

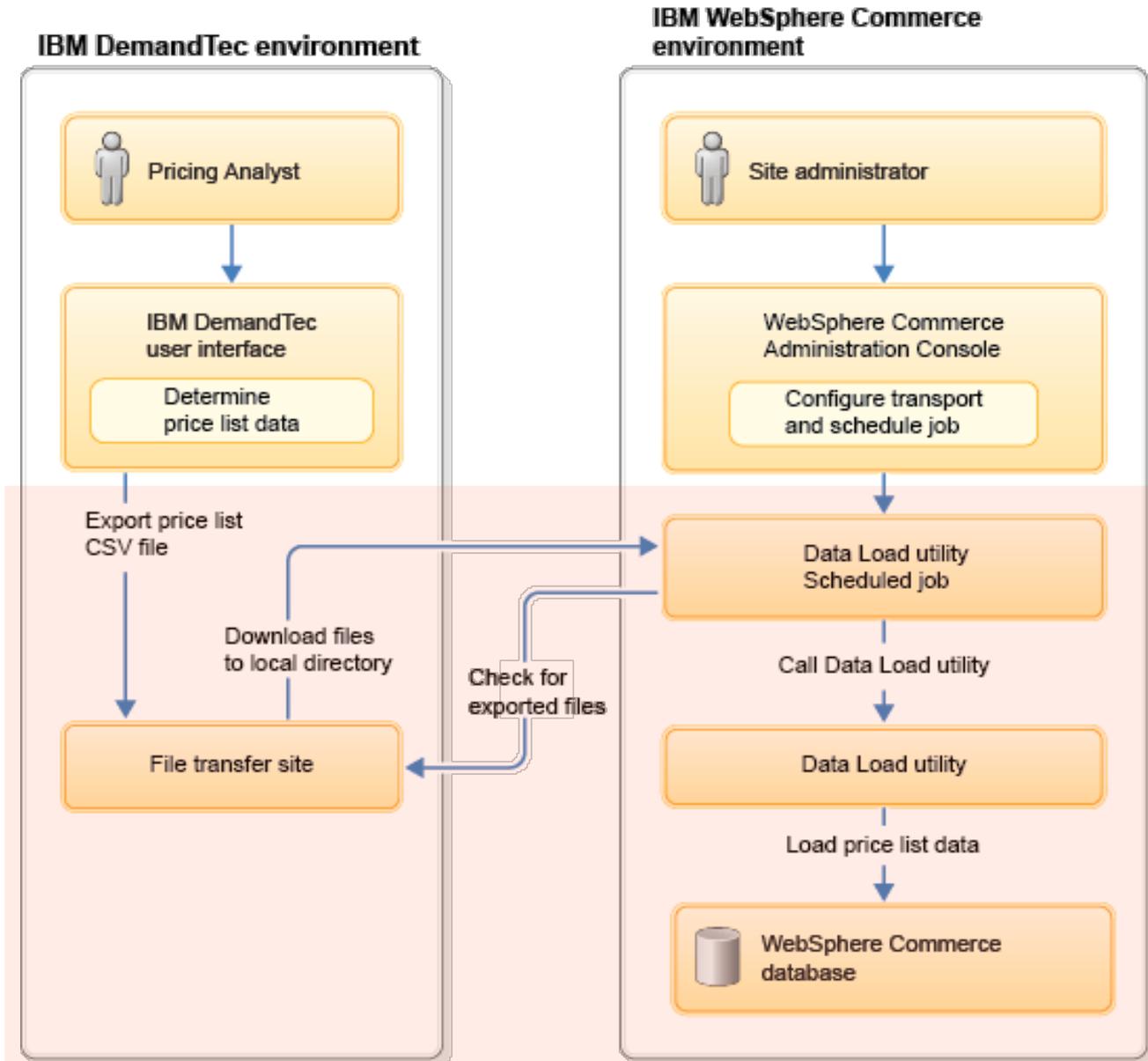
# DemandTec Price Integration

- What is DemandTec?
  - Provider of cloud-based price, promotion, and merchandizing analytics
  - Uses rules-based pricing
- Products involved:
  - IBM DemandTec Price Optimization
    - Optimizes base and offer prices
  - IBM DemandTec Price Management
    - Automates Pricing Tasks
- IBM DemandTec Price Management integration:
  - DemandTec provides to your IBM WebSphere Commerce store and site better pricing optimization and management
  - Using the Data Load utility, price data from DemandTec is loaded into WebSphere Commerce

