

## DIABLO: SCALABLE IMPLICIT FEA AT LLNL

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The Methods Development Group continues to develop the scalable explicit stress analysis code ParaDyn used daily for large-scale simulations. A development effort to create a commensurate scalable *implicit* multi-mechanics code is underway. This talk will present an overview of the Diablo project. Topics discussed will include

- Software strategy and architecture
- Our multi-mechanics perspective
- Parallel thermo-mechanics with contact constraints and fluxes
- Surface chemistry modeling
- Performance on ASCI hardware
- Migration of functionality from legacy F77 codes
- Supporting research efforts

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