

Exchange Network Overview

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Regional Exchange Network Coordinator

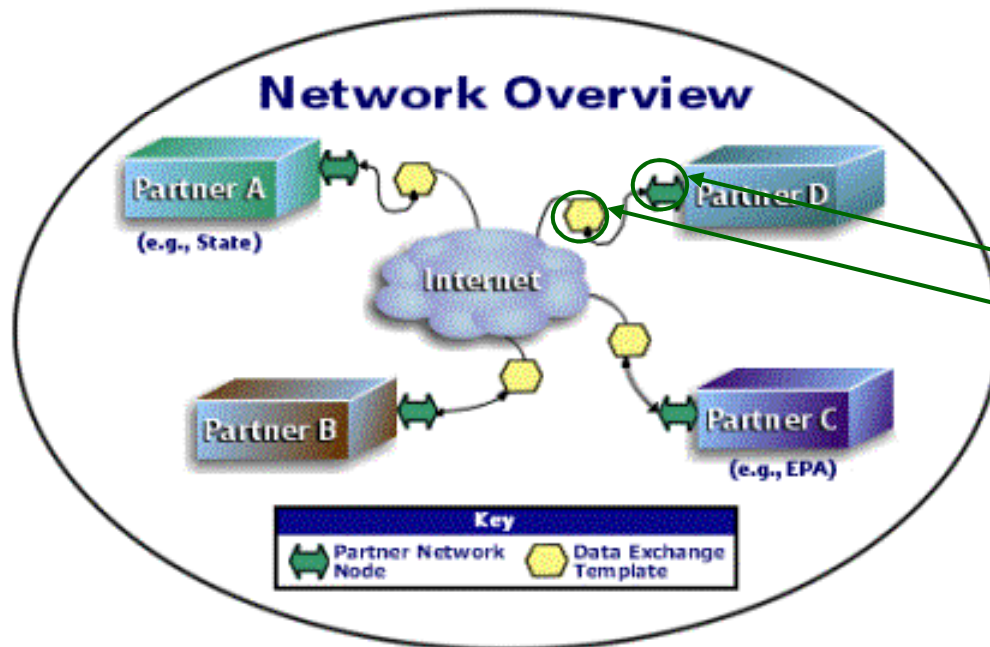
June 11, 2008

Topics

- What is the Exchange Network?
- What is CDX?
- Exchange Network Grant Program

What is the Exchange Network?

An Internet and standards-based method for exchanging environmental information between partners

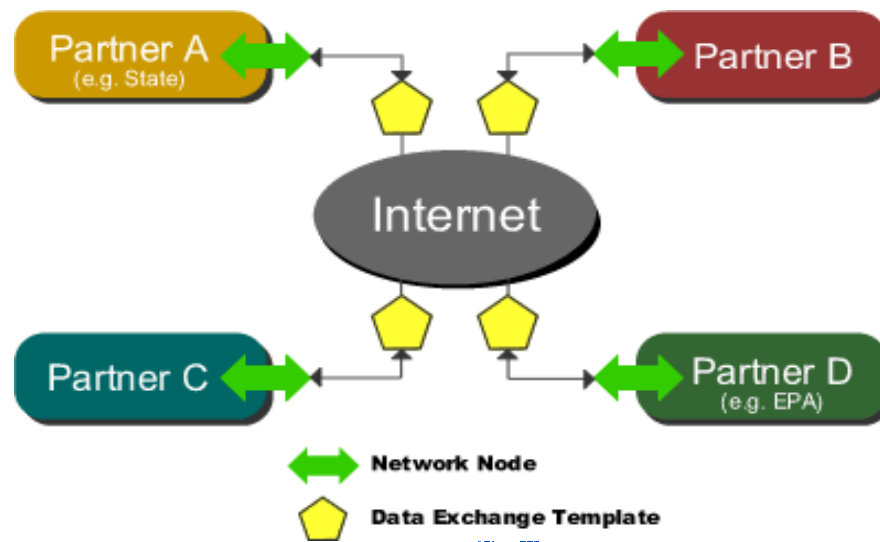


Key Components

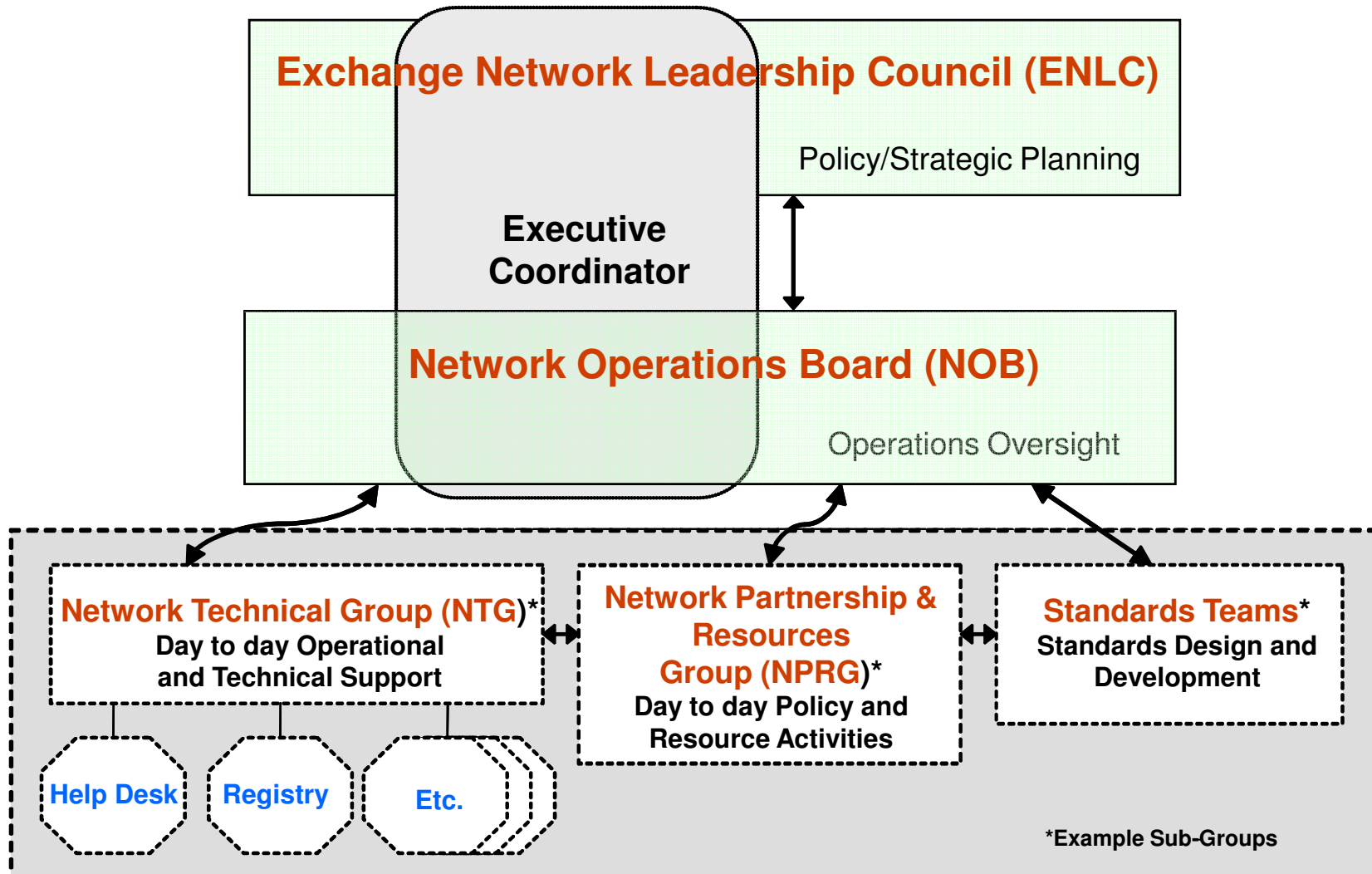
- Data Standards
- Nodes
- XML Schema/Registry
- Trading Partner Agreements
- Grant Program

