Facility Registry Service (FRS)

Overview of FRS Spatial Processing

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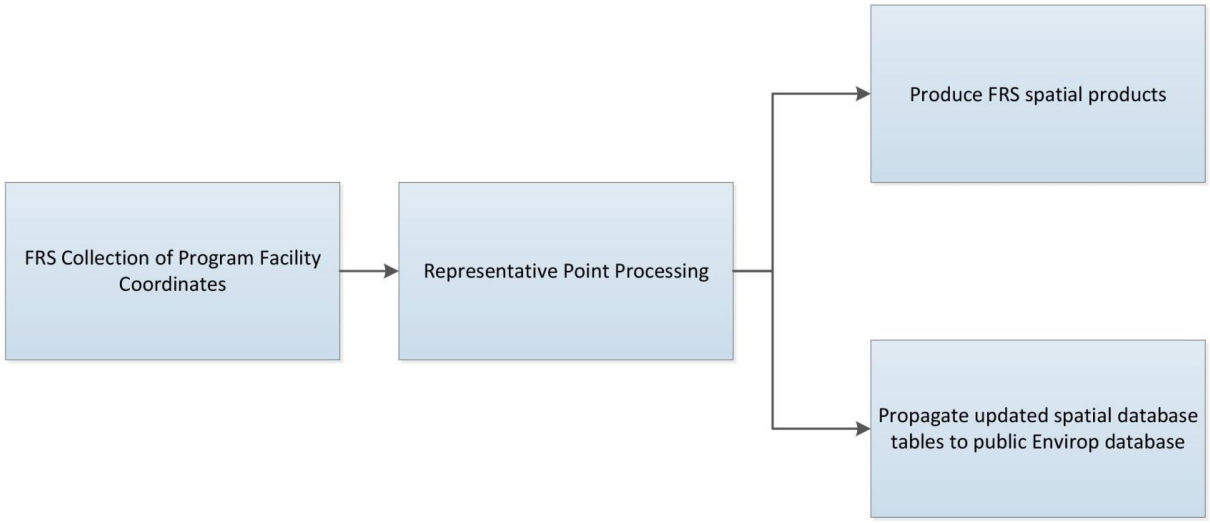
REVISION HISTORY

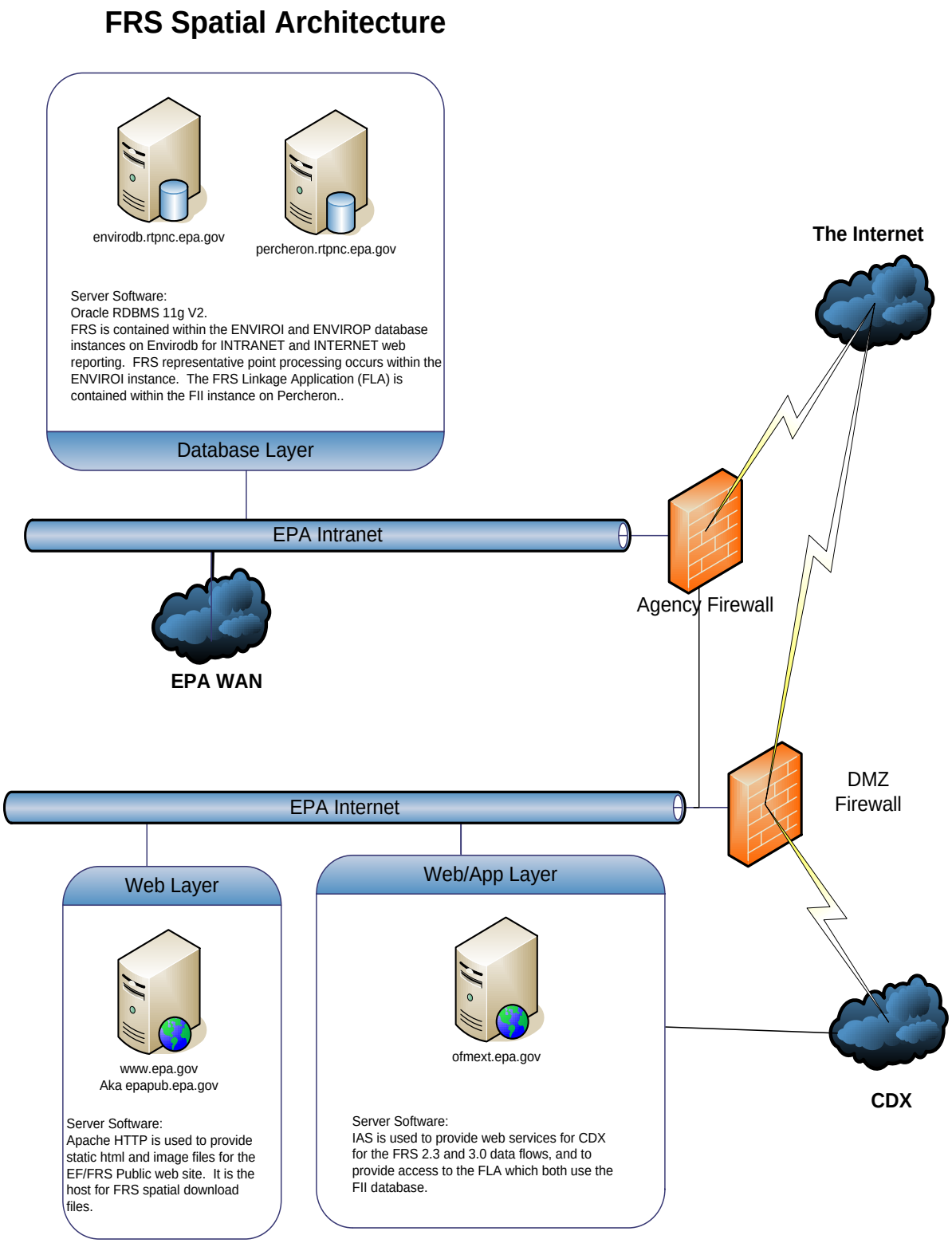
Version Number	Date	Description of Changes
1.0	04/08/2013	Initial creation.
1.1	07/01/20132	Updated to include program verification of GIS coordinates.

