

Trading Networks



Introduction

- This course will help participants to understand the basics about Gateway Services involved in Trading network Flat File processing.
- Participants will get hands on basic creation of Partner Profiles, Document Types, Processing rules and creation of gateway service.
- This course will help in building knowledge about Flat File Processing in trading networks .
- This course will help the participants to understand various Delivery methods in Trading Networks
- Participants will get the basic knowledge about various techniques used to deliver a document to different partners inside the network
- Participants will be given an exercise to get a hands-on experience on Delivery methods
- This course will help participants to understand the basics TN Monitoring Transaction
- This course will help participants to understand the basics TN Monitoring Tasks
- This course will help participants to understand the basics TN Monitoring Activity Logs
- This course will help participants to understand the basics TN Monitoring User Preference
- This course will help participants to understand the basics TN Configuration
- This course will help participants to understand the basics TN Configuration Properties
- This course will help participants to understand the basics TN Configuration of My webMethods

Objectives

- Get hands on experience Profile creation and management
- Get hands on Document Creation and management.
- How to Configure Processing Rules
- How to use Gateway Services
- Receive a flat file and forward it to trading networks for processing.
- What is a Delivery Method
- What are different types of delivery methods
- How Trading Networks recognizes a delivery method from Partner Profiles
- What happens when Trading Networks cannot determine the Delivery Method
- Get hands on experience on Monitoring TN Transactions.
- Get hands on experience on Monitoring TN Tasks.
- Get hands on experience on Monitoring TN Activity Log.
- Get hands on experience on Monitoring TN User Preference.
- Get hands on experience on setting up configuration parameters in Trading Networks
- Get basic Knowledge about Different configuration parameters in Trading Networks
- Get a basic knowledge on How to configure My webMethods server to work with Trading Networks
- Get a basic knowledge about Trading Networks Key services

- This class focuses on the webMethods suite

Broker /UM

Software AG Designer

webMethods Integration Server

webMethods Trading Networks

Agenda

Flat Files

Gateway Services

TN Document Type

Flat File:

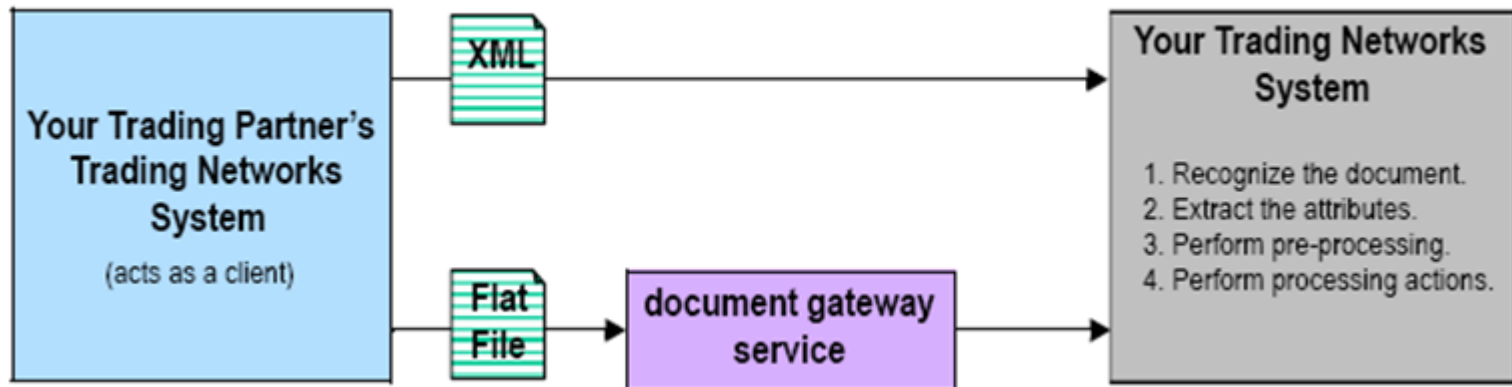
- Flat file documents presents data in a record-based storage format.
- Flat files do not have structural information embedded within the data
- Flat file data is externalized as a set of records (a list of records containing fields and composites) without any structural information.