Purpose of Network

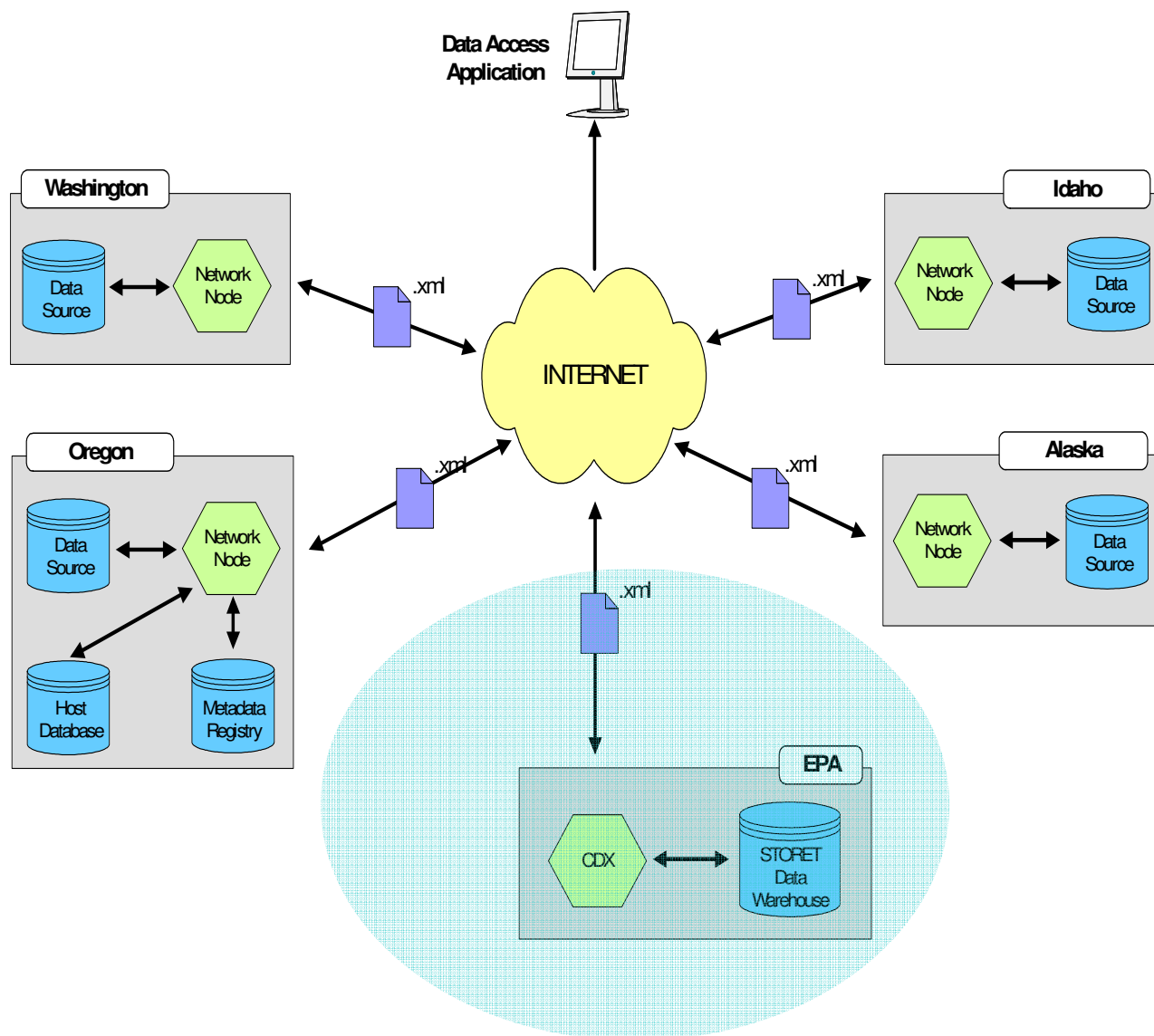
- Supports automated exchange of data
- Enables timely and accurate exchange
- Reduces reporting burden
- Improves data quality



EN Governance



Exchange Data Flow Model - Example



Types of Data Exchanges Occurring on the Network

State-to-EPA

- Facility Data to FRS
- Drinking Water Data to SDWIS
- Haz Waste Data to RCRAInfo
- Air Emissions Data to NEI
- Air Quality Data to AQS
- UIC Data to National UIC
- Water Quality Data to WQX

EPA-to-State

- TRI Data Submissions
- Substance and Chemical Data
- Facility Data from FRS
- Air Quality Data - Coming Soon

State-to-State

- Water Quality Data
- Hazardous Waste Transporters
- Air Quality Data – Coming Soon
- Homeland Emergency Response Data

Intrastate

- Environmental Data to Health Departments
- Drinking Water Labs to States
- County Water Data
- Meth Lab Data - Coming Soon

