February 21, 2011

EMTS Node Webinar
Script Part 8

Introduction

This is the eighth part of the EMTS node webinar.

In this section, you will learn about best practices and some tips for implementing a node.

Review

You have had an in-depth look at the EMTS dataflow and the web service methods you need to be familiar with if you are implementing a node.

Throughout the presentation we mentioned some best practices and tips.

These next few slides will recap the things you should do to minimize the number of questions you will have and ensure that implementing your node goes as smoothly as possible.

Please click Next to continue.

Implementing Your Node

Due to the technical challenges of implementing a node, you should first determine whether the volume of transactions that you will be submitting to the EMTS is significant enough for you to consider implementing a node.

Once you have decided to implement a node, you will need to identify the hardware on which the node will function and the technical team that will stand your node.

Next, identify the best node option for your specific circumstances.

Then review the "CDX Overview of Node Platforms" web page before implementing your node.

You will need to either: 1) acquire and install the node software from one of the open source node vendors; or 2) build your own custom node.

After you have installed the node on your server, you may need to create firewall rules to allow your node to communicate with the CDX node.

You should test basic operability by using the Node Certification Testing Tool to confirm that your deployment environment has been successfully set up.

Please click Next to continue.

Accounts and Permissions

Next, register your node on the Exchange Network.

You will need at least one person who will act as your node administrator.

This person will have the responsibility to set up individual node users and/or manage security settings on your node and should therefore familiarize themselves with the Node Administrator's Guide.

To register as a node administrator you must request node administrator permissions from the CDX Node Helpdesk.

To request these permissions, you should send the following information to the CDX Node Helpdesk: Node administrators name, organization name, organization address, phone number, email address, supervisor's name, supervisor's phone number, IP address of your node server, and identify your EPA sponsor from EPA's Office of Transportation and Air Quality.

Please contact EMTS Support for the proper EPA sponsor.

Once your node administrator account has been approved by EPA, you will receive a confirmation email with the node administrator account permissions.

Please click Next to continue.

Testing

Once you have set up your node, you will need to test it. Start by contacting EMTS Support and asking for a temporary NAAS test account so you can test your node in the CDX and EMTS test environments.

You will be provided with a few sample XML files that you will use to test the web service methods.

During your node testing, you must simulate a production load of Solicit and subsequent GetStatus calls in the CDX test environment.

The transaction submission pattern must be reviewed and approved by EPA before production node access is granted.

Detailed guidance will be included in the CDX Industry Node On-Boarding Procedures.

These guidance documents will be made available on the EPA EMTS website.

The address for this site is provided at the end of this presentation along with other referenced resources.

Once your testing is complete, you may request a production NAAS account, or if already set up, you may request that it be approved for CDX and EMTS production by contacting the CDX Node Help Desk.

Please click Next to continue.

Production Environment

For your production NAAS accounts, make sure you first create a CDX Web user ID.

Once you have established a CDX user ID you can register your information in the OTAQ Registration application.

After you have completed those two steps you should be able to submit files through the CDX node to the EMTS node.

You should create a valid EMTS XML file and then use your production NAAS ID to authenticate with the CDX node and finally submit the XML file.

This time, when you submit an EMTS XML document, it will contain your transaction data and will be processed into your RIN Holdings Account.

Before you begin actually submitting your files, make sure you have created valid and well-formed XML files to ensure your file will not fail due to schema errors.

Please click Next to continue.

Corporate Accounts

If you are planning to have your node submit files automatically on a machine-to-machine basis, you can request a corporate node account, known as an "operator" node account.

You must request this account through EPA.

You should configure your node to perform all web services using the node operator NAAS ID.

First, create a production NAAS ID that is an operator type account using the following naming convention: Your Organization Name_EMTSNode (for example, "MyOrganization_EMTSNode").

Then create a corporate email box to receive all EMTS notifications.

Next, self-register a new CDX account and identify the organizations RCO as the user.

Then, register the RCO user in OTAQ Registration. Associate the RCO with the existing company IDs and identify this user with the role of Submitter.

Finally, send the signed registration materials to the Fuels Programs Registration marked attention to the EPA Sponsor given by EMTS Support. Do not sign and submit the Digital Signature Agreement.

Please click Next to continue.

Secure Authentication Key (SAK) Token

When using machine-to-machine communications, you may not want to pass a NAAS ID and password as part of your Authenticate method and instead use a Secure Authentication Key or SAK.

A SAK contains your IP address and does not have a timestamp, which means it will not expire.

Configuring your node to use a SAK as your credentials will lessen the traffic on the network by reducing the number of authentication calls for security tokens.

You can request a SAK from the CDX Node Helpdesk at nodehelpdesk@epacdx.net. SAKs are only assigned to node administrators.

Please click Next to continue.

Best Practices

Industry submitters should limit their Solicit and Submit calls to 75 per minute and no more than 1500 per hour.

This applies to both testing and production environments.

Users should wait 10 minutes after sending a Solicit or Submit request before making the subsequent GetStatus or Download request.

For transactions that are not complete, additional GetStatus calls should be made at subsequent 30 minute intervals.

The total number of GetStatus calls in an hour for a submitter should not exceed 1500.

Submissions should be structured with both the short term and hourly limits in mind. Industry submitters exceeding thresholds enumerated above are subject to account deactivation without notice.

Contact the CDX Node Support Help Desk for disabled accounts or other node related issues.

The key best practice is to test vigorously to help assure that your node will function properly in the production environment.

Obtain and read all information that is provided, particularly the FCD.

For a quick guide to these steps just covered refer to the CDX Industry Node On-Boarding Procedures.

Make sure you exercise each of the web services individually following the parameters and specifications as documented in the FCD.

Please click Next to continue.

Node Developer Tips

If you are building custom software and do not intend to use one of the open source nodes, here are a few tips that might save you some development time:

The Exchange Network has a wiki site that contains some helpful information.

In particular, look for information on NAAS chunking and SOAP action in .NET Headers.

Acquire the WSDLs and, depending on the platform you are implementing, be sure to stub your web services API before exercising the web service methods.

Make sure you exercise each of the web service methods.

Also, be mindful of the error scenarios described in this webinar and plan your workflow to respond to these.

In particular, the Exchange Network can experience peak load periods.

When you submit a file to CDX, the CDX Node will retry for a period of time to route the file to the EMTS.

If this fails you will receive a failure response status of 5, "distribution to the EMTS Node failure."

Only then should you re-submit your file.

All transactions should leverage a single NAAS token.

Submitters should obtain and use that token for their submission batches (for example obtain a token, use the same token for up to 75 Solicit calls in a minute).

The NAAS token remains valid for 20 minutes before expiring. A second option is to obtain a SAK as described earlier.

If you need help debugging your code errors, use wireshare to capture the request headers and send this information as part of your support request to the CDX Node Help Desk.

If you need to capture header information, you can use the non-secure URL to capture header information.

Please click Next to continue.

Additional Resources

This concludes the node implementer's webinar.

The following resources have been mentioned throughout this presentation.

Please obtain and read these materials before getting started and be sure to contact the support lines available to you to help with a successful node implementation.

Please use the next and back buttons to view all of the additional resources.