

Central Data Exchange Program Partners Update

January 31, 2007

Welcome / Introductions

Doreen Sterling

Director,
Information Exchange and Services Division,
OIC

Agenda

9:00 – 9:15	Welcome / Introductions	<i>Doreen Sterling</i>
9:15 – 9:30	CDX Progress	<i>Chuck Freeman</i>
9:30 – 9:45	Exchange Network	<i>Kurt Rakouskas</i>
9:45 – 10:10	CDX Technical Innovations	<i>Chris Clark</i>
10:10 – 10:20	Break	
10:20 – 11:10	Panel Discussion	
	<ul style="list-style-type: none">• eIUR• ODS• TRI-ME Web• WQX	<i>Don Frank</i> <i>Staci Gatica</i> <i>Tim Antisdell</i> <i>Dwane Young</i>
11:10 – 11:35	CDX Contract	<i>Mike Hart</i>
11:35 – 11:50	CROMERR	<i>David Schwarz /</i> <i>Cory Wagner</i>
11:50 – 12:00	Wrap-up	<i>Chuck Freeman</i>

Meeting Goals

- Provide the latest status information on the National Environmental Information Exchange Network (Exchange Network) and CDX
- Describe how to take advantage of the latest CDX services that can benefit your Program
- Get ideas from Programs already using CDX on how OEI can best serve your Program and its mission

CDX Progress

Charles Freeman

Acting Chief,
Information Exchange Technology Branch,
OIC

What is CDX?

- CDX Web - EPA's site for submitting environmental information via standard web browser technology
 - Users submit data via web browser-based forms or through file uploads (flat files, XML files, etc.)
 - Users receive submission confirmation, quality control, and data processing reports
- CDX Node - EPA's Web Services infrastructure on the Exchange Network
 - Supports machine-to-machine data exchanges
 - Uses standardized web service protocols and XML schemas

What Functions does CDX Provide?

- User Registration & Support
- Authentication & Authorization
- Data Receipt
- Data Validation or Quality Assurance
- Translation/Transformation
- Archiving and Transaction Management
- Distribution

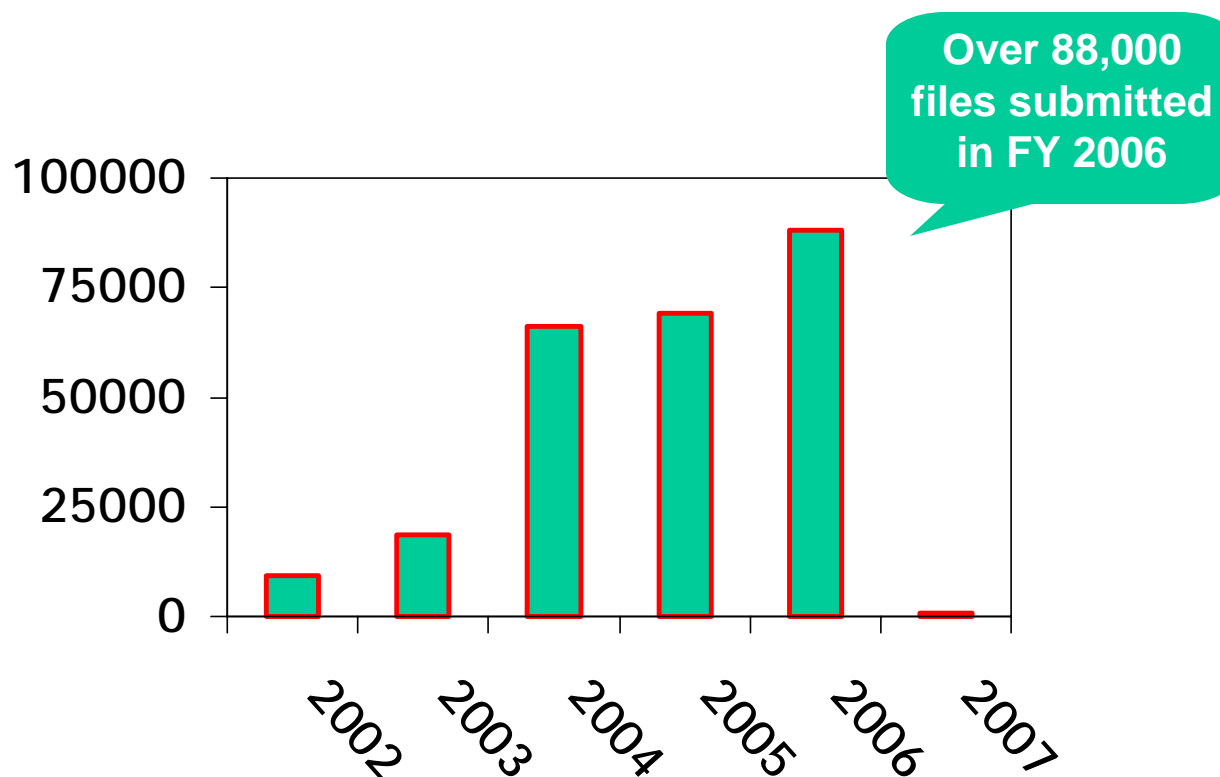
Why Use CDX?

- Benefits to the End User Community
 - Reduces overall reporting burden
 - Improves access to data
 - Provides confirmation that information was received by EPA
- Benefits to EPA Program Offices
 - Consistent Policy Compliance
 - GPEA
 - CROMERR
 - Federal security standards
 - Centralized administration of data exchange functions
 - Eliminates redundant infrastructure, applications and their associated maintenance costs
 - Eliminates redundant record keeping mechanisms
 - Enables faster, lower-cost implementation of new or modified data flows through re-use and modularization
 - Improvements in Data Quality/Timeliness
 - OEI provides contract and project management assistance

Status of CDX Activities

- CDX now has a community of over 67,000 user registrations
- Four program collections contain CBI
- Over 88,000 files were submitted to CDX in FY 2006
- 31 data systems in Production; 15 others in varying stages of design, development, or test
- EnviroFlash Public Alerts exceeded 1.5 million
- Continue to develop tools that assist program offices in complying with CROMERR

CDX Submissions are Growing



Status of CDX Activities

- Developed and rolling out generic services to
 - Reduce cost to develop and operate
 - Reduce time to develop
 - Provide customer flexibility
- Integrating with other Agency Enterprise Tools
 - EPA Portal
 - Identity Access Management System
 - Enterprise Content Management System
 - DataMarts
- Integrating with the Federal Enterprise Architecture
 - eAuthentication
 - Pay.GOV

CDX Data Flows in Production (Network Exchange)

- Air Quality System
- eBeaches
- eDMR: electronic Discharge Monitoring Report (eDMR)
- Facility Registry System
- Grants.gov - Integrated Grants Management System
- Permit Compliance System/Interim Data Exchange Format
- National Emissions Inventory Node Submission
- Resource Conservation and Recovery Act Information System (Handler)
- Safe Drinking Water Information System
- Substance Registry System
- Toxics Release Inventory

CDX Data Flows in Production (Web Submission)

- Assessment Cleanup and Redevelopment Exchange System
- AQS Web Submissions
- eBeaches Web Submissions
- eIUR: electronic Inventory Update Reporting
- Environmental Appeals Board Submissions
- EnviroFlash: Air Quality and UV modules
- Facility Registry System - Update Service
- ICTS Web: Institutional Controls Tracking System
- Lead-based Paint Abatement Program
 - Certifications - Online Payment (Pay.gov)
 - Lead Notifications - Abatement Activities
 - Lead Notifications - Abatement Training
- LT2: Long Term 2 Enhanced Surface Water Treatment Rule (LT2)
- NEI Web Submissions

CDX Data Flows in Production (Web Submission, cont.)

- Office of Transportation and Air Quality Fuels Reporting System
- Ozone Depleting Substances
- Radionuclide NESHAPS
- RCRAInfo State Web Submissions
- Risk Management Plan Reporting Center
- SDWIS ODS Web Submissions
- Notice of Intent / Electronic Notice of Termination
- Toxics Release Inventory Made Easy (TRI-ME)
- VERIFY
 - HDIU Certification Module : Heavy Duty In-Use Diesel
 - Motorcycle / All Terrain Vehicle Certification Module
 - Locomotive Certification Module
- Water Contaminant Information Tool

CDX Data Flows in Development (Network Exchange)

- AQS Data Mart: (Node Publishing)
- Geo-Exchange Node
- ICTS Node
- Minnesota RAD: Reach Address Database (RAD)
- RCRAInfo Node - Compliance Module
- RCRAInfo Node - Enforcement Module
- RCRAInfo Node - Permitting Module
- Region 4 CAFO: Concentrated Animal Feeding Operations (CAFO)
- TSCA 8e: Toxic Substances Control Act 8e submissions
- UIC: Underground Injection Control
- WQX: Water Quality eXchange

- Node Development
 - Great Lakes
 - North Carolina
 - Puerto Rico
 - St. Regis Mohawk Tribe
 - Texas
 - West Virginia

CDX Data Flows in Development (Web Submission)

- LUC Web Ring: Land Use Control Web Ring Portal
- NetDMR: Discharge Monitoring Report
- RadNet
- SDWARS / UCMR 2: Safe Drinking Water Access and Review System (SDWARS) / Unregulated Contaminant Monitoring Regulation (UCMR)
- TRI-ME Web
- Underground Injection Control
- VERIFY - Light Duty Engine Certification Module

