

EMTS Outreach

Customer Node Development Support



Topics

- What is a node?
- What is a data flow?
- Are you a good candidate for a node?
- What are the benefits and issues associated with installing a node?
- Where can you find information about node software?
- Who can help you install a node?
- What resources do you need to implement a node?
- Is a node secure?
- What are the next steps to implement a node?

Definitions

- **CDX** -- **C**entral **D**ata **E**xchange.
- **EMTS** -- **E**PA **M**oderated **T**ransaction **S**ystem.
- **Exchange Network (EN)** -- A secure internet and standards based approach for exchanging environmental data. The EN was developed and is managed by EPA, states, and tribes.
- **Flow Configuration Document (FCD)** -- Describes the operation of the data flows across the Exchange Network.
- **NAAS** -- User authentication service that is used by the Exchange Network.
- **XML** -- **E**xtensible **M**arkup **L**anguage.
- **XML Schema** -- Provides a means for defining the structure, content, and semantics of XML documents.

What Is a Node?

A node:

- Is a point of presence or a connection point on the Exchange Network that allows the secure submission or receipt of files;
- Has the capability to push files through a recognized data flow to another node;
- Provides a mechanism to connect your server or workstation to the Exchange Network; and
- Is an application server that allows for data exchange.

What Is a Data Flow?

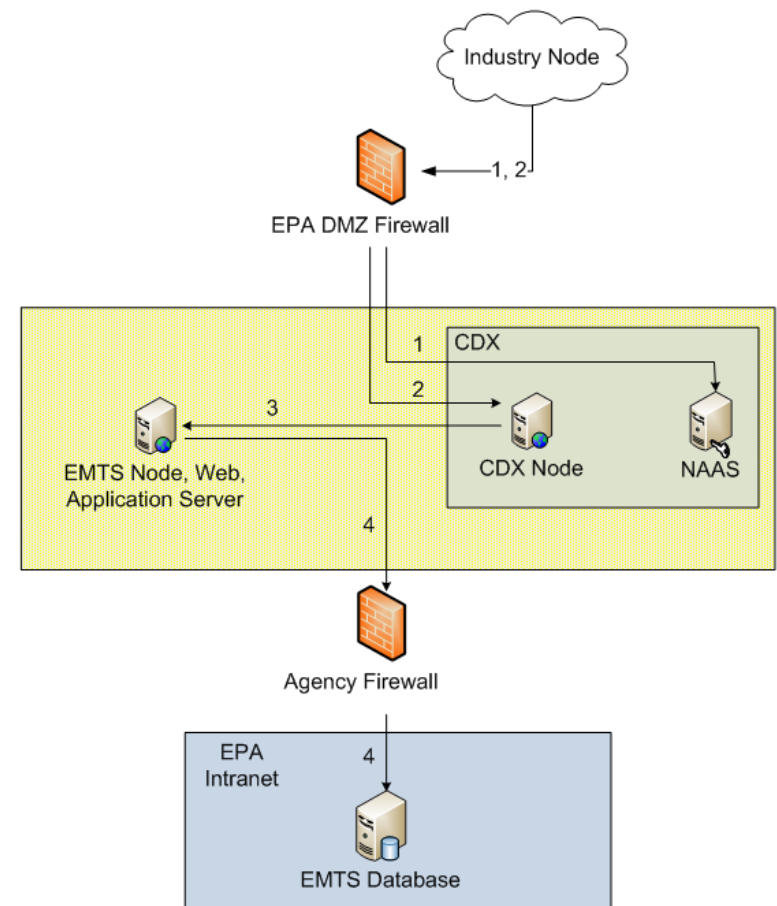
- A data flow is a series of web service methods that are used to transport document and files.
- A data flow abides to the Exchange Network protocols for document transport.
- EPA encourages all agencies to support the secure transfer of information via the Exchange Network.

What Is the EMTS Data Flow?

- EMTS is one of many data flows at EPA.
- EMTS data flow determines the path by which a user uploads information and transfers it to EMTS.
- All transactions created using an XML file are submitted to the EMTS data flow.
 - A user can submit XML files to the EMTS data flow by:
 - Submitting files from his own node;
 - Submitting files from the Exchange Network Web Node Client v2.0; or
 - Submitting files from the EMTS node client.

