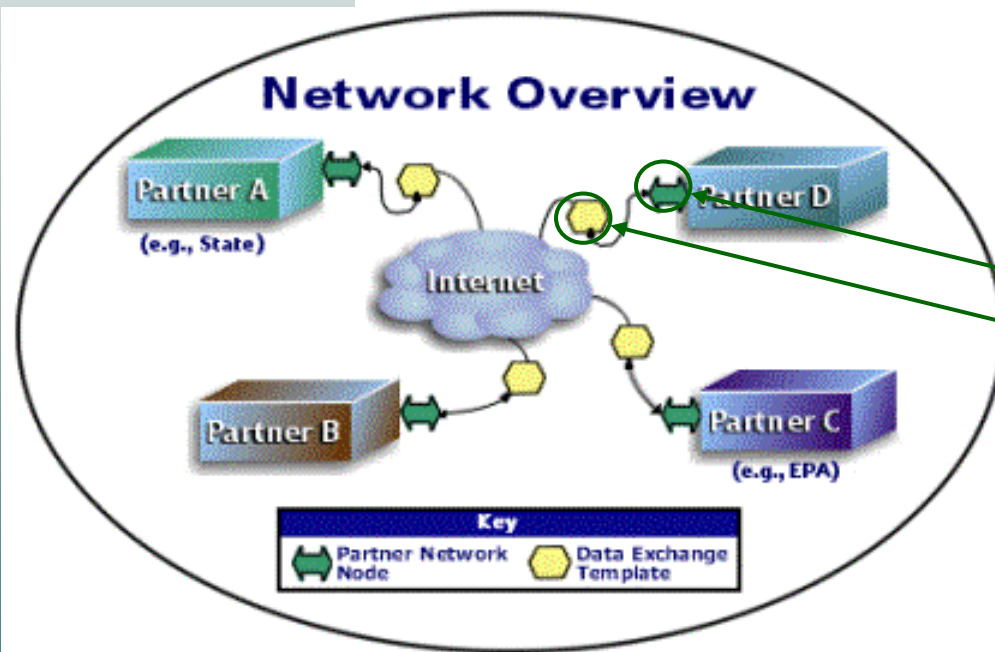


Exchange Network and Central Data Exchange Overview

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

What is the Exchange Network?

