

A Look into the EMTS

Workshop June 8th, 2009

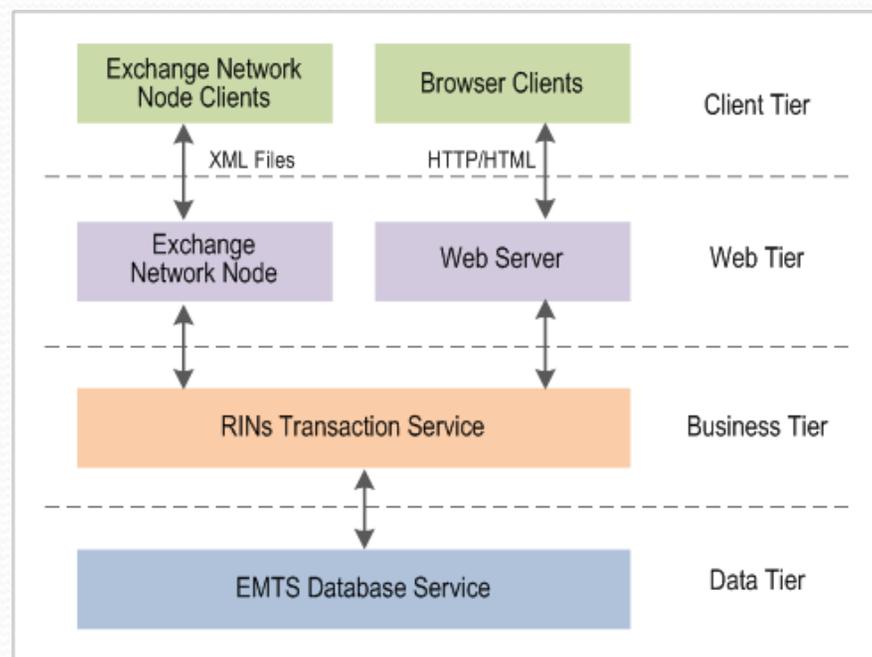
U.S. Environmental Protection Agency
Office of Transportation and Air Quality

Presentation Outline

- EMTS Architecture
- Web Application
- File Submission Process
- EMTS XML File

Multi-tiered Design

- EMTS has two methods of receiving data input
 - Batch XML file submitted through the exchange network using a node
 - HTTP actions a user takes in a browser client.
- Business tier applies uniform logic to both methods
- RINs transaction service layer processes transaction requests
- Results are stored in the EMTS database



Terms Used

EMTS Hosting Site: The EMTS hardware and software, hosted at EPA's National Computing Center.

EMTS Database: The Oracle 10g Database.

EMTS Application Servers: The EMTS application software servers running the "business tier."

EMTS Node: The EN node that allows the EMTS to receive XML file submissions.

EMTS Web Server: The EMTS's web server that support the browser-based sessions.

Node-Based Users: The community of industry users who submit their transactions through the exchange network.

CDX NAAS: The EN's authentication and authorization service. All users of the EMTS are authenticated and authorized by NAAS.

CDX Node: The EN node used to submit files to the EMTS or any other EPA dataflow to EPA.

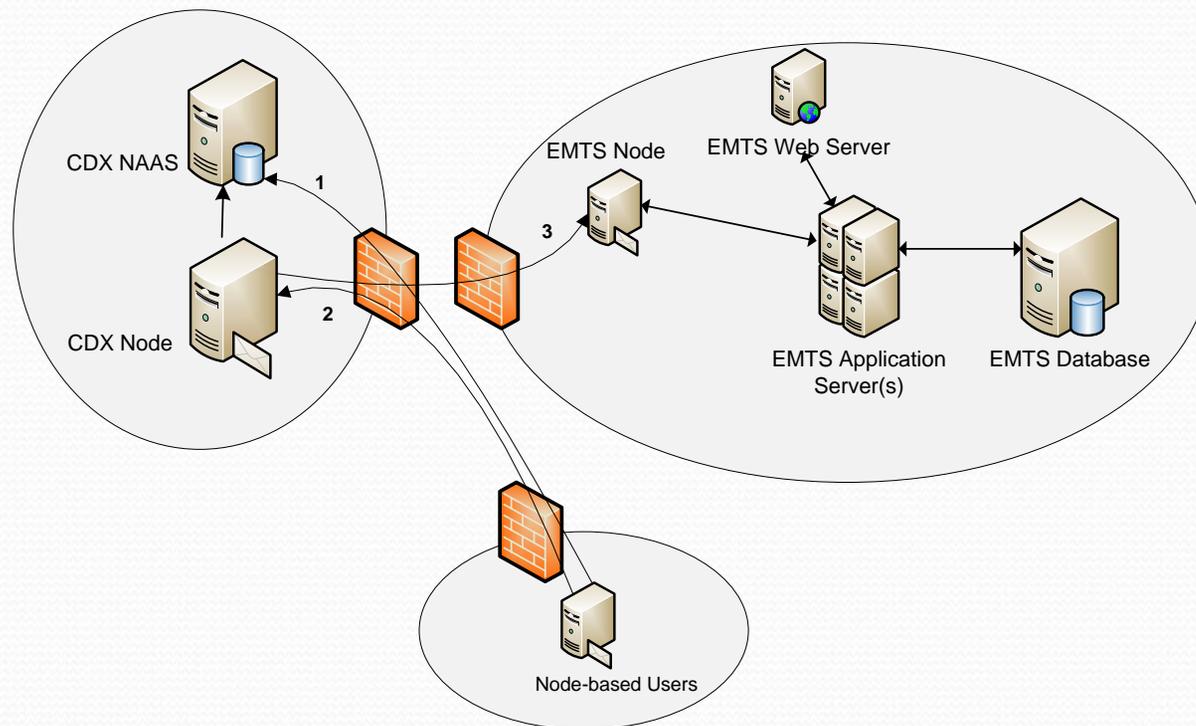
MyCDX: The MyCDX site offers users the ability to logon once from a browser, and subsequently access various applications, including the EMTS application, from one web site.

