Use Case

Group 1:

- Accurately locating earthquakes to define fault geometries
- Source inversion using 3-D Green's functions
- Refinement site effects for strong motion stations and beyond

Group 2

- Recover GMM parameters (e.g. Z1.0, Z2.5).
- Rapid moment tensor estimation, rapid solution of mechanism.

Group 3

- Engineers that use GMPE need Z1.0 and Z2.5.
- Seismic network operators to locate, or relocate, earthquakes in real-time
- Site classification or microzonation maps, for example, ShakeMap.

Group 4

- Use for structural geology research for cross validation of geologic models.
- Use by geoscientist to better constrain crustal velocity structure.
- Tectonic deformation modelers. For planning and designing 3D seismic surveys.

Group 5

- Near surface ground motion amplification, micro-zonation of seismic hazards
- Hydrologic modeling of local/regional aquifers,
- Geomechanical modeling, tectonic geomorphology (geomorphologists).

Group 6

- Travel time are derived from 3D ray tracing.
- geotechnical/geomechanical applications in engineering for site effects