



PC-Based Interactive Trace Editing Software

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Summary

PC based interactive trace editing software can run on any LINUX based PC or on any UNIX based platform. It has all the basic features required for the editing work.

Following are the salient features available in the software

- The package is a standalone module away from existing Application server.
- Handles proprietary CGG format and standard SEG-Y as input.
- Utilizes full capability of available High/Low end workstations or PC.
- Easy portability of the package to any UNIX platform having Motif toolkit.
- Display of Data set in user selected domain i.e. Shot Gather, CDP gather etc.
- Customizing display i.e. gain parameters, inter-trace gap, display window.
- Full trace/Surgical editing.
- Polarity reversal.
- Propagation of selected traces across gathers.
- Creation of editing details in the form of library.

Use of this software on onsite workstations or personal computer having LINUX can cut the turnaround time in the processing centers.

Introduction

Seismic trace editing is an integral element of data processing. An editing tool is available on the main processing server; concurrently running several editing sessions on the main server results in slowing down of system response for carrying out other interactive jobs. Hence a project was undertaken to develop interactive editing software using resources of low end workstations and also of LINUX based personal computer so that a user can run stand alone interactive editing session on the low end workstations or PC. Shifting of load from the main server to low end workstations or PC for seismic editing results in performance improvement on the main server.

Method

This Software is developed in X-Windows environment using motif toolkit and C language. Software allows viewing of seismic traces and interactively selecting traces for noise editing and polarity reversal. It has the capability to read editable file of any size, load it to the system for editing and finally prepare edited library files for subsequent use in the processing flow. The input files can be displayed in various seismic domains viz. shot point, common depth point, receiver, offset or any other domains based on specific header word as a primary or secondary

key. The program allows carrying out sorting with primary and secondary keys based on header words. The program has the facility of user defined customizations for display like altering horizontal and vertical scales, sampling intervals, gain, trace type viz. wiggle, variable area. It has the facility of individual trace editing as well as editing in a group, a full trace editing and surgical editing.

The traces selected for editing can be deselected at any time before saving the edit library. After completing the editing work the session can be saved as a text file in a processing format based on user defined primary and secondary keys. Preferably separate session needs to be carried out for editing noisy traces and reverse traces. The program also facilitates to reload edited library into a dataset if need arises

Example

Here is the output of the software displaying one dataset with full trace and surgical editing and its corresponding library.

Conclusions

Since this software is portable on any LINUX based PC or on UNIX platform it can be installed on onsite workstations or personal computer having LINUX. Package has standard editing facilities and some additional features

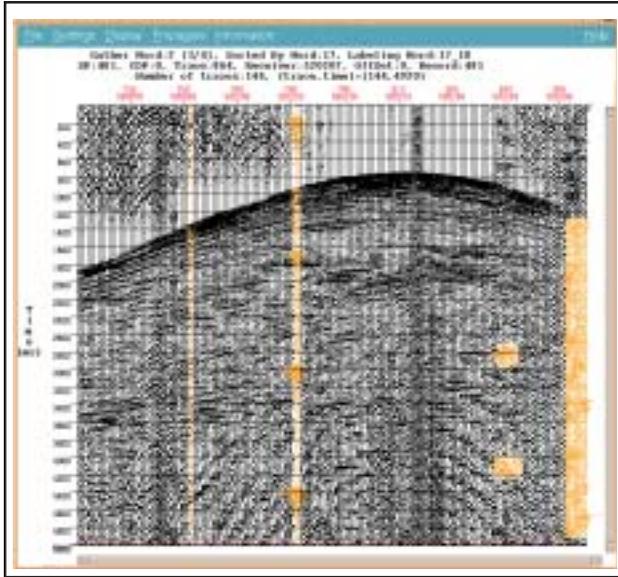


Fig.1: Data set with full trace and surgical editing

like phase reversal and propagation of editing information to selective dataset. It also improves the interactive response time as well the performance of the main server. The performance can be further enhanced by developing more efficient algorithm and SAN based file excess system. Concurrent use of this program through different workstation or PC saves the interactive load on the main server. The program is user friendly having various customizing features. Displaying and carrying out editing job in various seismic domains is possible. The program helps in simultaneous creation of reverse and noisy trace libraries in user defined format. Finally with all these features it can definitely cut the turnaround time in the processing centers.

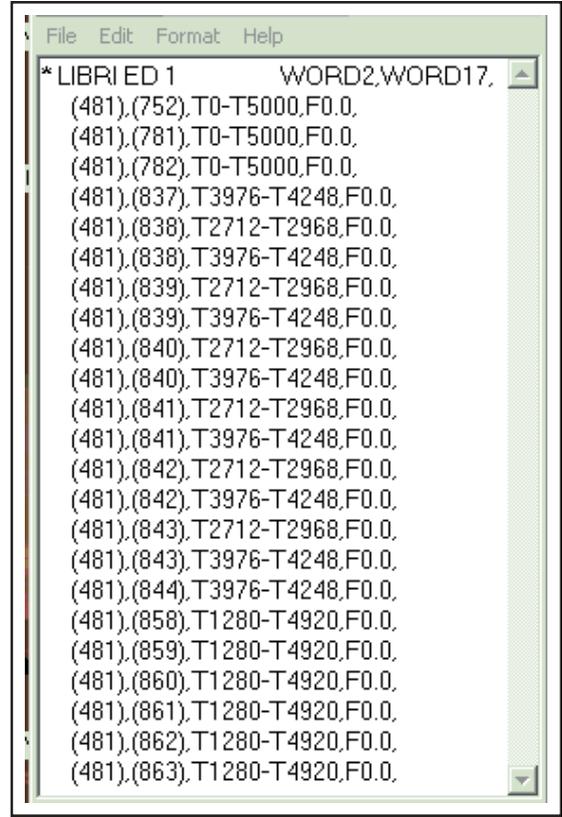


Fig.2: Corresponding output library

References

- EXAM module of GeoCluster Software (CGG France).
- X-Windows System Programming by Nabajyoti Barkakati
- Motif Programming by Adrian Nye - O'Reilly series