The Exchange Network Virtual Node EN2014

Agenda

- Introductions and Objectives
- Overview of the Virtual Node
- Conceptual Architecture
- Virtual Node Configuration
- Virtual Node REST Services
- Demonstration

Introductions and Objectives

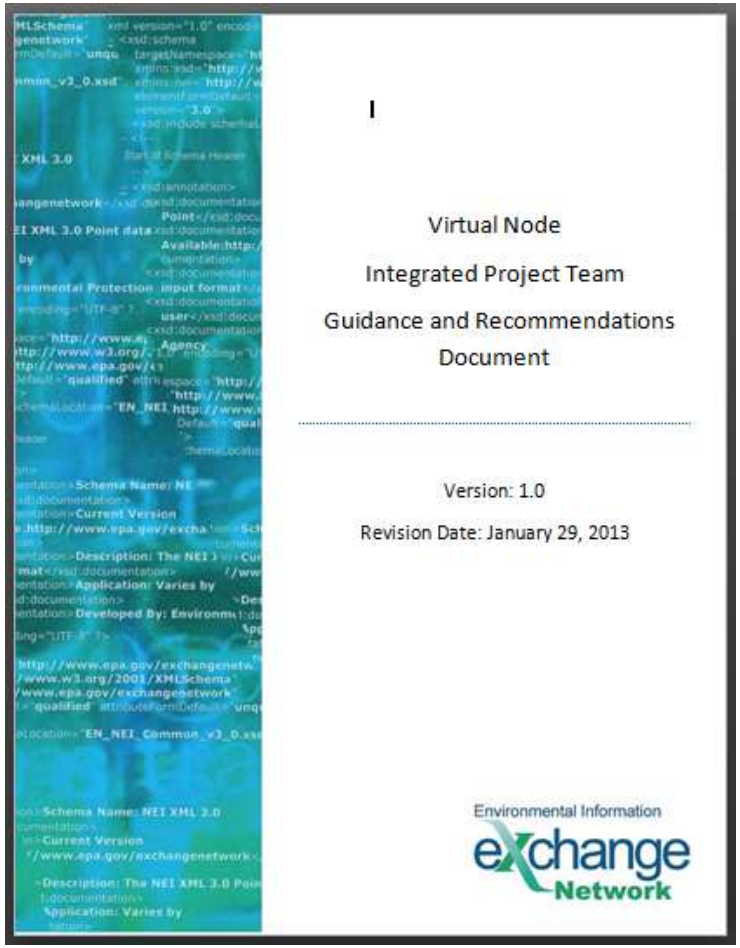
- What organization are you with and what is your role?
- What are you hoping to learn today about the Virtual Node?
- Are you interested in a particular data flow or use case for using the Virtual Node?
- Do you have any upfront questions or concerns about using the Virtual Node?
- What help do you need to get started?

Environmental Information eXchange Network

Overview

Path to establishing a Virtual Node platform

- IPT Charter adopted August 28, 2012
- Information collection & IPT requirement sessions (8 states, 4 tribes, multiple vendors)
- IPT Meetings occurred over a period of 5 months
- Recommendations document based on IPT input and feedback created



Overview of the Virtual Node

What is the Virtual Node?

- A central node server that hosts any number of partner nodes: state, tribe, region, agency, etc.
- Each partner node is configured on the Cloud Node Platform by filling out forms in a web application (eliminating partner node HW/SW)
- Each partner node functions like a conventional node only it is easier and cheaper to set up and maintain

Environmental Information exchange Network

Overview of the Virtual Node

What benefits does the Virtual Node provide?

- Provide a Low Cost Node Option for Partners
- Decrease Operations and Maintenance Costs
- Simplify Development and Maintenance
  - New mapping model

Overview of the Virtual Node

Virtual Node Advantages

- Highly Agile: A new partner node can be created with a simple configuration form
- Eliminates Node Maintenance: Nodes are centrally managed, secured and serviced
- Common Architecture: New and approved features will be shared by all nodes (your input is needed)
- Virtual nodes can inherit services from the 'base-node'
- The Discovery/ENDS service information can be published and maintained automatically

