

Recommendation from the Evaluation Review Team

Proposal on “FDSN Source Identifiers” submitted by Chad Trabant (IRIS)

We have reviewed the specification as submitted and revised by IRIS. It addresses a current need to expand the size of the network, station, location and channel codes, as defined in SEED specification and uses this opportunity to address other issues with the SEED channel naming scheme. It accomplishes this in a manner consistent with the URI, uniform resource identifier, specification of the W3C, which allows the seismology community to take advantage of industry standards. In addition, the use of a single string identifier simplifies identification of a data channel and aides in data discovery, brokering, and systems that are not specific to seismology. A mapping from current SEED codes to the source identifier and a reverse mapping when lengths are compatible is included and provides a pathway for existing systems to continue to be used and does not invalidate existing specifications. While a new identification system is a significant step, **we believe its advantages are worth establishing this as a new FDSN standard.**

We have also completed a Technical Evaluation of the reference implementation in python, as submitted by IRIS. The python script properly implements the proposal.

Significant features include:

- Single URI string identifier
- Expanded network, station and location codes
- Unique network codes for temporary networks, with mapping for existing 2 char codes.
- Separation of band, source (i.e. instrument) and subsource (i.e. orientation) channel codes, allowing expansion of each
- Lossless mapping from existing SEED NSLC codes
- Reverse mapping NSLC when lengths are compatible

Significant Differences from SEED to be aware of:

- Channel code separated into band, source, subsource codes
- Specific sampling rate ranges for U, ≥ 0.01 to < 0.1 and V, ≥ 0.1 to < 1 , band codes.
- Band code W added to fill the gap between U and R, ≥ 0.001 to < 0.01
- Band code J added for > 5000 sps.
- Band code I added for irregular sampling
- Band code A, O deprecated
- Source codes X, Y deprecated

If this specification is approved, we encourage the proposal of additional source codes for instrument types not covered within the SEED single character convention for data recording channels such as GPS, strain rate, differential pressure, as well as for state of health channels such as clock quality, system voltage, data latency, etc.

The review committee recommends approval of the specification as revised. The submission is available here:

<http://docs.fdsn.org/projects/source-identifiers/en/v1.0/>

Thank you,

Philip Crotwell
Wayne Crawford
Florian Fuchs