



ADP and ConDoor: Two end-user tools built on the CHRONOS cyberinfrastructure

G. Bohling (1), P. Diver (2), D. Fils (3), D. Greer (4), J. Reed (5)

(1) Kansas Geological Survey, University of Kansas, (2) DivDat Consulting, Houston, TX, (3) Dept. of Geological and Atmospheric Sciences, Iowa State University, (4) San Diego Supercomputer Center, University of California San Diego, (5) Dept. of Electrical and Computer Engineering, Iowa State University

In conjunction with developing the infrastructure necessary to deliver integrated access to multiple geochronological and stratigraphic databases, we are working on developing tools to provide end users with intuitive access to those data resources along with data analysis capabilities. Age-Depth Plot (ADP) provides a simple GIS interface to access DSDP and ODP paleontology data stored in the CHRONOS-hosted Neptune database. ADP displays datum ages versus depth for the selected core hole and provides a palette of tools for fitting an age model to the data or modifying an existing age model. The user may then submit the modified or newly-developed age model to a temporary table for review and possible inclusion in the database. ADP interacts with Neptune through an XML-based query service, providing for greater security and robustness of the data connection. In addition, employing the XML middle layer will simplify the process of integrating information derived from multiple data sources. ConDoor is a graphical front end for the CHRONOS web service implementation of CONOP9, a program that uses constrained optimization to develop sequences of stratigraphic events that provide optimal simultaneous correlation of observed records in multiple sections. Although still in the early stages of development, ConDoor now provides a user-friendly means of navigating through all the possible combinations of section-by-section crossplots of observed events, the most fundamental plot employed in graphic correlation. These crossplots may be used to explore the available data in advance of submitting a CONOP9 run. After a run has been completed, the developed line of correlation will also be displayed on the plots. Input data may be derived from local files or extracted from a federated database that presents an Integrated View

which contains data from both the Neptune and PaleoStrat databases in a format that can be directly translated to CONOP9 input.