OTAQReg Node: The EN node with query request service to the OTAQ registration database. The EMTS and OTAQReg nodes engage in periodic data exchanges.

OTAQReg Database: The OTAQ registration database for industry users participating in fuel standards reporting.

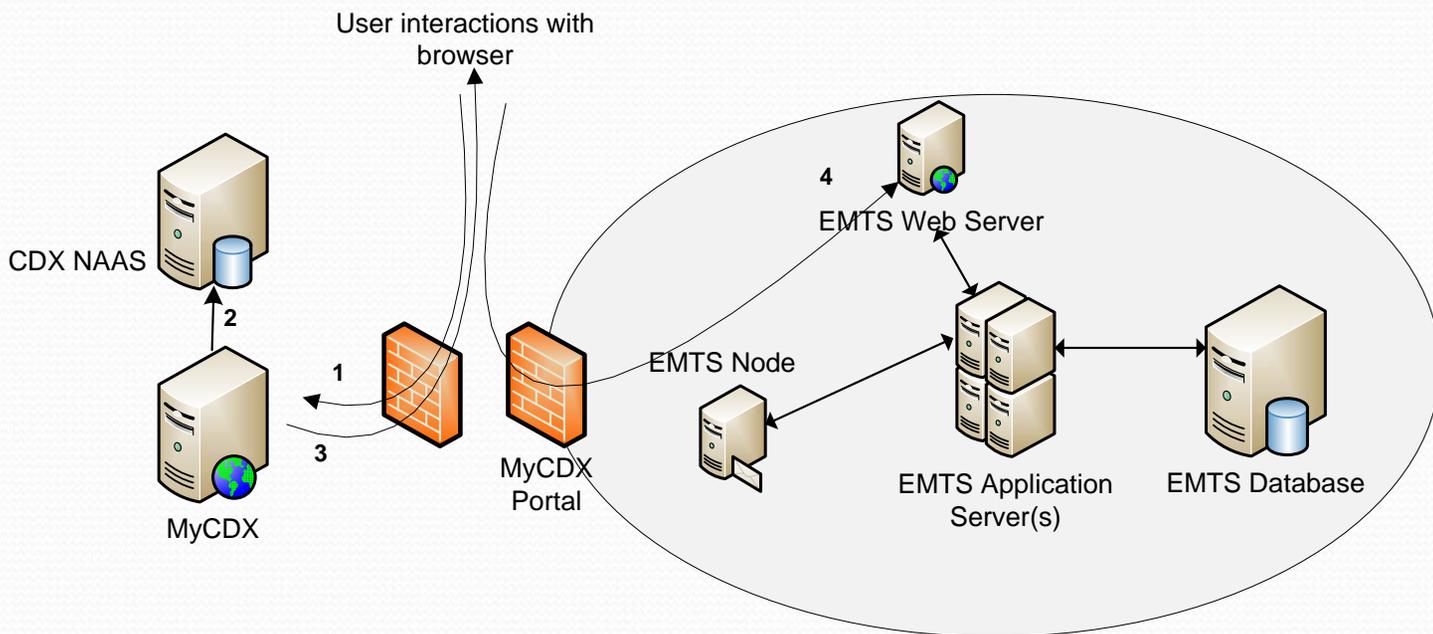
File Submission Data Flow

1. User authenticates with NAAS
2. User submits an XML file to CDX
3. CDX routes the XML file to EMTS



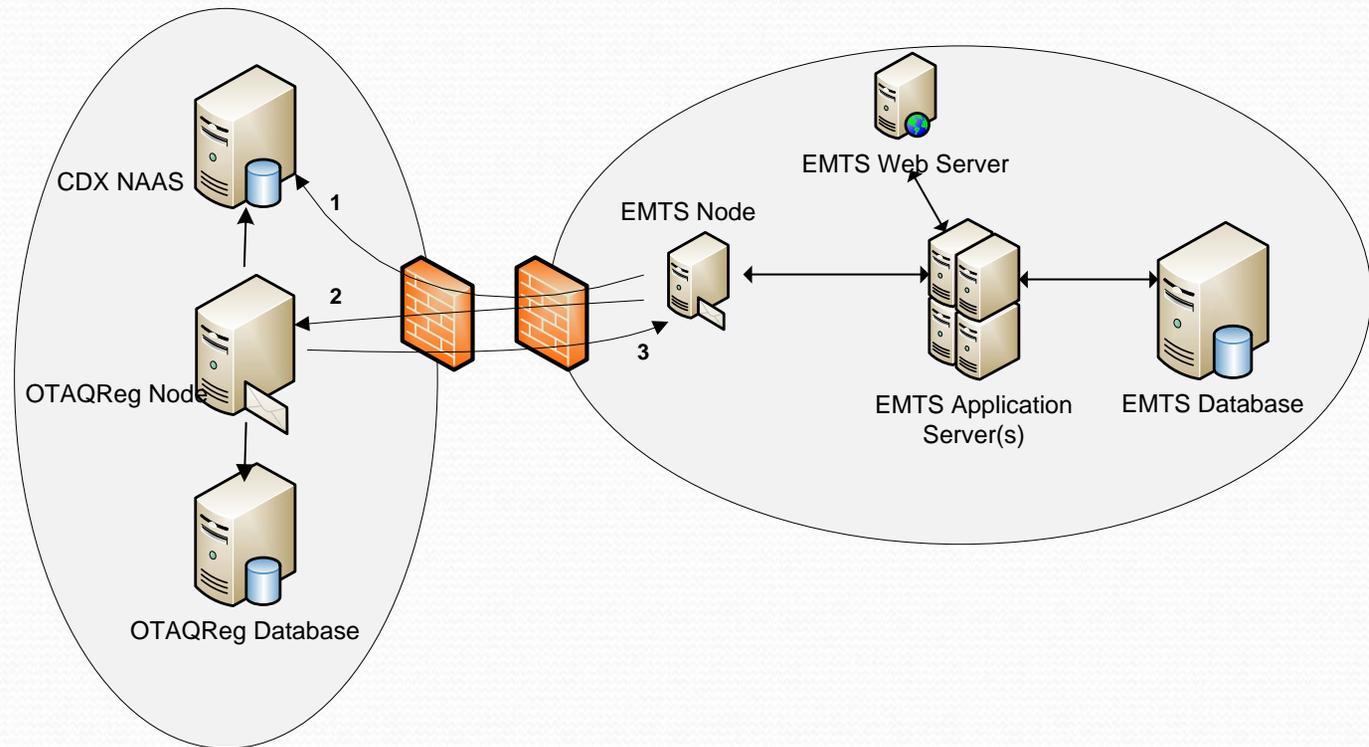
