Interoperability between open-source seismic packages
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Several open source seismic packages now exist and are widely used (SU, SEPlib, FreeUSP, RSF). These packages provide overlapping functionality. In general a user chooses a single package to do most, if not all, of his/her processing. This is not an ideal solution for either the user (he misses out on the functionality that other packages provide) or the package maintainers who must ideally support a huge range of functionality.

The software development process in the open-source community at large provides a good example of the most effective means for a diverse community, with different priorities is to build on each other works. A lesson that they have learned is the importance interoperability. It is useful to be able to seamlessly run programs that come from significantly different code bases.

Most if not all open-source seismic packages treat data as either a series of traces, or as a multi-dimensional hypercube. What we propose is that we as community build and support libraries that provide automatic translation between packages that treat data in a similar fashion. From a user perspective this would allow them to use the best features of each package seamlessly. From a developer perspective they can concentrate on what features they feel are most important, without being concerned about the completeness of their package. We demonstrate this concept by a library that allows SEP3D and SU programs, both using the trace concept, to be run on the same datasets without any code modification.