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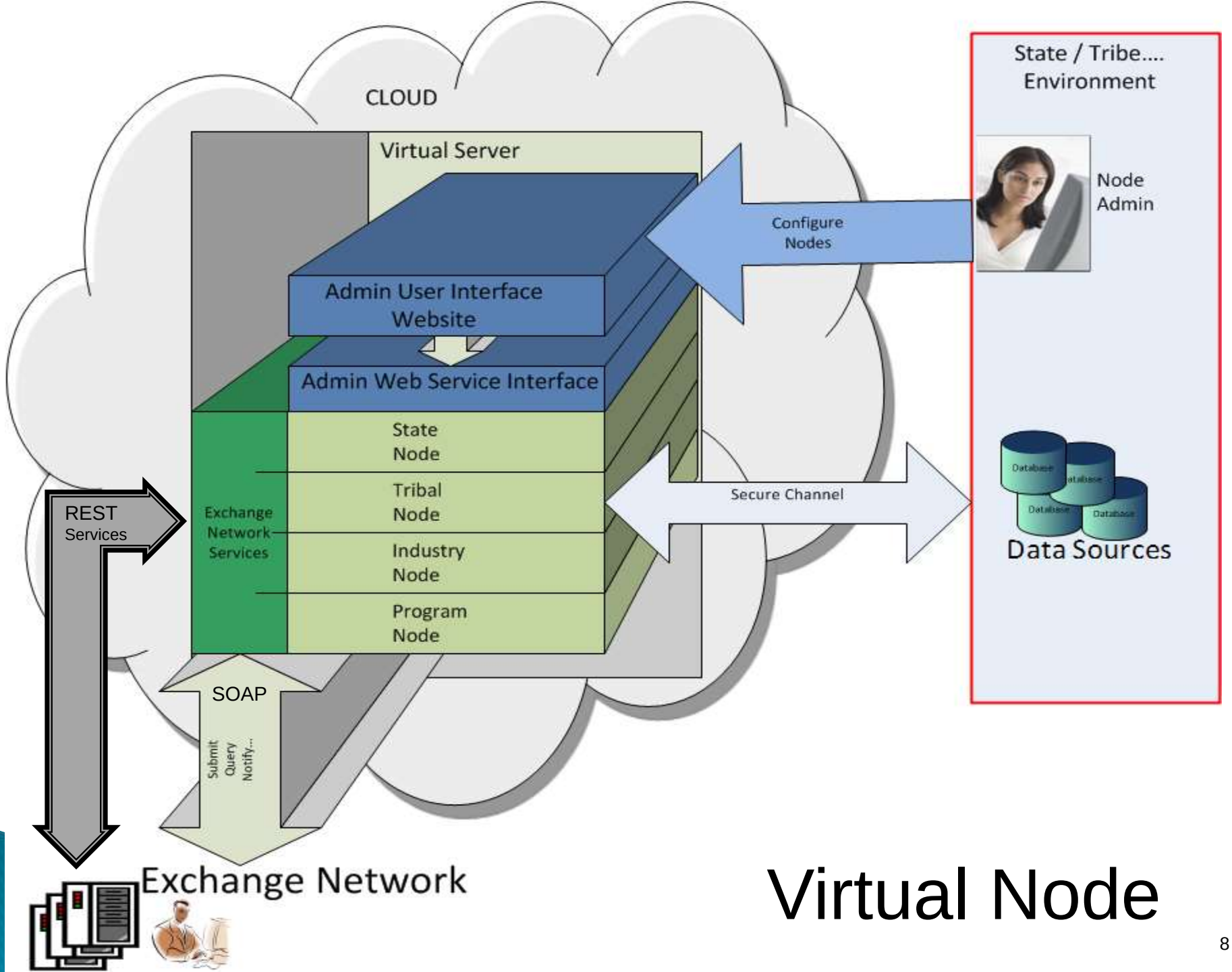
