**Overview of using VES to copy SDWIS Prime Data to SDWIS State Local database**

**Background**

EPA requires support to create a solution that provides replication of a state’s SDWIS Prime data to the state’s local replication data repositories. The proposed solution would leverage EPA’s Virtual Exchange Services(VES) to manage the connection between EPA and State databases and the frequency and logging of the replication jobs.

**Overview**

To accomplish the replication using VES, logic will be added to the EPA/SDWIS Prime environment that will accept the request for SDWIS Prime data from VES and return to VES the SDWIS Prime data in a SDWIS State 3.3 compliant XML document. Logic will also be added to the State environment to accept and process the incoming SDWIS State XML document to load the XML data into the state’s SDWIS State Local Replication Data Repository. Finally, VES must be configured to communicate with the EPA/SDWIS Prime and State databases. Major implementation tasks are listed below:

EPA/SDWIS Prime

* Create a schema on the SDWIS Prime database to support the incoming VES data request. This new schema will have read-only access to query the SDWIS Prime schema.
* Query the SDWIS Prime database tables based on the request parameters (state, subject area, date of last request, etc.) The query will use Oracle XML to create a SDWIS State 3.3 compliant XML document. The XML document will be stored in a table within the SDWIS Prime VES schema and the table will be updated to let the Exchange Node know that the document is ready to be returned to VES.
* Note: The database approach above can be replaced or integrated with the SDWIS Prime Web Services when available.

State Environment

* Create a schema on the SDWIS State database to accept the incoming SDWIS State XML data into a table. This new schema will have write access on the SDWIS state schema.
* Create a procedure to process the incoming SDWIS State XML document and reconcile the incoming data with the existing data in the SDWIS State database.

Virtual Exchange Services (VES)

* Create the database connection between VES and the State database. This is done by installing the VES connector or by specifying the database server/host, port and credentials.
* Create the frequency of replication (i.e. every 2 hours, every 2 days, etc.)
* Create the SDWIS Prime data flow to support requests for SDWIS Prime data and the processing of returned SDWIS Prime XML documents.

**Diagram**

The diagram below illustrates the replication process.

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