## Benefits of the integration

- Store prices managed and optimized by DemandTec
- Data Load can be configured to automatically load price lists via scheduled jobs
- Business users can access and manage price list data with the Catalog Filter and Pricing tool after loading data from DemandTec
- Supports workspaces
  - The price list data can be loaded from DemandTec into a workspace using the existing Data Load features for loading into a workspace
- Prices are loaded directly from a DemandTec file server into an existing price list in WebSphere Commerce
- Since price lists are used, existing logic, e.g. price rules and promotions, can still be used in addition to the loaded prices

# Integration Flow



## Preparing for DemandTec integration

- Ensure that the two products are configured to prepare for the integration:
  - Set up a DemandTec instance for each currency that you need to support
  - Set up a store in DemandTec for each WebSphere Commerce store to be integrated
    - For Extended Sites, create a store for each store owning a the price list(s)
    - E.g. if you will only have price lists in an asset store, this is the store you use
  - Set up a price zone in DemandTec for each price list to load into WebSphere Commerce
  - Ensure that part numbers in DemandTec and WebSphere Commerce are synchronized
    - The integration uses the part number as the common product key between the two products
  
- Configure DemandTec to export data in a supported format
  - See Knowledge Center for details on the file format, which has not changed since FEP2
    - Sample CSV file: *WCDE\_InstallDir\samples\DataLoad\Price\Offer\Offer.csv*
  - DemandTec must export the price list to an FTP server, from which WC will load the files
  - DemandTec must create one CSV file for each store and can either:
    - Place all files in one directory, using a store identifier as a file name prefix, or
    - Place the files for each store in a separate directory
    - The default configuration will assume the files have the extension “csv”
      - Use the `supportedFileExtension` parameter to the scheduled job to change this

## Configuring the DemandTec integration

- Install the interim fixes that enable DemandTec price load support:
  - JR52757 – provides the main DemandTec price load logic
  - JR52932 – adds support for leaving remote files in place
- Execute the DemandTecIntegration.sql script
  - Defines the DemandTec FTP transport and scheduled job
- Configure the DemandTec FTP transport to retrieve data from IBM DemandTec
  - Use the WebSphere Commerce Administration Console to configure the SFTP transport for accessing your IBM DemandTec file transfer site price list input files
- Configure a Data Load utility scheduled job to use the SFTP transport and retrieve price list data from IBM DemandTec
  - Configure the job to run at site level

## Changes to the Data Load utility scheduled job

- To load DemandTec price lists, the DataLoad job now supports a number of additional Job parameters:
  - dataLoadType=DemandTec
    - This tells Data Load to invoke the DemandTecDataLoadPreprocessCmdImpl command
  - remoteDirectory
    - Overrides the setting for the transport for remote directory
  - supportedFileExtension
    - Changes the default file name extension from “csv”, e.g. “del”
  - deleteRemoteFiles
    - Specifies if downloaded files should be deleted from the server
  - cleanupUploadFiles
    - Specifies if a downloaded file should be deleted after being loaded
  - fileNamePrefixedWithStoreIdentifier
    - Specifies if the files are prefixed with the store identifier, e.g. “Aurora”
  - extraFileNamePrefix
    - Specifies an extra prefix to be expected after the store identifier
  - fileNameSeparator
    - Specifies a separator to expect between the different prefixes set above

## Sample DemandTec Data Load Job parameters

- Assume your DemandTec installation is configured to export prices:
  - Into the remote directory /uploads/pricesforwc
  - Using the file extension “del”
  - Prefixing all files with the identifier of the store, e.g. “Aurora”
  - Adding the fixed string “PriceList” after the store identifier
  - Using a dash character to separate the parts of the file name
- For example:
  - /uploads/pricesforwc/Aurora-PriceList-221131.del
  - /uploads/pricesforwc/MyStore-PriceList-55422.del
  - /uploads/pricesforwc/AuroraESite-PriceList-98423.del
- In this case, you would specify the following parameters for the Data Load job (reformatted here for readability):

```
dataLoadType=DemandTec
&remoteDirectory=/uploads/pricesforwc
&supportedFileExtension=del
&fileNamePrefixedWithStoreIdentifier=true
&extraFileNamePrefix=PriceList
&fileNameSeparator=-
```

# Verifying Price List Load

- Records of success or failure of the Data Load job is added to the list of price uploads in the Catalog Filter and Pricing tool
- Business users can use this tool in combination with Store Preview to verify that the correct prices display for the catalog entries in the storefront

The screenshot displays the IBM Management Center Tools interface. On the left, a navigation pane shows 'Price List Uploads' selected. The main window shows a table of uploaded price lists. On the right, a detailed view for the file 'FRFE-98803-01-01.csv' is shown, including its properties and status.

