Product Catalog Data Feed Implementation Guidelines for Publishers
(Updated August 2020)

Contents

Overview

This document is your guide to implementing Rakuten Advertising Product Catalog data feeds. It provides you with information on how to automate the process of obtaining product information from your advertiser partners who are part of Rakuten Advertising and have subscribed to the Product Catalog program.

There are two levels of implementation for Product Catalog data feeds. First, you will need to be approved and set up for the technical implementation of the product data feeds, and then you will need to be approved by each of your participating advertiser partners to use their Product Catalog data feed on your website or blog.

Technical Requirements for Using Product Catalog

To automate the process of obtaining product information, you must be able to:

- Download files from an FTP account
- Process XML or pipe-delimited text files that contain the product information

Product Catalog File Options

The Rakuten Advertising Product Catalog feature allows advertisers to upload their product information to us. We process the uploaded information and create a corresponding publisher tracking URL for each product and make the product information available to publishers via FTP. Publishers have several choices of files they can download for each advertiser:

- **Full file**: A full file that contains all of an advertiser's products, not just the products that changed since the last download.

- **Delta file**: A delta file that only includes an advertiser's new, changed and deleted product records.

- **Category file**: Files that contain products only from a particular product category based on the categories defined by the advertisers. Category files are also available as full and delta files.

How to Get Started with Product Catalog

The first step toward getting started with Product Catalog is to send an email to uspubsupport@rakuten.com with your Rakuten Affiliate username and site ID (SID). Within one business day, a Customer Support representative will respond to your request with your username, password, and the URL of your FTP account.

As a prerequisite, all Product Catalog publishers must first register to become a member of Rakuten Affiliate. If your company has yet to do so, please sign up at our registration page. Once registered, you'll receive an email with registration approval and your new publisher account information, with your Site ID.

This will begin the Technical Approval and Set Up. The next step is to apply for advertiser approval to use their Product Catalog feeds.

Please note: For your existing advertiser relationships you will need to navigate to the Product Catalog in the Publisher dashboard (LINKS → Data Feeds → Product Catalog) and click on the Available tab to apply for Product Catalog access. However, when you apply to join an advertiser's program you will be simultaneously applying for Product Catalog access—both will be approved by the advertiser in one go.

Step 1: Technical Set Up Process

FTP Set Up

The Product Catalog feed is available to you via FTP. The Rakuten Affiliate FTP server hostname is aftp.linksynergy.com.

When you submit your application for Product Catalog, these steps are performed:

- We establish a unique FTP account on our servers from which you can download files.
- A username and password are assigned to the FTP account, which will be emailed to you.

Product files are generated dynamically at the time of retrieval. This ensures that all publishers receive the most up-to-date product information when they retrieve advertisers' Product Catalog files. The timeliness of the product information depends on the frequency with which advertisers update the information in their Product Catalog database.

Note: Our servers process the advertiser's product updates shortly after upload. The time to process the file will depend on the file size. The updated information is available to publishers immediately after processing is complete.

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FTP Access

You can access your FTP account using any FTP client. You also have the choice of automating the process of downloading the file or doing it manually. You should set the transfer mode to binary before you start downloading files, as the files are stored in a compressed format. Using ASCII mode will corrupt the data in the file and render it useless. If you are using a script to automate the process of downloading the files, ensure that you do not open more than five connections to the FTP server at one time. For step-by-step instructions, please see *How to Download the Product Catalog Feed Manually* in the Publisher Help Center.

Please note:

- Always set mode to binary before downloading files.

- No more than five concurrent connections are allowed per publisher FTP account.

- File sizes shown are estimates. Actual file sizes will vary. Therefore, customers are advised to NOT use file size as a check to ensure successful downloads. Downloads should be considered successful if the file extracts correctly and ends with a trailer record indicating the number of products in the file.

- If you are using a script to retrieve the files, wget is preferred over curl. If using curl, you must use the **--ignore-content-length** option.

Refer to Appendix E for more detailed instructions on how to download the Product Catalog files.

FTP Account Contents

In the root directory of your FTP account, you will see files and a folder for each advertiser that has approved you for access to their Product Catalog feed. You may also see folders titled, "Global" and "Additional" if any of your advertiser partners have more than one product feed.

The file(s) in the root directory are your Product Catalog files and the numbered folder(s) contain files that provide you with product data for individual product categories. The folder name corresponds with the MID of the advertiser and the files are available in two formats: pipe-delimited text and XML.