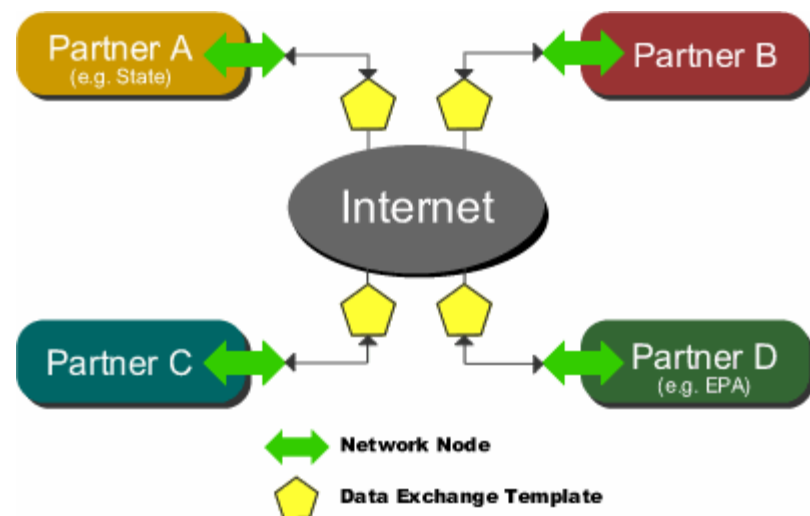
Exchange Network Update

Kurt Rakouskas

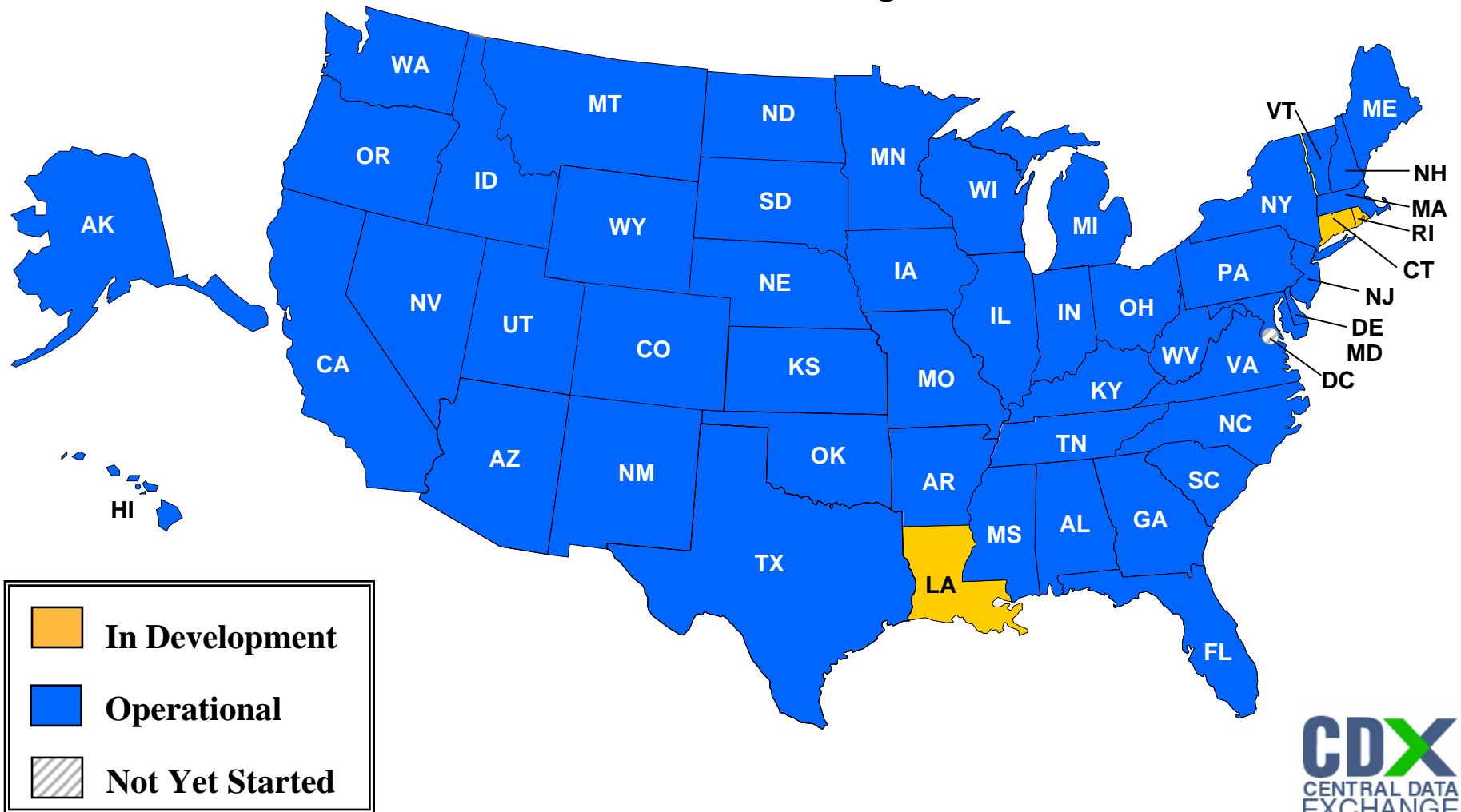
Environmental Council of the States

Exchange Network

- Network Nodes securely transmit and receive XML files
- The Exchange Network was created to...
 - Promote better environmental decisions through improved data quality and data access
 - Provide a common method for automating data exchange among states, tribes, and U.S. EPA
 - Promote efficient business processes to reduce operational costs



Status of State Nodes January 2007



October 2005 Exchanges' Implementation Progress



■ Traditional Exchanges from States to EPA

AFS - Air Permits/Compliance

AQS - Ambient Air Quality **AZ DE KS NC NJ PA VA WI TR**

NEI - Air Emissions Inventory **NE DE MA TX NJ IL NV NM OR VA KS NC OK PA**

PCS - Water Permits/Compliance **MI VA IA DE WV OR WA**

RCRAInfo - Hazardous Waste **MS KY MA DE OR PA NH MD AZ KS MT NJ NC WI**

SDWIS - Drinking Water Quality **LA ME NY MD IL NE DE KS PA SD ND OH OK UT WI**

STORET - Water Quality **MI OR TX**

FRS - Facility Identification **WA OR WI WV MS SC NH KS OH PA AZ CA DE ID IL IN MI NJ NE NC ND SD IA NY CO VA OK NV TX VT NM MO MT MN ME UT MD**

● New Exchanges

Ambient Water Quality **WA OR ID AK**

Haz. Waste Shipments **WA OR MI NJ MN MA**

Drinking Water Quality **NH NJ ME VT RI**

Toxic Release Inventory **VA IN SC MI OR DE PA**

Beach Monitoring **DE NH NJ GA CA NC OH**

Ambient Air **NJ NY OR WA DE**

Health **WA OR NY CA AZ MD NE**

TBD

▲ Nodes

OR WV MI WI MS SC NH WA KS DE NE AZ ID IL MN NC SD AK
NV GA KY OK TX UT VT OH NJ PA IN LA ME MD MA NM IA WY
MO CA NY ND CO MT VA

COLOR KEY
 In Development
 Operational

January 2007 Exchanges' Implementation Progress



■ Traditional Exchanges from States to EPA

AFS - Air Permits/Compliance

AQS - Ambient Air Quality **WI NY NJ DE AZ KS NC PA VA TR**

NEI - Air Emissions Inventory **NE DE MA TX NJ MS WI NM OR VA NC OK PA NV IL KS MN IA NY MO**

PCS - Water Permits/Compliance **MI VA IA DE OR WA WV MN**

RCRAInfo - Hazardous Waste **MS KY MA DE OR PA NH WA NJ WI MD NC KS MT AZ WV CA**

SDWIS - Drinking Water Quality **CA ME NY MD IL OK WI PA VA SD KS OH IA DE UT MO MT CO NE MA NJ NM WI ND IA NH**

WQX - Water Quality **MI OR TX NH**

FRS - Facility Identification **WA OR WV WI MS SC NH KS OH PA AZ CA CO DE ID IL IN MI NM NJ NE MO NC ND SD IA**

● New Exchanges

LA RI WY CT AR FL NV NY MA TN HI VT TX OK AL VA MT MN ME UT MD

Ambient Water Quality **WA OR ID AK**

Haz. Waste Shipments **WA OR MI NJ MN MA**

Drinking Water Quality **NH NJ ME VT RI MI**

Toxic Release Inventory **VA IN SC MI KS DE OR PA OH MS WA MN CO OK KY NJ UT WI IL**