Browser Interaction

1. User accesses myCDX
2. User authenticates (CDX NAAS)
3. User clicks on the EMTS application role, and myCDX redirects the user's browser to the EMTS web application
4. User interacts with the EMTS web application directly



Integration with OTAQ Registration System

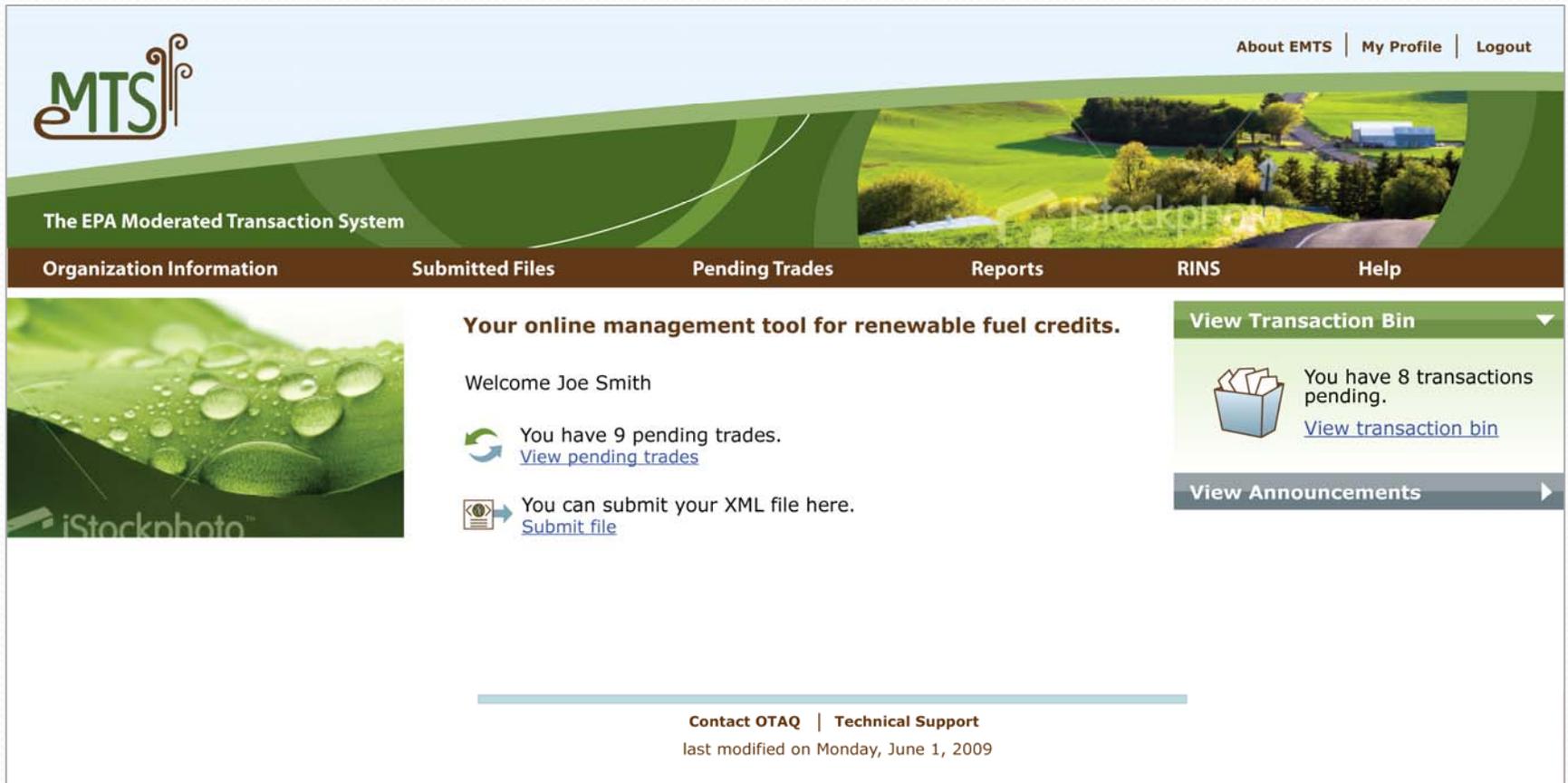
1. EMTS authenticates with NAAS
2. EMTS queries OTAQReg for the OTAQReg database updates
3. OTAQReg submits the updates in an XML file