You can select the format you prefer by logging in to your Publisher Dashboard and clicking **Links** > **Data Feeds** > **Product Catalog** and then **Edit Settings**; the settings page looks like this:

If you do not select a format, your FTP account will contain two files and a folder for each advertiser that has approved you for access to their Product Catalog feed. From the Edit Settings page, you can also select whether price fields are separated by a decimal point (24.50) or a comma (24,50) and the format of the date. If you do not select a format for the price and date fields, the defaults are a decimal point and mm/dd/yyyy.

Note: **Product Catalog by Category** is a feature that allows you to download Product Catalog files for individual product categories. Please refer to the Product Catalog by Category section in these implementation guidelines to obtain more details on this feature.

Product Catalog Files

As noted above, Product Catalog files are available in two formats: pipe-delimited text and XML.

Pipe-Delimited Text File

This file uses the pipe-delimiter (|) to divide fields. Each record is terminated by a new line/carriage return. Rakuten Affiliate will populate the file with all the fields that advertisers are required to provide along with other information that may have been provided by the advertiser. If there is no data for a field, its position is preserved in the file by its delimiter. Field values containing pipe delimiter will be enclosed in double quotes. The file has three sections: header, product data, and trailer.

Header Section

The first record in the pipe-delimited Product Catalog file is the header. The header starts with the following characters "HDR," followed by a pipe-delimiter. The header contains the ID and name of the advertiser and a time stamp indicating when the file was deposited in your FTP account. This record is terminated with a carriage return.

MID	The numeric value assigned to identify each advertiser.

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Name	The name of the advertiser. This is advertiser-defined and may change.
Time Stamp	The time that the file was deposited in your FTP account in UTC. The format is yyyy-mm-dd hh:mm:ss

Example:

HDR|1234|CDLinkShare|2013-03-14 20:30:40

Product Data Section

This section contains individual product data records. Each line has data for one product. The product data record has two parts, the primary section and the attribute section. The attribute section is optional. The primary section has 28 fields and the attribute section includes up to 10 values for all but credit card products, which can have up to 22 values. **Please note**: if an advertiser does not include the attribute section, their Product Catalog file will still include placeholders for all fields.

Primary Section

The primary section provides basic information about each product, including the SKU number, Product Name, Primary Category, Product URL, and Retail Price. The details of all the fields that are part of this section are explained in Appendix A.

Attribute Section

The attribute section comprises the last 10 fields (22 for credit cards) and provides detailed information about each product based on certain product class definitions. The fields in this section are optional. The number of field values in the attribute section will depend on the Class ID for a specific product.

The Class ID identifies a product's category and the attributes allow the advertiser to include additional information on a product.

For example, Class ID 40 identifies the product category Computer Hardware. For this Class ID, the fields are Product ID, Platform, RAM, Hard Drive, Processor, Monitor Size, and so on. Rakuten Affiliate currently has 14 predefined Class IDs available and each Class ID has a predetermined set of attribute fields. Appendix B provides details on the fields for each Class ID.

Please note: Class IDs will not have the same number of attribute fields and not all attribute fields are required to have data. If a field is not used, then its position is preserved by its pipe-delimiter. Appendix D provides you with sample records.

Trailer Section

The last record of the pipe-delimited Product Catalog file is the trailer that begins with the following characters "TRL," followed by a pipe-delimiter. The trailer provides you with the number of product records that were contained in the Product Catalog file.

Example:

TRL|45826

XML Product Catalog File

As noted above, the Product Catalog file is also available as an XML-formatted file. The XML Schema and the XML Document Type Definition that specify the XML-formatted file are available in Appendix C.

Please note: XML standards specify that all **&** characters be coded as **&**. This includes any ampersands in the product, buy, image, and impression pixel URLs. Before using a link, you must change these instances of **&** to **&**. Here's an example:

> **Link as it comes in the XML feed:**
>
> ```
> <product>http://click.linksynergy.com/link?id=xxxxxxxxxxx&amp;off
> erid=
> 90431.10000046&amp;murl=http%3A%2F%2Fwww.examplemerchant.com%2Fa%
> 2Fpro ducts%2F678262</product>
> ```
>
> **Link that has & encoded and is ready to be used:**
>
> ```
> http://click.linksynergy.com/link?id=xxxxxxxxxxx&offerid=90431.1000004
> 6&murl=http%3A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F678262
> ```

Product Catalog File Names

Product Catalog file names have three parts, each separated by an underscore: Advertiser ID, Publisher Channel ID, and File Type.