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



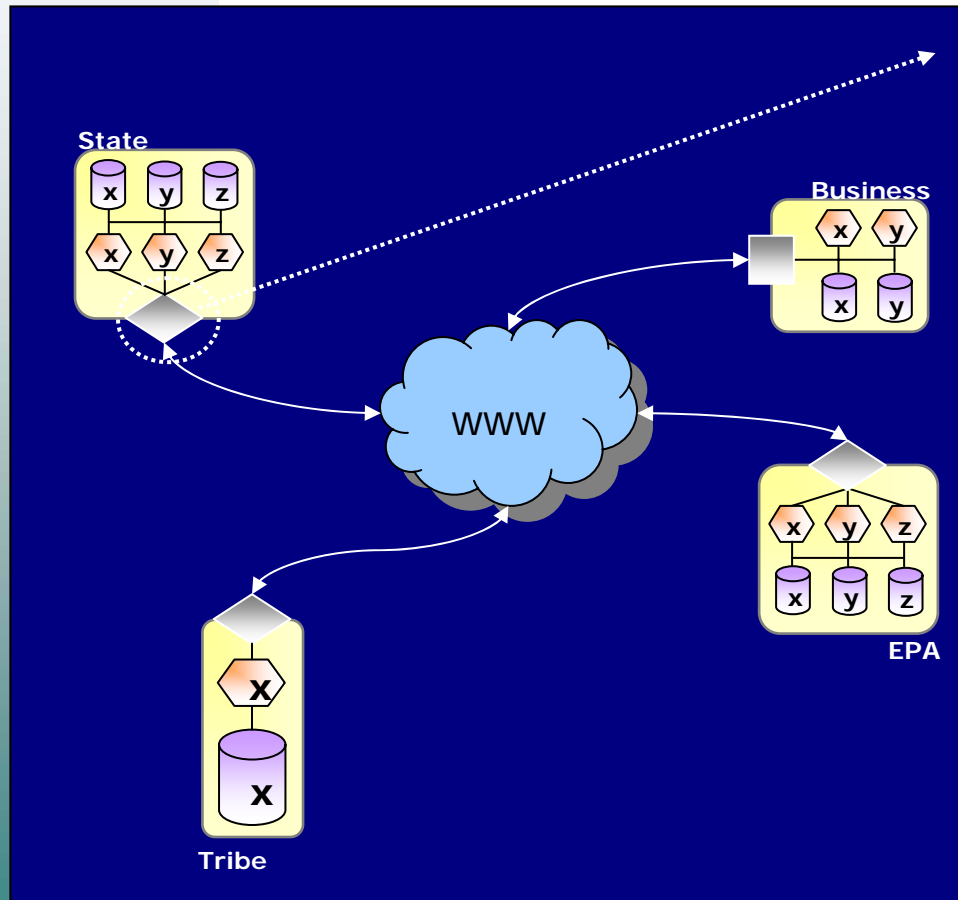
Key Components

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

Purpose of Network

- Increase data
 - Availability
 - Automation
 - Efficiency
 - Timeliness
- Reduce reporting burden
- Improve data quality
- Publishing among network partners

Nodes (Web Service)



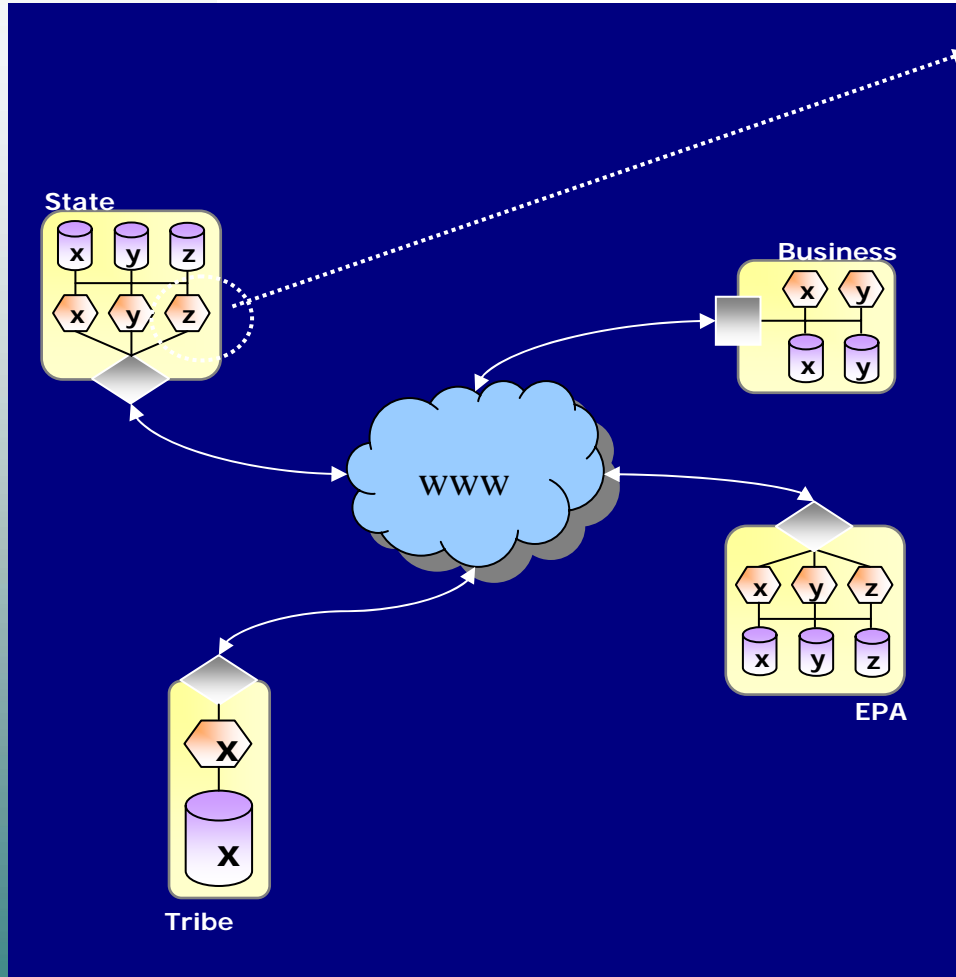
- Network Node:
 - Is a Server accessible by the WWW
 - Complies with the protocols to ensure secure exchange
 - Returns requested information as XML

