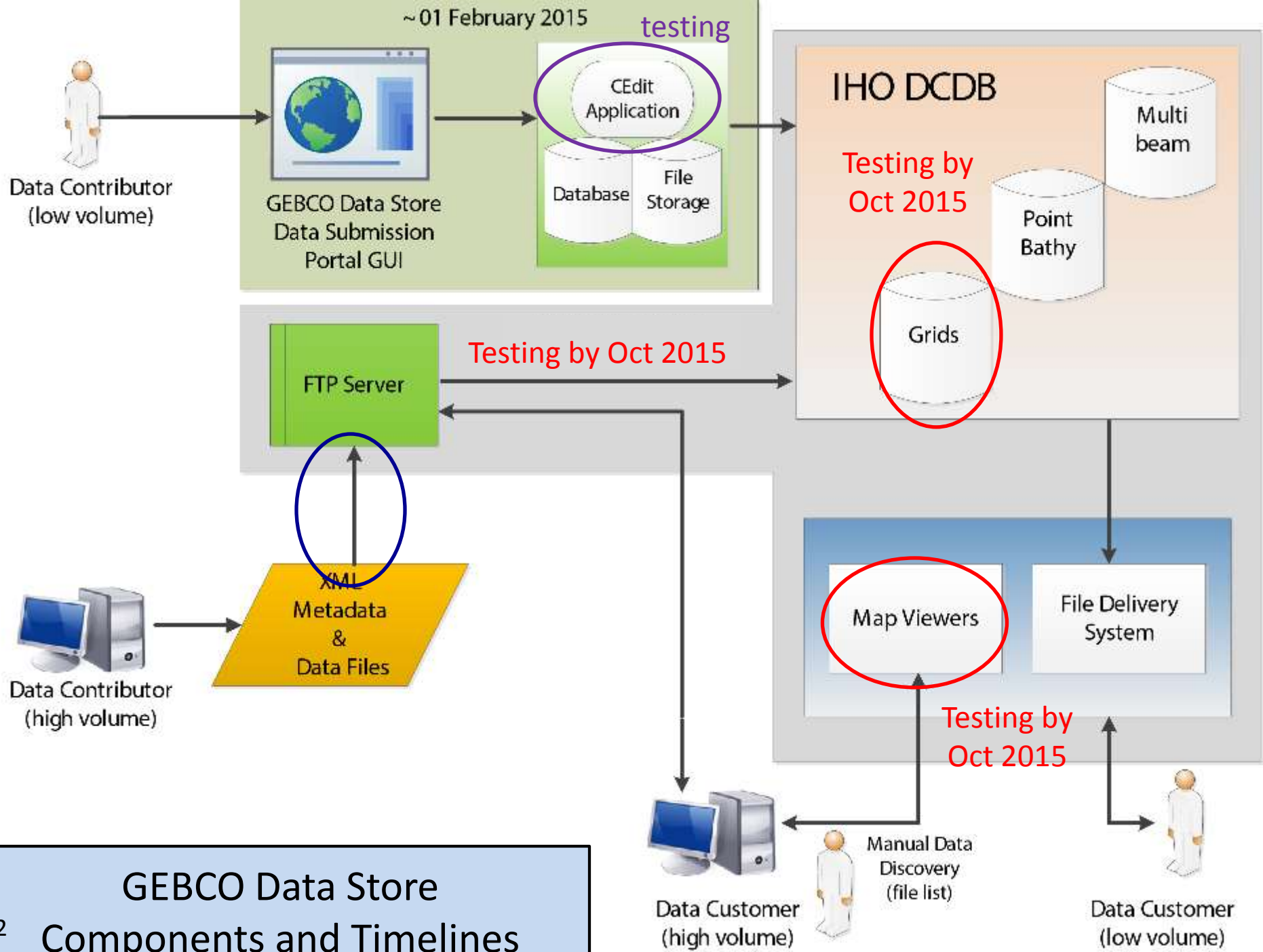# GEBCO Data Store

- Envisioned to provide a central repository for quality controlled/assured, non-restricted data that have the potential to be used as input to the GEBCO grid

- Is a repository for *processed* bathymetric trackline and gridded data used to produce the global and regional GEBCO grids.