Flat File Example:

id	name	team
1	Amy	Blues
2	Bob	Reds
3	Chuck	Blues
4	Dick	Blues
5	Ethel	Reds
6	Fred	Blues
7	Gilly	Blues
8	Hank	Reds

Gateway Service

As the flat files are not structured, the application receiving the flat file must have knowledge of the flat file's structure to read its content. To provide this structural knowledge, you create a document *gateway service* and a corresponding TN flat file document type for each type of document you expect to receive.



A document gateway service is the entry point for flat files into Trading Networks. It is a Java or flow service that you create to provide information to Trading Networks about a flat file. To provide this information, your service defines values in a pipeline variable named *TN_parms*. The service should define values for:

- System attributes, for example SenderID and ReceiverID in the *TN_parms/SenderID* and *TN_parms/ReceiverID*, respectively.
- Optional system variables, for example variables that specify the content type and content encoding you want Trading Networks to use for the document.
- Custom attributes (the document data).

TN Flat File Document Type

TN flat file document type

Trading Networks will use the configured TN Document Type, when it receives the document from the gateway service.

In a TN flat file document type you specify:

- Values of variables within the *TN_parms* pipeline variable that Trading Networks uses to match the document type to the incoming flat file document.
- The system and custom attribute values to extract.
- Whether you want Trading Networks to process the documents that match the TN document type using a processing rule or want to prevent Trading Networks from performing processing rule actions.
- Whether to perform pre-processing actions (such as validating the data structure and checking for duplicate documents) before executing a processing rule.

TN Flat File Document Type

Sample Flat File Document Type:

Document Types > Flat File Document Type Details

Flat File Document Type Details

SaveSave & CloseCancel

*Name: Gateway_Svc_doc

Description: Gateway Service Testing

Status: Enabled

ConfigureOptions

Pipeline Matching

Add...Delete

	Name	Value	Edit
<input type="checkbox"/>	Department	COE	

1 of 1

Extracted Attributes

Add...DeleteDocument Attributes

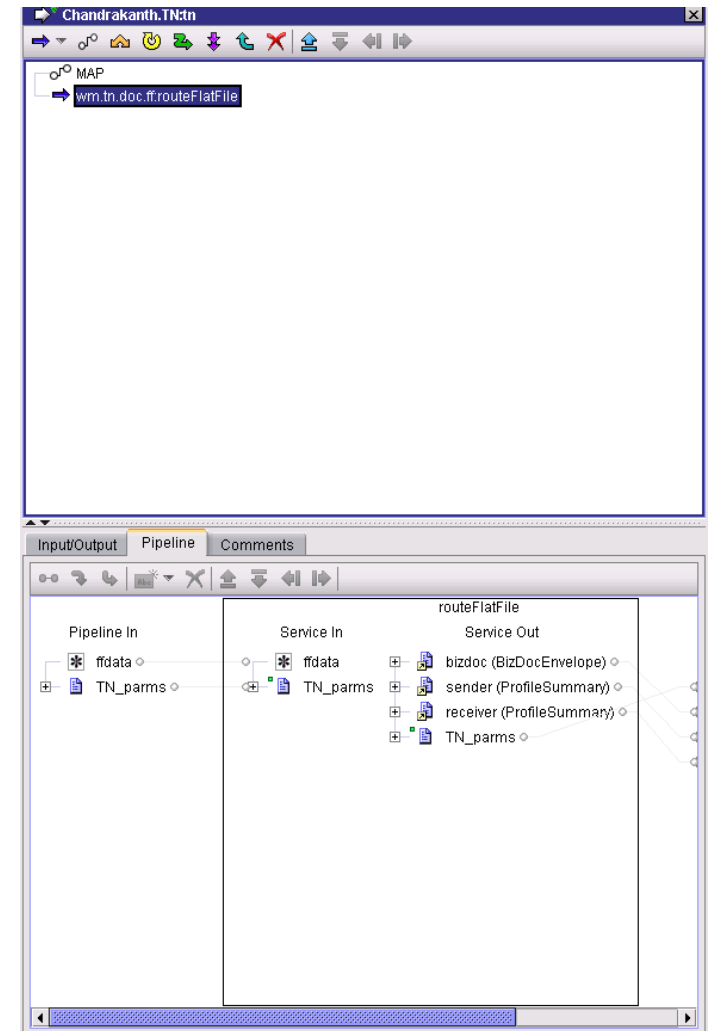
	Attribute Name	Actions
<input type="checkbox"/>	SenderID	
<input type="checkbox"/>	ReceiverID	