Beach Monitoring **DE NH NJ GA CA NC OH MS WA**

Ambient Air **NJ NY OR WA DE**

eDMR **MI WI FL MS NJ MN**

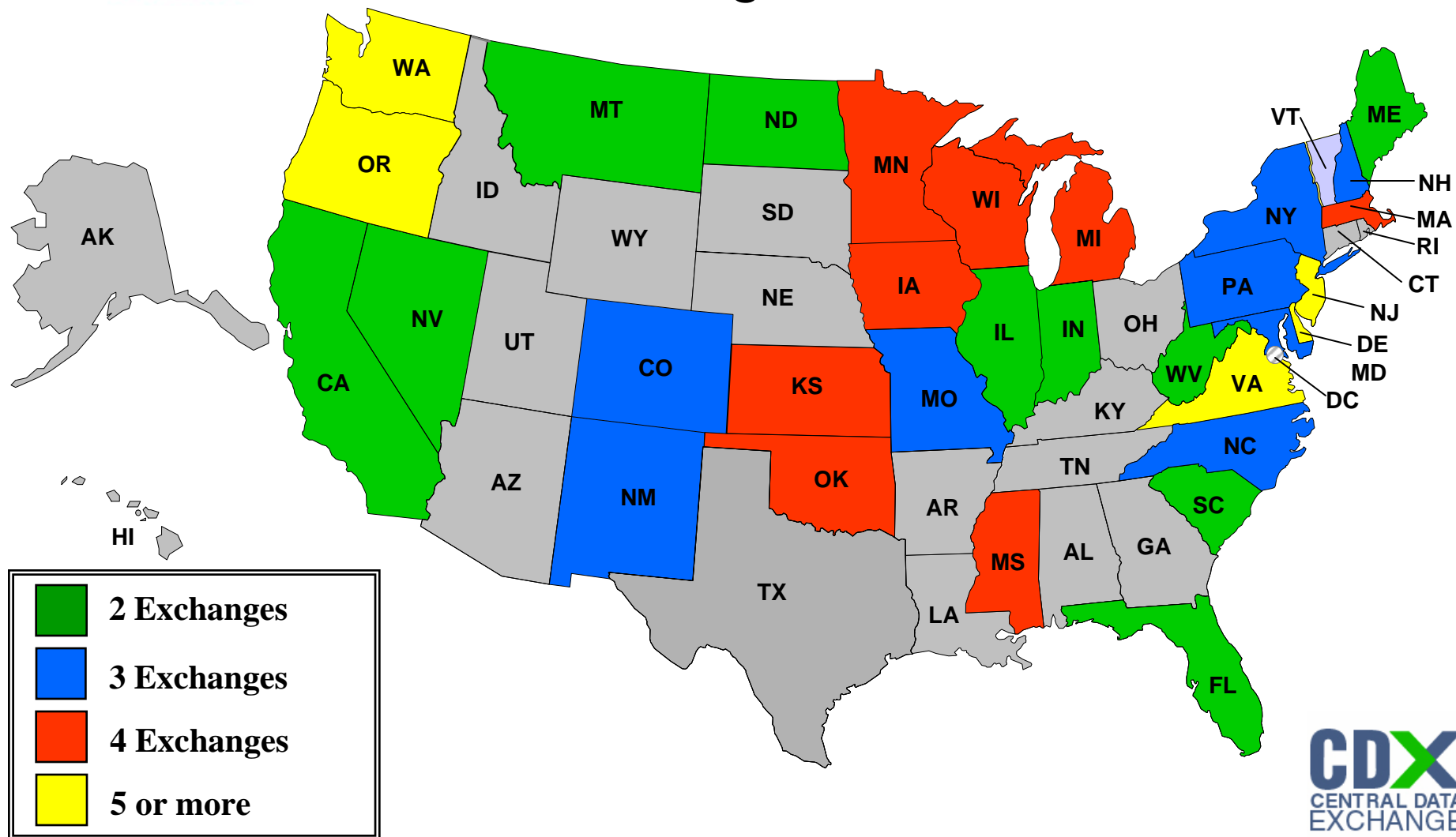
Health **WA NY OR CA AZ MD**

▲ Nodes

MI WI MS SC NH KS OH DE PA NE AZ ID IL IN LA ME MD MA MN AR
KY OK TX UT VT CA NJ NM NY MO CO MT VA WY NC ND SD IA AK CT
RI FL TN OR WA WV AL NV GA HI

COLOR KEY
 In Development
 Operational

States with Multiple Exchanges in Production



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

EPA-to-State

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

State-to-State

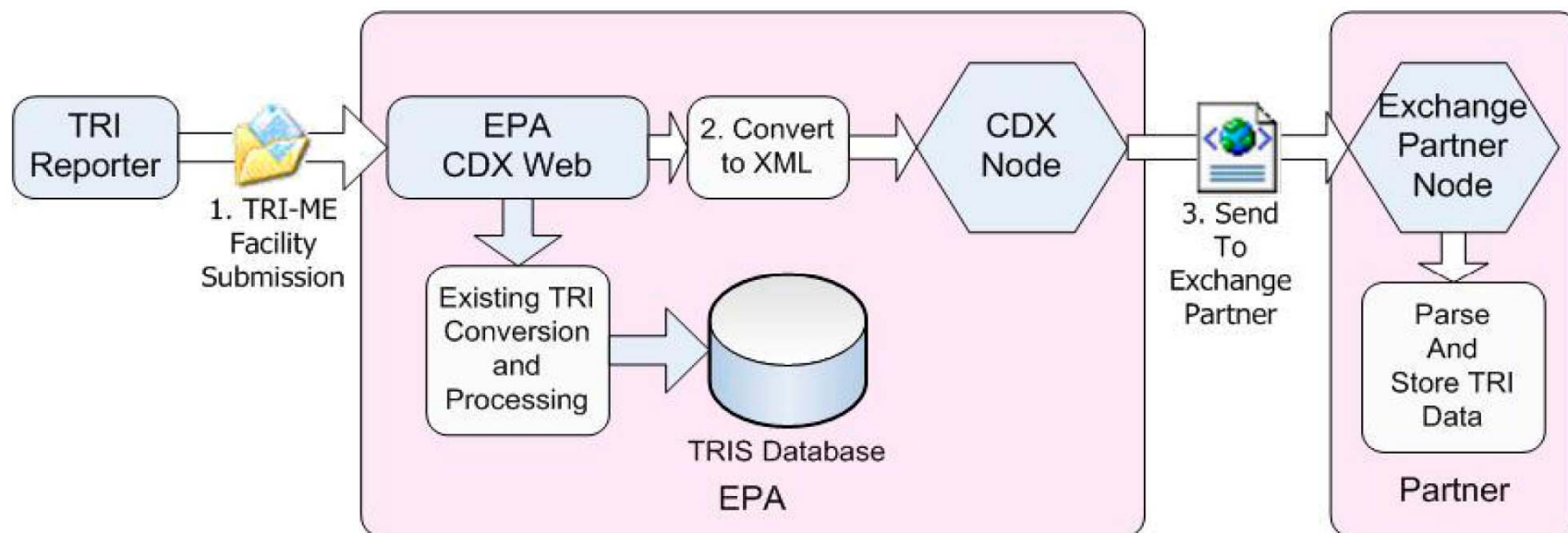
- Water Quality Data
- Hazardous Waste Transporters
- Air Quality Data - Coming Soon
- Homeland Security Data

Intrastate

- Environmental Data to Health Departments
- Drinking Water Labs to States
- Homeland Security/Law Enforcement Data
- County Water Data

Improved TRI Submission Process

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



Savings to the States from TRI Exchange

	Michigan	Washington
Total Annual Operational Cost Pre-EN (\$/year)	\$50,077	\$27,923
Total Annual Operational Cost Post-EN (\$/year)	\$10,500	\$16,416
Initial Capital Investment (\$)	\$18,857	\$18,905
Post-EN Annual Maintenance Cost (\$/yr)	\$1,483	\$3,581
Post-EN Annual State Savings (\$/year)	\$38,094	\$7,927
ROI Summary		
Average ROI (5 year basis)	202%	42%
Payback period (years)	0.5	2.4

Air Quality System - AQS

- 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

Montana's MethNet

- MethNet will connect:
 - Department of Justice
 - Department of Environmental Quality
 - Department of Public Health and Human Services (DPHHS)



Montana's MethNet

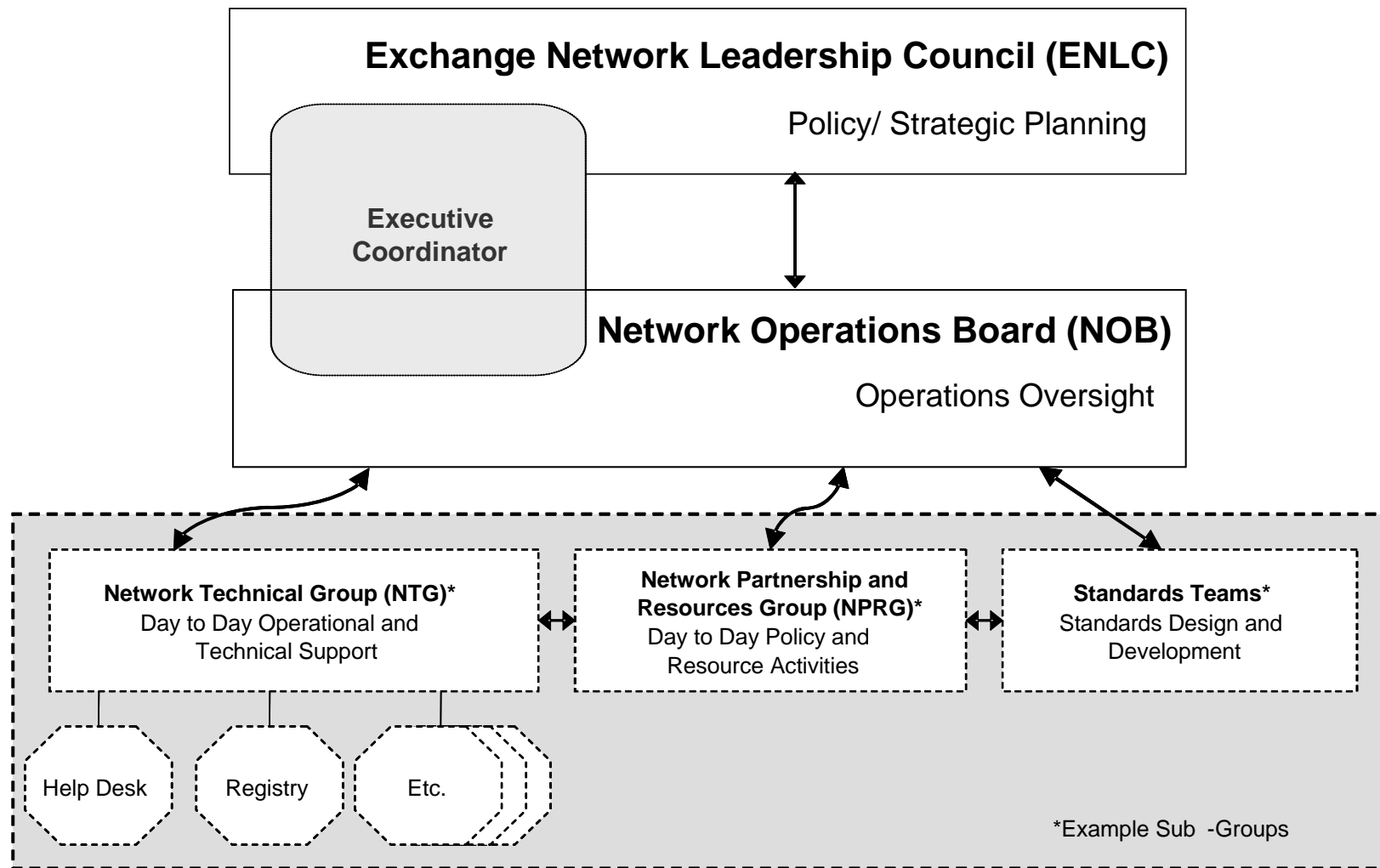
- Data Elements
 - Location
 - Property Owner
 - Meth Cooking Method
 - Chemicals on Site
 - Impacts to Structures and Property
- Benefits
 - Improved communication and data access
 - Timely and accurate reporting
 - More informed public
 - Improved environmental protection