EMTS Web Application

- Designed for both frequent and infrequent users
- Contains up-to-date information on:
 - Holding account
 - Pending transactions
 - Reports
 - Announcements
 - And other activities

Home Page



The screenshot displays the home page of the EMTS (EPA Moderated Transaction System) web application. At the top left is the MTS logo, and at the top right are links for "About EMTS", "My Profile", and "Logout". Below the header is a navigation bar with links for "Organization Information", "Submitted Files", "Pending Trades", "Reports", "RINS", and "Help". The main content area features a welcome message for "Joe Smith" and three action items: "You have 9 pending trades" with a "View pending trades" link, "You can submit your XML file here" with a "Submit file" link, and a "View Transaction Bin" section showing "8 transactions pending" with a "View transaction bin" link. A "View Announcements" link is also present. The footer contains "Contact OTAQ | Technical Support" and a timestamp: "last modified on Monday, June 1, 2009".

MTS

About EMTS | My Profile | Logout

The EPA Moderated Transaction System

Organization Information Submitted Files Pending Trades Reports RINS Help

Your online management tool for renewable fuel credits.

Welcome Joe Smith

 You have 9 pending trades.
[View pending trades](#)

 You can submit your XML file here.
[Submit file](#)

View Transaction Bin ▼

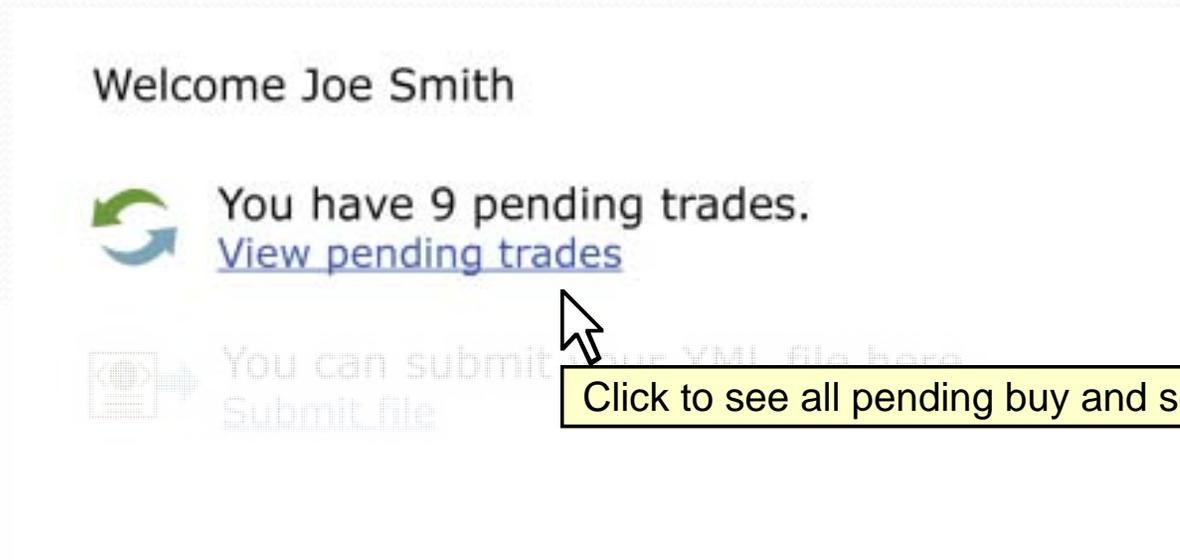
 You have 8 transactions pending.
[View transaction bin](#)

View Announcements ▶

Contact OTAQ | Technical Support
last modified on Monday, June 1, 2009

You've Got Trades!