SaveSave & CloseCancel

Logic to include in a document gateway service

Steps:

- Use `wm:tn:rec:GatewayService` as input spec
 - Read the input stream
 - Use the Trading Networks system attributes and variables
 - Specify all custom attribute values
- And Invoke either `wm.tn:receive` Or `wm.tn.doc.ff:routeFlatFile` to pass *ffdata* and *TN_parms* to Trading Networks.



What have we learnt?

- Flat Files
- Gateway Services
- TN Document Types
- Creation of TN Document Types
- Creation of Gateway Services

Q & A

- ❖ What is Flat File?
- ❖ What is the use of Gateway Services?
- ❖ What is TN Document Type?
- ❖ Which parameters is used to store the required information in a Gateway Service specification?
- ❖ which variable in Gateway Service is used for matching attributes?

Chapters

Delivery methods

Queuing documents for polling

Receiver's Preferred Protocol

Immediate Delivery

Scheduled Delivery

How TN recognizes Delivery Methods

Delivery methods

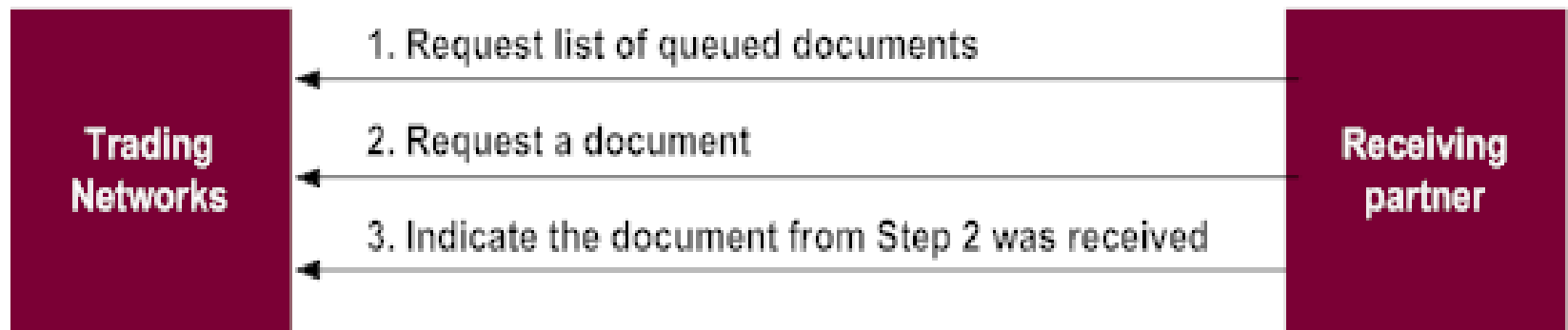
- When a processing rule includes Delivery of a document by processing action, Trading Network attempt to deliver the document to the partner who is identified as the receiver of the document.
- Trading networks delivers the document to the receiver partner using the delivery method which has been defined by the processing rule
- There are typically four methods to deliver a document

Types:

- Queuing Documents for polling
- Receiver's preferred protocol
- Scheduled Delivery
- Immediate Delivery

Queuing Documents for Polling

- Polling is a way that trading partners can obtain documents without having Trading Networks deliver the documents directly to the partners.
- When the delivery method is selected as queue for polling, trading Networks saves the document to database and sets the document processing status to POLLABLE.
- Trading Networks saves the document to database regardless of whether instructed to do so by the **Save Document to Database** pre-processing action.
- Trading Networks then waits for the receiving partner to poll for the documents.
- To poll for documents, the receiving partner determines the polling method (e.g., HTTP) to use to access your system to retrieve its documents.