XML in a nutshell

- XML: eXtensible Markup Language
- XML Schema: defines the Structure and the Rules of data to be shared
- XML Document: a file that contains the data (and references the Schema)

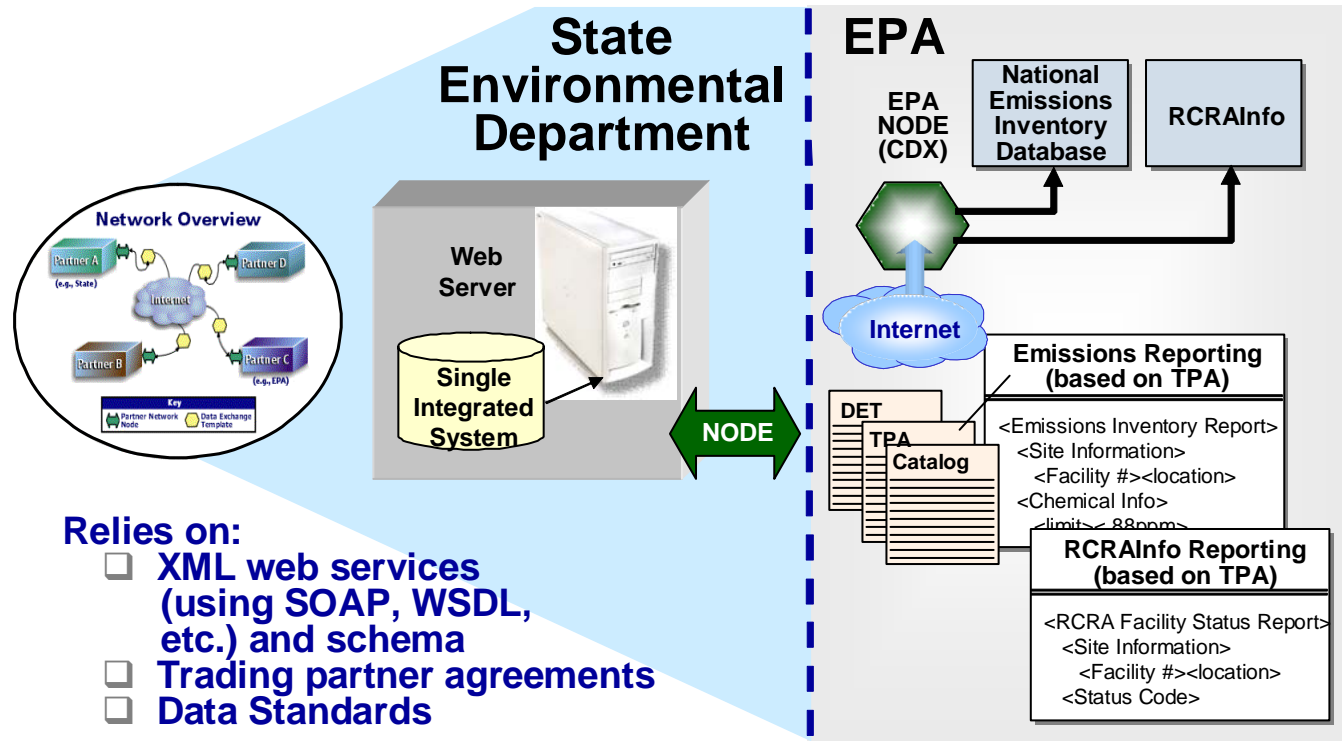
Create an XML document, open it with Internet Explorer and it validates itself against the schema