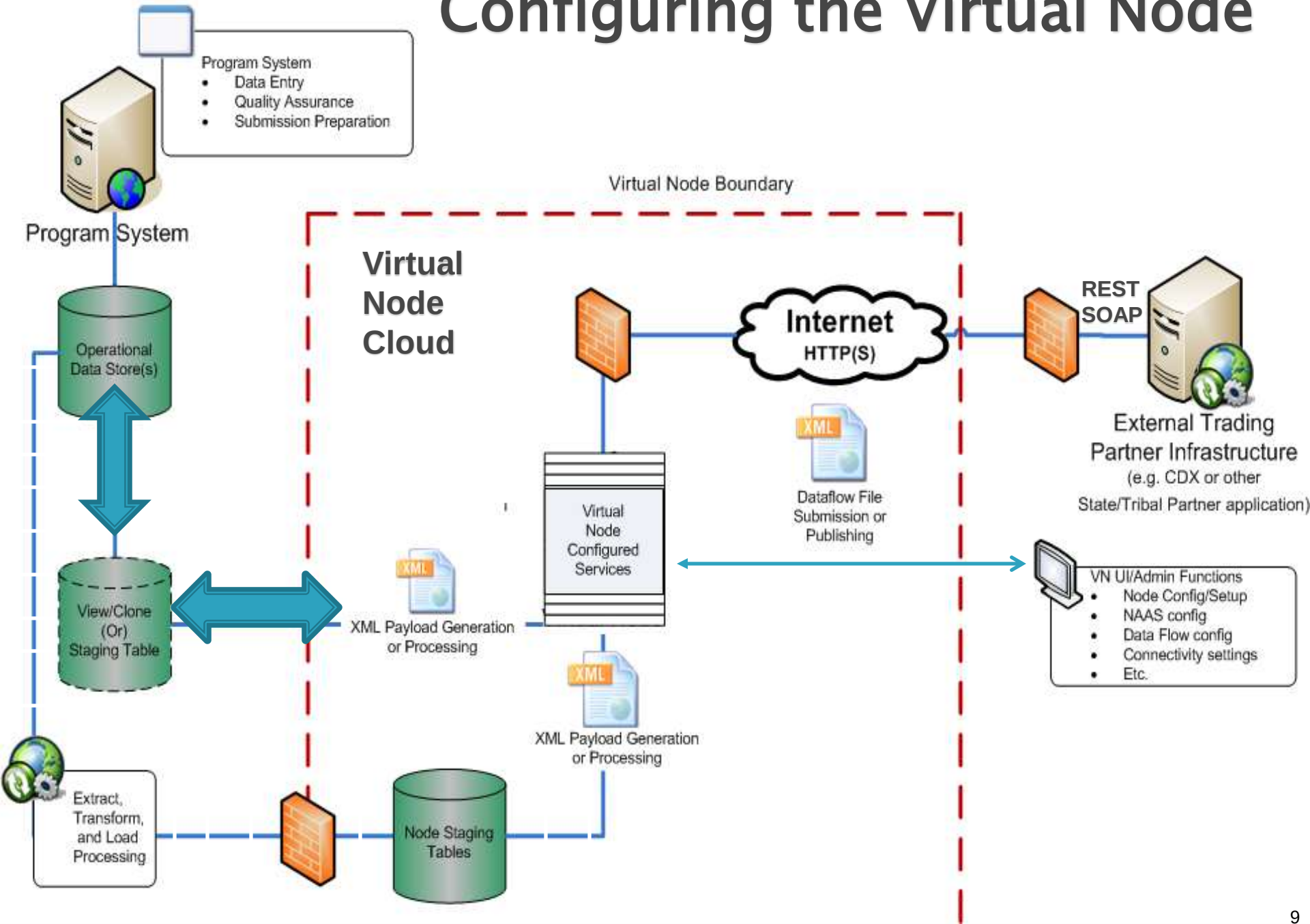
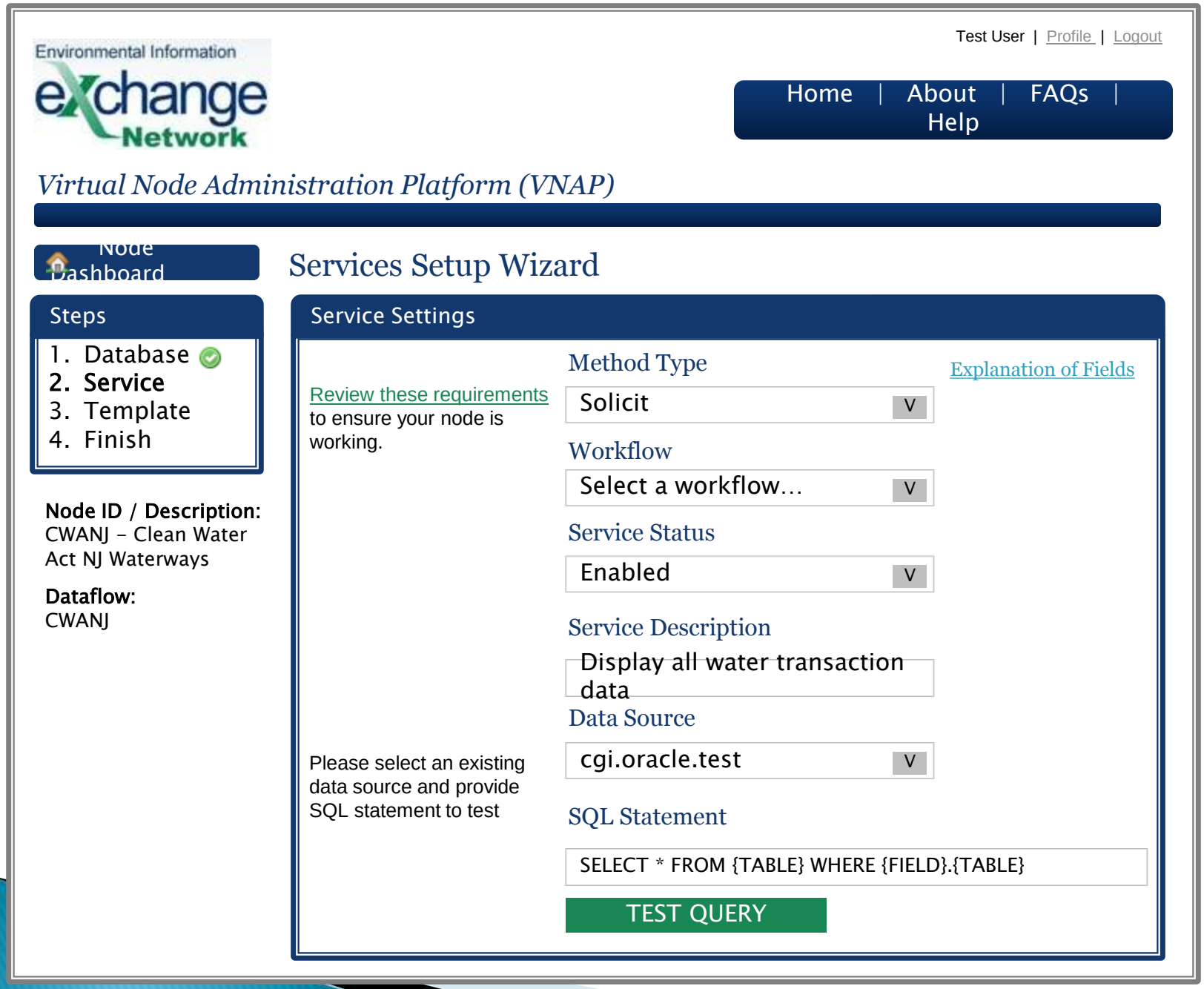


