



**International Federation of Digital Seismograph Networks**

# FDSN Working Group III

IAGA-IASPEI 2021 (virtual/online)

Hall No. 13

24 August

20:15 - 22:15 Indian ST

16:45 - 18:45 CEST

07:45 - 09:45 PDT (US Pacific)



## Agenda

1. Approval of Minutes from previous meeting in Montreal 2019
2. Status of Action Items from previous meeting (Chad Trabant)
3. SeedLink v4 specification proposal (Angelo Strollo)
4. Authentication for all FDSN web service specifications (Chad Trabant)
5. Status of Data Center Registry (Chad Trabant)
6. Potential JSON standardization for fdsnws-event
7. Any other business



## Status of Previous Action Items 1/4

Working Group III Action Items 14 July 2019 - IUGG Montreal Canada

**Action Item:** Approve minutes from previous meeting

**Responsible:** WG III

**Status:** <vote this meeting>

<http://fdsn.org/media/wg/III/2019/2019%20WGIII%20Minutes.pdf>



## Status of Previous Action Items 2/4

**Action Item:** Related to QoS standards. Once feedback had been incorporated, a Survey Monkey will be developed to get input from data centers as to the priority order that they should be implemented as QoS standards for the Federated System.

**Responsible:** IRIS

**Status:** *Incomplete, to be retained (continued)*

**Action Item:** Standardisation of the required QA service API including request parameters, and is expected to be coordinated between IRIS and EIDA, those being the two Quality systems in operation at EIDA and IRIS.

**Responsible:** IRIS and EIDA

**Status:** *Incomplete, to be retained (continued)*



## Status of Previous Action Items 3/4

**Action Item:** An action was proposed that after the QA service API has been defined, then look towards getting this into SeisComp3 assuming funding can be found.

**Responsible:** FDSN

**Status:** *Incomplete, is dependent on definition of API (another action item)*

**Action Item:** An action was proposed that since the existing prototype data center registry system exists it is ready for broader use. Existing data centres should be solicited to add their entries to the system.

**Responsible:** Trabant and Quinteros

**Status:** *Complete. Registry announced via General mailing list August 2019. All known public data centers were encouraged to add their entry and as of August 2021 there are 19 centers registered.*



## Status of Previous Action Items 4/4

**Action Item:** Tim Ahern suggested that any other ideas for new services should be sent to the WG III mailing list.

**Responsible:** WG III

**Status:** *Complete. No further ideas for services have been sent to the mailing list.*

**Action Item:** When an EIDA proposal related to a new authentication system is ready it should be distributed to the WGIII for comments.

**Responsible:** EIDA

**Status:** *Incomplete. To be retained. A proposal is likely in the future.*



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## **SeedLink v4 Proposal**

An overview by Angelo Strollo...



## Authentication for all web service specifications

CTBTO IDC requested that the web service specifications for `fdsnws-station` and `fdsnws-event` allow an authorization mechanism.

### Proposal:

Modify *all* web service specifications to include the *optional* **queryauth** method and behavior description that is currently limited to `fdsnws-dataselect`.

#### Service methods

The service should support these methods:

**query** – to submit a data request

**queryauth** – to authenticate and submit a data request

**version** – to request the full service version number

**application.wadl** – to request a WADL for the interface

#### Purpose of the *query* method:

This method is designed to return time series data.

#### Purpose of the *queryauth* method:

The optional *queryauth* method behaves identically to the *query* counterpart except that submission requires authentication. The data center may then include restricted data as appropriate for the credentials.

#### Behavior for the *queryauth* method

HTTP Digest Authentication (RFC 2617) should be requested from the client. After successful authentication, a request should be accepted and handled as per the *query* method. Authentication credentials (user database and associated licensing schemes) are data center specific.





## Data Center Registry Status

- Centers control their own entries and information
- Declaration of priority for data sets (network-granularity), registry enforces uniqueness
- Multiple options for maintaining information:
  - Simple Web Form
  - Harvest from URL
  - Push (POST) to registry
- List of FDSN and non-FDSN web services
- Human and machine friendly interfaces

Name	Full Name	Website
BGR	BGR Data Centre	<a href="https://www.bgr.bund.de">https://www.bgr.bund.de</a>
ETH	ETH Data Centre	<a href="https://www.ethz.ch">https://www.ethz.ch</a>
GEOFON	GEOFON Program	<a href="https://geofon.gfz-potsdam.de/">https://geofon.gfz-potsdam.de/</a>