- Is part of the IHO DCDB, which already includes trackline (point) and multibeam (swath) data.

- Differs from other data repositories because it seeks already-processed data; preserves users efforts

- It contains:
  - a contribution part, with data going into the IHO DCDB
  - an access part, with web map for discovery

- Seeks to make contributing data simple, easy and painless, and minimize data management.

December 11, 2014

GEBCO Data Store Components and Timelines

Progress on GEBCO Data Store

- ## Data Contribution
  - Low-volume CEdit web application in testing phase:
    - Feedback requested
    - Operational ~1 Feb 2015
  - High-volume automated ingest
    - Planned for testing by Oct 2015
    - Requires data to already have sufficient metadata in XML format
  - Grids
    - Planned for testing by Oct 2015

- ## Data Access (testing by Oct 2015)
  - Catalog with footprints of contributed data
  - Web map viewer
    - Will display footprints, and enable download, of data contributed to GEBCO Data Store, as well as other IHO DCDB holdings

- ## Outstanding questions
  - Acceptable file formats?
    - Grids: netcdf, geotiff, Arc ASCII, ASCII XYZ/CSV
    - Trackline: MGD77T, GeoJSON

Crowdsource Bathymetry

Crowd-sourced data

IHO DCDB portal

Data uploaded at mariners' convenience

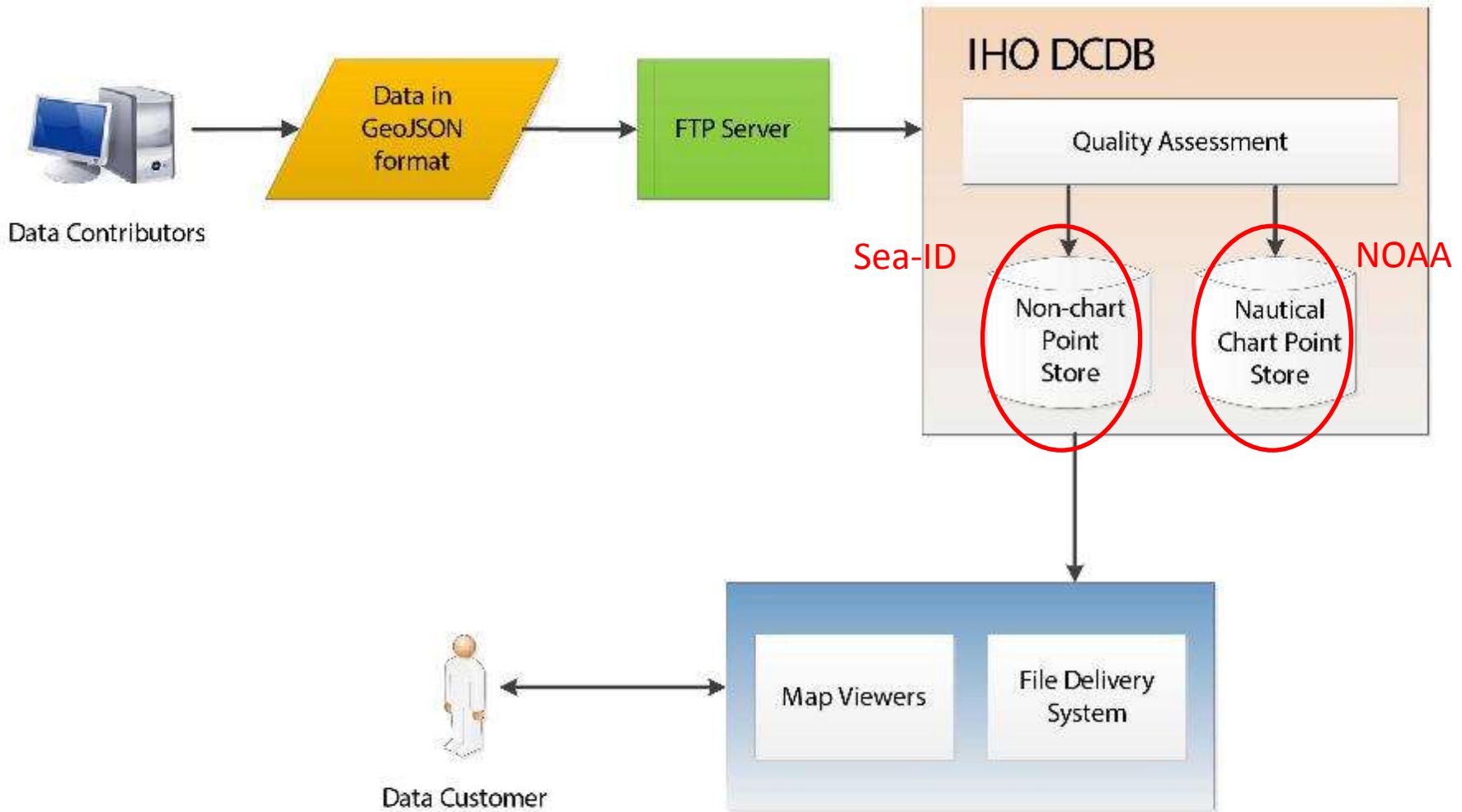*Near real-time update and view*

(*if required*)

New or revised chart

Normal chart updating cycle

Crowdsourced Bathymetry Data Flow Diagram

GeoJSON Basics

GeoJSON is a geospatial data interchange format based on JavaScript Object Notation (JSON).

GeoJSON is a format for encoding a variety of geographic data structures. A GeoJSON object may represent a geometry, a feature, or a collection of features. GeoJSON supports the following geometry types: Point, LineString, Polygon, MultiPoint, MultiLineString, MultiPolygon, and GeometryCollection.