* File Name	Size	Status	Uploaded By	Start Time	End Time
FRFE-98803-01-01.csv,FRFE-98803-03-03.csv	2 KB	✓	wcsadmin	2015/03/25 10:26 AM	2015/03/25 10:26 AM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/25 10:24 AM	2015/03/25 10:24 AM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/25 10:24 AM	2015/03/25 10:24 AM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/24 06:23 PM	2015/03/24 06:23 PM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/24 06:22 PM	2015/03/24 06:22 PM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/24 06:20 PM	2015/03/24 06:20 PM
FRFE-98803-01-01.csv	1 KB	✓	wcsadmin	2015/03/12 09:30 AM	2015/03/12 09:30 AM
FRFE-98803-12-01.csv	1 KB	✓	wcsadmin	2015/03/11 05:00 PM	2015/03/11 05:00 PM

**Price List Upload Details:**

- File name:** FRFE-98803-01-01.csv
- Size:** 1 KB
- Character set:** UTF-8
- Target price list:**

Name	Description
AuroraESite ProductsPriceList	This is the default Offer Price list for this extended site store. This price list is initially empty because this store inherits the Offer Price list from the Extended Sites Catalog Asset Store.
- Status:** Complete
- Uploaded By:** wcsadmin
- Summary report:** Processing Offer...  
Load summary for load item: Offer.  
Business Object Configuration: wc-loader-offer.xml

## Customization Scenarios and Troubleshooting

- The DemandTec price integration functionality uses existing WebSphere Commerce mechanisms, including:
  - Data Loader
  - Scheduler
  - Command Framework
  - Price lists
- As such, any customizations that these support will be possible for this new integration
- For example, to change the behaviour of the load process, you can extend the class that downloads the files from the remote server:
  - **Class:** `com.ibm.commerce.foundation.dataLoad.commands.DemandTecDataLoadPreprocessCmdImpl`
  - **Interface:** `com.ibm.commerce.foundation.dataLoad.commands.DataLoadPreprocessCmd+DemandTec`
- For troubleshooting, the relevant trace strings are:
  - Data load foundation: `com.ibm.commerce.foundation.dataLoad.*`
  - Price data load: `com.ibm.commerce.price.dataLoad.*`

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## DemandTec Price Integration

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[http://www.ibm.com/support/knowledgecenter/SSZLC2\\_7.0.0/com.ibm.commerce.emm.doc/concepts/cmidemandtecloadintegration.htm](http://www.ibm.com/support/knowledgecenter/SSZLC2_7.0.0/com.ibm.commerce.emm.doc/concepts/cmidemandtecloadintegration.htm)

This module will cover the integration between WebSphere Commerce and IBM DemandTec for loading prices from DemandTec to WebSphere Commerce.

Before we go into details about the integration, let us introduce IBM DemandTec.

DemandTec is a cloud-based provider of price, promotion and merchandizing analytics. The solution uses rule-based pricing to determine the optimal price for products.

There are two products involved in this:

- IBM DemandTec Price Optimization, which is the product that optimizes prices, and
- IBM DemandTec Price Management, which is used to automate pricing tasks.

The integration between WebSphere Commerce and DemandTec Price Management provides the advantage of optimized prices to the WebSphere Commerce storefront.

Using the Data Load utility, prices from DemandTec are loaded into price lists in the WebSphere Commerce database.