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- Water Quality

EPA-to-State

- TRI Data Submissions
- Substance and Chemical Data
- Data from FRS

Pollution Prevention Data Exchange – Data - Coming Soon

Climate Change Registry / GHG Data

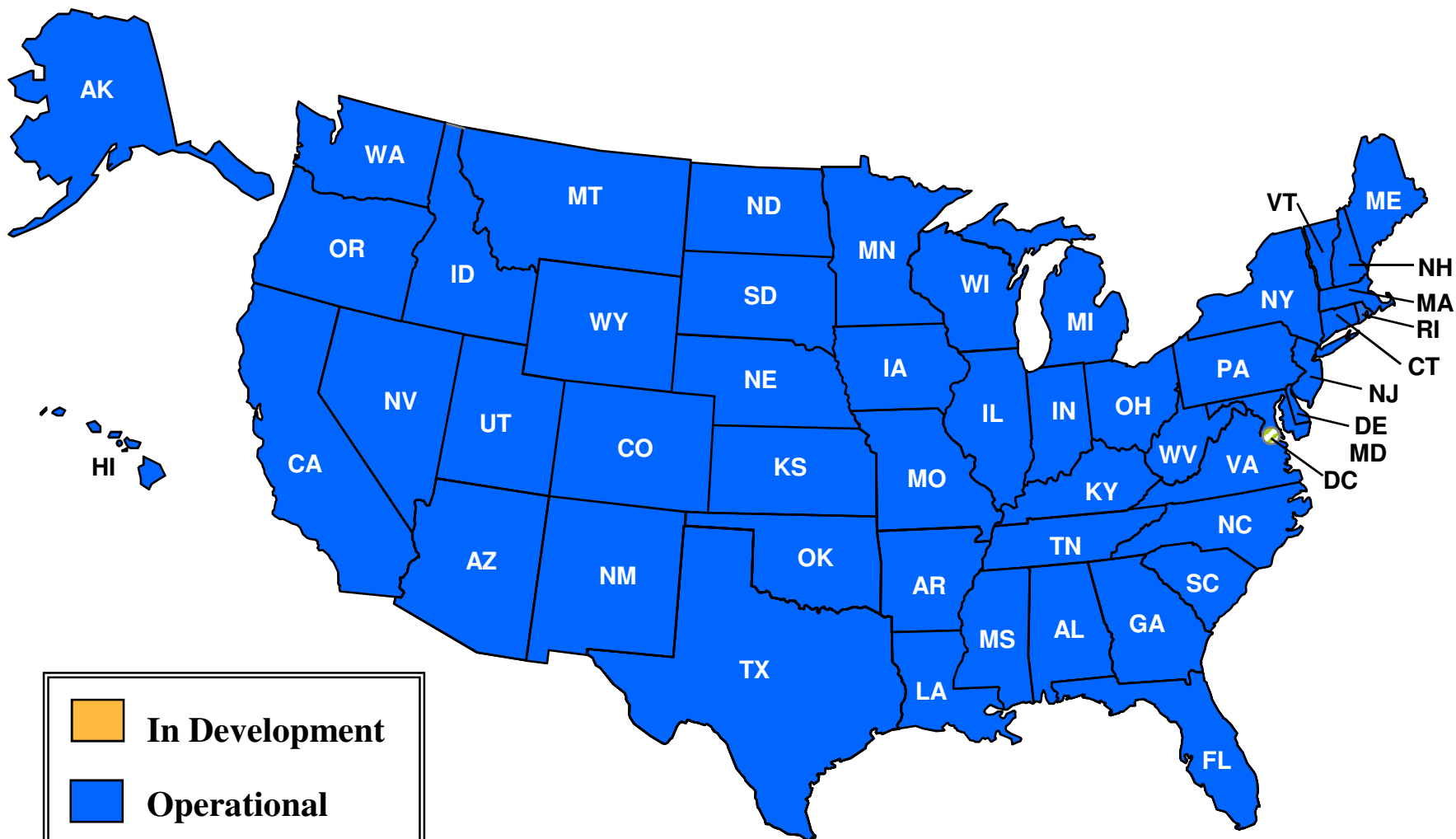
State-to-State

- Water Quality
- Hazardous Waste
- Air Quality Data – Coming Soon
- Homeland Emergency Response Data

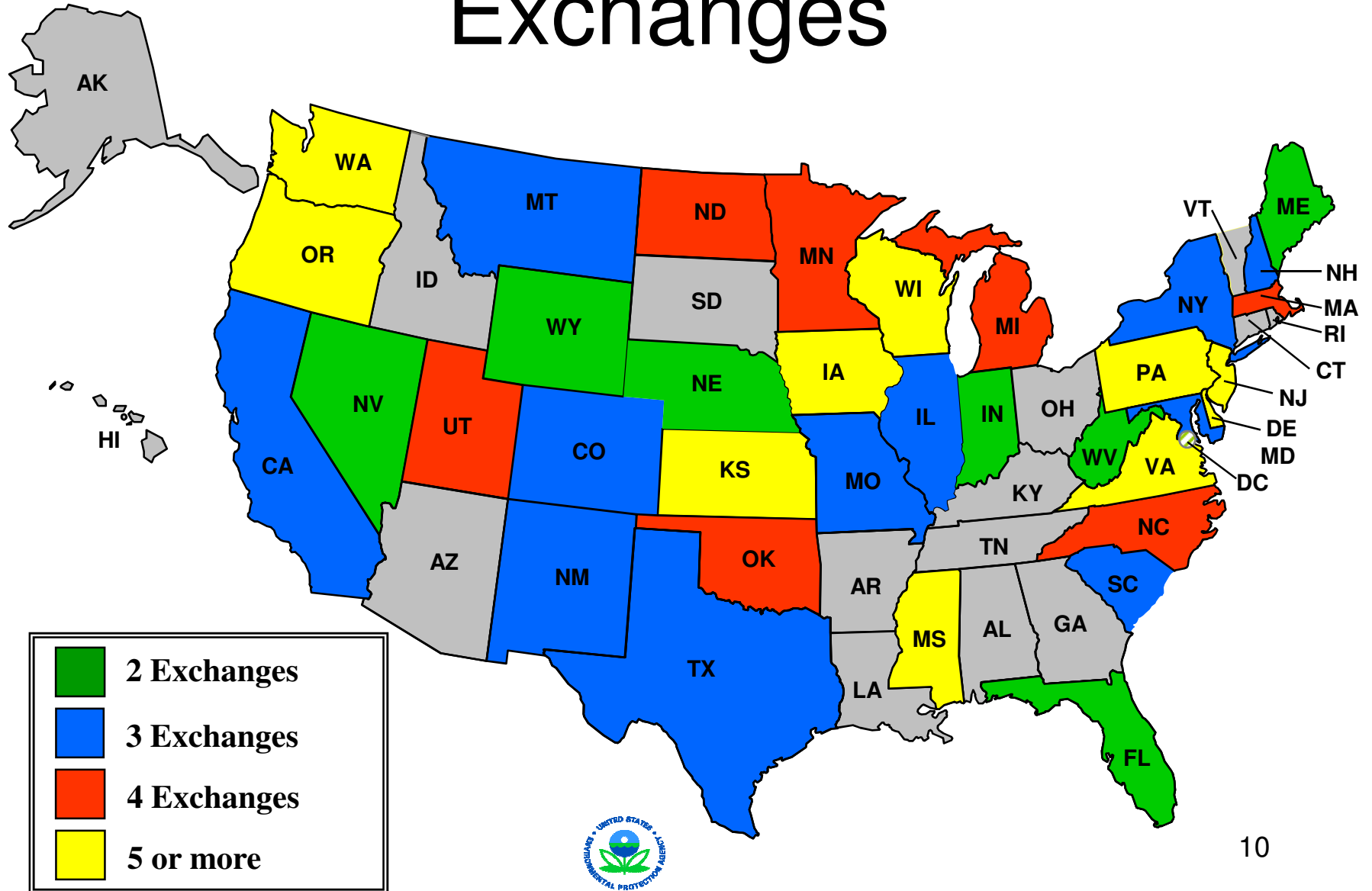
Environmental Data to Health

- Drinking Water Labs to States
- County Water Data
- Meth Lab Data - Coming Soon

State Network Nodes – September 2007



2008 Multiple Data Exchanges



- Built to handle both AQS data and a wider set of air quality data
- Will accommodate near real time exchange of minute by minute AirNow data
- Flexibility allows exchanges with partners other than EPA (i.e. State-to-State)
- Publishing from the Node for public access

- WA Department of Ecology collects fish tissue sampling data of interest to state Health officials
- DOE granted Node access to the Department of Health
- DOH application “consumes” fish tissue data in real time for analysis against birth defect data
- Very low cost and very short development time

- New Jersey partnered with Earth911 to make beach monitoring data readily available to the public
- System allows local coordinators to immediately upload sampling results into system via handheld PDAs
- Laboratories add sample results to data records via website
- System recommends action for agency officials (e.g. closures) from results
- Posting determinations are immediately available on NJDEP and Earth 911 websites.
- Citizens, lifeguards, other stakeholders receive immediate email alerts of closures/advisories via “opt-in”.
- Results are immediately available for BEACH Data Flow to EPA.

http://www.earth911.org - Check your Beach Water Quality - Microsoft Internet Explorer

Back to Beaches | Other Locations | Home

BEACH WATER QUALITY

Water quality monitoring at recreational bathing beaches has ended for the 2004 summer season. Lifeguards will be available at many beaches on weekends beginning Memorial Day weekend.

