workflow (IWF)** addresses systems integration and usability of Sandia's ASC R&D investments to ensure impact on Sandia's NW mission.
- **Sandia Analysis Workbench (SAW)** is an integrated desktop application that supports the analyst's workflow: model building, process management, and data/metadata management.
- **Next Generation Workflow (NGW)** is an extension of SAW that enables users to graphically author and execute ModSim processes, and drive large-ensemble parametric studies to support V&V and Qualification

Impact

- At Sandia: Over 200 active users per quarter & over 800 data owners
- More than 2 million files stored in the SAW repository
- Approximately 1000 job submissions per week
- External user community: DoD (ARL, AFRL, NASA), Goodyear (CRADA)
- SAW Model Builder is deployed with Sierra and used in Sierra training, both internal and external users

Approach, Metrics, and Outcomes

- Built on an extensible architecture (www.eclipse.org) with several contributing, independent teams – SAW, Dakota, Cubit, PLATO, Next-Generation Simulation (NGS)
- Desktop application available on Linux, Mac, and Windows
- Secure, encrypted communication via Kerberos
- Team-based classified data sharing with NTK control
- Multi-lab, international collaboration on scientific data management and workflow
- Hosted DOE Workflow Workshop and Hackathon, March 2019, at Sandia Livermore



Strategic Vision

- IWF is making the entire mod/sim tool chain more effective, driven by requirements of the weapon analysts.
- Open-source Simulation Data Management (SDM) that can be shared across NWC.