Exchange Network Discovery Service (ENDS)

- Developed by OR DEQ, now hosted as a secure central service at CDX
- Registry of data services available on Network Nodes
 - Expedia.com for environmental data
- Browser based application will allow authorized users to search the registry
 - Discover and consume data

Network Governance



EPA Governance Membership

Exchange Network Leadership Council

- Linda Travers, OEI (co-chair)
- Jim Hanlon, OW
- Lisa Lund, OECA
- Bill Rice, Region 7
- Chet Wayland, OAQPS

Network Operations Board

- Andy Battin, OEI (co-chair)
- Cynthia Dickinson, OEI
- Mary Greene, OEI
- Connie Dwyer, OEI
- David Hindin, OECA

Network Technology Group

- Connie Dwyer, OEI (co-chair)
- Chris Clark, OEI
- Chuck Freeman, OEI
- Lico Galindo, OEI
- Brian Stitt, OAQPS
- Joe Wilson, OW

Network Partnership & Resources Group

- Mary Greene, OEI (co-chair)
- Ken Blumberg, Region I
- Debbie Goodwin, OSWER
- Joe Wilson, OSWER



More Information

Exchange Network Website

<http://www.exchangenetwork.net>

Sign up for email alerts at:

http://www.exchangenetwork.net/mailing_list

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ECOS

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CDX Technical Innovations

Chris Clark

Information Exchange Technology
Branch, OIC

Central Data Exchange Innovation

January 31, 2007



Goals of the CDX Innovations

- Reduce development and operations costs
- Improve stability and maintainability of CDX data flows
- Decrease development time and increase reuse
- Eliminate duplicate or stove-piped processes
- Allow customers more independence
- Apply industry standards
- Leverage service oriented approaches



Overview of Topics

- CDX User Registration/Registration Maintenance
- Standardized CDX Data Transfer Process
- Business Process Execution Language
- Next Generation Node
- Node Client 2006
- Quality Assurance Services
- Enhanced Authentication and Authorization Services
- Identity Management Integration
- Automated CDX Monitoring Services



Registration Maintenance Features

- Automates CDX Registration through Web based workflow
- Provides registration tools directly to account managers
- Ensures security for remote account managers through PKI certificate support
- Includes view and edit CDX registered users' profiles
- Includes view and add/revoke authorized CDX accounts
- Displays pending open registration requests for accept/deny
- Provides quick ID proofing status



[MyCDX](#) > Home

Registration Maintenance

On this page you may search for user(s) to manage. You must first select the action that you wish to perform, to Approve or Reject Registration Requests, choose "Registration Requests" or to Manage User Accounts, choose "User Maintenance".

You may enter as little or as much criteria as you would like. The more criteria that you enter, the more filtered your search results will be. If you do not find any users with your search, try to use more broad criteria.

Action to Perform:

Data Flow:

Role:

User ID:

First Name:

Last Name:

E-mail Address:

Program ID:

Certificate Approved: All Yes No

Signature Received: All Yes No

You are in an encrypted secure session.

Help Desk: (888) 890-1995

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Pending Users

Logged in as, FRUDESAPPY.

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- Frequently Asked Questions
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Pending Users

The results of your search are shown below. This list is limited to only those users' roles which have outstanding registration requests for your flow/roles. For your convenience, the list of results is broken down into pages of 20 users' roles at a time. To Approve or Deny the requested roles of the users, check the box to the left of their name and click the appropriate button at the bottom of the screen. If you are denying the requests for multiple users, you will be prompted to enter a single comment for all of your selections. To check or uncheck all of the users' roles displayed, click the checkbox at the top of the displayed results.

<input type="checkbox"/>	User Name	Login ID	Request Date		
Organization Name			E-mail Address	PKI	Sig?
Data Flow	Role	Program ID			
<input type="checkbox"/>	Greg Mitchell	GREGMITCHELLWCIT	11/10/2005 11:51:24 AM		
	OEI		mitchell.greg@epa.gov	N	N
	WCIT	Utility; A SUBMITTER; WEBFORM	n/a		
<input type="checkbox"/>	Greg Mitchell	WCITREGISTRATION	11/16/2005 10:58:38 AM		
	EPA		mitchell.greg@epa.gov	N	N
	WCIT	State Lab; A SUBMITTER; WEBFORM	N/A		

Approve Selection(s)

Deny Selection(s)

You are in an encrypted secure session.

Help Desk: (888) 890-1995

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Last updated on October 17, 2005.

URL: <https://epacdxtest.csc.com/sslcert/AutoReg/userlist.asp>



Registration Maintenance Benefits

- Provides Program Office authority to control review, approval, and revocation process
- Reduces time and cost at CDX Help Desk
- Allows account managers to share/reuse identity information and credentials for users across all CDX data flows
- Provides flexible support for unique identity-proofing requirements
- Support for authorization/revocation of both individual and lists of users
- Available to all CDX Web data flows in Development, Test, & Production



Environmental Agency Reporting System (EARS) Generic Upload and Electronic Reporting

EARS provides a suite of customizable Web submission options based on your unique requirements:

- Integrates with CDX web registration/authentication services
- Supports single sign-on to other applications in the Central Environment
- Integrates with EPA Node and Exchange Network Web services
- Provides dynamic support for file download services and archive logging
- Supports PKI certificate local registration and validation services
- Provides InBox file messaging services
- Collects files in a variety of formats
- Provides “Help” features

#PAGETitle#

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Logged in as, <cdx user id>

#BREADCRUMB1# > #BREADCRUMB2# > #PAGETitle#

#HEADER1 Title#

#HEADER1 Text#



#HEADER2 Title#

#HEADER2 Text#

[#Help#](#)

[#Validation Service URL#](#)

[#EARS Form#](#)

[#Previously Submitted Form\(s\)#](#)

#SELECT FILE LABEL#

[#Validate File Label#](#)

[Browse...](#)

[#Validate File Label#](#)

[Browse...](#)

#Submission Recipient#

EARS Dataflow

#Notification Recipient#

- select the item of interest ---
- EARS USER GROUP**
- EARS Reviewers

#Notification Subject Description#

#Notification Body Description#

#Send Attachment Statistic#

#Confirmation Requested description#

- #confirm via Inbox#
- #confirm via E:Mail#

[#Submit Label#](#)

[Reset](#)

Requirements Input

#Footer 1#
#Footer 1 TEXT#

You are in an encrypted secure session.

Help Desk: [#help desk number#](#)
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| [#link1.text#](#) | [#link2.text#](#) |

Last updated on June 19, 2006.
URL: <http://www.epa.gov/epahome/usenotice.htm>



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#LINK 1 TEXT#
#LINK 2 TEXT#



Dynamic Upload Email to EAB Clerk

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Welcome to Environmental Appeals Board Electronic Filing Page

Parties may use this page to electronically submit copies of documents, including exhibits, to the Clerk of the Board either on matters currently before the Board or when initiating a new matter. At the present time, however, parties will still be required to file the original document by U.S. Mail, but will be excused from the requirement to submit multiple copies of the filing. This Electronic System Is Not a Substitute for Filing the Original Document. No Electronic Copy of a Document Will Be Accepted for Filing until the Clerk of the Board Has Received the Original Document by Mail or Hand Delivery.

Instructions:

Select the appropriate PDF file from your workstation by pressing the [Browse] button and locating the file. Once you have located the file in the dialog box highlight it and click Open Button) If you are filing a document in a matter already pending before the Board, include the Appeal Number and Case Name in the [Subject:] area where it says [Appeal Code - Case Name]. If you are filing a new matter, specify the parties involved and the type of case in the box labeled [Additional Comments to the Clerk.] For example, if you wish to appeal a permit issued by EPA or a state, specify the name of the facility involved, the permit issuer, and the type of permit. If you wish to appeal a penalty assessed by an administrative law judge ([ALJ]), specify the case name and docket number as it appears in the ALJ decision. In addition, clearly identify who you are and provide a phone number where you can be reached during the Board's business hours. When you have completed this form, click the [SEND] button

Contact Clerk

Manual

Select a PDF*

Browse...

Send notification Clerk of the Board:

Clerk of the Board

Subject

Appeal Code - Case Name

Clearly identify, here, who you are and provide a phone number where you can be reached during the Board's business hours. If you are filing a new matter, please specify the parties involved and the type of case, here.