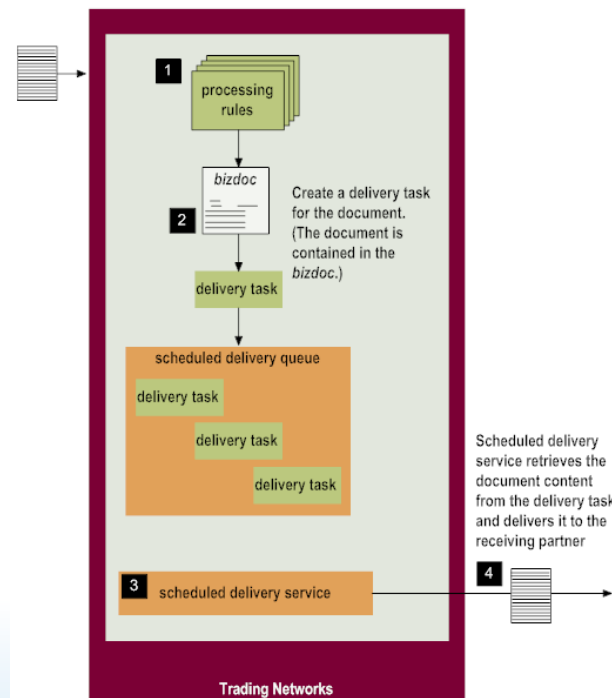
The receiving partner repeats Steps 2-3 for each document in the list.

Receiver's Preferred protocol

- When this method of delivery is selected in processing rule, trading Networks must determine the delivery method that is designated as the preferred protocol.
- The preferred delivery method can be an immediate delivery or queued for polling.
- Trading Networks receives the document and extracts the Receiver ID attribute and matches it to the External ID information in partner profiles
- Trading Networks obtains the delivery information from the profile and uses that information to deliver the document.

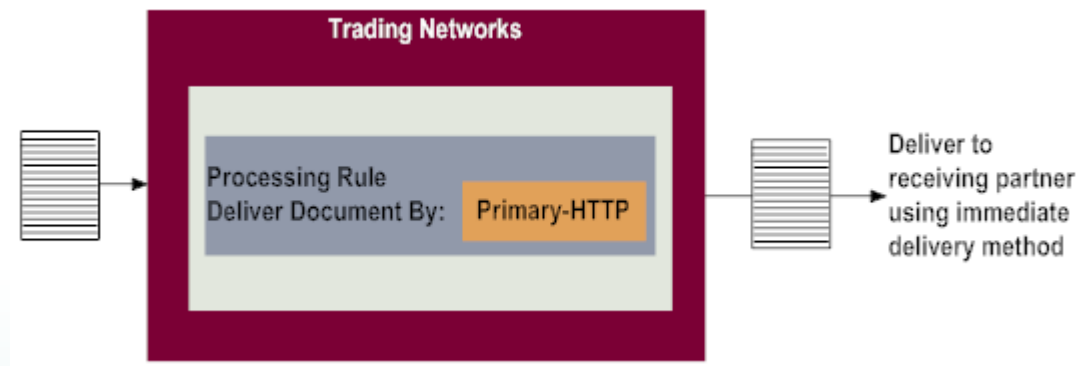
Scheduled Delivery

- Scheduled Delivery is away to batch multiple that are to be delivered at scheduled times.
- When a document's processing rule indicates Scheduled Delivery method, Trading Networks creates a delivery task in the queue identified by the Deliver Document by processing action.
- The queue is associated with a schedule and a scheduled delivery service.
- Scheduled delivery can be used when it is more efficient to deliver a batch of documents at a time rather than sending them as they arrive.

