

## Hardware

For the application at hand, there was need for an acquisition unit that can acquire data from over 500 geophones synchronously, record the data, process and as an extent, NI PXI platform in combination with NI LabVIEW was ideal.

PXI is a rugged PC-based platform primarily used for measurement and automation systems which follows the concept of modularity in order to allow the user to customise the hardware to the need of the application rather than searching for turnkey solutions. This allows us to equip the platform with PXI 6224 cards allowing for the acquisition of the geophones by reducing downtime associated with the development of such systems.

Combining this with NI LabVIEW, a graphical programming language, we are able to reduce significantly our development time while customise the acquisition to the needs of this project. We are able to acquire data from all our channels without losing any data that are essential to the project, analysis the data and store them to TDMS files, developed specifically for high channel high sample data, for later use.