- Receive notifications when you receive a trade offer
- See all your pending trades from the home page



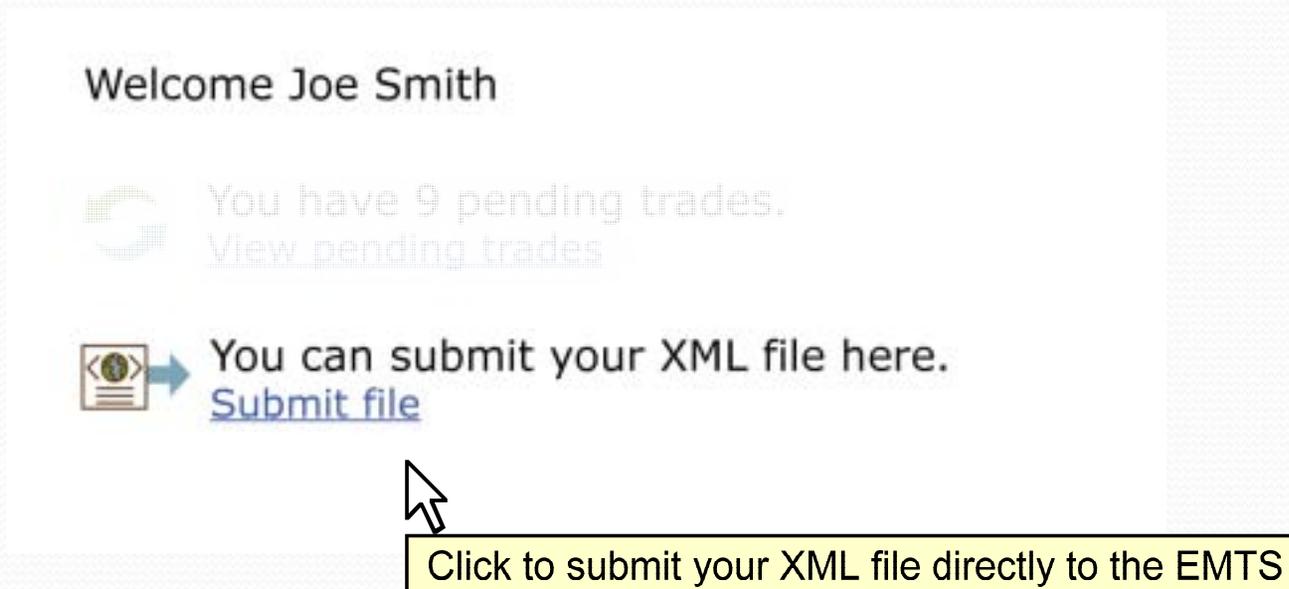
The Transaction Bin

- Create any transaction type and save in your “transaction bin” (similar to a shopping cart)
- Add or remove transactions in the bin until you are ready to certify and submit
- Once submitted, your transaction bin is emptied and transactions are processed



Submitting a File

- If you do not have a node or access to node client, submit your files directly from the EMTS home page



Getting Help

- Access numerous tools in the EMTS to help you report and track your transactions
- Help tools include:
 - FAQ (Updated periodically)
 - Content specific help for each transaction
 - On-line users guides
 - “Wizard-like” help with creating transactions
 - Links for contacting OTAQ for support

Additional Tools

- Future additional tools include:
 - RVO calculation tool to estimate obligation based on fuel production capacity

EMTS File Submission

Two options:

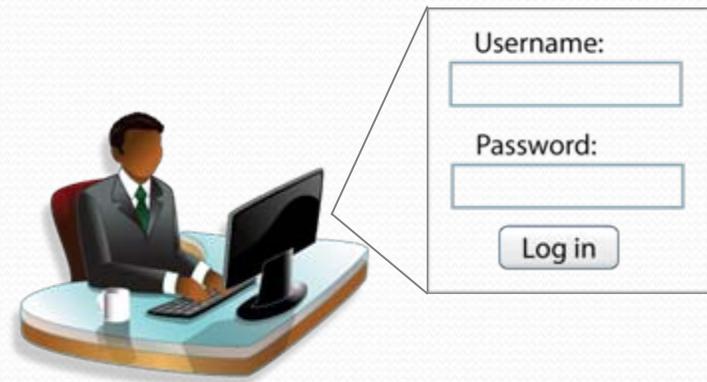
- Submit through the EMTS web application
- Batch submission using EPA exchange network node

Prerequisites

- Submit files on a daily or as needed basis. Volume and frequency of transactions determine your needs
- To submit a batch file to the EMTS you must have a:
 - CDX account
 - Node, node client, or access to the EMTS Web Application
 - Registered Organization and Facility Activities at OTAQ
 - Legal Signature from the Responsible Corporate Officer (RCO) with OTAQ

Authorization

- If you are using a node or node client, login with your CDX account, or;
- If you are using the EMTS web application, login to MyCDX and go to EMTS link



Batch Submission Process - Step by Step: Create Your File

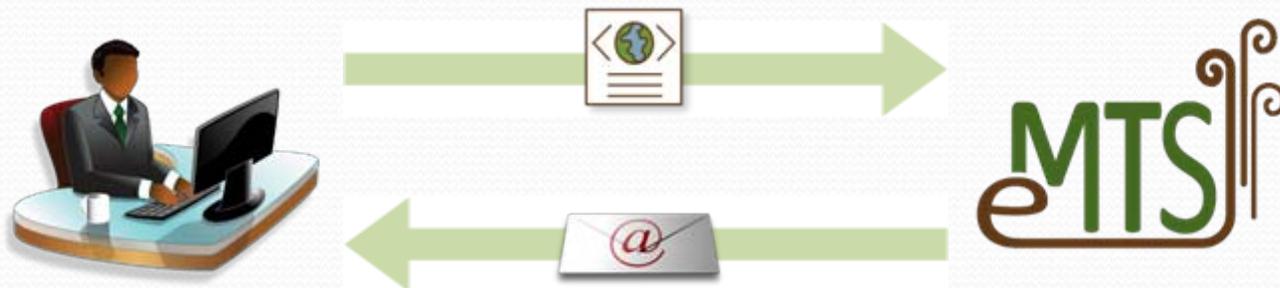
- Create your eXtensible Markup Language (XML) file containing one or more transactions
- Convert CSV files to XML format using your own software or the EMTS Converter Tool
- Include your CDX user login and the RCO' legal name
- Ensure XML file validity