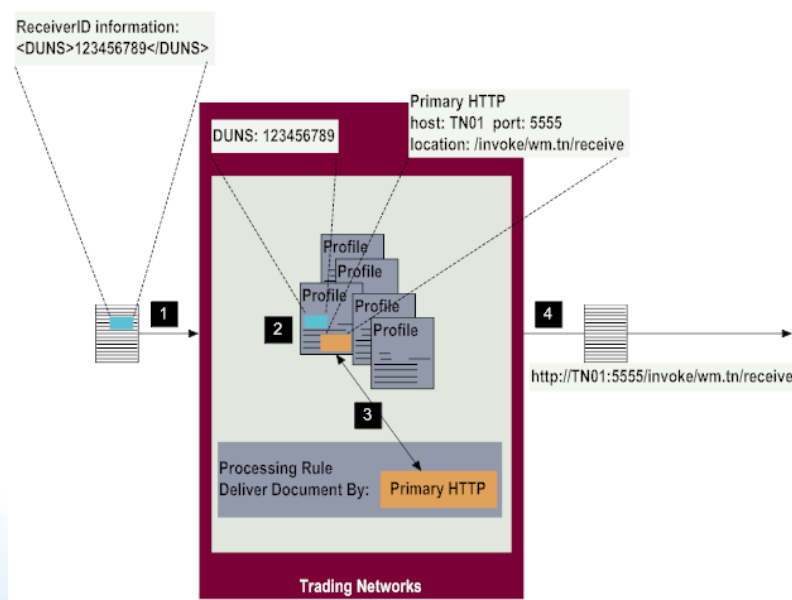


Immediate Delivery (1/1)

- If the delivery method in processing rule is selected as immediate delivery, Trading networks attempts to deliver the document directly to the receiving partner.
- Immediate delivery methods can be created using the standard delivery methods such as HTTP and FTP.
- In addition Trading Networks provides some built-in immediate delivery methods such as Primary HTTP & Secondary FTP.
- Each immediate delivery method is associated with an immediate delivery service



- Depending on the **Delivery Method**, Trading Networks might require additional information from the receiving partner's profile before it can deliver the document. Consider the following scenarios:
 - When Receiver's preferred protocol method is used, Trading Networks must determine the delivery method that is designated as the receiver's preferred protocol.
 - When Immediate delivery method is used Trading Networks requires information that is specific to the receiving service. For example, if the delivery method is the HTTP, Trading Networks must determine the host name and port number used to send the document via HTTP
 - When Scheduled Delivery method is used, Trading Networks needs to determine the queue that is associated with the receiving partner.
 - For Trading Networks to obtain information from the receiver's profile, it must first determine the partner that is the receiver.
 - After determining the receiving partner, Trading Networks looks up the information it requires from the receiver's profile.



What if the Delivery Information Cannot be Determined?

At times Trading Networks might be unable to determine the required delivery information. For example:

- The matching profile does not contain information for the delivery method that is specified in the processing rule.
- The delivery method information in the matching profile is not valid.
- The receiver profile is Inactive, meaning Trading Networks cannot deliver documents to this partner until the partner is active.

In these situations, Trading Networks logs the error to its activity log and queues the document for polling.

Q & A

- ❖ What are different Delivery methods?
- ❖ What is Immediate Delivery Method?
- ❖ What is Scheduled Delivery Method?
- ❖ What happens to a document in Trading Networks if the delivery information cannot be determined?

Agenda

TN Monitoring

Transactions

Tasks

Activity Log

User Preference

My webMethods is a web-based, administration and monitoring user interface for managing your webMethods components.

The following table lists the My webMethods pages that you use to monitor transactions, delivery tasks, service execution tasks, and the activity log.

Monitoring Navigation Selections:

- Transactions
- Tasks
- Activity Log
- User Preferences

Consists of:

- Searching for Documents
- Specifying the Data Trading Networks Displays in the Search Results
- Viewing Detailed Information for a Document
- Viewing Related Documents
- Reprocessing a Document
- Resubmitting a Document
- Deleting Activity Log Entries Associated with a Document
- Editing the User Status Value
- Working with the Document Content
- Associating a Comment with a Document

- Track and manage documents that Trading Networks has processed by querying the Trading Networks database.

▼ Applications

▼ Monitoring

► System-Wide

▼ Business

Collaboration Processes

Process Analytics

Process Instances

▼ Tasks

► NewBizInsuranceTask

My Inbox

Task List Management

Task Charts

Six Sigma Summary

▼ Integration

▼ B2B

Transactions

Tasks

Activity Log

User Preferences

Services

Documents

▼ Administration

► Messaging

► System-Wide

► Analytics

► Business

▼ Integration

ESB

▼ B2B

Archive Schedules

▼ Document Types Administra

Document Types

Document Attributes

► Partner Administration

Transactions

TN Server: |

Datasource

Data Source: Production Data

Search

Basic Advanced Saved Options

Query Fields

Field Operator Value

<Select A Field>

Date Range All

Start Date: Time: 12 : 00 AM EST

End Date: Time: 11 : 59 PM

Show SQL...