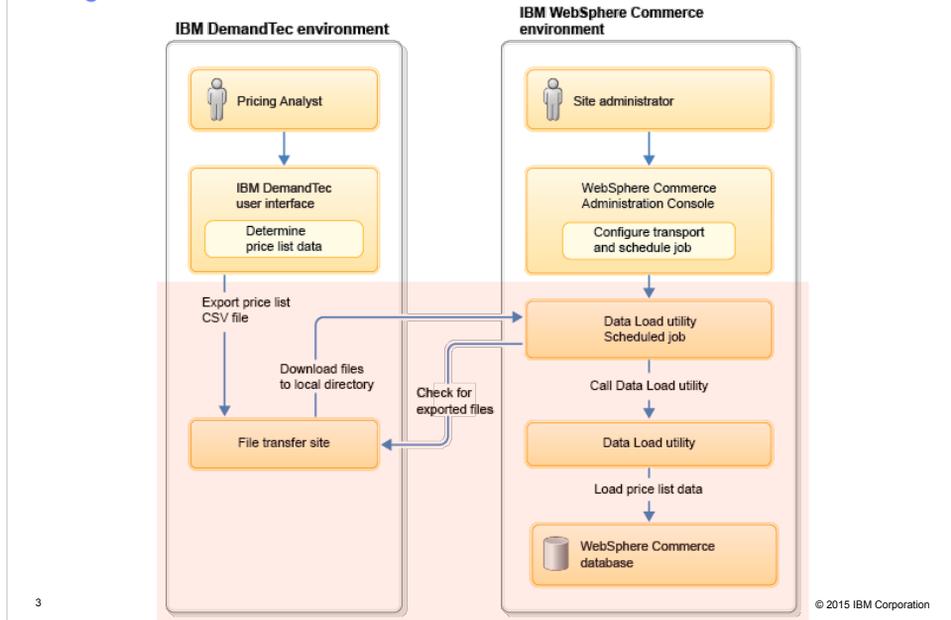
## Benefits of the integration

- Store prices managed and optimized by DemandTec
- Data Load can be configured to automatically load price lists via scheduled jobs
- Business users can access and manage price list data with the Catalog Filter and Pricing tool after loading data from DemandTec
- Supports workspaces
  - The price list data can be loaded from DemandTec into a workspace using the existing Data Load features for loading into a workspace
- Prices are loaded directly from a DemandTec file server into an existing price list in WebSphere Commerce
- Since price lists are used, existing logic, e.g. price rules and promotions, can still be used in addition to the loaded prices

The benefits of integrating WebSphere Commerce with DemandTec include:

- Access to DemandTec's price optimization for a WebSphere Commerce store
- Automated load of prices from DemandTec
- Retaining access for business users to manage loaded prices in Management Center
- Workspace support
- The function is using price lists, so any logic relying on price lists, such as price rules, contracts, and promotions will still work, but now on top of the optimized DemandTec prices.

## Integration Flow



This slide shows an overview of the task and data flow for the DemandTec price integration.

On the left we see a representation of the DemandTec environment and on the right the WebSphere Commerce installation.

We will cover the configuration and setup tasks later in the presentation, so we will focus here on the core of the price load tasks, highlighted in red at the bottom of the figure.

The flow starts with an export of the prices from DemandTec. The prices are exported as one or more comma-delimited files and stored on a DemandTec file transfer site.

At regular intervals, or as a manual processes if desired, a scheduled job is run on the WebSphere Commerce site to check for new price list files, which are then downloaded and loaded into the WebSphere Commerce database.

Not shown here is that the data load job will update the `TI_DELTA_CATENTRY` tables to ensure that all relevant data is reindex the new time the search reindexing job runs.

We recommend that the prices are downloaded and updated on a staging or authoring server.

## Preparing for DemandTec integration

- Ensure that the two products are configured to prepare for the integration:
  - Set up a DemandTec instance for each currency that you need to support
  - Set up a store in DemandTec for each WebSphere Commerce store to be integrated
    - For Extended Sites, create a store for each store owning a the price list(s)
    - E.g. if you will only have price lists in an asset store, this is the store you use
  - Set up a price zone in DemandTec for each price list to load into WebSphere Commerce
  - Ensure that part numbers in DemandTec and WebSphere Commerce are synchronized
    - The integration uses the part number as the common product key between the two products
- Configure DemandTec to export data in a supported format
  - See Knowledge Center for details on the file format, which has not changed since FEP2
    - Sample CSV file: *WCDE\_InstallDir\samples\DataLoad\Price\Offer\Offer.csv*
  - DemandTec must export the price list to an FTP server, from which WC will load the files
  - DemandTec must create one CSV file for each store and can either:
    - Place all files in one directory, using a store identifier as a file name prefix, or
    - Place the files for each store in a separate directory
    - The default configuration will assume the files have the extension “csv”
      - Use the `supportedFileExtension` parameter to the scheduled job to change this

Before you can configure the integration, there are a number of overall assumptions that you need to understand and ensure your DemandTec and WebSphere Commerce installations adhere to.