XML



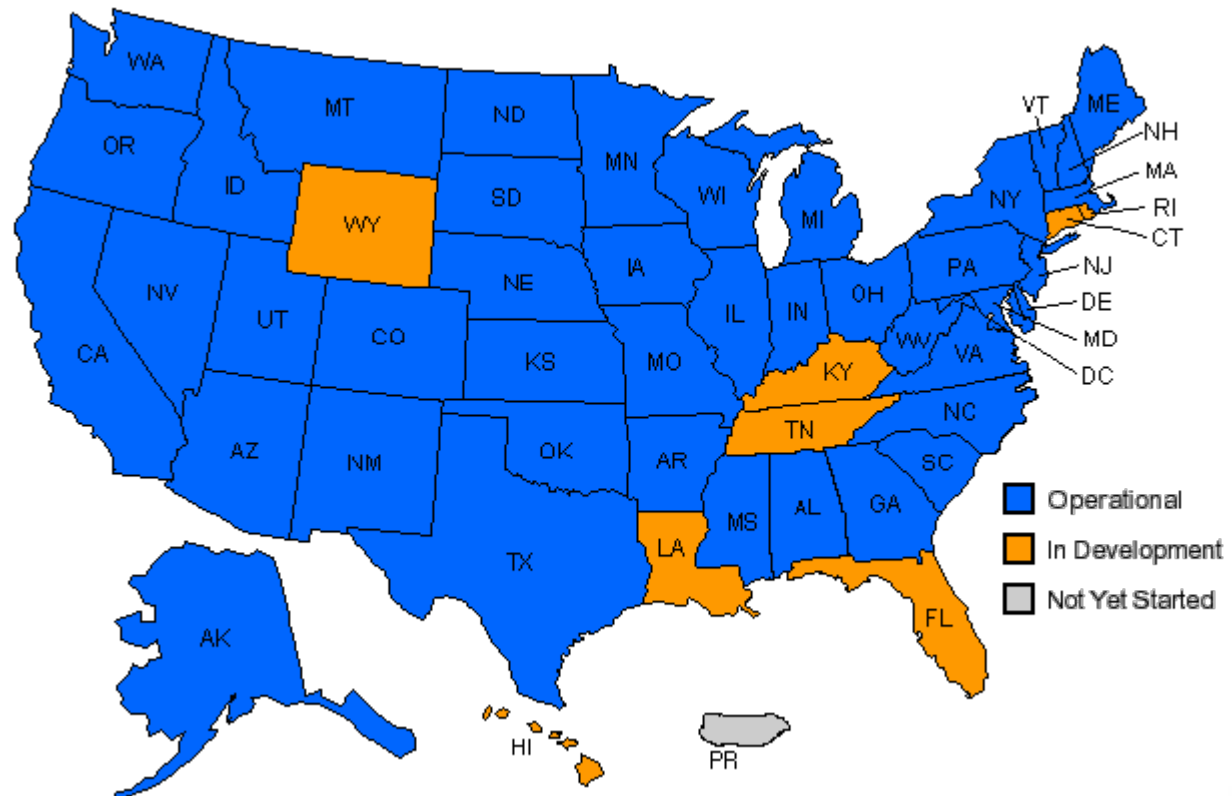
- XML Schema:
 - Describe format of data being exchanged
 - Draw upon data standards
 - Potential to reuse XML schema modules
 - Allows for stronger QA