Search Condit

Transactions

Reprocess... Resubmit...

0 selected

Date Received ▼	Document Type ▼	Sender ▼	Receiver ▼	Processing Status ▼	User Status ▼	Relat
<input type="checkbox"/> 06/20/2013 08:07:42.973 AM	COE_XML DOCTYPE	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 08:06:57.857 AM	Unknown	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 07:45:27.063 AM	Unknown	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 05:45:37.883 AM	COE_XML DOCTYPE	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 05:44:32.483 AM	Unknown	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 05:43:17.817 AM	Unknown	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 05:39:21.907 AM	Unknown	Unknown	Unknown	DONE	IGNORED	
<input type="checkbox"/> 06/20/2013 04:52:07.427 AM	COE_XML DOCTYPE	Unknown	Unknown	DONE	IGNORED	

Consists of:

- Searching for Tasks
- Viewing Detailed Information for a Task
- Viewing the Document Associated with a Task
- Stopping Tasks
- Restarting Tasks
- Deleting Tasks
- Reassigning Tasks

View the status and detail of delivery and service execution tasks. You can also stop, restart, reassign or delete tasks.

Process Instances

▼ Tasks

▶ NewBizInsuranceTask

My Inbox

Task List Management

Task Charts

Six Sigma Summary

▼ Integration

▼ B2B

Transactions

Tasks

Activity Log

User Preferences

Services

Documents

▼ Administration

▶ Messaging

▶ System-Wide

▶ Analytics

▶ Business

▼ Integration

ESB

▼ B2B

Archive Schedules

▼ Document Types Administra

Document Types

Document Attributes

▶ Partner Administration

Public Queues

Trading Partner Agreement

Processing Rules

▶ Asset Management

Search

Basic Saved Options

Field

Field Value

<Select A Field>

Date Range

All

Start Date:

Time:

12 : 00 AM

EST

End Date:

Time:

11 : 59 PM

Show SQL...

Search Condition: AND Search Save Clear

Tasks

Restart Stop Delete Reassign...

0 selected

Export Table... 1 - 20 of 321

Time Created	Task Status	Retries	Retry Limit	Retry Factor	Delivery Method	Task Type	Queue Name	Associated Transaction	Details
06/18/2013 02:58:14.417 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/18/2013 02:56:44.137 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/18/2013 02:55:30.853 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/18/2013 02:09:00.227 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/18/2013 12:35:22.767 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/17/2013 07:38:34.027 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/17/2013 06:55:45.817 AM	FAILED	0	0	1	EDIINT SimpleDelivery	Delivery			
06/14/2013 08:34:05.127 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/14/2013 08:30:03.213 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			
06/14/2013 08:22:30.762 AM	DONE	0	0	1	EDIINT SimpleDelivery	Delivery			

Consists of:

- Searching for Activity Log Entries
- Data Trading Networks Displays in the Search Results
- Viewing the Full Message for an Activity Log Entry
- Viewing the Document Associated with an Activity Log Entry
- Deleting Activity Log Entries

Access the activity log that records the activity occurring within the Trading Networks system. This includes activity while managing your partners; while documents are being received, processed, and delivered; as well as administrative actions performed for your Trading Networks system.

The screenshot shows the 'Activity Log' interface. On the left is a sidebar with navigation options: Process Instances, Tasks (NewBizInsuranceTask, My Inbox, Task List Management, Task Charts, Six Sigma Summary), Integration (B2B, Transactions, Tasks, **Activity Log**, User Preferences, Services, Documents), Administration (Messaging, System-Wide, Analytics, Business, Integration (ESB, B2B, Archive Schedules, Document Types Administration, Document Types, Document Attributes, Partner Administration, Public Queues, Trading Partner Agreement, Processing Rules)).

The top section is a 'Search' bar with tabs for 'Basic', 'Saved', and 'Options'. Below it is a 'Query Fields' section with a dropdown menu for 'Field' (currently showing '<Select A Field>') and a text input for 'Value'. There is also a 'Date Range' dropdown set to 'All'. Below that are 'Start Date' and 'End Date' fields, each with a calendar icon and a 'Time' field (12 : 00 AM and 11 : 59 PM respectively). A 'Show SQL...' button is located below the date range fields. A 'Search' button is on the right.