If you need support for multiple currencies, you must configure a DemandTec instance for each supported currency

Also, for each store in WebSphere Commerce, you must create a store in DemandTec. Note that if you are using Extended Sites, the stores you need to create depends on how you have your target price lists configured. If, for example, you keep price lists at the asset store level, you only need to create a store in DemandTec, corresponding to the asset store, but if you store prices at the esite level, you will need to create DemandTec stores for each esite that you will load prices for.

Each price list in WebSphere Commerce corresponds to a price zone in DemandTec, so you must create a price zone for each supported price list in WebSphere Commerce.

Finally, since the catalog entries in WebSphere Commerce and DemandTec are using part numbers for correlation, you must ensure that these part numbers are synchronized between the two systems.

You must also configure DemandTec to export prices in a format supported by the WebSphere Commerce Price Data Loader. The WebSphere Commerce Knowledge

## Configuring the DemandTec integration

- Install the interim fixes that enable DemandTec price load support:
  - JR52757 – provides the main DemandTec price load logic
  - JR52932 – adds support for leaving remote files in place
- Execute the DemandTecIntegration.sql script
  - Defines the DemandTec FTP transport and scheduled job
- Configure the DemandTec FTP transport to retrieve data from IBM DemandTec
  - Use the WebSphere Commerce Administration Console to configure the SFTP transport for accessing your IBM DemandTec file transfer site price list input files
- Configure a Data Load utility scheduled job to use the SFTP transport and retrieve price list data from IBM DemandTec
  - Configure the job to run at site level

In order to set up the integration on the WebSphere Commerce side, you will first need to install two interim fixes: JR52757 and JR52932. The former provides the main support for the integration, while the latter provides support for optionally leaving remote files in place after download.

You will then need to run the DemandTecIntegration SQL script. This script configures the needed FTP transport and scheduled jobs.

You will then need to use the WebSphere Commerce administration console to configure the transport and scheduled jobs to retrieve and load the price files.

## Changes to the Data Load utility scheduled job

- To load DemandTec price lists, the DataLoad job now supports a number of additional Job parameters:
  - dataLoadType=DemandTec
    - This tells Data Load to invoke the DemandTecDataLoadPreprocessCmdImpl command
  - remoteDirectory
    - Overrides the setting for the transport for remote directory
  - supportedFileExtension
    - Changes the default file name extension from “csv”, e.g. “del”
  - deleteRemoteFiles
    - Specifies if downloaded files should be deleted from the server
  - cleanupUploadFiles
    - Specifies if a downloaded file should be deleted after being loaded
  - fileNamePrefixedWithStoreIdentifier
    - Specifies if the files are prefixed with the store identifier, e.g. “Aurora”
  - extraFileNamePrefix
    - Specifies an extra prefix to be expected after the store identifier
  - fileNameSeparator
    - Specifies a separator to expect between the different prefixes set above

We have added a number of new parameters to the data load scheduled job in order to support the price integration.

First off, you must specify the data load type to be DemandTec. This tells the main data load command to instantiate and run the DemandTec data load preprocessor command

Then there are a number of optional parameters, as outlined here:

- remote directory: This parameter allows you to override the setting for the transport for which remote directory to download files from
- supported file extension: By default, the loader will assume the remote files are stored as CSV files. If, for some reason, this is not true, you can use this parameter to change the setting to the extension that DemandTec is configured to store the files in.
- delete remote files: After downloading a file from the remote server, the load task will delete the remote file. You can change this behaviour by setting this parameter to "false"
- clean upload files: Similarly, once a file is loaded into the WebSphere Commerce database, the data loader will usually delete the downloaded file. You can set this parameter to false to change this behaviour.
- file name prefixed with store identifier: Set this to "true" if the files on the remote directory are prefixed with the WebSphere Commerce store's identifier. This is useful if you choose to upload all files for all stores in the same directory on the remote site.
- extra file name prefix: This setting can be used to specify an additional defining prefix after the optional store identifier, for files on the remote site.
- file name separator: This defines a character that is used to separate the store prefix and

## Sample DemandTec Data Load Job parameters

- Assume your DemandTec installation is configured to export prices:
  - Into the remote directory /uploads/pricesforwc
  - Using the file extension "del"
  - Prefixing all files with the identifier of the store, e.g. "Aurora"
  - Adding the fixed string "PriceList" after the store identifier
  - Using a dash character to separate the parts of the file name
- For example:
  - /uploads/pricesforwc/Aurora-PriceList-221131.del
  - /uploads/pricesforwc/MyStore-PriceList-55422.del
  - /uploads/pricesforwc/AuroraESite-PriceList-98423.del
- In this case, you would specify the following parameters for the Data Load job (reformatted here for readability):

```
dataLoadType=DemandTec
&remoteDirectory=/uploads/pricesforwc
&supportedFileExtension=del
&fileNamePrefixedWithStoreIdentifier=true
&extraFileNamePrefix=PriceList
&fileNameSeparator=-
```

This slide provides an example of using the new parameters.