A. Overview of FRS Spatial Processing

FRS Spatial Processing to determine the "Representative Point" spatial coordinate for facilities in FRS is comprised of 4 distinct process streams which collect data, analyze and process the data, and then propagate the data onto multiple FRS database and web servers which host FRS spatial products.



A.1 FRS SPATIAL ARCHITECTURE



The FRS Spatial Architecture identifies the hardware and main software components that support FRS Spatial Processing.

Server	Software and Use
Envirodb	Envirofacts database server that contains both the Enivroi (intranet) and the Envirop (Internet) database instances. These databases are used for FRS web reporting and are the primary source for all FRS spatial data. The Enviroi database instance also hosts EPA OEIs Integrated Geo Database (IGD). The IGD hosts spatial reference tables like Zip Code, State, Congressional District boundaries that are used to both quality assure FRS spatial data and to produce derived spatial information for FRS spatial coordinates. For this reason, the spatial processing to determine the FRS Facility Representative Point is performed within the Enviroi database Instance. Oracle's Spatial product is used to store and process the FRS spatial data. It is also used to geocode all FRS Facilities.
Percheron	The FII database instance is located on this database server and is used for the Facility Linkage Application (FLA). The FII database is the "source" for all FRS non-spatial information and is the process location for all FRS refreshes. These refreshes identify new program facility spatial coordinates and modifications to existing program spatial coordinates. Within the FLA, data stewards can enter new spatial coordinates for a facility and they can identify the current representative coordinate for a facility. In addition, programs may flag incoming program spatial coordinates that have been verified as valid by the program staff and work with the FRS Team to identify these as the representative coordinates for the facility.
Epapub	The public EPA web server. This is the host for FRS Spatial Data download products.
EPA Geo Platform	The EPA Geoplatform and associated ArcGIS servers provide documentation on existing FRS spatial data and the ArcGIS servers provide feature and map services for FRS spatial data.
FME Server	The FME server collects and converts the native FRS spatial data stored within the FRS Enviroi and Envirop Oracle databases and produces ESRI-based products (shapefiles and geodatabases) for use in the EPA Geo Platform and for download from the epapub server.
Ofmpub	The Oracle Application Server, ofmpub, hosts the FRS EZ Query tool. This tool provides an interactive interface for the discovery and download of FRS spatial data.

A.2 FRS PROCESS STREAMS

1. FRS collection of Program Facility Coordinates. FLA and EPA Program and State Refreshes.
2. Representative Point Processing. This occurs within the Enviroi database instance. For each FRS Program Facility spatial coordinate, spatial information is derived (example: city, state, county, zip code, congressional district, watershed, etc.) and an estimate of accuracy based on the provided metadata is calculated. Based on this information, a representative coordinate is identified for each facility.
3. Propagate updated spatial database tables to public Envirop database for that data which is publically available. Restricted spatial data, like from Landfills and RMP, is excluded from the public web site.
4. Produce FRS spatial products for the web FRS geospatial download page and EPA Geoplatform.