The main section is titled 'Activity Logs' and shows a table of activity logs. The table has columns: Type, Timestamp, Brief Message, Class, User Name, and Partner ID. The table contains 8 rows of data, all showing 'Batch delivery' activities for queue 'FFQueue' or 'POC'.

Type	Timestamp	Brief Message	Class	User Name	Partner ID
	06/21/2013 03:07:43.800 AM	Batch delivery completed for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:43.767 AM	Batch delivery initiated for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:23.790 AM	Batch delivery completed for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:23.787 AM	Batch delivery initiated for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:05.297 AM	Batch delivery completed for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:05.293 AM	Batch delivery initiated for queue "FFQueue".	Delivery	Administrator	
	06/21/2013 03:07:05.267 AM	Batch delivery completed for queue "POC".	Delivery	Administrator	

Consists of:

- Setting the My webMethods User Preferences that Trading Networks Uses
- Resetting the Local Cache of Trading Networks Information
- Data Permissions and General Functional Permissions

User preferences

Set user preferences for using Trading Networks pages in My webMethods.

The screenshot shows the 'User Preferences' dialog box in the My webMethods application. The left sidebar contains a navigation tree with the following structure:

- Applications
 - Monitoring
 - System-Wide
 - Business
 - Collaboration Processes
 - Process Analytics
 - Process Instances
 - Tasks
 - NewBizInsuranceTask
 - My Inbox
 - Task List Management
 - Task Charts
 - Six Sigma Summary
 - Integration
 - B2B
 - Transactions
 - Tasks
 - Activity Log
 - User Preferences**
 - Services
 - Documents

The main area of the dialog is titled 'User Preferences' and contains a 'General' tab. The settings are as follows:

- Reset Local Cache:
- Content Viewer Page Size: kilobytes
- *Web Service Timeout: seconds
- ☒ Warn Before Clearing Search Criteria

At the bottom of the dialog are 'Save' and 'Cancel' buttons.

What have we learnt?

- TN Transaction Monitoring
- TN Tasks Monitoring
- TN Activity Log Monitoring
- TN User Preference

Q & A

- ❖ What is use of Monitoring TN Transactions?
- ❖ What is use of Monitoring TN Tasks
- ❖ What are the advantages of User Preference?
- ❖ What is the use of activity log?

Agenda

Trading Networks Configuration Properties

Configuring Database

Configuring E-mail Settings for Document Delivery

Configuring TN for large Document Handling

Configuring My webMethods to work with Trading Networks

Trading Networks Key Services

Trading Networks Configuration Properties

After Installing Trading Networks, One needs to specify the set of parameters to configure Trading Networks

You need to set parameters like:

- Database Setting
- E-mail Settings for Document Delivery
- Task Settings
- Large Document Handling

Most of the Trading Networks Configuration tasks are performed by updating the Trading Networks Properties Which appear in

Integration Server_directory\packages\WmTN\config\properties.cnf

Configuration Properties can be updated by using:

Administration > Integration > B2B Settings > Configure Properties page in My webMethods

- If the property you want to update is in the list , then change its value
- If the property that you want to update is not in the list, create a new line by typing the property you want to add along with its value. Be sure to use the correct combination of uppercase and lowercase letters.

Configuring Database Settings

When you Installed Trading Networks, You must specify the following Database Connection parameters.

- The JDBC Driver. The Name of the JDBC driver for Trading Networks database.
- The Location of the database. A URL to specify the location of the Trading Networks database
- A user name and password. If the Trading Networks database requires a user name and password to connect to it, you identified the user name and password that Trading Networks must supply.
- Database Properties. If you want to supply any additional database properties when connecting to the Trading Networks database, you identified the database properties.