How the Pieces Fit Together

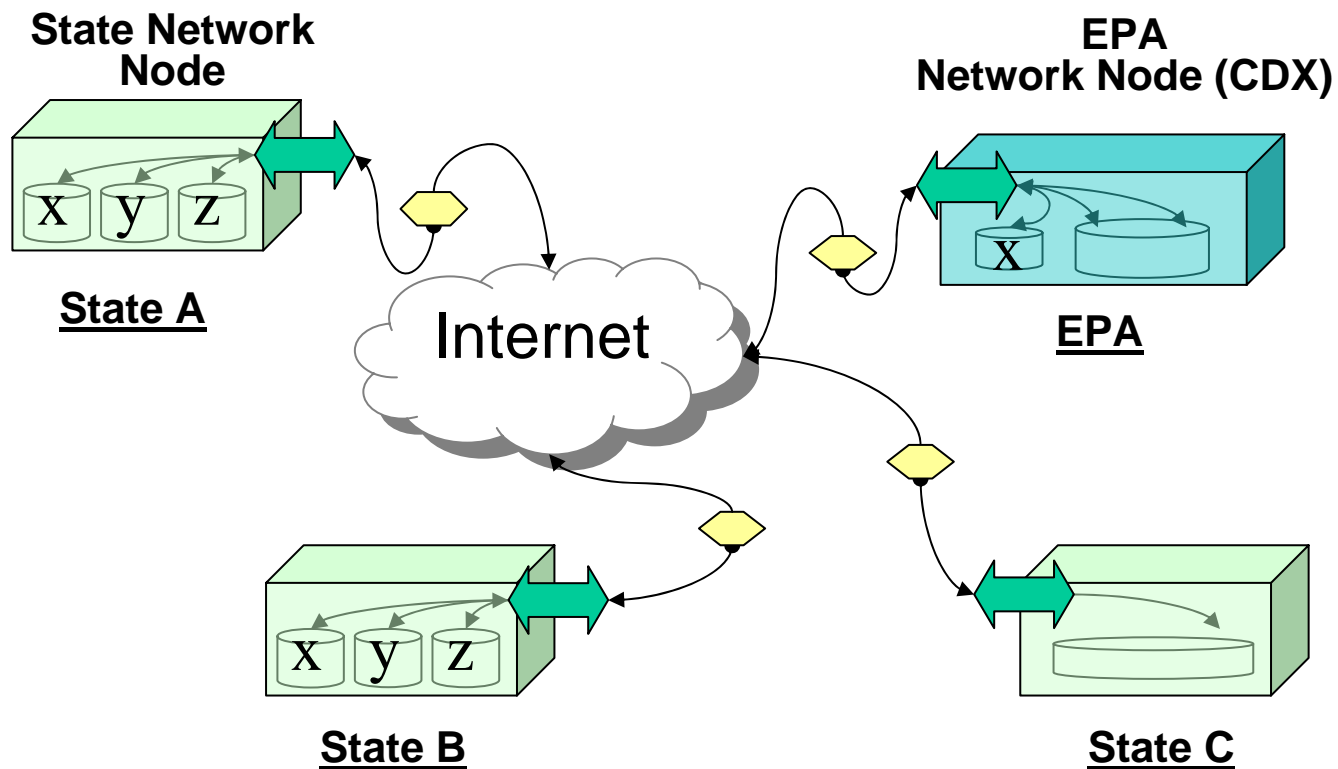


Exchange Network Progress

Currently, there are 49 states with operational Network nodes



CDX and the Exchange Network



↔ Agency Network Node
 ◇ Data Exchange Template

What is CDX?

- The Central Data Exchange is the portal (node) through which data enters the Agency
- EPA's Node on the Exchange Network
- Provides central services of the Exchange Network

What Functions does CDX Provide?

- Registration
- Authentication and Security
- Translation
- Error Detection
- Archiving
- Distribution
- Messaging services
- Customer support

User Benefits of Exchange Network

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

CDX Exchange Mechanisms

- CDX Web – EPA's site for submitting information via standard Web browsers
 - Users submit data via Web-based forms and file uploads (flat file, XML file)
- CDX Node – EPA's Web services infrastructure on Exchange Network
 - Machine-to-machine data exchanges

Data Flows in Production Network Exchange

sample

- **AQS Node Submission:** *Air Quality System (AQS)*
- **eBeaches Node**
- **FRS Node:** *Facility Registry System (FRS)*
- **NEI Node:** *National Emissions Inventory (NEI)*
- **netDMR:** *Network Discharge Monitoring Report (DMR)*
- **RCRA Info Node - Handler Module:** *Resource Conservation and Recovery Act (RCRA)*
- **SDWIS ODS Node:** *Safe Drinking Water Information System (SDWIS) Operational Data Store (ODS)*
- **SRS Node:** *Substance Registry System (SRS)*
- **TRI State Data Exchange:** *Toxics Release Inventory (TRI)*

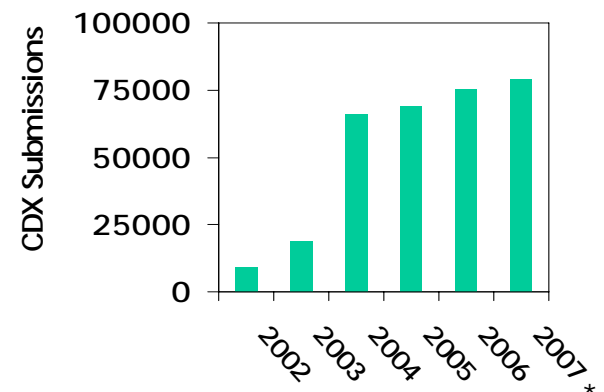
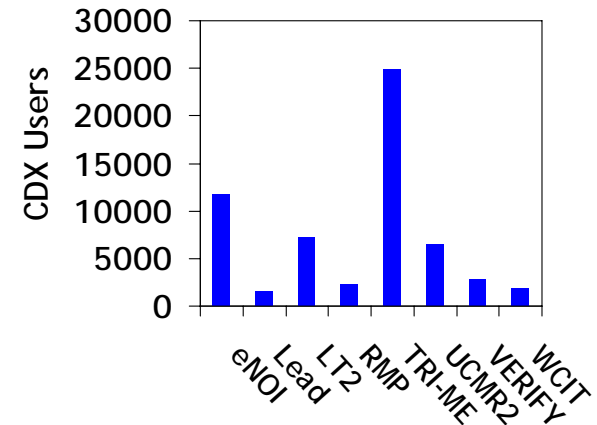
XML Registry