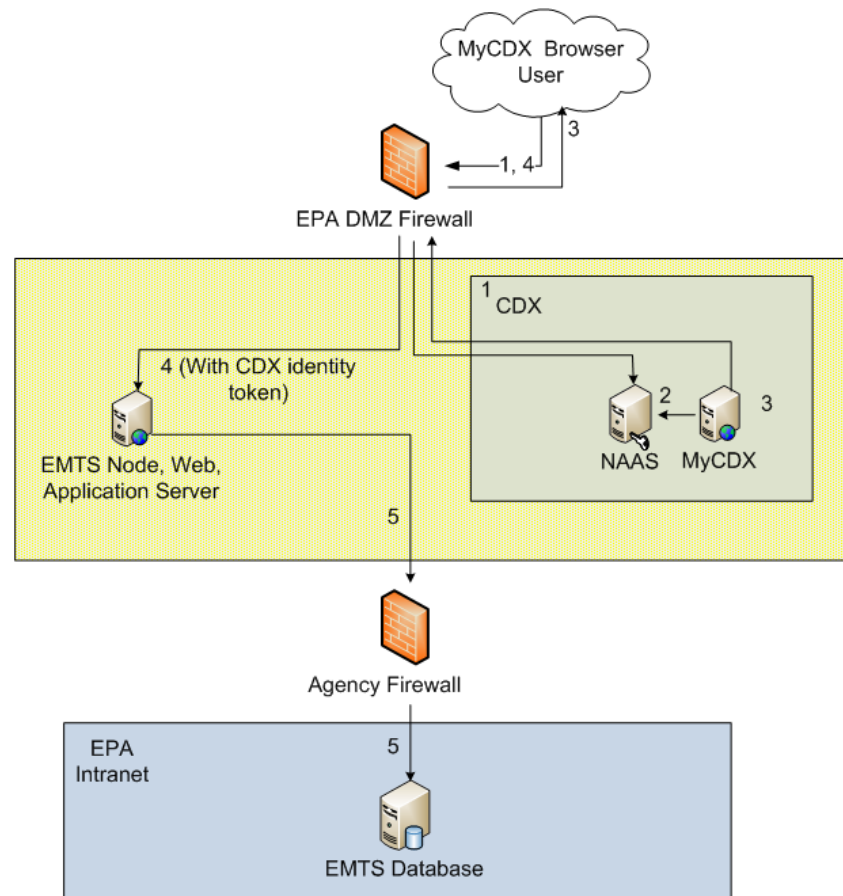
Submitting Files from Own Node

1. Node authenticates using NAAS.
2. Node uses submit method to send an XML file to CDX node.
3. CDX node routes the XML file to EMTS node.
4. CDX node sends receipt message to originating node.
5. EMTS processes the XML submission.



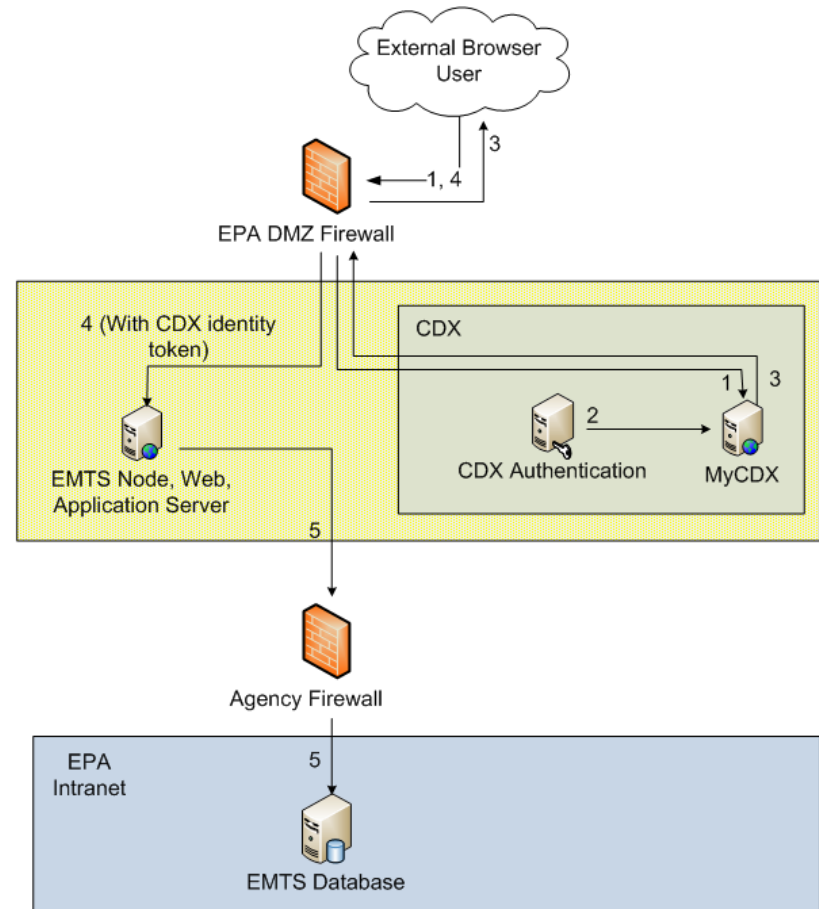
Submitting Files from the Exchange Network Web Node Client