Why use it?
1. GeoJSON format accommodates virtually all geographic data representations as well as user defined metadata
2. GeoJSON is a recognized data format supported by established and emerging software tools

        A. It is easy to work with (parse, import, export, etc.)

        B. It is easy to use with popular applications:

                - Google Maps, Google Earth

                - ArcGIS, ESRI

                - Web applications

Example GeoJSON file (draft CSB data format)

```json
{
    "type": "FeatureCollection",
    "crs": {
        "type": "name",
        "properties": {
            "name": "EPSG:4326"
        }
    },
    "properties": {
        "platformName": "White Rose of Drachs",
        "platformIMONumber": "",
        "platformStatus": "new",
        "platformContact": "support+csb3@sea-id.org",
        "platformDraftMeters": -4.6,
        "dataProcessorContact": "support@sea-id.org",
        "sounderMake": "Sperry Marine (L3 ELAC)",
        "sounderModel": "ES155100-02",
        "sounderSerialNumber": "136",
        "gpsMake": "Litton Marine Systems",
        "gpsModel": "LMX420",
        "gpsSerialNumber": "",
        "sounderToGpsLongitudinalOffsetMeters": 3.52,
        "sounderToGpsLateralOffsetMeters": -0.76,
        "sounderDepthBelowSurfaceMeters": -4.55,
        "soundSpeed_m/s": 1500
    },
    "features": [
        {
            "type": "Feature",
            "geometry": {
                "type": "Point",
                "coordinates": [
                    40.9148,
                    19.0052
                ]
            },
            "properties": {
                "depthMeters": -296.5,
                "epochtime": 1372436914
            }
        },
        {
```

Coordinate reference system information

Metadata section (content is user defined)

Data for first point of collection

Data for additional points follows…