Send

Reset

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EARS Benefits

- Significantly reduces time and costs to establish requirements and system design
- Minimizes development costs through reusable components
- Reduces maintenance to configuration changes



EARS Phases

- Phase I in Production
- Phase II Underway...
 - Additional Web service and BPEL processing
 - Develop menu driven requirements for future data flows
 - Single sign-on to systems in the Central Environment
 - Encryption and signature capabilities
 - CROMERR Certification



Business Process Execution Language (BPEL) Support

- Simplifies and standardizes flow development
- Orchestrates calls to CDX/EN web services
- Provides powerful console for managing flow operations.
- Benefits include technology could improve stability, performance, and reduce cost for complex data flows
- Air Quality System (AQS) Flow Re-engineered
 - Improved quality of service
 - Reduced Operations and Maintenance
- Additional implementations in progress

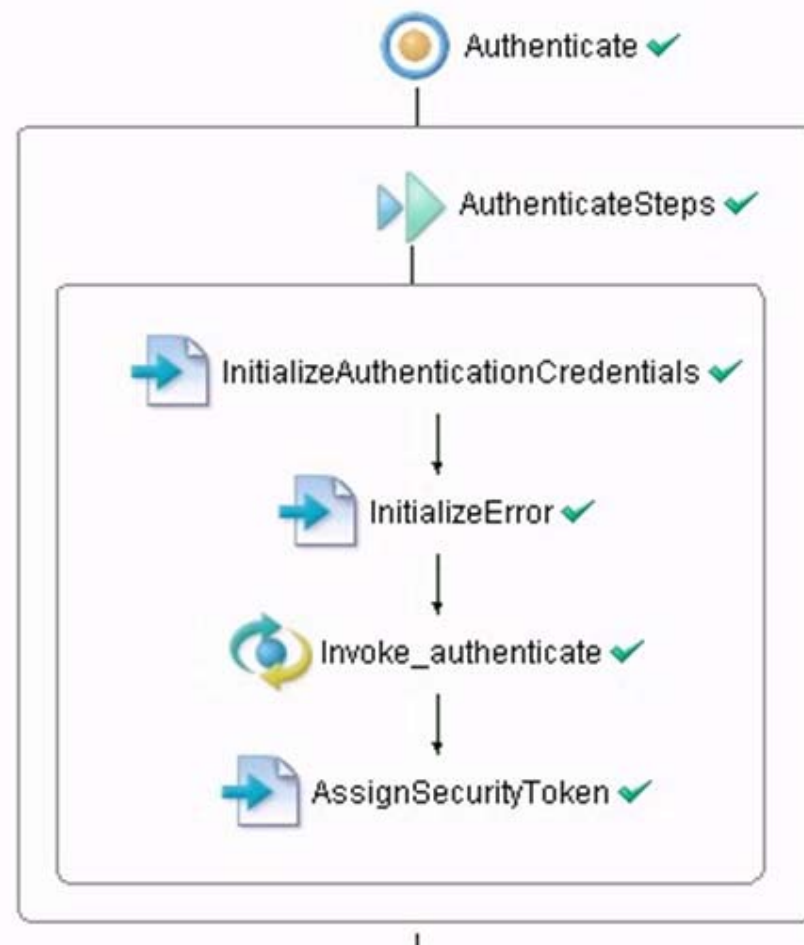


BPEL- Comparison of Operations and Maintenance Consoles

Before

```
06/11/01 12:30:23 Binding EJB SensorValuesBean to ejb/collaxa/system/SensorValue
sBean...
06/11/01 12:30:23 Binding EJB TransactionManagerBean to ejb/collaxa/system/Trans
actionManagerBean...
06/11/01 12:30:23 Binding EJB TransactionViewManagerBean to ejb/collaxa/system/T
ransactionViewManagerBean...
06/11/01 12:30:23 Binding EJB CubeFinderBean to ejb/collaxa/system/CubeFinderBea
n...
06/11/01 12:30:23 Binding EJB TransactionFinderBean to ejb/collaxa/system/Transa
ctionFinderBean...
06/11/01 12:30:23 Application orabpel (Collaxa Web Applications) initialized...
06/11/01 12:30:23 Application bc4j (bc4j) initialized...
06/11/01 12:30:23 Binding EJB RemoteWorklistService to RemoteWorklistService...
06/11/01 12:30:23 Application hw_services (PC Service) initialized...
06/11/01 12:30:23 Warning: Error reading transaction-log file (C:/OraBPELPM/int
egration/orabpel/system/appserver/oc4j/j2ee/home/persistence/transaction.state)
for recovery: premature end of file
06/11/01 12:30:23 Forced or abrupt (crash etc) server shutdown detected, startin
g recovery process...
06/11/01 12:30:23 Recovery completed, 0 connections committed and 0 rolled back.
..
06/11/01 12:30:23 Web-App default:defaultWebApp (0.0.0.0/0.0.0.0:9700/) started.
..
06/11/01 12:30:24 Building Global TagLibrary Persistent Cache
06/11/01 12:30:24 Looking for global resource at C:\OraBPELPM\integration\orabpe
l\system\appserver\oc4j\j2ee\home\config\..\jsp\lib>taglibDone getting applicati
on current resources
06/11/01 12:30:24 Done initializing cache
06/11/01 12:30:24 Refreshing global cache - from existing cache ...
06/11/01 12:30:24 Building Application TagLibrary Persistent Cache for defaultWe
bApp
```

After





Next Generation Node

- Offers a plug-and-play approach to satisfying data exchange and other business requirements
- Optimized programming, development and integration techniques
- Reduces costs with one turnkey node solution for all usage
 - CDX
 - Program systems
 - States
 - Tribes
- Support for more web service standards
 - Security (WS-Security)
 - Quality of service (WS-Reliable Messaging)
 - Transaction Processing (WS-Transaction)
- Improves management reporting and administration
 - Performance metrics
 - Statistics



Node Client 2006

A wizard-driven desktop tool that can use any available CDX or Exchange Network services

Features include:

- Registration
- Service discovery
- Data query and retrieval
- Data submission
- Signature
- Encryption
- Quality assurance
- History

Document Validation Service

ServerAddress:

UserId:

Password:

Document Type:

XML Document:

Document Format:

Validation Type:

Validation Response

The document, d:\TEMP\e8a2687c-a16d-44c6-ab87-10fdbdf2f8ea0, contains the following error(s):

NEI_RULE_11:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/TransmittalSubmissionGroup[1]: InventoryTypeCode has an invalid value (EMIS) according to the lookup table.

NEI_RULE_11:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/TransmittalSubmissionGroup[2]: InventoryTypeCode has an invalid value (EMIS) according to the lookup table.

NEI_RULE_21:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/EmissionSubmissionGroup[1]: Either FactorUnitNumeratorValue and FactorUnitDenominatorValue must be present only when EmissionFactorValue (2.80) is present or FactorUnitNumeratorValue (POUNDS) or FactorUnitDenominatorValue (Tons Ceme) has an invalid value according to the lookup table.

NEI_RULE_5:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/EmissionSubmissionGroup [1]/EmissionUnitNumeratorValue: EmissionUnitNumeratorValue has an invalid unit numerator value (TY) according to the lookup table.

NEI_RULE_21:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/EmissionSubmissionGroup[2]: Either FactorUnitNumeratorValue and FactorUnitDenominatorValue must be present only when EmissionFactorValue (0.11) is present or FactorUnitNumeratorValue (POUNDS) or FactorUnitDenominatorValue (Tons Ceme) has an invalid value according to the lookup table.

NEI_RULE_7:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/EmissionSubmissionGroup [2]/PollutantCode: PollutantCode has an invalid value (PB) according to the lookup table.

NEI_RULE_5:
/hdr:Document/hdr:Payload/PointSourceSubmissionGroup/EmissionSubmissionGroup [2]/EmissionUnitNumeratorValue: EmissionUnitNumeratorValue has an invalid unit numerator value (TY) according to the lookup table.

NEI_RULE_21:

FRS Facility Results (50)

[Plot All Facilities On a Map](#)

EXXON State ID: 54596735

EXXON 295 SNOHOMISH State ID: 72852335

Address: 235 PINE ST
SNOHOMISH, WA
USA
98290-2539

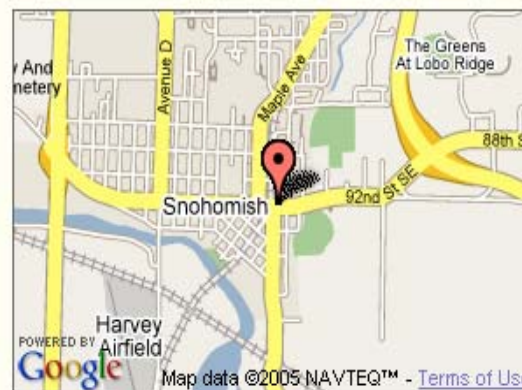
County: SNOHOMISH

Reference Point: FACILITY CENTROID

Latitude: 47.9127

Longitude: 122.087

Collection Method: UNKNOWN



Environmental Interests

Identifier	Type	Start Date	End Date
CRK000006340	Emergency/Haz Chem Rpt TIER2	1900-01-01	2006-09-01
6259	Underground Storage Tank	1900-01-01	2006-09-01

Last Updated at: Department of Ecology on 2006-09-01

EXXON 602 State ID: 42028131

EXXON 7 2720 State ID: 43539212



Quality Assurance Services

- Provides program system schema validations / business rules as services
 - Synchronous
 - Asynchronous
- Ensures increased quality of data before entering EPA and other Partner Agencies.
- Enhanced to improve performance and add new functions.
- New transformation service added
 - Uses style sheet transformations



Enhanced Authentication and Authorization Services

- Incorporates the latest federal cryptographic standards
- Includes XML Key Management Services version 2.0
- Integrated with the federal E-Authentication Initiative
 - Provides support for multiple PKI certificate authorities
 - Establishes a federated approach to authentication
 - States
 - Other Feds
 - Industry



Identity Management Integration

- Using web services to integrate CDX with CoreID (Enterprise Identity Management)
- Share Identities
- Support Single Sign On
- Reduce Cost
- Simplify Application Integration



Automated CDX Monitoring Services

- Proactively monitors application code to capture faults
- Automatically directs notifications to the Help Desk
- Quality of Service has improved
- Improved responsiveness and resolution of issues
- Demonstrated code reuse over existing code base
- An aspect oriented extension to Java (aka AspectJ)



Contact Information

- Chris Clark, CDX/Exchange Network
 - clark.chris@epa.gov
 - 202-566-1693
- Greg Mitchell, CDX Operations Manager
 - mitchell.greg@epa.gov
 - 919-541-4823

10 Minute Break

*Please return by 10:20
for the Panel Discussion*

Panel Discussion

eIUR

ODS

TRI-ME Web

WQX

Panel Discussion

electronic Inventory Update Reporting (eIUR)

Don Frank

Office of Pollution Prevention and Toxics

Program Background

- Under the Inventory Update Reporting (IUR) rule, manufacturers and importers of certain chemical substances included on the TSCA Chemical Substances Inventory must report data to the EPA every five years. The current data call goes from August 2006 through March 2007.
- IUR data is classified as confidential business information (CBI) and must be securely transmitted, processed, and stored to protect it from unauthorized access.
- CDX will enable the regulated community (approximately 3-4K submitters) to encrypt and electronically submit IURs to EPA and receive email notification of IUR file acceptance or rejection.