RECEIVE AN E-MAIL ALERT ON BEACH STATUS!
[click here](#)

WATER=LIFE

South Monmouth County Monitoring Stations

Red Bank, NJ

Get the 10 day forecast

34°F
 Cloudy

Feels Like: 24°F
 Humidity: 70%
 Wind: WSW at 15 mph

Enter city/zip **GO!**

Severe Weather
 Airport Delays
 Sporting Events
 Police Reports

HOW TO KEEP BEACHES CLEAN

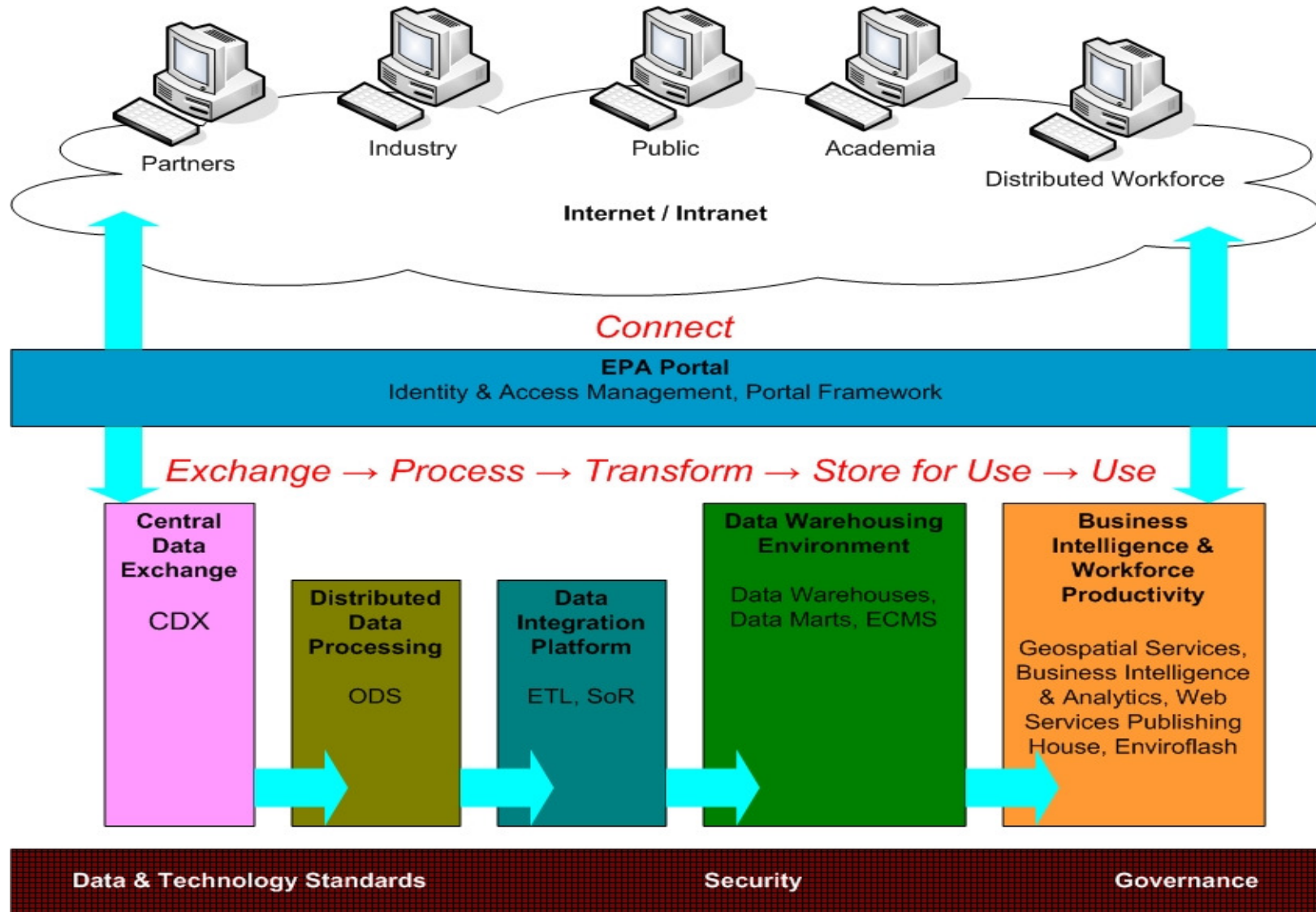
Beach Water Monitoring

Start | 4 Windows Explorer | 2 Microsoft Office... | My Yahoo! - Micros... | NJDEP - NJBEACHE... | http://www.eart... | 12:04 PM

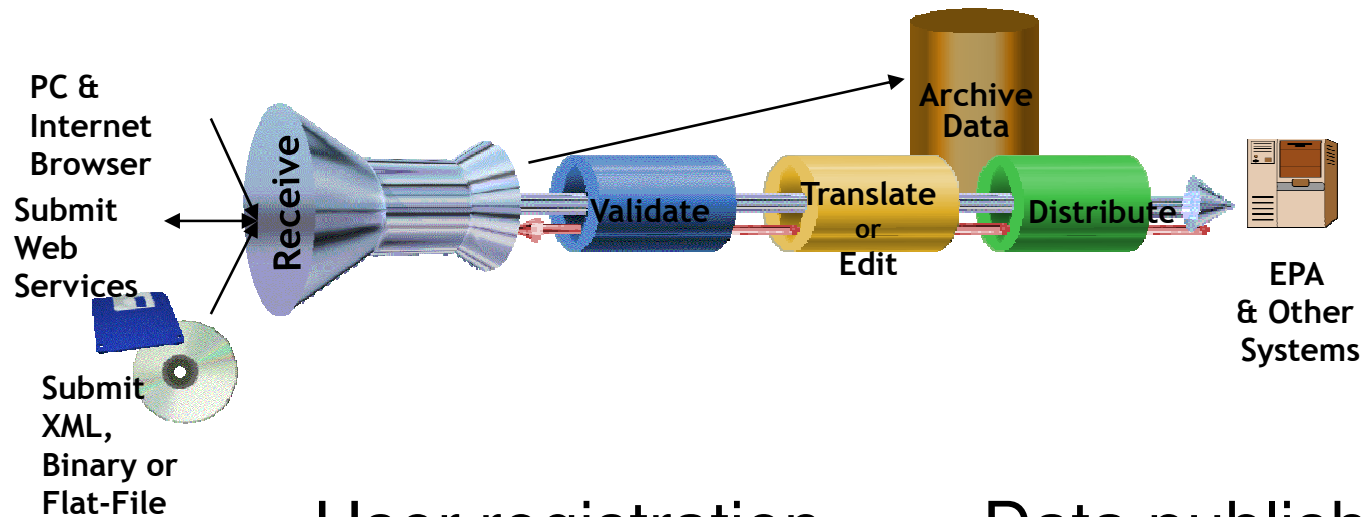
What is CDX?