- The Advertiser ID or MID is a unique ID that Rakuten Advertising Affiliate Network uses to identify the advertiser. This is always numeric.

- The Publisher Channel ID or SID is a unique ID that Rakuten Advertising Affiliate Network uses to identify the Publisher Channel. This is always numeric.

- The file type "mp" defines that the file is a Product Catalog file.

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The file name extensions specify what type of Product Catalog file it is. The pipe-delimited file has a txt extension and the XML-formatted file has an .xml extension. The files are all compressed and hence there is .gz after the file type extension.

Example:

<code>2385_112_mp.txt.gz</code>

<code>2385</code> is the Advertiser Program ID.

<code>112</code> is the Publisher Channel ID

<code>mp</code> indicates that it is a Product Catalog file

<code>.txt</code> indicates that this is a pipe-delimited Product Catalog file

Downloading Product Catalog Files

You can download the Product Catalog file from your account using any FTP client software.

Example:

```
get 2385_112_mp.txt.gz
```

Refer to Appendix E for more detailed instructions on how to download Product Catalog files.

Downloading Delta Files:

If you download Product Catalog files frequently, you can download a Delta file that only includes an advertiser's new and changed product records from their most recent upload. This file downloads faster than the full Product Catalog file.

The delta file name is the same as the one used to download the full Product Catalog file, except that it has the word <code>delta</code> appended to it:

<code>2385_112_mp_delta.txt.gz</code> (for the text file)

<code>2385_112_mp_delta.xml.gz</code> (for the XML file)

The header for the Delta file is the same as the one for the full file and includes MID, Advertiser Name, and Time Stamp in format shown above.

Please note: If you are using a script to retrieve the files, wget is preferred over curl. If using curl, you must use the **--ignore-content-length** option.

Implementation Process with Multiple Files

Rakuten Affiliate permits advertisers to submit multiple files per account. If an advertiser chooses to make more than one Product Catalog file available, you will find these files nested under either a "GLOBAL" folder or an "ADDITIONAL" folder in the root directory of your FTP account. "Global" files will contain products in a different language and/or currency than the main feed file. "Additional" files will have the same language and currency as the main feed file.

Global & Additional Files

To use Global and Additional feed files, you can follow the same process as you follow for the main feed file.

Global Files: Naming Conventions

You must follow the specified naming convention to browse and download your desired Global feeds. root

GLOBAL(folder)

FR-FR_EUR (folder – language-locale_currency)

12345 (folder – the number here is the Advertiser ID, or MID)

      12345_678_mp_FR-FR_EUR.txt.gz

      12345_678_mp_delta_FR-FR_EUR.txt.gz

FR-CA_CAD (folder – language-locale_currency)

12345 (folder)

      12345_678_mp_FR-CA_CAD.txt.gz

      12345_678_mp_delta_FR-CA_CAD.txt.gz

Additional Files: Naming Conventions

You must follow the specified naming convention to browse and download your desired additional feeds.

root

ADDITIONAL (folder)

    12345 (folder – the number here is the Advertiser ID, or MID)

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2017Summer (folder – name of the Additional file, as specified by the Advertiser)

    12345 (folder – the number here is the Advertiser ID, or MID)

    12345_678_mp_2017Summer.txt.gz

    12345_678_mp_delta_2017Summer.txt.gz

Back2School (folder – name of the Additional file, as specified by the Advertiser)

    12345 (folder – the number here is the Advertiser ID, or MID)

    12345_678_mp_Back2School.txt.gz

    12345_678_mp_delta_Back2school.txt.gz

Product Catalog by Category

Product Catalog by Category is a feature that allows you to download files for specific advertiser product categories instead of downloading the full product file. This means that if you are a publisher that only needs products in the electronics product category, you can now download the feed for just this category. For each advertiser that has approved you for access to their Product Catalog feed, you will see a folder. The folder name will be the MID of the advertiser. The folder will contain two types of files: Product Category List File, and Category-Specific Product Catalog File.

Product Category List File

This is a text file that lists the ID and product category name as specified by the advertiser. Category IDs are unique to each advertiser and are subject to change. The file is named as `MID_category_list.txt` where MID is the Advertiser ID. Each product category is listed on one line and the file is pipe delimited.

Example:

```
2385_category_list.txt
```

Sample Contents:

```
10|Lawn and Garden|525 rows
11|Toys|625 rows
12|Outlet|1024 rows
15|Electronics|23 rows
```

Category-Specific Product Catalog File

This is a Product Catalog file for a specific advertiser product category. This file is named `MID_SID_XX_cmp.txt.gz` for the text format and `MID_SID_XX_cmp.xml.gz` for the XML format. XX is the numeric ID for the specific product category.

