Status of IOOS 52 North SOS

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IOOS
INTEGRATED OCEAN OBSERVING SYSTEM

52north
exploring horizons

What is the IOOS 52n SOS?

- 52 North SOS
  - Open source (GPL v2)
  - Java/Maven/PostgreSQL
  - Full SOS 1.0 support, core SOS 2.0 support
- IOOS 52n SOS
  - Enhance and customize stock 52n SOS
  - Format responses to IOOS templates
  - Add features as needed

Why use 52 North?

- 52n SOS is the SOS reference implementation
- 52n staff are active in OGC SOS standards development
- 52n SOS has dedicated development staff and a relatively large international user base
- Leverage tons of existing effort
- We get enhancements for free
  - SOS 2.0
  - Google Summer of Code (encodings, administration)

Open Geospatial Consortium

Approval Date: 2012-04-16

Publication Date: 2012-04-20

Reference number of this document: OGC 12-006

OGC name of this OGC® project document: **http://www.opengis.net/doc/IS/SOS/2.0**

Version: 2.0

Category: OpenGIS® Implementation Standard

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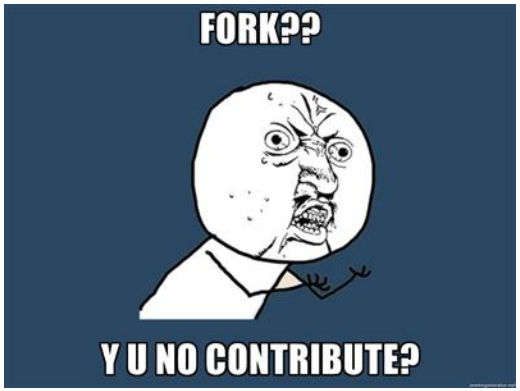
Challenges



- Branch, don't fork!
  - Keep IOOS customizations compatible with vanilla
  - Try not to deviate from data model
  - Contribute necessary tweaks back to trunk
- Stock 52n is very general (by design)
  - No explicit concept of feature type, station, network, etc
- German open source law
  - Contributors must physically sign duplicate forms releasing code ownership to 52n

Progress 

- Added hierarchial procedure support
  - Networks contain stations, stations contain sensors
  - Solves SOS 2.0 single procedure per offering problem
- Added maximum observation results setting
- Added code to organize data into feature types (point and timeSeries have been tested)

Progress

- Implemented IOOS encodings
  - GetCapabilites, GetObservation, DescribeSensor
- Integration testing
  - Helps catch errors before service is in the wild
- Maven site (documentation)
  - Easy to maintain JavaDocs, instructions, etc.
- Preliminary version and test service released for testing
- Project site: http://ioossos.axiomalaska.com
- Test instance: http://ioossos.axiomalaska.com/test/

Remaining tasks

- Fix issues
  - Implement sensor altitudes
  - Decouple observations from offerings
  - Maybe fix GetResult
- Performance testing
- Advise and assist with RA deployment
- Implement future changes in IOOS SOS templates
- Trajectories?

SOS Injection Libraries

- sos-injection
  - Injects sensor data into IOOS 52n SOS via standard web service operations (RegisterSensor and InsertObservation)
  - Java/Maven
  - https://github.com/axiomalaska/sos-injection
- sensor-web-harvester
  - Uses sos-injection
  - Harvests web available sensor data and injects into IOOS 52n SOS
  - Scala/Maven
  - https://github.com/axiomalaska/sensor-web-harvester