miniSEED and StationXML: Request for Comment

IRIS Consortium Instrumentation Services Team

Danielle F. Sumy, Bob Woodward, Kasey Aderhold, Kent Anderson, Bob Busby, Brent Evers, Andy Frassetto, Katrin Hafner, Justin Sweet
SEED

- Standard for the Exchange of Earthquake Data
- SEED v2.4: August 2012 (v2 - February 25, 1988)
- miniSEED: waveforms; dataless SEED: metadata
Ideas to update miniSEED

- **Network codes**: Up to four (4), 2 alpha followed by two digits for start year of temporary network
- **Timing Quality**: no current way to put in unknown/cannot trust; push for a way to document
- **Move blockette 1000 (data only (miniSEED))** to header
- **Removal of unused blockettes**
- **Compression**: Adopt one schema for compression of integers, floats, etc.
- **Fixed Point Data**: Pick a standard
- **Location ID**: Make it required, even if it’s ‘--’
- **Minimal format considerations**: allow for shorter record lengths (important for EEW)
StationXML

- **XML**: Extensible Markup Language
- **Purpose**: XML representation of most important and commonly used structures of SEED 2.4 metadata
- **Goal**: mapping between SEED 2.4 dataless and StationXML with:
  - Little transformation or loss of information
  - Simplifying metadata representation when possible
  - Content and clarification added where lacking in SEED
  - Base schema to represent similar data types
• IRIS DS: (Goal) Majority of metadata to StationXML by 2018

• Translator tool: transition away from dataless SEED to StationXML

  (Available on IRIS SeisCode)

• Need to think about how to implement through Antelope (to sway users and instrument vendors to StationXML)
miniSEED:
• Collins: increase timing precision, i.e. ‘tick’ size (currently 0.1 ms)
• Collins: Clock corrections lead to non-integer sample rates. Currently, non-integer sample rates are accommodated by adding Blockette 100. Would be nice to avoid this.

StationXML:
• Collins: think about how the schema could incorporate tags unique to OBS work

Request for Comment will be the process by which we gather information to propose to DS