To Configure Database settings:

- In My webMethods: Administration > Integration > B2B Settings > Configure Properties.
- Add or update the following properties to configure How Trading Networks handles the database
 - `tn.query.maxrows` : This property specifies the default number of rows that the query services return. It has a default value of 0 (Means no maximum)
Example : `tn.query.maxrows=500` .
 - `tn.query.threshold` : This property specifies the number of rows of query results that Trading Networks stores in session object. It has a default value of 50

Configuring E-mail Settings for Document Delivery

You can configure settings Trading Networks uses when delivering documents via an e-mail message, specially, the “from” e-mail address and the subject line that you want Trading Networks to use in e-mail messages.

To Configure E-mail Settings for document delivery:

- In My webMethods: Administration > Integration > B2B Settings > Configure Properties.
- Add or update the following properties to configure how Trading Networks performs document delivery
 - `tn.mail.from` : This property specifies the e-mail address you want Trading Networks to use as the “from” e-mail address
Example : [tn.mail.from=TNAdmin@ifc.com](mailto:TNAdmin@ifc.com)
 - `tn.mail.subject`: This property specifies the subject Trading Networks uses in the e-mail message that it sends to deliver a document.
Example : `tn.mail.subject=Document from IFC`

Configuring Task Settings

Trading Networks establishes *Tasks* when it is to deliver a document using reliable delivery or when it is to asynchronously execute a service using reliable execution

To configure Task Settings:

- In My webMethods: Administration > Integration > B2B Settings > Configure Properties.
- Add or update the following properties to configure how Trading Networks performs document delivery
 - `tn.task.sweepTime` : The number of seconds the reliable task manager thread remains idle before checking for tasks it needs to perform . The task manager waits the number of seconds you specify with this property before waking up to check for tasks it needs to process.
 - `tn.task.maxRetries` : The number of time you want Trading Networks to attempt to re execute a service.
 - `tn.task.ttw` : The number of seconds you want Trading Networks to wait before making its first attempt to re-execute a service when first attempt failed
 - `tn.task.retry factor` : The factor you want Trading Networks to use when determining how long to wait before making the second and subsequent attempts to re-execute the service.

Configuring TN for large Document Handling

As Installed, Trading Networks acts on all documents in the same manner regardless of their size. You can configure Trading Networks to handle large documents differently. You also configure the document size that Trading Networks should treat as large.

To Configure Trading Networks for large document handling:

- In My webMethods: Administration > Integration > B2B Settings > Configure Properties.
- Add or update the following properties to configure how Trading Networks process large documents
 - `tn.BigDoc.Threshold` : The number of bytes a document must contain for Trading Networks to consider the document to be large.
 - -n: Specify a negative number to have Trading Networks consider no document as large.
 - 0: Specify zero to have Trading Networks consider all documents as large
 - n: Specify a positive whole number to indicate the number of bytes over which Trading Networks considers a document large
 - `tn.xml.xmlThreshold` : The number of bytes that Trading Networks reads into memory to perform the XML queries in TN XML document types

Configuring My webMethods to work with Trading Networks

To use My webMethods as an administration and monitoring user interface for Trading Networks, you must configure *Central User Management* in Integration Server. Central User Management is a feature that allows Integration Server to use the credentials of a My webMethods user account to authenticate a user and to determine whether the user is authorized for an action.

Setting up Central User Management:

- Configure Integration Server to use Central User Management
- Identify the Integration Server that My webMethods should interact with for Trading Networks Request
- After Central User management is set up, My webMethods users can be authorized to perform Trading Networks functions by making them members of My webMethods roles.

Trading Networks Key Services

Use core services (services in the `wm.tn` folder) to perform the basic business document exchange functions.

- ***wm.tn.log*** : Adds the specified information as an entity to the Activity Log
- ***wm.tn.receive*** : Receives a document that Trading Networks is to recognize and process. This service recognizes the type of document and submits it to Trading Networks to perform business document exchange
- ***wm.tn.reroute*** : Locates a document that you specify in Trading Networks database and processes it again. To process the document again, trading Networks looks up the appropriate processing rule and performs the processing actions defined in the processing rule.
- ***wm.tn.submit*** : Submits a document that has already been recognized to Trading Networks for processing.

Q & A

- ❖ What are the steps involved in Database configuration?
- ❖ How is E-mail settings for Document Delivery configured?
- ❖ Which configuration parameter is used by TN to determine a document as Large Document?
- ❖ What is the use of *tn.task.sweepTime* property?

Thank You