Data Center: RESIF	
Name	RESIF
Full Name	RESIF Data Centre
Summary	French seismologic and geodetic network
Website	<a href="https://www.resif.fr">https://www.resif.fr</a>
Contact	<a href="mailto:dc@resif.fr">dc@resif.fr</a>
Citation	<a href="https://doi.org/10.17616/R37Q06">https://doi.org/10.17616/R37Q06</a>
Last Updated	2021-08-21 09:01:31
Services	<p><b>archive</b> SEED based archive of continuous seismological data</p> <ul style="list-style-type: none"> <li><b>fdsnws-dataselect-1:</b> <a href="http://ws.resif.fr/fdsnws/dataselect/1/">http://ws.resif.fr/fdsnws/dataselect/1/</a> Access to raw time series data</li> <li><b>fdsnws-station-1:</b> <a href="http://ws.resif.fr/fdsnws/station/1/">http://ws.resif.fr/fdsnws/station/1/</a> Access to metadata describing raw time series data</li> <li><b>fdsnws-event-1:</b> <a href="http://ws.resif.fr/fdsnws/event/1/">http://ws.resif.fr/fdsnws/event/1/</a> Access to events data</li> <li><b>fdsnws-availability-1:</b> <a href="http://ws.resif.fr/fdsnws/availability/1/">http://ws.resif.fr/fdsnws/availability/1/</a> Availability of time series data</li> <li><b>eidaws-wfcatalog:</b> <a href="http://ws.resif.fr/eidaws/wfcatalog/1/">http://ws.resif.fr/eidaws/wfcatalog/1/</a> EIDA WFCatalog service</li> <li><b>resifws-timeseriesplot-1:</b> <a href="https://ws.resif.fr/resifws/timeseriesplot/1/">https://ws.resif.fr/resifws/timeseriesplot/1/</a> Plot of timeseries</li> <li><b>resifws-timeseries-1:</b> <a href="https://ws.resif.fr/resifws/timeseries/1/">https://ws.resif.fr/resifws/timeseries/1/</a> Processed and reformatted time series</li> <li><b>resifws-sacpz-1:</b> <a href="https://ws.resif.fr/resifws/sacpz/1/">https://ws.resif.fr/resifws/sacpz/1/</a> Metadata in SAC Poles and Zeros format</li> <li><b>resifws-resp-1:</b> <a href="https://ws.resif.fr/resifws/resp/1/">https://ws.resif.fr/resifws/resp/1/</a> Metadata in SEED-RESP format</li> <li><b>resifws-evalresp-1:</b> <a href="https://ws.resif.fr/resifws/evalresp/1/">https://ws.resif.fr/resifws/evalresp/1/</a> Evaluated responses in various formats</li> </ul> <p><b>PH5</b> PH5 based archive</p> <ul style="list-style-type: none"> <li><b>ph5-dataselect-1:</b> <a href="http://ph5ws.resif.fr/fdsnws/dataselect/1/">http://ph5ws.resif.fr/fdsnws/dataselect/1/</a> Raw time series data</li> <li><b>ph5-availability-1:</b> <a href="http://ph5ws.resif.fr/resifws/availability/1/">http://ph5ws.resif.fr/resifws/availability/1/</a> Availability of timeseries data</li> </ul>
Full Record	<a href="#">Query the service API (returns JSON)</a>



## Data Center Registry

- No significant regular use (yet!)
  - The DMC will begin harvesting the information for Federator (fedcatalog)
- First FDSN adoption of JSON Schema
  - Used to describe and enforce JSON data structures
  - Also used in proposed miniSEED 3 validator
- DOI or free-form Citation for Data Center
  - Separate citation from data via network DOIs
  - Needs population and advertisement!
- More data centers are available
  - Needs advertisement, in particular at a regional level



## Potential JSON standardization for fdsnws-event

### From WG II discussion

From Mario Locati: Has there ever been a discussion on the standardization of a JSON output for the fdsnws-event? Nick Ackerly wonders if this is a topic for WG 3. Comments that JSON sometimes is implemented, but nobody follows a standard.

For our discussion:

Thoughts on need for FDSN specification?

USGS offers some GeoJSON options:

<https://earthquake.usgs.gov/earthquakes/feed/v1.0/geojson.php>

[https://earthquake.usgs.gov/earthquakes/feed/v1.0/geojson\\_detail.php](https://earthquake.usgs.gov/earthquakes/feed/v1.0/geojson_detail.php)



## Working Group Actions (modified w/ discussion)

### Proposal: SeedLink v4

- Submission of proposal to WG via mailing list
- Call for a Proposal Review team

### Proposal: Authorization capability for all web services

- Call for discussion on the mailing list on options within two weeks
  - Allow *queryauth* parameter on all services or not
  - Wait for future discussion of enhanced identification/authentication mechanism

### To-be-determined

### Proposal: Specifying JSON output for fdsnws-event

- Call for an ad hoc committee to investigate the potential for a standard to support or develop for JSON output from fdsnws-event