> **Example**:
>
> `2385_112_15_cmp.txt.gz`
>
> `2385_112_15_cmp.xml.gz`

Based on the sample product category list above, these files are for the electronics product category. The contents of the file are formatted identically to the full Product Catalog files.

We suggest that you download the product category file first and use it to determine the categories that you are interested in downloading. Once you have determined the ID of the categories that you want to download, you should be able to create a script that will download the files for just those categories by automatically replacing the XX with the product category ID.

Please note: Products are categorized by the advertisers and there is a chance that they have placed products into the wrong categories. In these cases, please feel free to contact the advertisers to ask them to update their categories.
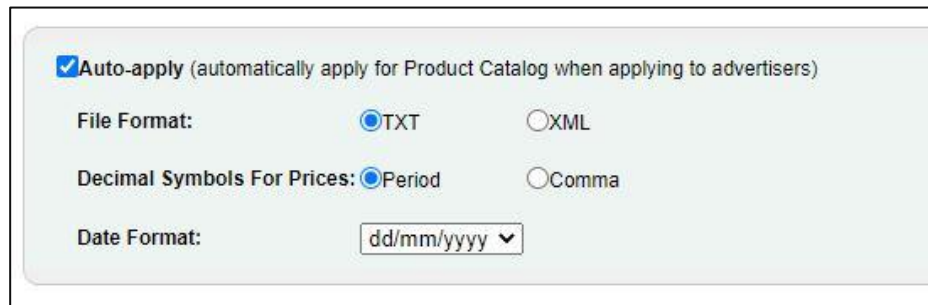
Step 2. Advertiser Product Catalog Approval Process

As mentioned previously, after you are approved for technical implementation of the Product Catalog product data feed, you will need to be approved for Product Catalog by each of your participating advertiser partners.

You can see a listing of all advertisers who offer Product Catalog in your Publisher Dashboard. Navigate to **Links** > **Data Feeds** > **Product Catalog** and click on **See all advertisers offering Product Catalog**.

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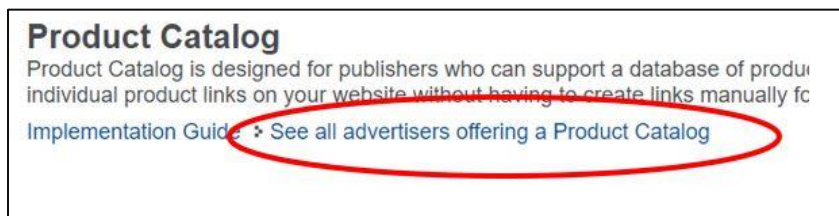
You can automatically request Product Catalog approval when you apply to a new advertiser partner who offers it with our auto-reply option, which you can find on the Edit Settings section of the Product Catalog page.

To apply for Product Catalog access from existing advertiser partners who offer it, click on the Available tab, then click **Apply**.

Product Catalog Frequently Asked Questions

Q: My script only downloads the files when the file date changes. Will this work with Product Catalog?

A: Yes, you should be able to use the date stamp of the file in the directory (which indicates the creation time in UTC) to see what's been changed and pull only the newest items.

Q: Why do I have multiple advertiser files in my account?

A: We offer publishers the choice of a pipe-delimited text file and an XML-formatted file. You can select your preferred format by going to your Publisher Dashboard, and then to Links > Data Feeds > Product Catalog. Then click the link for Edit Settings. If you do not select a format, your FTP account will contain .txt and .xml versions of each file type.

Q: What are the folders that I see in my FTP account?

