

# Getting Started on the Exchange Network: Join an Existing Exchange

The Exchange Network helps users share information via the Internet using standardized data formats and shared resources. This guide provides high-level instructions and best practices for those interested in joining existing data exchanges on the Exchange Network. You should use this guide in conjunction with exchange-specific resources, which are available on the Data Exchanges section of the Exchange Network website.

## HOW DO I GET STARTED?

### 1. Select a Data Exchange to Join

Before selecting an exchange, you should determine how it can benefit your organization. You are encouraged to pick exchanges that will help meet your business needs by saving money and time, improving data quality and supporting better environmental decisions. To review what data exchanges are currently available, visit the Data Exchanges section of the Exchange Network website.

Common Starting Points
<ul style="list-style-type: none"> <li>• Many States begin participating in the Exchange Network by sharing facility data contained in the EPA Facility Registry System (FRS)</li> <li>• Many tribes start with the Water Quality Exchange (WOX)</li> </ul>



### 2. Understand What It Will Take to Join the Exchange

There are requirements for participating in each exchange, and understanding them will help you determine the level of effort necessary to begin exchanging data. For example, you may need to work on your technical infrastructure or internal business processes to supply or process electronic data on the Exchange Network. Check out the description for your data exchange on the website, read the Flow Configuration Document (FCD), and contact the flow owner to identify flow-specific participation requirements. Keep in mind that each flow is unique, and may have its own special requirements or steps for joining.

To participate in an exchange, you will need to have the following:

- **Exchange Network Node.** A Network node enables data sharing among different information systems via the Internet. It is a partner's point of presence on the Exchange Network. More information is available in the Build a Node section of the Exchange Network website
- **Partner Database/IT System.** This system contains the data you want to share and includes an application that interacts with the Node.
- **Network Authentication and Authorization Service (NAAS) Permissions.** Sharing data via the Exchange Network requires that users have NAAS security privileges. You can open a NAAS operator account by contacting the EPA Central Data Exchange (CDX) Help Desk.
- **Process for Generating XML.** Information transmitted over the Exchange Network is expressed in eXtensible Markup Language (XML), and you must have a machine or process capable of generating XML files. The Exchange Network provides a dedicated XML schema for each flow to transmit your data in XML.

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## 3. Obtain Funding

Some partners use their own funds to support EN projects. Others seek external funding, which may be through programmatic grants or the Exchange Network Grant Program. Additional information on the Exchange Network Grant Program is available on the Exchange Network Grant website and in the *Apply for an Exchange Network Grant Getting Started Guide*. Other possible sources may include federal programmatic grants.

## 4. Map Your Database with the Flow Schema and Ensure Your Node Can Perform Flow-Specific Functions

Each data element you want to share from your database needs to be matched to the XML Schema provided by the Exchange Network flow. Some exchanges may also require your node to perform flow-specific functions and interact with the NAAS to authenticate and authorize specific users. Look for the following flow-specific resources in the Data Exchange section of the Exchange Network website for assistance with this step:

- **Flow Configuration Document (FCD).** Conveys the detailed data exchange processing rules governing the data exchange.
- **XML Schema.** Defines the form and structure of the data being exchanged, compliant with Exchange Network data standards. This is the resource that needs to be mapped to the backend database that stores the data related to the flow.
- **Data Exchange Template (DET).** A list of data elements.
- **Schema User's Guide.** Explains schema usage and any special usage conditions. These guides are not available for every flow.
- **Example XML Instance Document.** Model XML instance file that is consistent with the flow schema.

## 5. Test the Exchange: The First Submission

- **Generate an XML file.** Each flow should have a sample XML instance file that shows how an XML file compliant with the flow schema might be constructed. An example for the National Emissions Inventory (NEI) exchange is available on the Exchange Network website. The FCD will also have descriptions of XML file content.
- **Run your test XML files through a validation tool** to identify whether your XML file conforms to the XML schema.
- You may also want to use **Schematron**, available from EPA CDX (see *Schematron Validation and Guidance*), to ensure consistency between the XML file you are submitting and the business requirements supported by the exchange. Some data exchanges offer customized guidance on using Schematron. For example, see the Schematron rules for the NEI flow.
- **Test the data exchange.** These trial runs depend on the type of flow, as follows:
  - For all flows, the recommended testing procedures should be in the FCD, and coordination with flow or destination information system managers may be required.
  - For National System Flows, use the EPA CDX Test Node to verify that you can submit data properly. (Note that the CDX Test Node requires a different NAAS operator account than the CDX Production Node, which you will use for routine data submissions.)
  - Depending on the flow architecture, you may need to repeat testing with as many

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partners as you can to ensure interoperability and to solve possible challenges before you begin exchanging data regularly.

- You may receive error messages. To decode them, refer to the related FCD for a glossary of terms.

### 6. Flow Data and Remain Operational

To maximize participation and remain operational, it is important to observe some best practices:

- You likely will need to sign a **user agreement**, which governs the relationships among partners and their use of data in the exchange. For more information on the role of agreements on the Exchange Network, please refer to the *Data Access and Exchange Policy* and the *Trading Partner Agreement Procedure*. Many exchanges provide model agreements that you can use if appropriate. Consult the FCD or flow profile on the Exchange Network website for flow-specific expectations.
- To stay current with any modifications to the flow schema, you should regularly check the **schema change log** associated with the flow, and subscribe to subject-specific **Network Alerts**, as available.
- You should be aware of changes to the current **Node Specifications and Protocol** supported by the exchange. Upgrading your node may be needed and could require assistance from a developer.
- Most flows to EPA require submissions to be checked via the CDX Test Node before the data is sent to the CDX Production Node. To submit your files to the CDX Production Node, you must have successfully submitted data to the Test Node and have acquired a different NAAS operator account for the CDX Production Node from the CDX Help Desk.

## WHO CAN I TALK TO?

### Mitch West

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### Kurt Rakouskas

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### Pat Garvey

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### Exchange Network/CDX Help Desk

For contact information and the services it provides, see the Exchange Network website.

### Other States, Tribes, and Territories

Look at the **progress pages** on the Exchange Network website. Click on the map/links for contacts and information.