- The gateway through which environmental data enters EPA
- EPA's Node on the Environmental Information Exchange Network (Inbound and Outbound Data)

EPA Enterprise Architecture



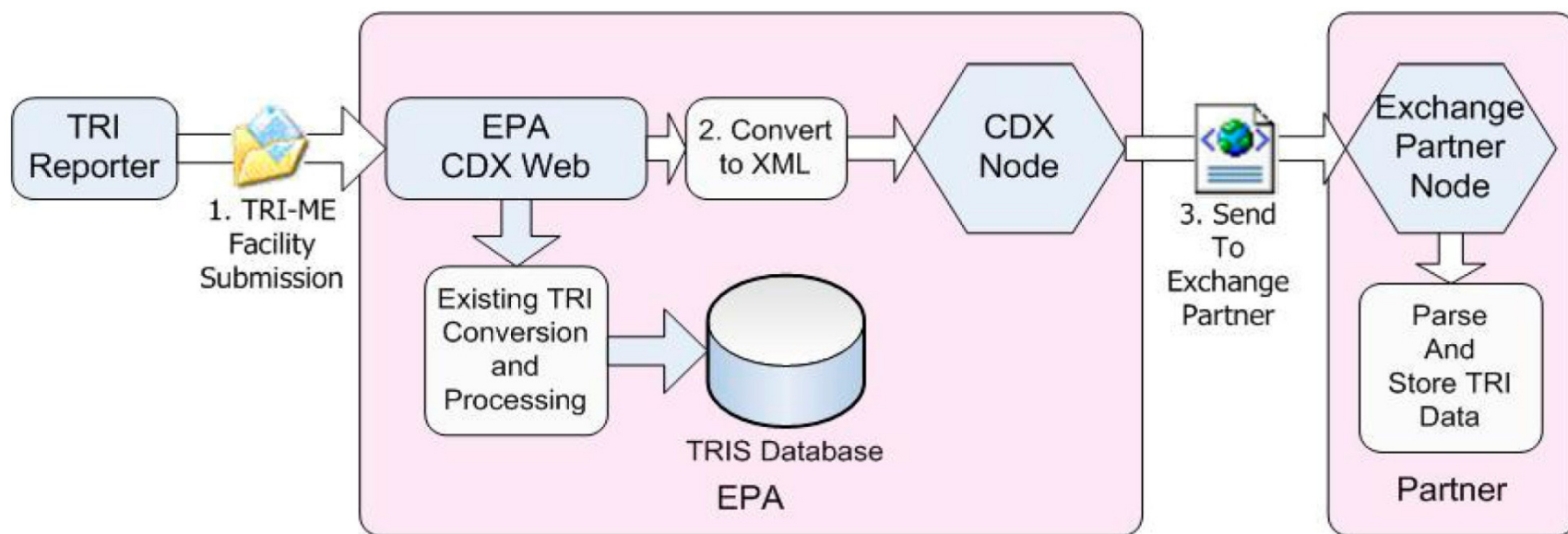
What Functions Does CDX Provide?



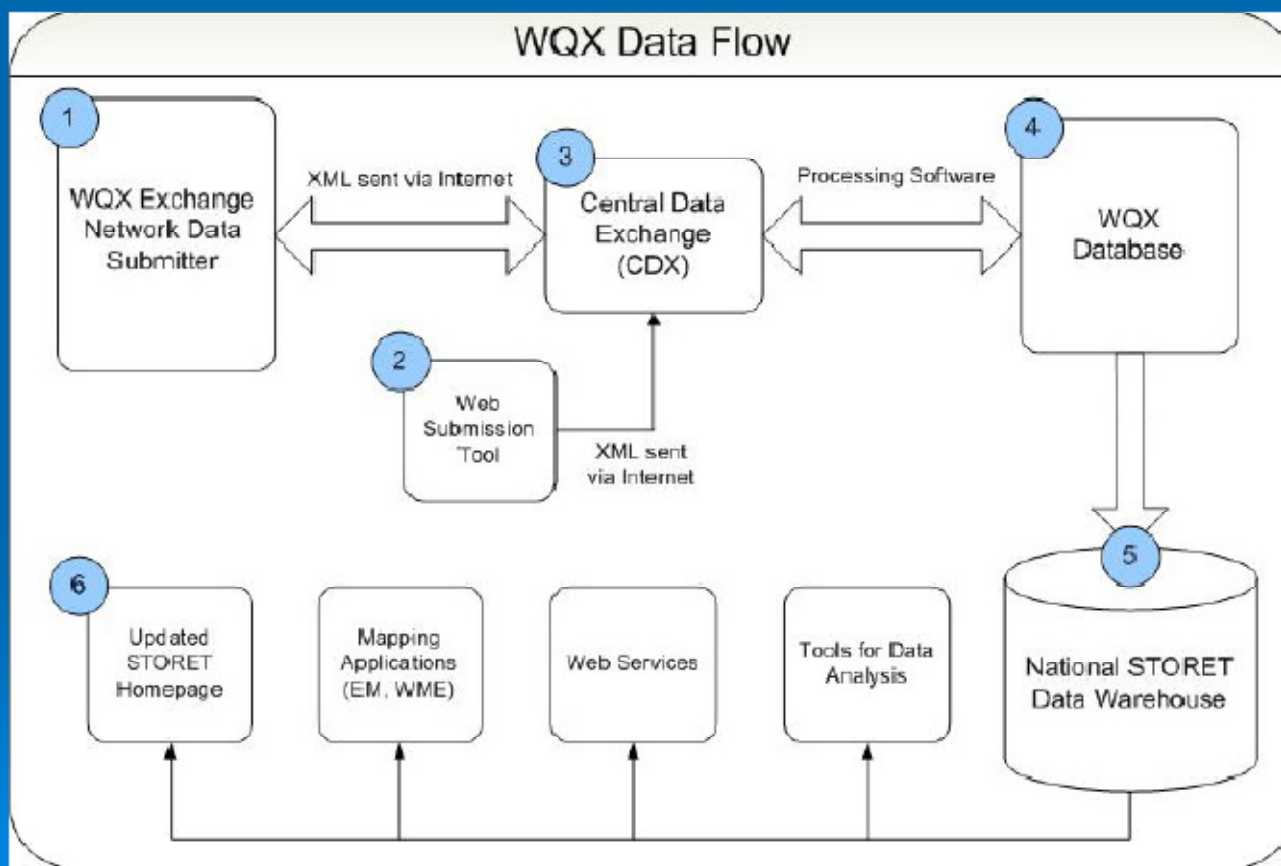
- User registration
- Authentication
- Enhanced Security
- Translation
- Data validation
- Data publishing
- Archiving
- Distribution
- Messaging services
- Customer support

Reduced Reporting Burden

- Toxic Release Inventory program used the Network to satisfy double reporting requirements