Virtual Node

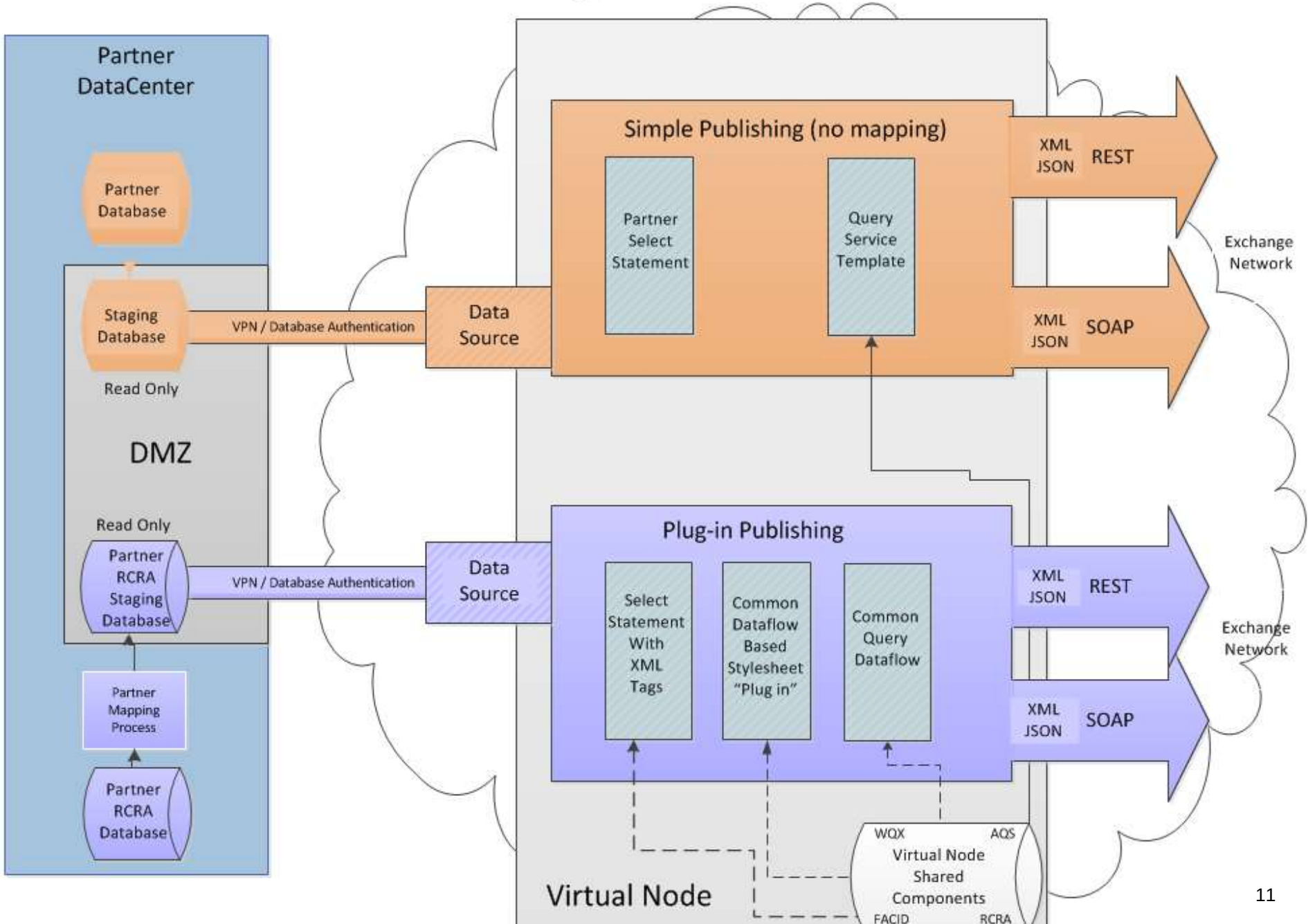
Configuring the Virtual Node



Configuring a Service in the Admin Tool

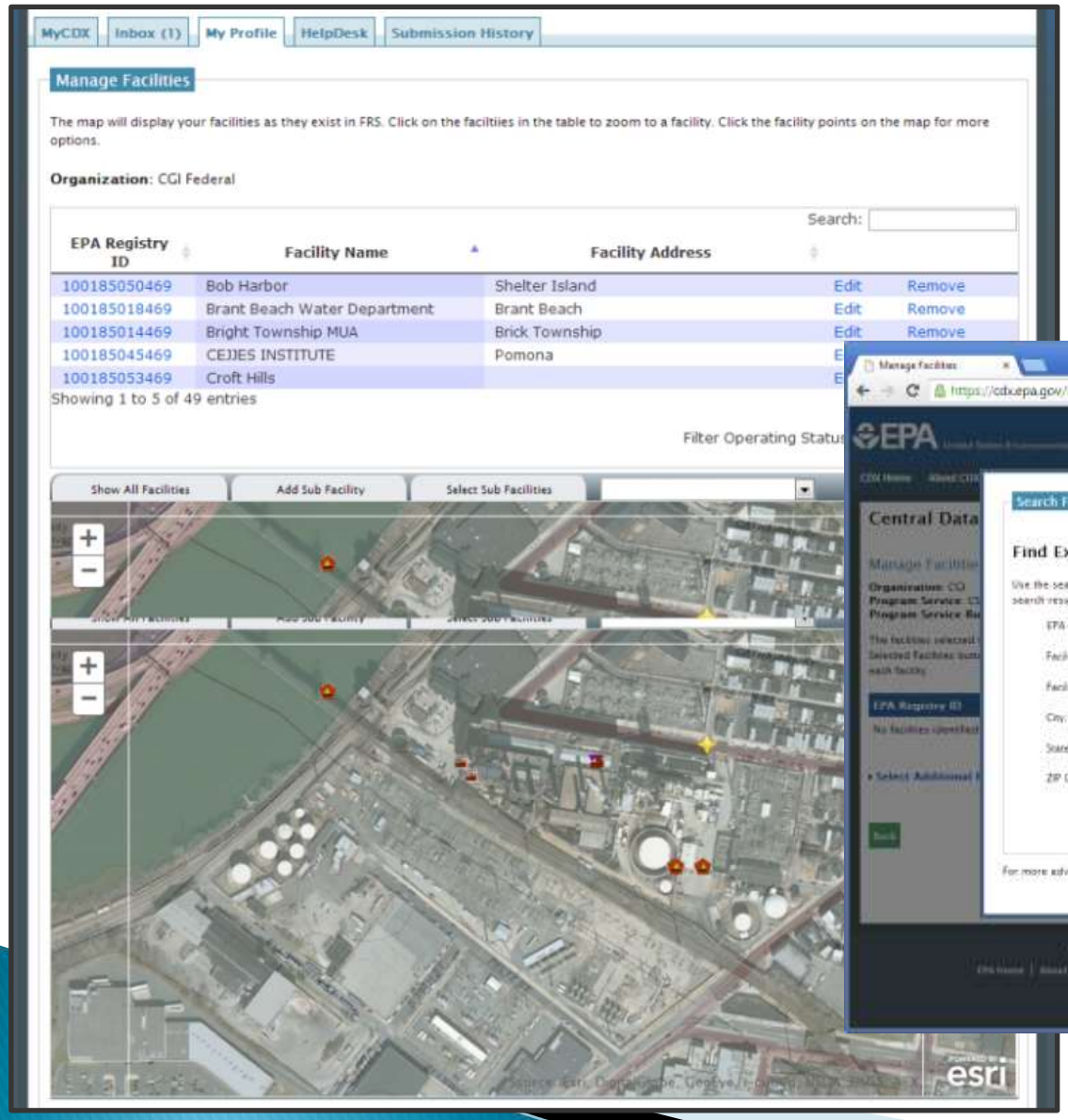


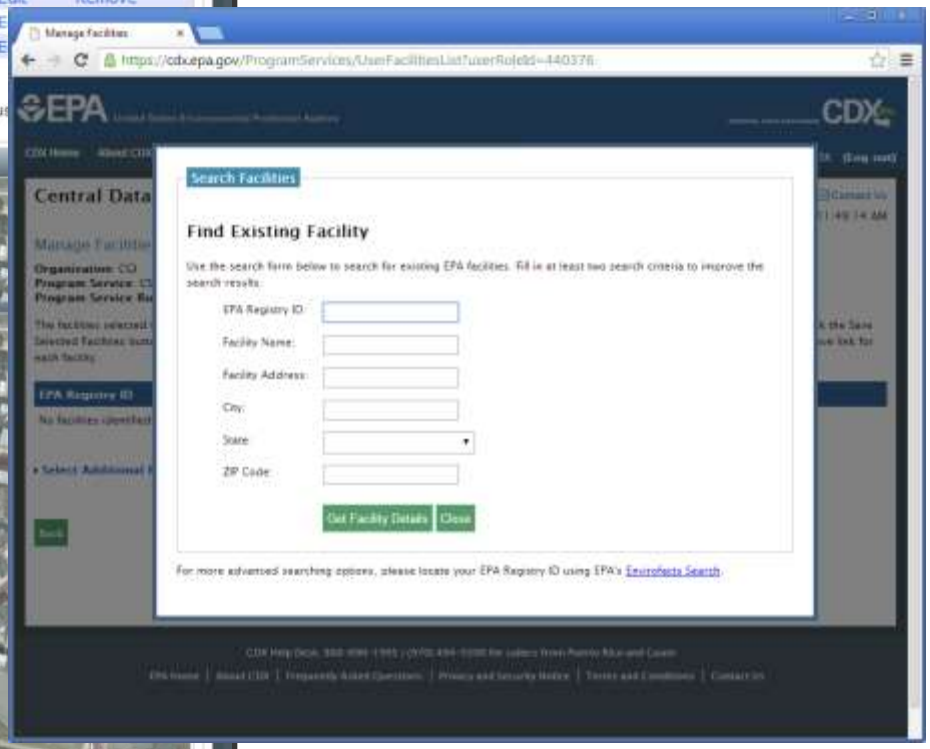
Publishing Models



Business Example: REST Services

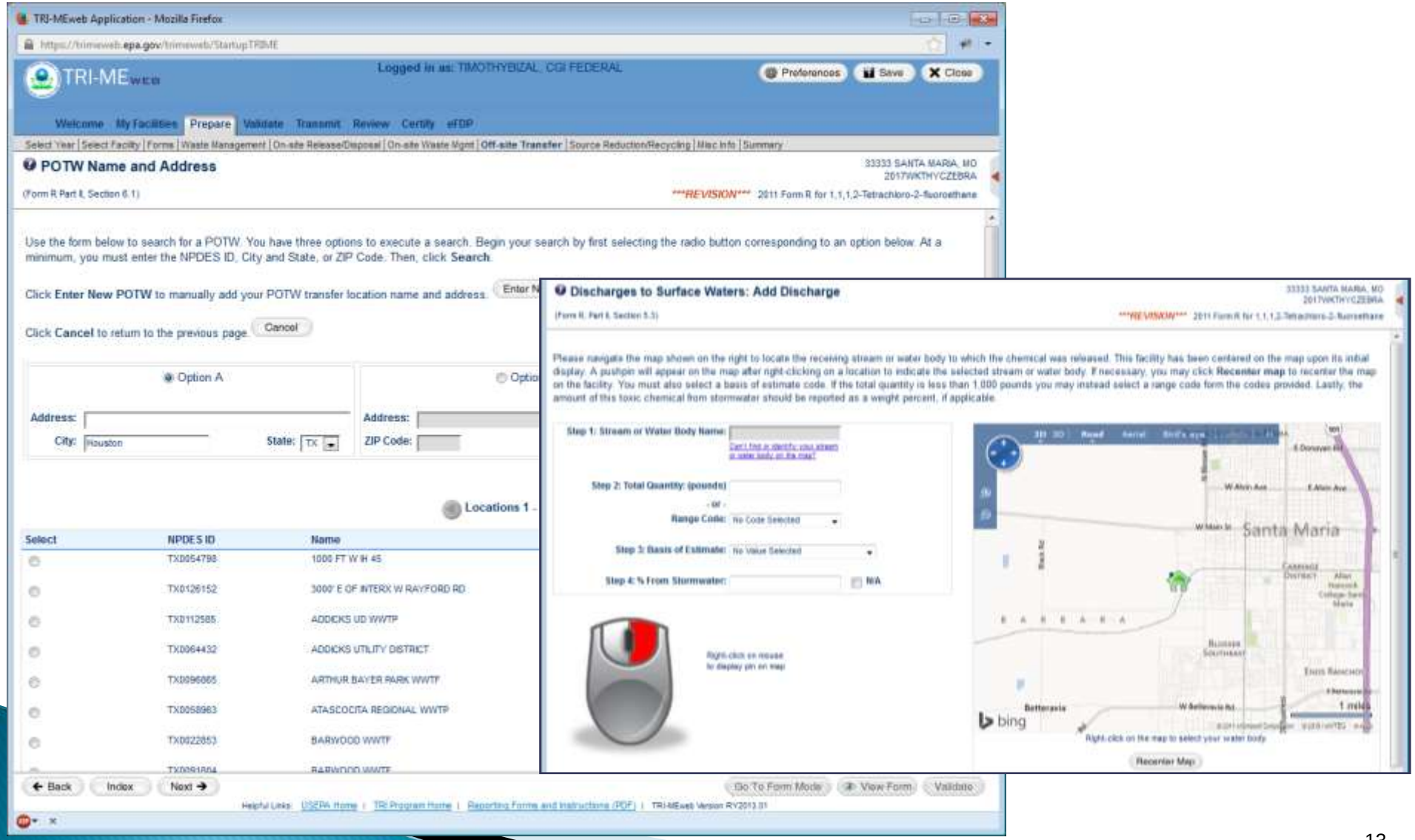
Search and display results





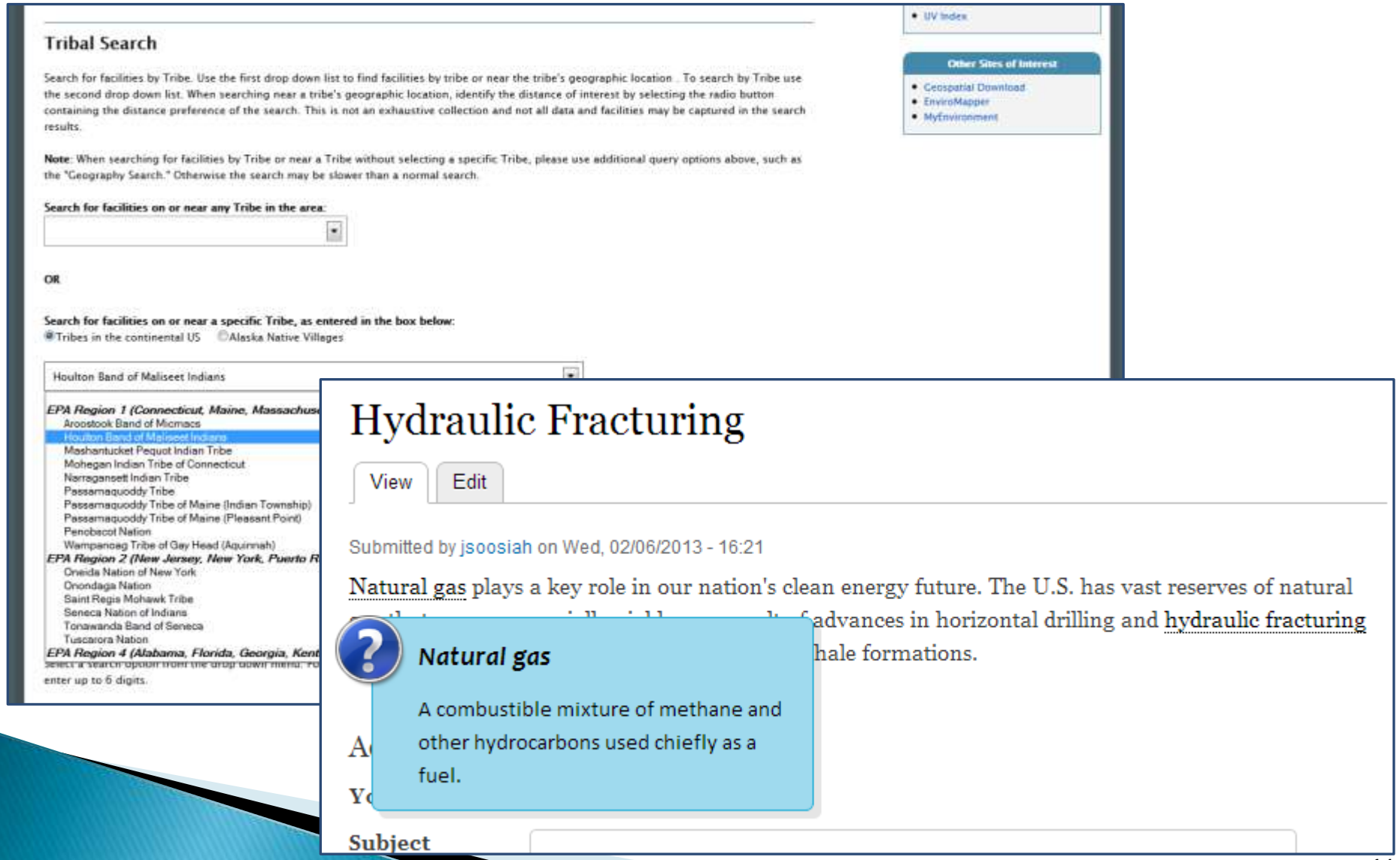
Business Example: REST Services

Search and display results



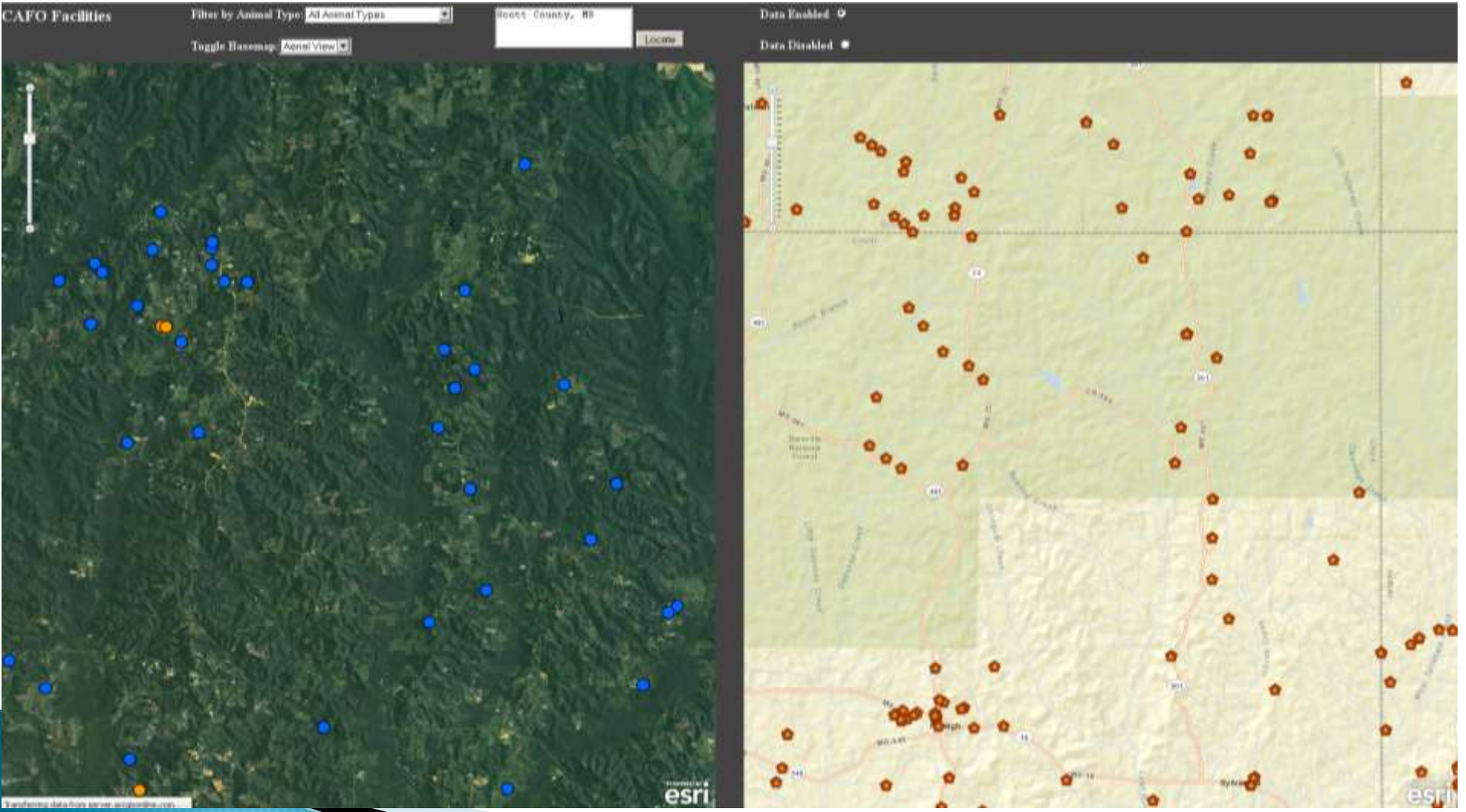
Business Example: REST Services