Data System

- Program database
 - Encrypted data received by CDX is pulled by OPPT's structured database within ECMS using web services.
 - ECMS decrypts the file and extracts and sends the CDX User ID, Double Hash, and Transaction ID back to CDX via a Web Service
 - CDX returns a response to ECMS to let the system know if the signature was valid
 - ECMS generates an email based on the signature validity and forwards it to CDX for transmission to the submitter
 - Valid files are accepted into ECMS work flow for further processing by OPPT staff
 - OPPT's analysts and managers can then securely access this IUR data from their desktops.
- System status
 - eIUR deployed and operational on August 25, 2006
- User stats
 - 3-4K submitters
 - Approximately 9K submissions
 - 12 staff processors
 - Approximately 400 OPPT staff to be given access by mid year 2007

Lessons Learned

- Areas for improvement
 - Ability to return encrypted copy of record to submitter electronically
 - Ability to flag duplicate submissions
- CDX successes
 - Approximately 50% of IUR submissions sent through CDX instead of mail

Panel Discussion

Ozone Depleting Substances - Confidential Business Information (ODS-CBI)

Staci Gatica

Office of Atmospheric Programs,
Stratospheric Protection Division

ODS Tracking System - Background

- The Stratospheric Protection Division (SPD) protects stratospheric ozone by regulating the phase-out of ozone depleting substance.
- Approximately 80 companies are regulated under this program.
- SPD regulates production, import, and export of ozone depleting substances.

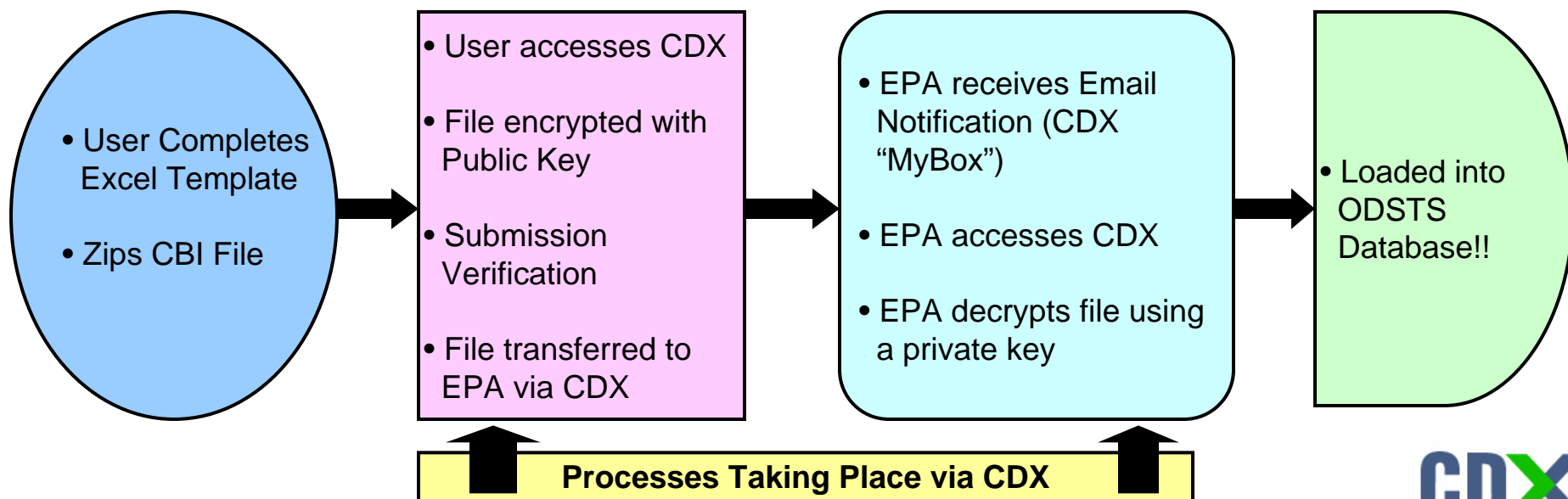
ODS Tracking System - Background

Current Program

- Companies submit paper reports to SPD on an annual, quarterly, and/or transactional basis.
- Data is manually entered and stored into an Access database (single station/user system).
- All data is considered Confidential Business Information (CBI).

How is the ODS Program Using CDX?

CDX will provide a secure, paperless, transfer of CBI data from reporting entities to EPA's Ozone Depleting Substances Tracking System. The process will relieve the need for manual data entry and reduce data entry errors.



File Encryption Process

- User needs both a digital certificate and a public key loaded to their work station
 - \$100 per user; technical support provided by CDX Helpdesk; PKI Technology
 - Allows encryption of file
 - Uses a FIPS 140-2 certified encryption module
- EPA receives an email in our CDX MyBox with *encrypted* file attached
- EPA uses the private key to *decrypt* the file
- EPA uploads decrypted file into ODS Database

System Status

- Dataflow development is complete; in production phase
- Pilot trial has been completed
 - 5 pilot companies
 - Reviewed guidance
 - Prepared, registered, and transferred encrypted data file
- Plan to go live for 1st quarter 2007 reporting (April-May 2007)
 - Hard copy still formal submission
- 80% of data comes from 20% of the users

Lessons Learned

- Early involvement of stakeholders and pilot team is crucial.
- Step-by-step Guidance Document is key
- Give yourself time to program and test the system

Area for CDX Improvement

- Digital Certificate/PKI process is complex
- Firewall issues/proxy server issues needed to be addressed

CDX successes

- CDX Registration is easy
- CDX provides most secure file transfer available
- Electronic Reporting can lessen stakeholder burden

Panel Discussion

Toxics Release Inventory Made Easy (TRI-ME)

Tim Antisdell

Office of Information Analysis and Access

Program Background



- Toxics Release Inventory (TRI)
 - Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA - 1986)
 - Requires facilities in specific sectors who exceed certain thresholds to report their Release and other Waste Management activities/quantities for 611 Toxic Chemicals
 - First Reporting Year 1987
 - About 23,500 facilities submitted 90,000 reports in RY 2005
 - TRI data disseminated via Envirofacts, TRI-Explorer, Other EPA systems and TRI Website
- The statute requires facilities to provide reports to EPA and also to their State DEP
- TRI Website: www.epa.gov/tri

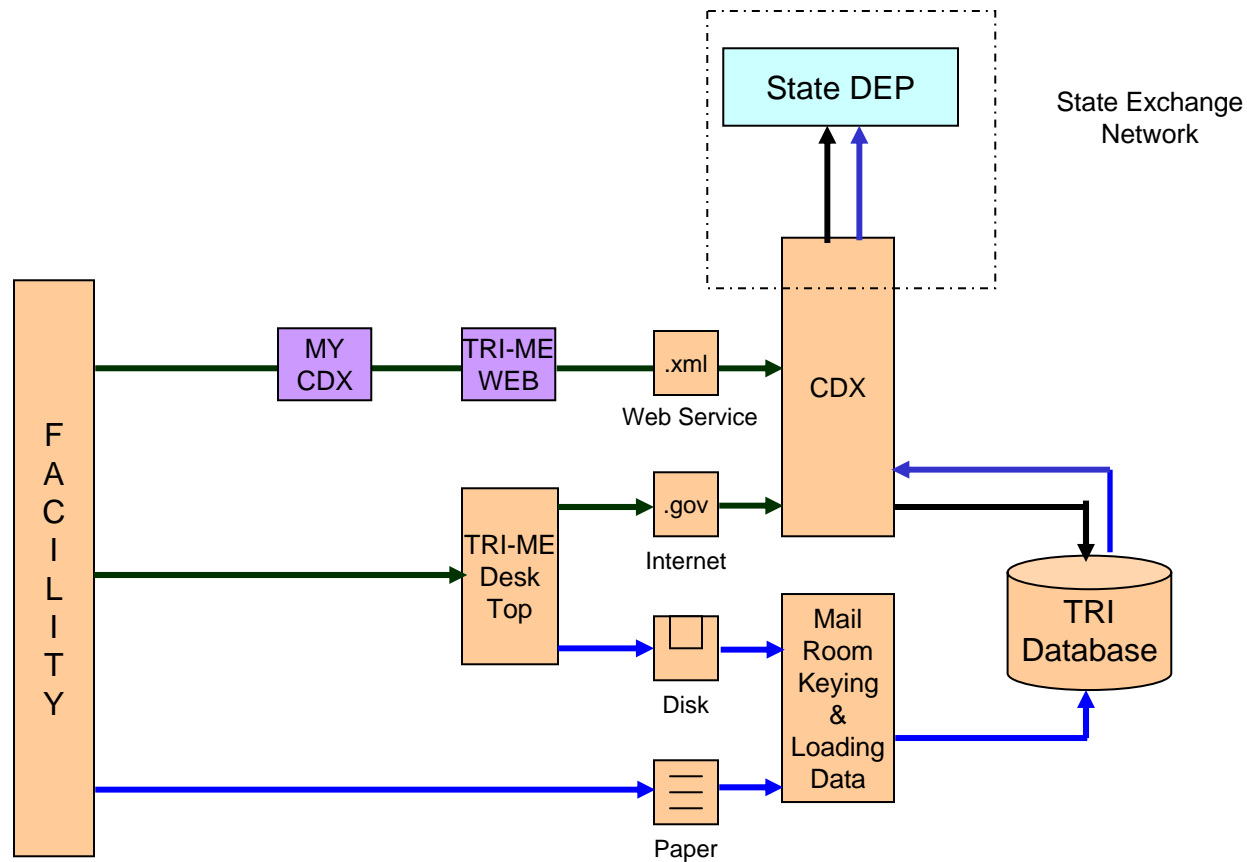
Program Background



Two Ways TRI uses CDX

1. CDX transfers and certifies inbound data from TRI Facilities.
 - TRI-ME Desk Top
 - Connect to CDX, send and Certify Data over the internet
 - Forward Data to TRI Database
 - TRI-ME Web
 - Sign into My CDX
 - Connect to TRI-ME web
 - Send prepared data to CDX and certify it
 - Forward data to TRI Database