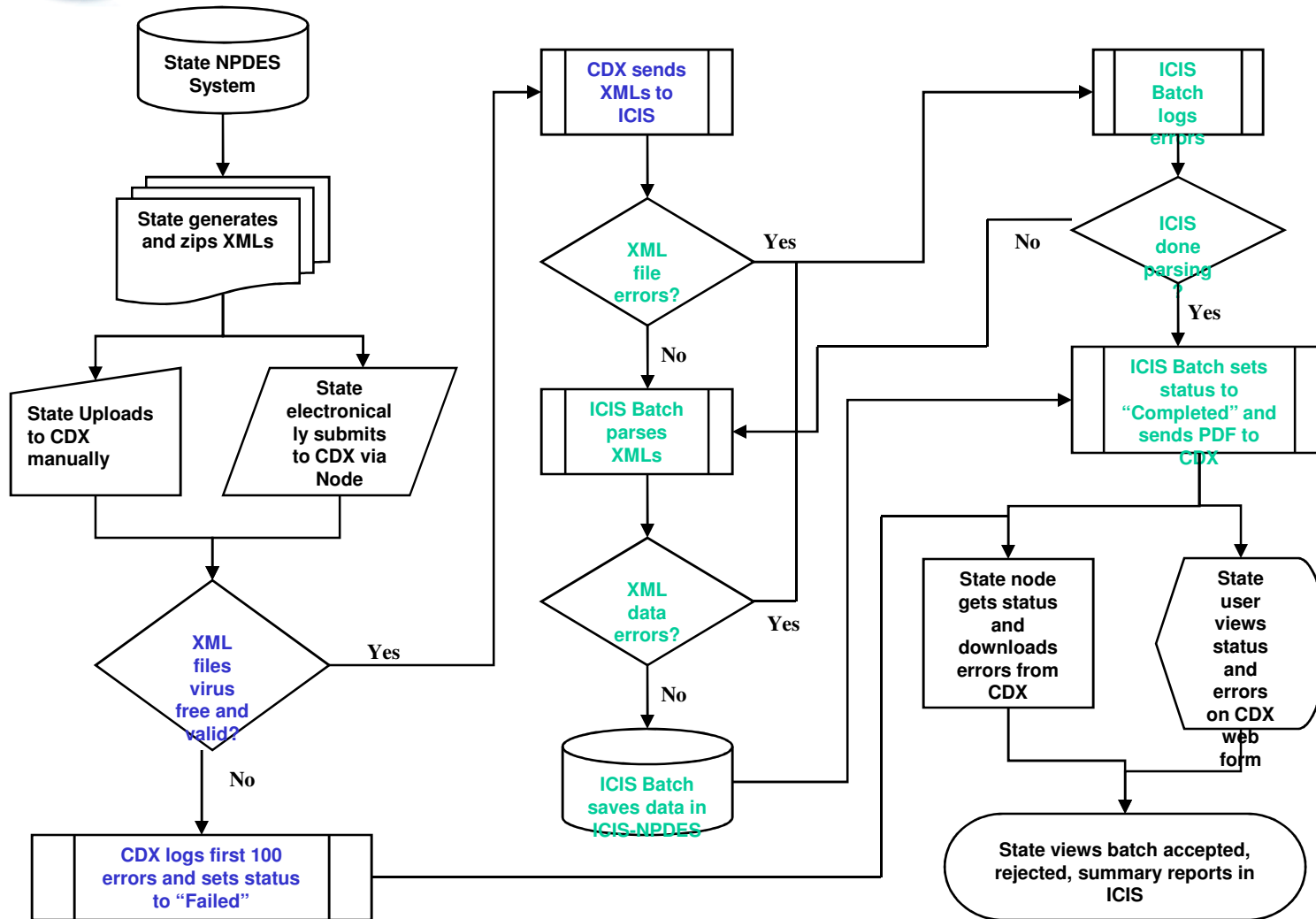


How does WQX work?





ICIS-NPDES Batch File Submission Overview

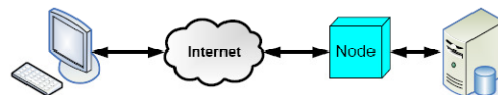
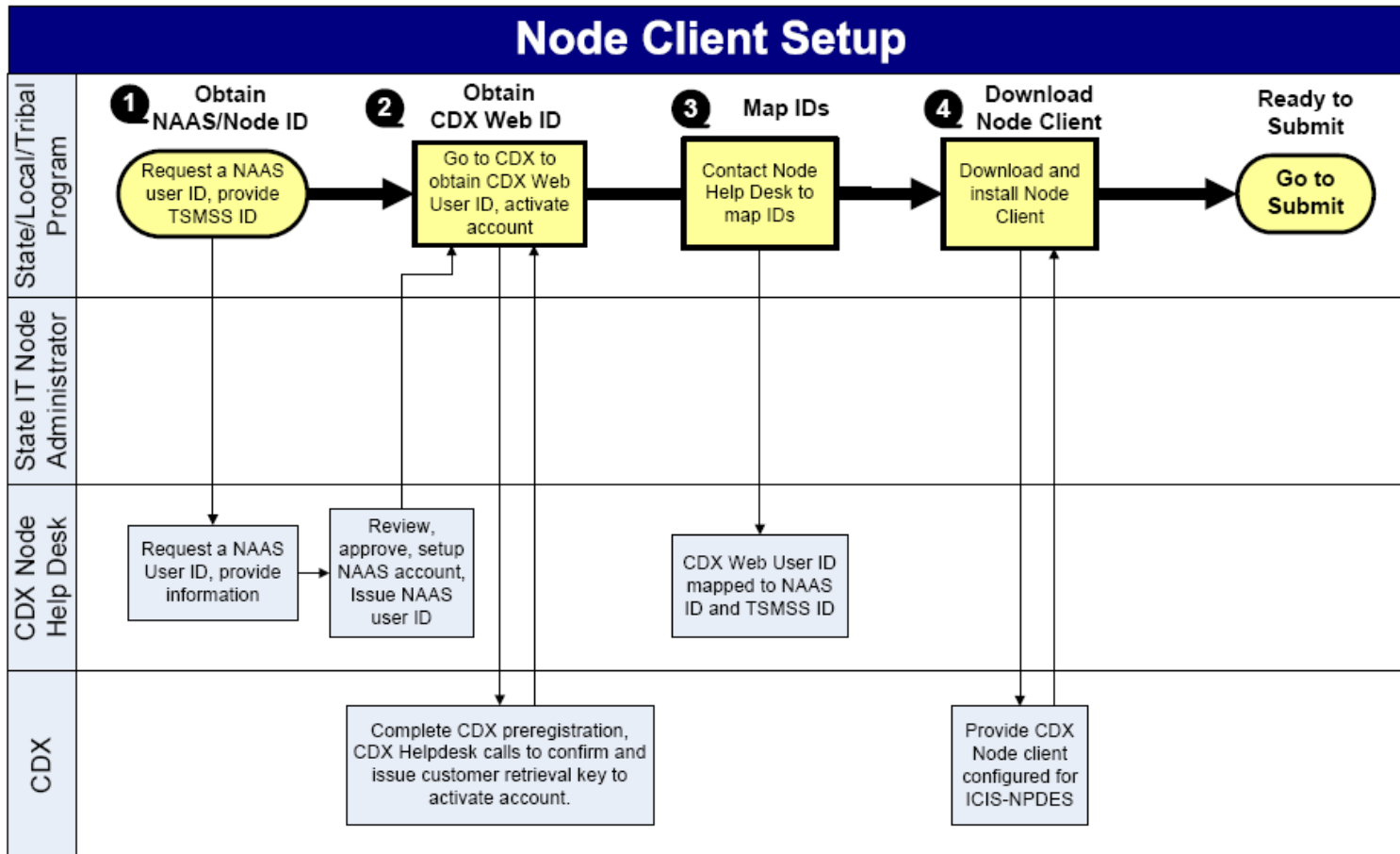