Batch Submission Process

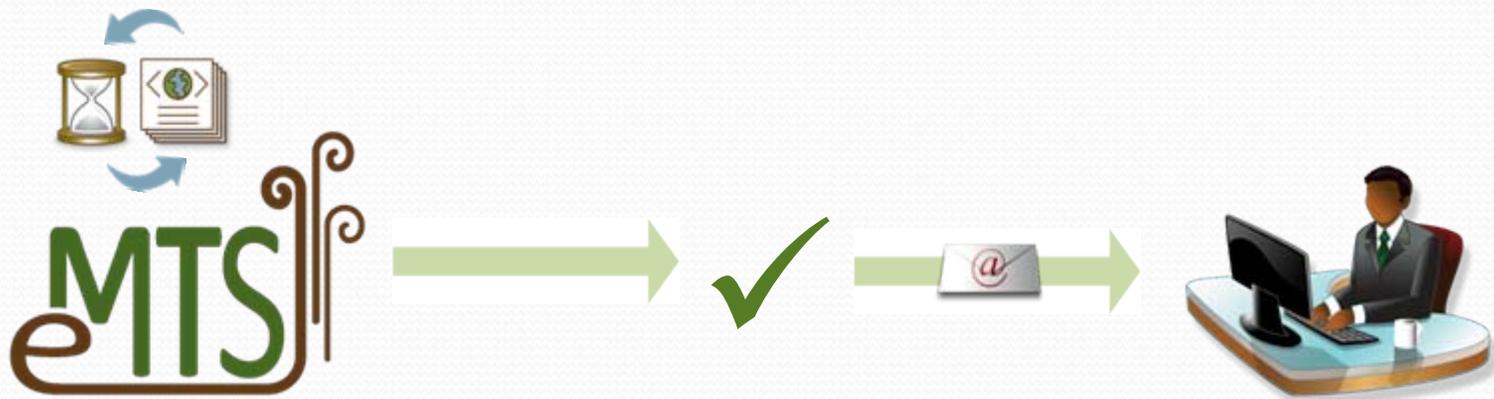
Step by Step: Submitting Your File

1. Submit your file to the EMTS. Your file will be sent through the Exchange Network
2. Receive e-mail confirming that the EMTS has received your file



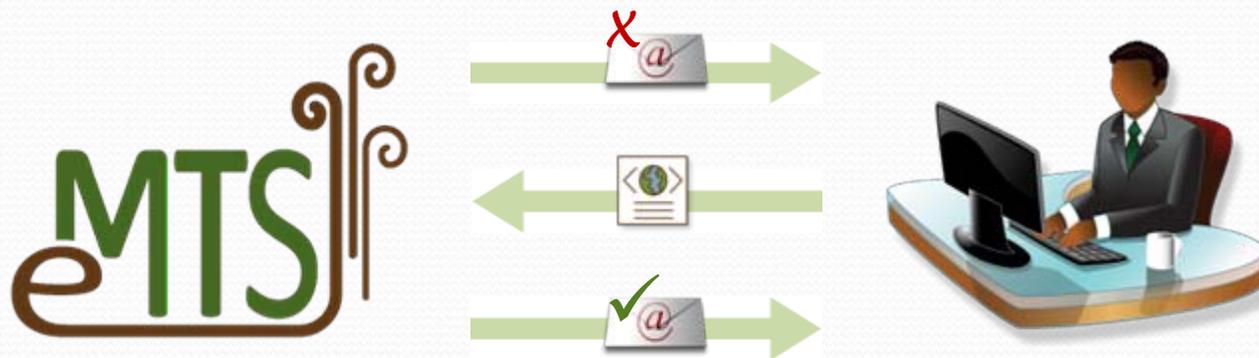
Batch Submission Process - Step by Step: EMTS Processes File

- During peak load periods, your file is queued
- EMTS checks the content of the file
- Receive an e-mail that the file was processed
- RINs are moved or updated into RIN holding account



Batch Submission Process - Your File has Errors!

1. Receive an e-mail which indicates your file has critical errors and the entire submission was rejected
2. Login to the EMTS web application and view/download your feedback report
3. Correct errors in your information system
4. Re-generate XML file and re-submit
5. Receive e-mail that the file was successfully processed



EMTS XML File

- What is EMTS XML file?
- Structure of EMTS XML file
- What to report?

What is an EMTS XML file?

- Contains one or more transactions for a single organization
- Only one organization per file
- Submitted to the EMTS for processing

Preparing the XML File

- File must comply with EMTS XML Schema Definition (XSD)
- Specifications for the EMTS XSD will be released soon
- XSD has numerous built in checks to help quality assure some of your data
- Technical staff can create an export process for your system to generate the XML file
- Use the XML Usage Guide for assistance on each transaction type

What is the EMTS Schema?