Pick lists and help text for terminology



Business Example: REST Services

"Merging" data geospatially for complete coverage



Virtual Node Demo
REST Service

-Virtual Nodes can create REST type services for publishing your data without additional configuration

-This is what a REST service URL looks like for a virtual node service
-https://virtualnodetest.epacdxnode.net/nodedataservice?
node=*{nodename}*&
dataflow=*{dataflowname}*&
request={serviceName}&
paramName=paramValue&
token={token}&
rowId={rowId}&
maxRows={maxRows}&
format=json|xml

GetCountyCode – actual REST service on my ChrisClark Virtual Node:

JSON format:
https://virtualnodetest.epacdxnode.net/nodedataservice?node=ChrisClarkNode&dataflow=GeoServices&request=GetCountyC
de&state=Virginia&format=json

XML format:
https://virtualnodetest.epacdxnode.net/nodedataservice?node=ChrisClarkNode&dataflow=GeoServices&request=GetCountyC
de&state=Virginia&format=xml

Optimizing Business Processes

- Shared dataflow definitions ("plug-in")
  - Allows you to copy dataflows from a template
  - Current dataflows supported
    - AQS
    - ICIS Air
- Steps to deploy a dataflow
  - Import shared definition
  - Update Notifications, Header and Endpoints
  - Map your native database to the staging tables
  - Set up VPN connection
  - NO CODING – all configuration

ICIS AIR Workflow

- ICIS-AIR Query service
  - retrieves data
  - construct XML document.
- Submit ICIS-AIR XML document (retry if it fails).
- Retrieve processing status (GetStatus)
- Download QA server validation report
- Check ICIS processing status
- Download ICIS-AIR report
- Parse report and record accepted and rejected records in the transaction tracking table
- Remove accepted records from staging tables
- Notify admins and submitters

Documentation

- Virtual Node Administration Guide
- Virtual Node Lab Guide
- ICIS-AIR Setup Guide
- AQS Setup Guide

Open Discussion

- What use cases are you considering?
- Did we miss a question you had?
- What help do you need to get started?

Demonstration

- Virtual Node Setup
- Data Flow Configuration
- Question and Answers