ICIS-NPDES Batch File Submission

Submitting XML Files to ICIS-NPDES via CDX Node

Network Desktop/Node Client Setup

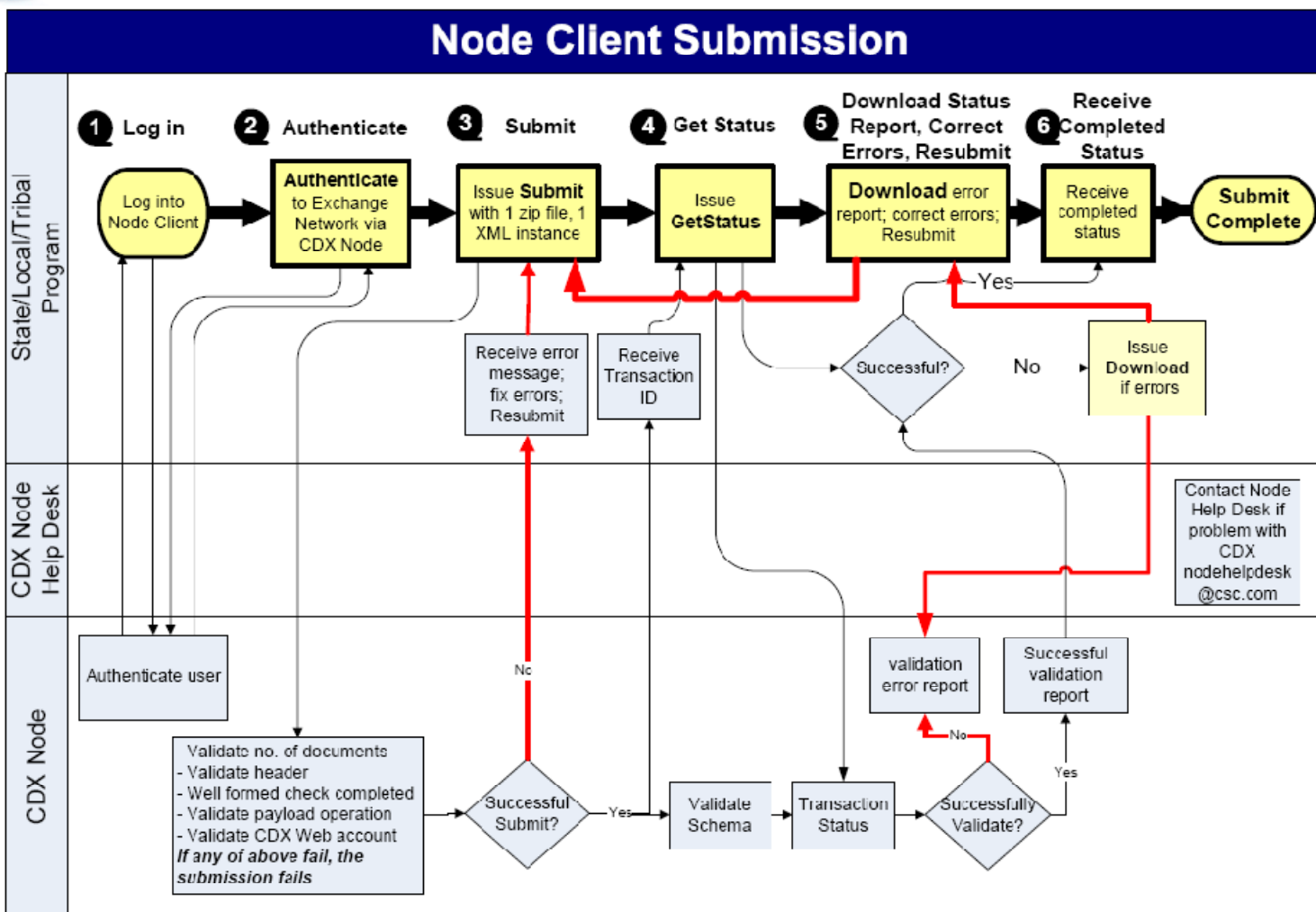




ICIS-NPDES Batch File Submission

Submitting XML Files to ICIS-NPDES via CDX Node

Network Desktop Submission

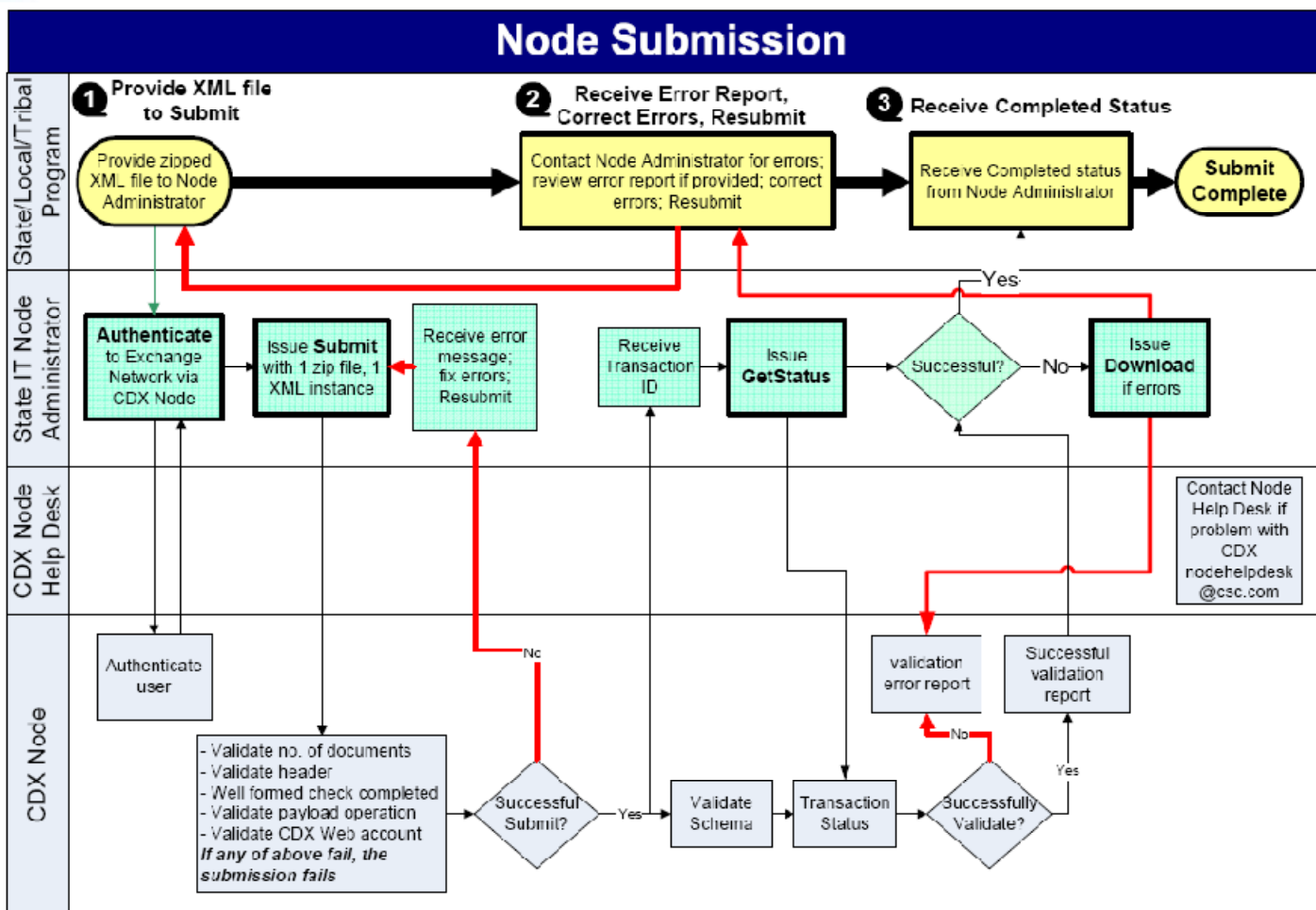




ICIS-NPDES Batch File Submission

Submitting XML Files to ICIS-NPDES via CDX Node

Full Network Node Submission



User Benefits of CDX

- Responds to Industry/state/program desires for a common point of exchange with EPA
- Provides common registration process for industry
- Provides standard interface and formats for users
- Pre-populates existing CDX data
- Integrates receipt, security, translation, archiving and distribution functions
- Maintains centralized customer support



Status of CDX Node and Web Utilization

- CDX now has a community of over 100,000 user registrations
- Over 110,000 transactions were processed in the past year
- Fifty states and over fifty tribes use CDX to file environmental reports
- 41 data systems in Production; 20 others in varying stages of design, development, or test
- Outbound Data Publishing is gaining momentum

* Submissions through
January, 2007





To learn about CDX

www.epa.gov/cdx



What is the end result?