- An XSD defines the structure of the XML file
- It contains restrictions on
 - Data types
 - Width and precision
 - Code values
 - Required elements
- XML file is validated against the XSD

Basic Structure of Schema

- Schema has root elements
- Generate transaction (example provided)
- Separate
- Sell (example provided)
- Buy
- Retire

Basic Structure of Schema – Root Elements

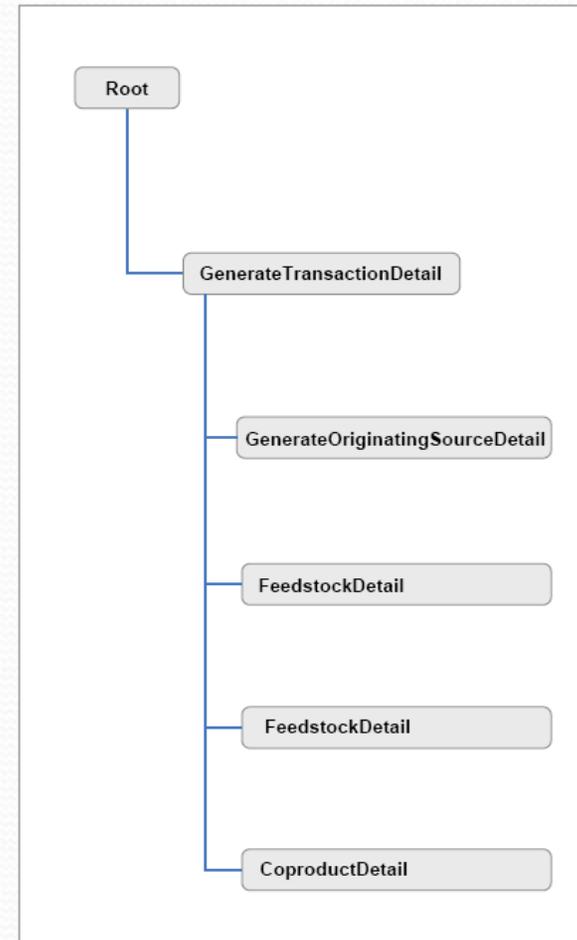
- Schema Root
 - Highest level of information in the XML file
 - Contains user and organization identification
 - Contains Responsible Corporate Officer's legal name

What to Report

- **User Login** – A unique user account registered through CDX
- **Submittal Creation Date** – The date on which the data was created or exported into the XML file
- **Organization Identifier** – The public organization identity
- **Organization RINPin** – The private identification number of the organization (Exchange Network)
- **Responsible Corporate Officer (RCO)** – The legal name of the organization's RCO

Basic Structure of Schema – Generate Transaction

- Create RINs for a batch of renewable fuel
- Batch characteristics identify RINs for future transactions
- RINs are held in the organization's RIN holding account



What to Report

- **Production Date** – The date on which the fuel was produced
- **Batch Volume** – The total volume in gallons of renewable fuel produced in the batch
- **Denaturant Volume** – The total volume in gallons of denaturant added to ethanol only (this is not required for biodiesel)
- **Process** – The production process used to make the renewable fuel.
- **RIN Quantity** – The number of RINs being generated
- **Fuel** – The type of renewable fuel produced (Cellulosic Biofuel, Biomass-Based Diesel, Advanced Biofuel, or Renewable Fuel)
- **Equivalence Value** – A multiplier directly related to the fuel type

Identifying Originating Source

- **Generate Organization Identifier** – The public identifier of the organization that produced the renewable fuel
- **Generate Facility Identifier** – The public facility identifier for the plant that produced the renewable fuel
- **Batch Number** – An internal tracking number specific to the batch, assigned by the organization

Reporting Feedstocks and Co-products

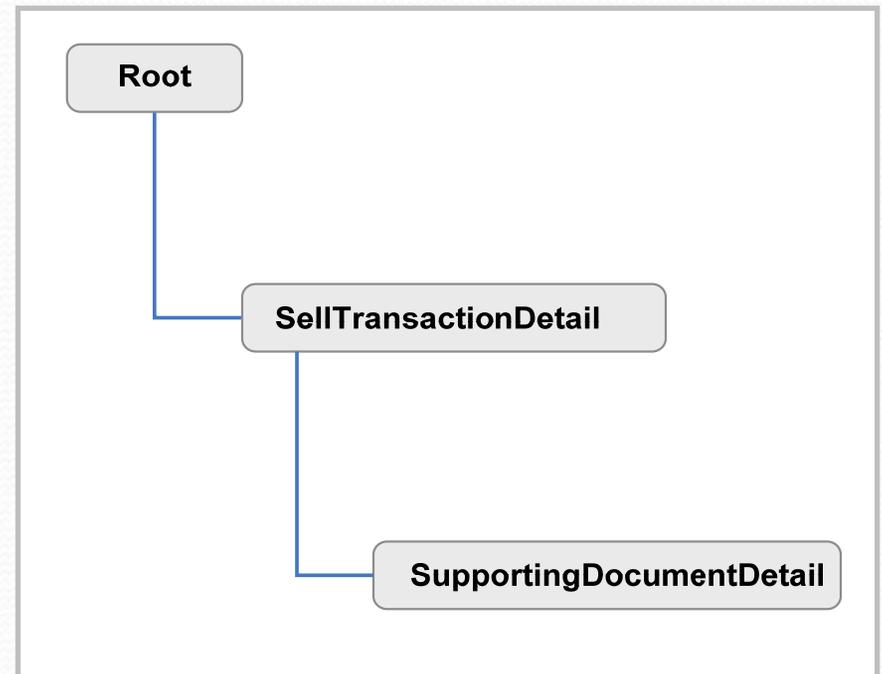
- **Feedstock Code** – The material used to produce the renewable fuel
- **Renewable Biomass Indicator** – Indicates whether or not the feedstock is a renewable biomass
- **Feedstock Volume** – The total volume of the feedstock
- **Feedstock Measure** – The unit of measure for the feedstock volume
- **Co-product Code** – The material generated as a co-product
- **Co-product Volume** – The total volume of the co-product
- **Co-product Measure** – The unit of measure for the co-product

