Adapting software to netCDF's enhanced data model

Russell Rew

UCAR Unidata, Boulder, Colorado, USA (russ@unidata.ucar.edu)

Unidata's netCDF "classic" data model, software, and standard format are now widely used in climate, ocean, and atmospheric sciences. A variety of software packages, data archives, and client/server systems are available for the access, analysis, visualization, and use of netCDF data conforming to this simple data model.

Recently, the classic netCDF data model has been extended to improve its ability to faithfully represent earth science data and metadata. The netCDF-4 software that implements the enhanced data model provides backward compatibility with existing data and applications, while making access to powerful features available through additional programming interfaces that extend the netCDF-3 interfaces.

This presentation will provide an overview of the enhanced netCDF data model, describe experience developing generic software to handle all its features, and offer guidelines based on that experience for incrementally adapting existing software to take advantage of benefits offered by the netCDF-4 data model.