- Using the Exchange Network.....
 - Much better quality data being exchange
 - Data Standards embedded in XML Schema
 - Machine to machine – no human data entry mistakes
 - More data can be exchanged among new partners
 - Infrastructure can be applied to new data exchange types
 - New Partner to Partner exchanges already occurring
 - More timely data
 - Data can be published and exchanged as soon as partners agree. Machines do the work!

Exchange Network Website

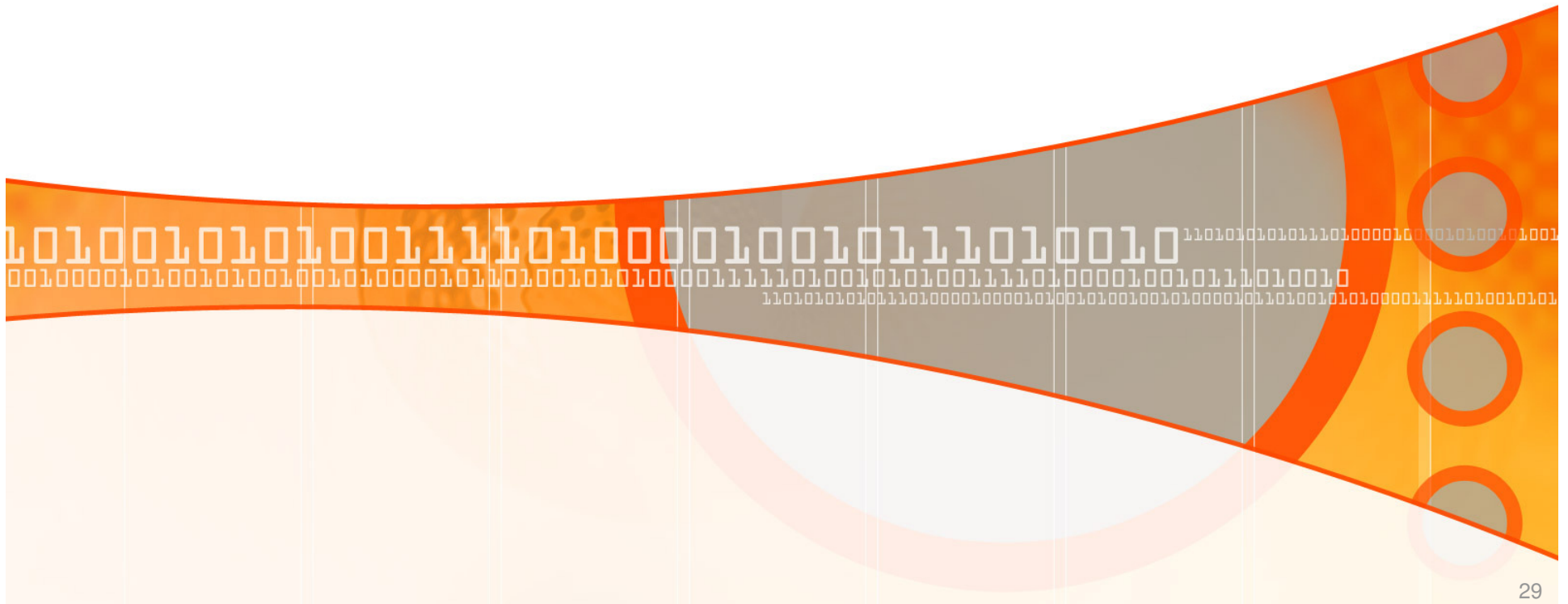
<http://www.exchangenetwork.net>

Sign up for email alerts at:



http://www.exchangenetwork.net/mailing_list





Exchange Network Grant Program Overview



EN Grant Program Overview

-  Since 2002, around \$120 million of the Exchange Network Grants were awarded to 50 states, 44 tribes and 3 territories
-  Additional \$13 million will be awarded in 2008

EN Grant Program Overall Goals

-  Facilitate the collection, sharing, analysis, and integration of high-quality data
-  Develop problem solving tools to facilitate the collection, integration, sharing and analysis of high-quality data

EN Grants Expected Outcomes

- ☞ *increased speed, timeliness and frequency of data*
- ☞ *increased efficiency by reducing administrative burden and eliminating manual intervention*
- ☞ *improved quality of data through more efficient error checking*
- ☞ *improved standardization and comparability by using common data standards and formats*

EN Grants Expected Outcomes

- ☞ *economies of scale through shared infrastructure and shared tools*
- ☞ *increased amounts of data shared among partners*
- ☞ *increased data use and the potential to integrate data across institutional boundaries*
- ☞ *facilitate burden reduction on the regulated community*

FY08 EN Group Activities



Infrastructure

- supports the development or upgrade of Nodes or Node clients and associated data flows to Node 2.0*



Data Exchange and Integration

- supports the development of the capability to exchange data through the EN*



Mentoring, Planning and Training


- supports EN activities such as mentoring, planning activities, and developing training materials and conducting training on specific topics*




Collaboration

- supports collaborative, multi-partner projects that demonstrate the value of the EN*

FY08 Innovative Projects

 Needs to be net-centric and results in the development of reusable services for the Exchange Network

 Sample of Innovative projects:

 *Projects related to homeland security*

 *Water quality laboratory data*

 *Underground storage tanks*

 ***Climate Change Registry***

Data Flows In Production

- ☞ Air Quality System (AQS)
- ☞ e-Beaches (Monitoring & Notification)
- ☞ e-DMRS
- ☞ E-DWR
- ☞ Facility Registry System (FRS)
- ☞ Homeland Emergency Response Exchange (HERE)
- ☞ Homeland Security Data Exchange
- ☞ National Emissions Inventory (NEI)
- ☞ Safe Drinking Water Information System (SDWIS)
- ☞ Substance Registry System (SRS)
- ☞ RCRA-Info (partially)
- ☞ Toxic Release Inventory (TRI)
- ☞ Underground Injection Control Database (UIC)
- ☞ Water Quality Exchange (WQX)

Data Flows In Development

☞ Air Emissions Inventory (AEI)

☞ California Pesticides-Related Illness Data Exchange

☞ Concentrated Animal Feed Operations (CAFO)

☞ Net Discharge Monitoring Reports (NetDMR)

☞ Biodiversity Data Exchange

☞ Geospatial Data Exchange

☞ Pollution Prevention (P2) Data Exchange

FY 2008 and Beyond

2002-2007

- Nation-wide around \$120 million has been awarded to 50 States, 44 Tribes, and 3 Territories

2008

- Additional \$13 million currently being processed
Final award will go out this summer
 - 46 state grants selected and 9 tribal grants

2009

- FY 2009 Solicitation Notice should be posted in September with applications due November 2008
 - ☞ *Stakeholder conference call to solicit comments will be held in July or early August*

For More Information

<http://www.epa.gov/exchangenetwork/grants>

<http://www.exchangenetwork.net/grants>

Questions?

Thank you!