1. User authenticates with NAAS.
2. User submits an XML file to CDX.
3. CDX routes the XML file to EMTS.
4. EMTS processes the XML submission and saves the results in the EMTS database. Results are available on the EMTS website.



Submitting Files from the EMTS Node Client

1. User accesses the MyCDX portal.
2. User authenticates with CDX account.
3. User clicks on the EMTS link, and the MyCDX portal redirects the user's browser to the EMTS web application.
4. User interacts with the EMTS web application, including submitting files.
5. Results are available on the EMTS website.



Are You a Good Candidate to Install a Node?

- Are you participating in one or more data flows to EPA?
- Do you intend to submit numerous transaction files to the EMTS on a regular basis?
- Do you have the technical resources to install and configure a node?
- Do you have the technical infrastructure to support a node?

If you answer "yes" to some or all of the above questions, then you are a good candidate.

Benefits and Issues with Implementing a Node

Benefits:

- No manual data entry;
- Automatic submission scheduling; and
- Less human errors.

Issues:

- Initial setup investment;
- Ongoing maintenance for data flow changes; and
- Skilled technical resources required.

Benefits and Issues with Using the Exchange Network Web Node Client or EMTS Node Client

Benefits:

- Low cost; and
- No technical expertise required.

Issues:

- Higher level of data entry; and
- Data entry errors.

Where Can I Find Information About Node Software?

- For information on nodes, go to www.exchangenetwork.net.
- EPA's Central Data Exchange (CDX) has four different vendors that supply node software:
 - **Windsor's OpenNode2**
.NET or J2EE versions available
craig_austin@windsorsolutions.com
 - **enfoTech's eNode 2008**
.NET or J2EE versions available
douglas_timms@enfotech.com
 - **CGI's Open Source Node 2.0**
Java Implementation - Open Source
kate.thomas@cgifederal.com
 - **Computer Sciences Corporation's Next Generation Node (NGN)**
Java Implementation - Open Source
epacdx@csc.com

Who Can Help Me Install a Node?

- The EMTS Support Line can provide you with information on where to acquire technical specifications. You can reach EMTS Support by email (emts-testing@pqa.com).
- The Data Exchange web site will have the EMTS Flow Configuration Document (FCD) containing web service configuration.
- The EMTS Support Line will refer you to the appropriate EPA Node Support contact for greater technical assistance.
- Several vendors are available to help you with a variety of services including:
 - Basic installation;
 - Customization to connect the node to your information system; and
 - Test protocols for the EMTS data flow.

What Skills Do I Need to Implement a Node?

Software Developer Skills:

- Must be familiar with your data model;
- Must be able to translate your data model to XML; and
- Must be able to create XML files that are valid with the EMTS XSD.

Systems and Network Management Skills:

- Must be familiar with the Exchange Network protocols.

Is a Node Secure?

- Nodes are configured to meet EPA's established security protocols.
- The user must be registered with NAAS (CDX) in order to participate in the Exchange Network.
- The user must be registered with MyCDX and OTAQ in order to participate in the EMTS data flow.
- Users outside the Exchange Network cannot "sniff" or intercept files submitted through the Exchange Network.

What Are the Next Steps to Implement a Node?

- CDX web site at www.exchangenetwork.net.
- Select a node based on the version you need (java or .net).
- Contact EMTS Support by email (emts-testing@pqa.com).

Ask for the following documents:

- Draft "Getting Started";
- EMTS Flow Configuration;
- EMTS Schema; and
- Draft Transaction Instructions.