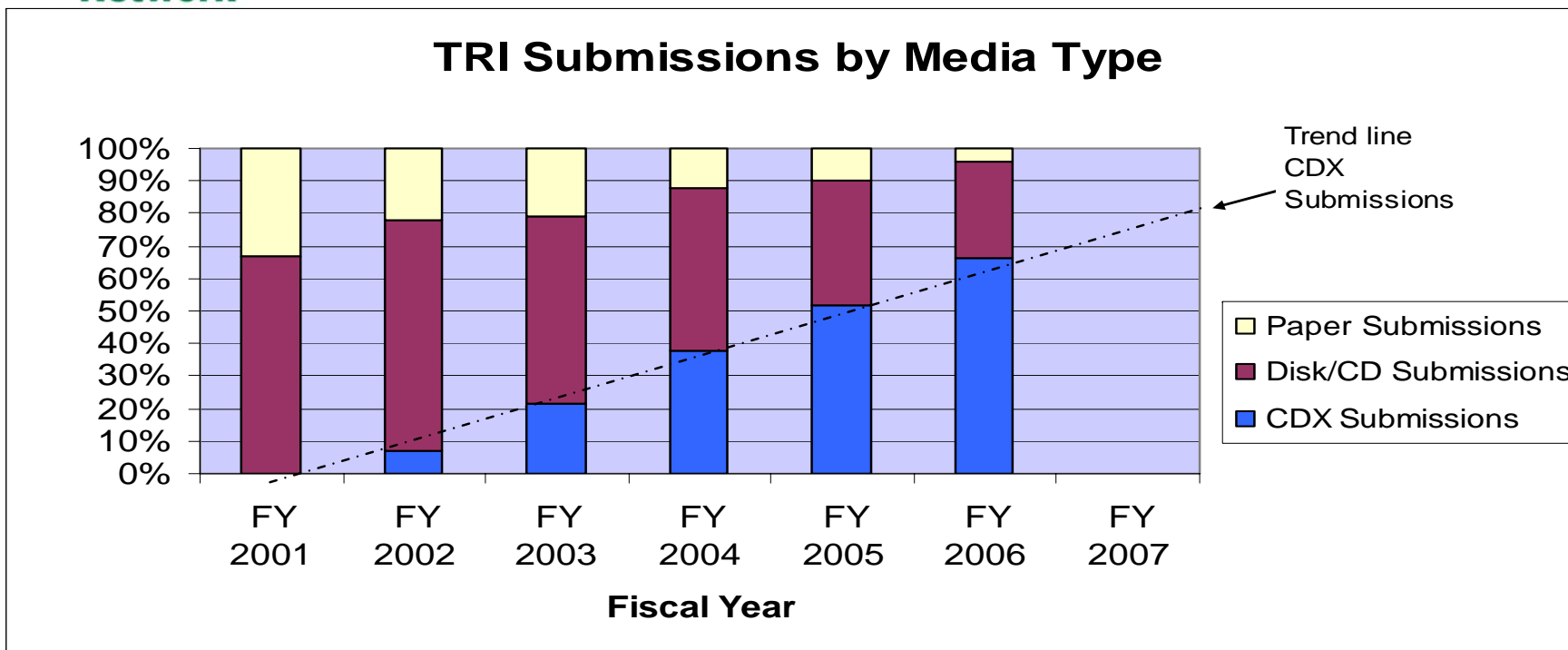
2. CDX translates and forwards data received by EPA to TRI State DEPs
 - A copy of all inbound data passing through CDX is sent to participating States in the TRI Exchange Network
 - A copy of all data sent to the TRI database that didn't come via CDX is forwarded to CDX and relayed to the participating states



Data System

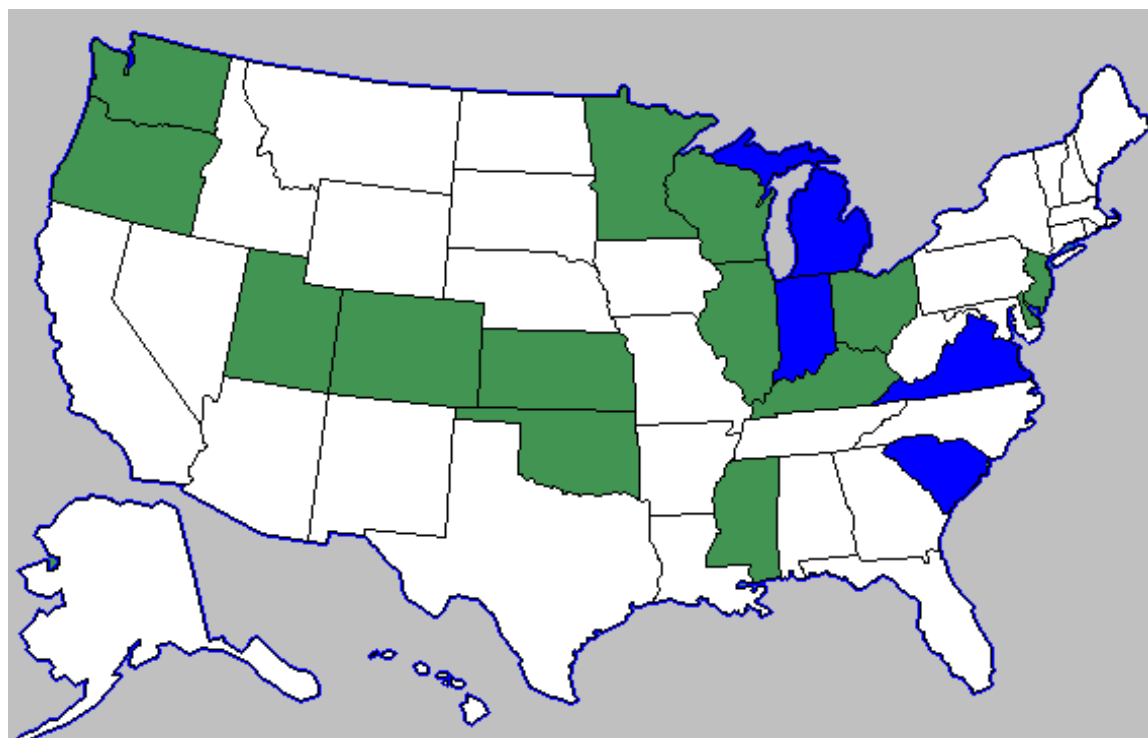
- Program database
 - ODS is TRI Database (aka the TRIS or TRIPS database)
 - Disseminate via TRI-Explorer and Envirofacts
- System status
 - TRI starting collecting data in 1987
 - Started using CDX in 2002
 - Started Flowing Data over the Exchange Network in 2005
- User stats
 - 24,000 facilities submitting reports/forms for 90,000 chemicals
 - TRI collects data annually (Due on July 1 of each year)



CDX Status



% by Media Type	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
CDX Submissions	0	7	21	38	52	66	
Disk/CD Submissions	67	71	58	50	38	30	
Paper Submissions	33	22	21	12	10	4	

States on the TRI State Data Exchange:



 2004 Pilot States  2005 States, newly joined or in the process of joining the TRI state data exchange

A total of 18 states have either joined or are in the process of joining the TRI State Data Exchange

Lessons Learned

- CDX successes
 - A Great value
 - TRI didn't have to build it
 - Huge savings processing data sent via CDX
 - Instrumental in Implementation of CROMERR
 - 66% of all reports were submitted via CDX last year
 - 18 states on Exchange Network, 42% of all data flowing out.
 - 100% of TRI data flowing to participating states
 - Huge savings for each State
 - Burden reduction for each Facility (submit once not twice)
- Areas for improvement
 - Identity and Access Management - CDX vs Portal

Panel Discussion

Water Quality eXchange (WQX)

Dwane Young

Office of Wetlands Oceans & Watersheds

Program Background

- WQX facilitates exchange of Water Quality monitoring data via the Exchange Network
- The WQX schema is an implementation of the ESAR (Environmental Sampling, Analysis and Results) data standard
- WQX fully utilizes CDX capabilities, including solicit and query services
- The volume of the data flowing has the potential to be quite large. This has required some innovative approaches by the CDX/WQX team
- We also plan to make full use of the Substance Registry System and the services that they will provide as well as use the agency ETL tool to publish data to the STORET warehouse on a weekly basis
- Schematron will not be used as part of the initial release, but we are researching a future implementation.

