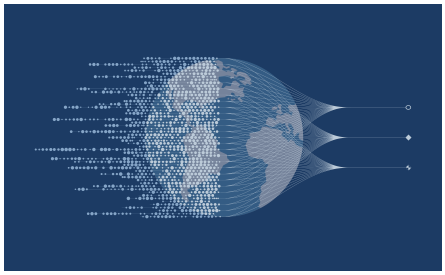

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Event location in the Geophysical Monitoring System

Thursday 11 September 2025 11:00 (1 hour)

Sandia National Laboratories is developing the Geophysical Monitoring System (GMS) for modernization of the United States National Data Center waveform processing system, now focused on development of interactive analysis capabilities (IAN). The United States provides open source releases of GMS software to support International Data Centre (IDC) re-engineering. Sandia has recently integrated event location capabilities into GMS, including an event location service based on the LocOO3D locator that is part of the openly available Salsa3D software package. This service is configured to use the traditional earth models and corrections used at the IDC but can also be extended to use advanced 3-D earth models. IAN now includes a new event location user interface that allows the analyst to view the details and history of location solutions for an event. Analysts can adjust observations and location parameters and compute multiple constrained locations. Sandia has also updated the GMS feature prediction service to be based on Salsa3D software, providing the predictions of travel time, azimuth and slowness to be consistent with the LocOO3D location solutions. This presentation describes the GMS event location software and user interfaces.

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