Example XML for Generate Transaction

```
<emts:GenerateTransactionDetail>
  <emts:ProductionDate>2009-05-13</emts:ProductionDate>
  <emts:BatchVolume>1000</emts:BatchVolume>
  <emts:DenaturantVolume>50</emts:DenaturantVolume>
  <emts:ProcessCode>20</emts:ProcessCode>
  <emts:RINQuantity>1050</emts:RINQuantity>
  <emts:FuelCode>4</emts:FuelCode>
  <emts:EquivalenceValue>1.0</emts:EquivalenceValue>
  <emts:GenerateOriginatingSourceDetail>
    <emts:GenerateOrganizationIdentifier>5001</emts:GenerateOrganizationIdentifier>
    <emts:GenerateFacilityIdentifier>5008</emts:GenerateFacilityIdentifier>
    <emts:BatchNumberText>0001</emts:BatchNumberText>
  </emts:GenerateOriginatingSourceDetail>
  <emts:FeedstockDetail>
    <emts:FeedstockCode>10</emts:FeedstockCode>
    <emts:RenewableBiomassIndicator>true</emts:RenewableBiomassIndicator>
    <emts:FeedstockVolume>500</emts:FeedstockVolume>
    <emts:FeedstockMeasure>gallons</emts:FeedstockMeasure>
  </emts:FeedstockDetail>
  <emts:CoProductDetail>
    <emts:CoProductCode>10</emts:CoProductCode>
    <emts:CoProductVolume>2.3</emts:CoProductVolume>
    <emts:CoProductMeasure>ton</emts:CoProductMeasure>
  </emts:CoProductDetail>
  <emts:TransactionDetailCommentText>Generate Transaction for 1050 RINs</emts:TransactionDetailCommentText>
</emts:GenerateTransactionDetail>
```

Basic Structure of Schema – Sell Transaction

- Specify RINs to sell
- Specify trading partner
- Indicate transaction price
- Link to supporting documents



What to Report

- **Trading Partner Organization Identifier and Name** – The public identification number and name of the buying organization
- **RIN Quantity** – The total number of RINs being sold
- **Batch Volume** – The volume of fuel associated with the RINs
- **Fuel** – The type of renewable fuel produced
- **Sell Reason** – Explains why the RINs are being sold
- **Assignment** – Identifies if the RINs are “assigned” or “separated”

What to Report

- **Transaction Date** – The date on which the Sell transaction occurred outside of the EMTS
- **RIN Price or Gallon Price Amount** – The price at which the RINs or RINs and fuel were sold
- **RIN Year** – The year in which the RINs were generated

Optional Information to Report

- Originating Source Detail
- Supporting Document Detail (i.e., BOL or invoice number)
- Comments

Example XML for Sell Transaction

```
<emts:SellTransactionDetail>
  <emts:TransactionPartnerOrganizationIdentifier>2496</emts:TransactionPartnerOrganizationIdentifier>
  <emts:TransactionPartnerOrganizationName>Ralphs Refiner</emts:TransactionPartnerOrganizationName>
  <emts:RINQuantity>500</emts:RINQuantity>
  <emts:BatchVolume>500</emts:BatchVolume>
  <emts:FuelCode>1</emts:FuelCode>
  <emts:AssignmentCode>1</emts:AssignmentCode>
  <emts:TransactionDate>2009-05-26</emts:TransactionDate>
  <emts:RINPriceAmount></emts:RINPriceAmount>
  <emts:GallonPriceAmount>2.25</emts:GallonPriceAmount>
  <emts:RINYear>2009</emts:RINYear>
  <emts:PTDNumber>12345</emts:PTDNumber>
  <emts:SellReasonCode>10</emts:SellReasonCode>
</emts:SellTransactionDetail>
```

Next Steps

- EMTS web application available for beta testing in November 2009
- EMTS XSD specifications to be released by August 2009
- Download the Logical EMTS Schema (Not yet posted)
- Download the Draft User's Guide to Preparing Submissions for the EMTS (Not yet posted)
- Frequently visit the Renewable Fuels webpage for more information on RFS2 <http://www.epa.gov/otaq/renewablefuels/index.htm>
- Find more EMTS information at <http://www.epa.gov/otaq/renewablefuels/epamts.htm>
- Sign up for Fuels Programs Alerts on EnviroFlash at <https://enviroflash.epa.gov/enviroflashOTAQPublic/Subscriber.do?method=start>