Data System

- WQX is the next evolution of STORET, yet it is a far simpler way for submitting data to EPA
- We've completed the testing phase, and are preparing to go live on February 15, 2007
- User stats
 - There are currently 6 states and 3 tribes participating in the testing phase, we expect many more to participate once we go live (24 NEIEN grant proposals for WQX for the '07 cycle)

Lessons Learned

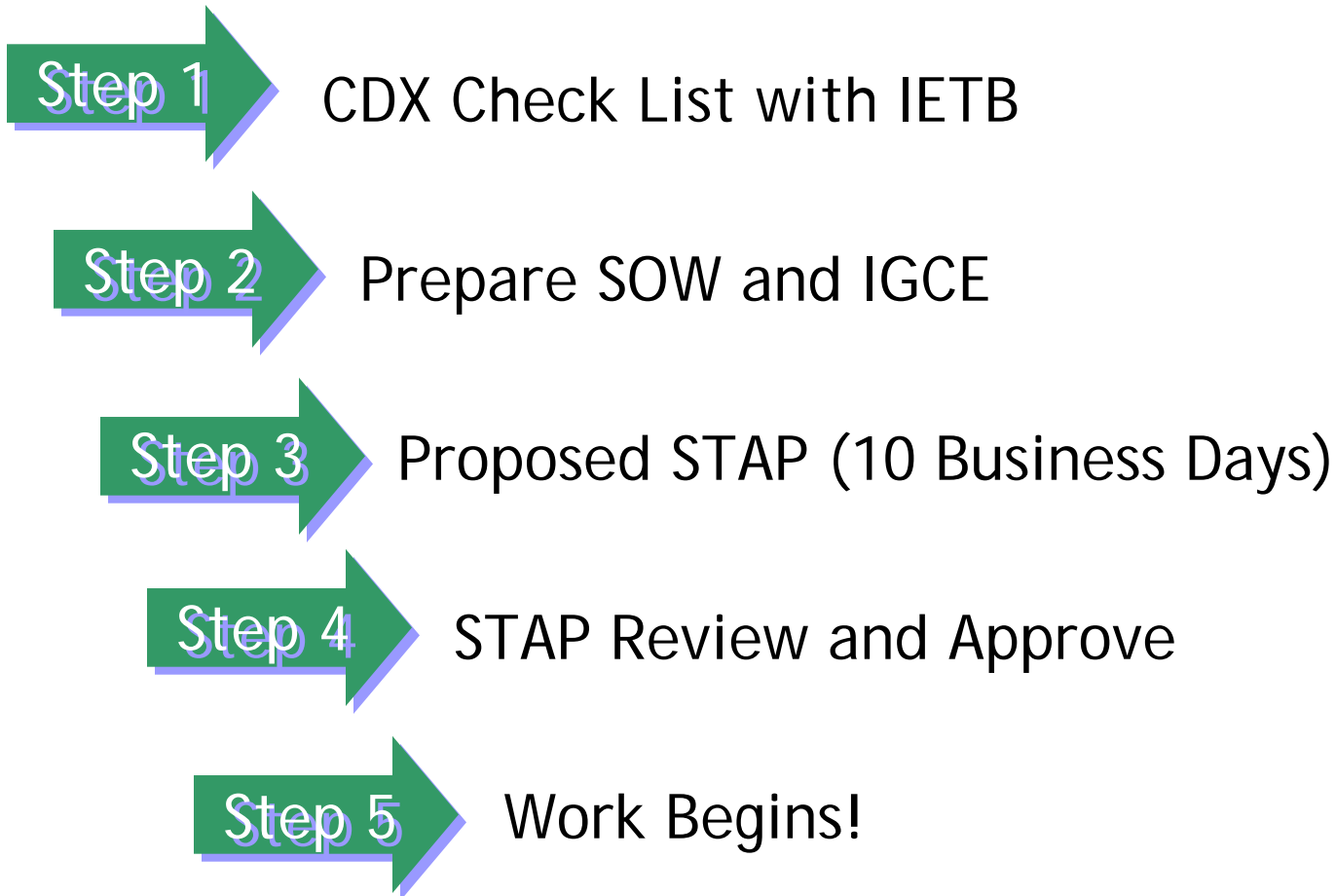
- Good communication is critical to success.
- Communication has to focus on three target user groups:
 - IT Managers
 - Program Managers
 - Data Managers
- It is often difficult to tell what capabilities other flows have already developed. There needs to be a better way to really understand what others are doing.
- The CDX team helped keep us on track with what could be done. CDX has been very responsive to our new requirements, and in helping us understand how the CDX system works.
- We had a very aggressive schedule, and the CDX team stuck with us the whole way.

CDX Contract

Mike Hart

Information Exchange Technology Branch,
OIC

Contract Basics



Top 10 Questions

- 10 Why should I send you comments for the Award Board?
- 9 Why do I have to pay an Award Fee?
- 8 How much time do I get to review my MFSR?
- 7 When do I receive an MFSR?
- 6 How do I read my MFSR?
- 5 What is the approval process for STAPs, deliverables, travel, and purchase requests?
- 4 What is the role of OAM?
- 3 What fees do I pay?
- 2 When can I ask CSC to begin work?
- 1 When will my funds be committed to the contract?

Other FAQs

- What is the period of performance for this contract?
- Do you have enough ceiling for my work?
- What is an Integrated Project Team?
- What is “the MIST”?
- Can you do EVM?

Cross-Media Electronic Reporting Rule (CROMERR)

David Schwarz

Information Exchange Partnership Branch,
OIC

CROMERR Overview

- Rule and companion Notice published October 13, 2005
- Companion Notice designates EPA systems receiving electronic reports to continue to operate for 2 years
- EPA systems are expected to come into compliance within 2 years of rule publication - by October 13, 2007
- Does not mandate electronic reporting, but establishes minimum requirements when electronic reporting is used

CROMERR Applicability

Examples of when Part 3 applies

- When electronic reports are submitted directly to EPA in accordance with 40 CFR requirements
- When state/tribal/local government submits information to EPA as a regulated entity under required a provision of 40 CFR
- When electronic reports are submitted directly to delegated programs in accordance with 40 CFR (or equivalent delegated program regulations)

Examples of when Part 3 does not apply

- When information is submitted on a CD, diskette, fax, etc.
- Information that is not submitted under Title 40 requirements (or equivalent delegated program regulations)
- Administrative information about a delegated program that is not required by regulation, but may be required by an MOU or other mechanism

Electronic Reporting to EPA

- Electronic documents must be transmitted to CDX or other electronic receiving system designated by the Administrator
- Documents must have valid electronic signature if required under Title 40 to sign the paper document:
 - Unless EPA announces special provisions to accept handwritten signature on a separate paper submission; and
 - Signatory provides handwritten signature
- CROMERR compliance will be a shared responsibility between CDX and system owners, if the system uses CDX to exchange data
- Changes in CDX hardware/software that affect the report transmission process may require public notification

State, Tribal or Local Authorized Program Approvals

- May seek approval through 40 CFR Part 3 or applicable program modification or revision provisions of other Parts of Title 40
- Programs not currently receiving electronic reports would need to seek approval prior to receiving electronic reports
- Programs with existing electronic reporting need to submit an application to revise no later than October 13, 2007

Section 3.2000 Requirements

- Authorized programs must:
 - Use an acceptable electronic document receiving system
 - Require that any electronic document bear a valid electronic signature if the signatory is required to sign the paper document (unless EPA approves handwritten signature on separate paper submission)
 - Ensure that their systems meet CROMERR standards....

Section 3.2000 Requirements (Cont.)

- Systems must be able to generate data with respect to the electronic document that proves the document:
 - Was not altered without detection
 - Alterations are documented
 - Was submitted knowingly
 - Submitter had an opportunity to review the copy of record in a human-readable format and repudiate the document based on the review

Section 3.2000 Requirements (Cont.)

- When electronic signatures are required on a document, the system must ensure:
 - The signatures are valid
 - The document cannot be altered without detection after being signed
 - The signatory had an opportunity to review
 - The signatory has executed an e-signature agreement
- Electronic receiving systems must acknowledge receipt of the document and certain data
- State, tribe or local government determines the identity of individual entitled to use signature device

Getting to CROMERR Compliance

- Taking steps to identify which systems in EPA (HQ and Regions) and in State/Tribes/Local govts. are subject to CROMERR
- Preparing applications for Technical Review Committee (TRC) Review
- CROMERR Application Tools - the "Checklist" and "Cover Sheets"
- October 13 Deadline for State/Tribe/Local govt. applications for approval
- June 1 Deadline for EPA systems to document conformance

Getting to CROMERR Compliance (Cont.)

- For States/Tribes/Local govts., IEPB can look at draft applications before formal submission.
- For EPA flows: work with IEPB (in consultation with CDX) to determine how to come into compliance or develop a compliance plan by June 1, 2007.
- IEPB contact information:
 - David Schwarz 202-566-1704
 - Evi Huffer 202-566-1697
 - Mary Greene 202-566-1634

CDX and CROMERR

- CDX is working towards full CROMERR compliance
 - Approved data flows: SDWARS/UCMR, TRI-MEweb, and eIUR
- CDX is analyzing service offering
 - Goal is to make sure that CDX provides AT LEAST 1 service to meet each of the CROMERR elements
 - Identified gaps will be targeted for a solution at the service level for CDX
- CDX working with TRC to receive service level approval
 - Programs can then reference the CDX approval as long as they implement the service as reviewed

CDX and CROMERR

- Existing flows
 - Recommendation is to work with IEPB's David Schwarz/Evi Huffer or your TRC representative to determine CROMERR applicability
 - Document the flow as implemented
 - If your flow does not meet a certain aspect of CROMERR, we can assist with a compliance plan
 - CDX will deploy services that will assist data flows with CROMERR compliance

CDX and CROMERR

- New Flows
 - Work with IEPB's David Schwarz/Evi Huffer to determine your CROMERR applicability
 - Tasking should be included to fill out the CROMERR checklist as part of the development effort
 - At the end of the design phase, the flow should apply for TRC review
 - CSC/CDX are designing new flows with the final version of CROMERR in mind



For More Information



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www.epa.gov/cdx
www.exchangenetwork.net