XML Schemas and supporting documents are available for the following data flows (most recent version):

- ***Air Quality System Schemas 1.0***
 - Beach Monitoring Data Schema 1.2
 - Discharge Monitoring Report (eDMR) Schema 1.2
 - Drinking Water Report (eDWR) Schema 2.2
 - EPA Asbestos Schema 1
 - Exchange Network Document Header Schema 0.9
- **Facility Registry System (FRS) Schema 2.3**
 - Integrated Compliance Information System - National Pollutant Discharge Elimination System XML Schemas 1.0
- **National Emission Inventory (NEI) Schema 3 (Final 2007)**
 - Pacific Northwest Water Quality Data Exchange 1.3
 - Resource Conservation and Recovery Act (RCRAInfo) Exchange Schemas 1.0
 - Safe Drinking Water Information System (SDWIS)/FedRep Schema 2.0
 - Shared Schema Components Phase II of the Core Reference Model 2.0
 - Substance Registry System (SRS) XML Schema 1.0
- **Toxic Release Inventory XML Schema Package 1.2**
 - Water Quality Exchange (WOX) 1.0

Status of CDX Node and Web Utilization

- CDX now has a community of over 79,000 registered users
- 73,614 files were submitted to CDX in the past twelve months
- Fifty states and over fifty tribes use CDX to file environmental reports
- 34 data systems in Production; 12 others in varying stages of design, development, or test
- Outbound Data Publishing

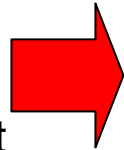


* Submissions through April, 2007



CDX/Network Have Produced Real Results

Two separate studies found that EPA and states garnered impressive returns on their investment (ROI) from EPA's Central Data Exchange and the Exchange Network



Data Flow	EPA (CDX) ROI (%)	State EN ROI (%)
TRI	271	122
SDWIS	217	35
AQS	62	20
eNOI	32	N/A
Lead Abate.	120	N/A
UCMR	3	N/A

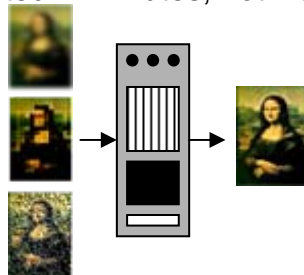
Also Found Data Quality, Timeliness, Security and Accessibility Benefits – But These Are Difficult to Quantify in an ROI

Timeliness

EPA could release its TRI data 7-8 months earlier if everyone submitted it through CDX

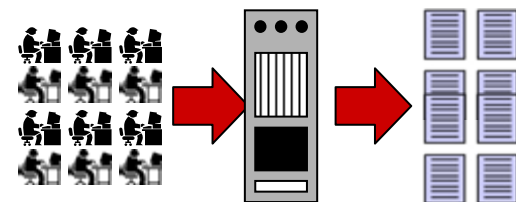
Data Quality

Eliminating the number of times data is re-entered increases accuracy. SDWIS errors now corrected in minutes, not weeks.



Accessibility

Companies used to FOIA SDWIS data and re-sell it because it was so difficult to access. That market has now dried up.



FY 2008 Grant Schedule

- FY 2008 Solicitation Notice published Sept/October 2007
- Web Address:
<http://www.epa.gov/exchangenetwork/grants>
- Important dates:
 - Due dates for proposals is November probably
 - Awards: expected 2008

Questions / Comments ?

Pat Garvey: 202-566-1687

garvey.pat@epa.gov