In this example, we assume that files are uploaded into the remote directory uploads, pricesforwc, that files are using the extension "DEL", that file names are using the store's identifier as a prefix, that files have, after the store prefix, the fixed string PriceList, and finally that the store prefix, the PriceList prefix and the rest of the file name are separated by dashes.

In this case, you would use the configuration shown here when configuring the data load job. Note that we have added line breaks here to inspect the parameters more easily.

Also note that the remote directory setting could also have been set at the transport level, but we chose to set it at the job level here.

## Verifying Price List Load

- Records of success or failure of the Data Load job is added to the list of price uploads in the Catalog Filter and Pricing tool
- Business users can use this tool in combination with Store Preview to verify that the correct prices display for the catalog entries in the storefront

The screenshot displays the IBM Management Center interface. On the left, a navigation pane shows 'Price List Uploads' selected. The main area shows a table titled 'Price List Uploads - List' with the following data:

File Name	Size	Status	Uploaded By	Start Time	End Time
FRFE-98803-01-01.csv/FRFE-98803-01-01.csv	2 KB	✓	wcadmin	2015/03/25 10:28 AM	2015/03/25 10:28 AM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/25 10:24 AM	2015/03/25 10:24 AM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/25 10:24 AM	2015/03/25 10:24 AM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/24 06:23 PM	2015/03/24 06:23 PM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/24 06:22 PM	2015/03/24 06:22 PM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/24 06:20 PM	2015/03/24 06:20 PM
FRFE-98803-01-01.csv	1 KB	✓	wcadmin	2015/03/12 09:39 AM	2015/03/12 09:39 AM
FRFE-98803-12-01.csv	1 KB	✓	wcadmin	2015/03/11 05:00 PM	2015/03/11 05:00 PM

On the right, the 'Price List Upload' details panel for 'FRFE-98803-01-01.csv' is shown. It includes the following information:

- General Properties:**
  - File name: FRFE-98803-01-01.csv
  - Size: 1 KB
  - Character set: UTF-8
  - Target price list:
 

Name	Description
ApprovedSite ProductsPriceList	This is the default Offer Price list for this extended site store. This price list is initially empty because this store inherits the Offer Price list from the Extended Sites Catalog Asset Store.
- Status:**
  - Uploaded by: wcadmin
  - Status: Complete
  - Summary report: Processing Offer...  
Load summary for load item Offer: .....  
Business Object Configuration: wc-loader-offer.xml

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As mentioned earlier, the DemandTec prices are loaded into standard WebSphere Commerce price lists. This allows a business user to inspect the loaded prices using the Management Center's Catalog Filter and Pricing tool.

Also, each load creates a price list upload entry, so the log and success can be inspected here.

Finally, the store preview can be used to see the effect of the loaded price.

## Customization Scenarios and Troubleshooting

- The DemandTec price integration functionality uses existing WebSphere Commerce mechanisms, including:
  - Data Loader
  - Scheduler
  - Command Framework
  - Price lists
- As such, any customizations that these support will be possible for this new integration
- For example, to change the behaviour of the load process, you can extend the class that downloads the files from the remote server:
  - **Class:** `com.ibm.commerce.foundation.dataLoad.commands.DemandTecDataLoadPreprocessCmdImpl`
  - **Interface:** `com.ibm.commerce.foundation.dataLoad.commands.DataLoadPreprocessCmd+DemandTec`
- For troubleshooting, the relevant trace strings are:
  - Data load foundation: `com.ibm.commerce.foundation.dataLoad.*`
  - Price data load: `com.ibm.commerce.price.dataLoad.*`

Finally some points on customization points and troubleshooting.

The DemandTec integration is based on existing core features of WebSphere Commerce, such as the data loader, scheduler, and price lists.

This means that customization points for those can be used to customize the behaviour of the DemandTec price integration. We have listed the interface and implementation for the preprocessor here in case you need to extend this for your customization scenario.

Finally, the existing data load foundation and price data load trace strings can be used for troubleshooting the load process.



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