A: The folders in your FTP account are for each advertiser that you are eligible to get Product Catalog files from. The folders contain the category-specific Product Catalog files for the advertisers.
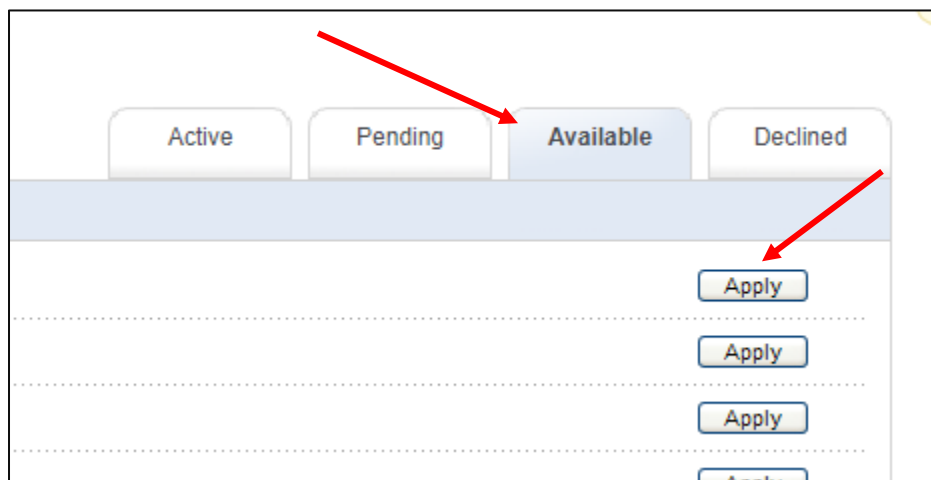
Q: Do I need to be approved by each advertiser for use of their Product Catalog product data feed?

A: Yes, there are two levels of approval for Product Catalog. First, you receive technical approval and then you will need advertiser approval. You will need to request Product Catalog approval when you apply to a new advertiser program, and/or request it separately from existing advertiser partners.

Q: What do I do if an advertiser's Product Catalog data is stale?

A: It is best to let the advertiser know directly. You can find an advertiser's contact information on their program page in the dashboard. If you are not sure if what you are concerned about is a stale data issue, feel free to contact customer support. To find an advertiser's contact info in your dashboard, please search the advertiser's name or MID in the Advertiser Search box and click through their logo to get to their program page.

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Appendix A: Product Catalog File Field Definitions

Product Field #	Name	Data Type (Max Length)	Required/Optional	Key
1	Product ID	Number	Optional	Unique ID that is used to identify a product. It will be an integer greater than 2 and have less than 31 total characters.
2	Product Name	Text (255)	Required	Product name.
3	SKU Number	Text (64)	Required	SKU Number. Majority of advertisers provide a unique value in this field. Some advertisers provide duplicate SKU values and as such duplicate SKUs for select advertisers will be available in some Merchandiser feed files.
4	Primary Category	Text (50)	Required	Primary product category.
5	Secondary Category	Text (500)	Optional	Secondary product categories, delimited with double tildes (~~).
6	Product URL	Text (2000)	Required	URL of the product page.
7	Product Image URL	Text (2000)	Required	URL of product image. This will be an absolute URL.
8	Buy URL	Text (2000)	Optional	URL of shopping cart with product.
9	Short Product Description	Text (500)	Optional	Short description of the product.
10	Long Product Description	Text (2000)	Optional	Long description of product.

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Product Field #	Name	Data Type (Max Length)	Required/Optional	Key
11	Discount	Number	Optional	Relies on discount type (below) to determine how to apply. If Discount Type is amount, then discount is deducted. If it is percentage, then percentage is deducted. The format uses either a decimal point or a comma, depending on what you select on the Publisher Dashboard under Merchandiser > Edit Settings.
12	Discount Type	Text (10)	Optional	Values: amount of percentage.
13	Sale Price	Number	Optional	This price reflects any discounts. The format uses either a decimal point or a comma, depending on what you select under Merchandiser > Edit Settings.
14	Retail Price	Number	Required	This price does not reflect any discounts. The format uses either a decimal point or a comma, depending on what you select on the Publisher Dashboard under Merchandiser > Edit Settings.
15	Begin Date	Date(mm/dd/yyyy hh:mm:ss)	Optional	Date and time that the product becomes available. The format depends on what you select on the Publisher Dashboard under Merchandiser > Edit Settings.
16	End Date	Date(mm/dd/yyyy hh:mm:ss)	Optional	Date and time that the product ceases to be available. The format depends on what you select under Merchandiser > Edit Settings.
17	Brand	Text (255)	Optional	Brand name.

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Product Field #	Name	Data Type (Max Length)	Required/Optional	Key
18	Shipping	Number	Optional	The cost of the default shipping option available. The format uses either a decimal point or a comma, depending on what you select under Merchandiser > Edit Settings.
19	Keyword(s)	Text (500)	Optional	Keywords for searches, delimited with double tildes (~~).
20	Manufacturer Part #	Text (50)	Optional	Manufacturer's part number (may sometimes be the same as SKU).
21	Manufacturer Name	Text (250)	Optional	Manufacturer's name.
22	Shipping Information	Text (50)	Optional	Text-based shipping information – provides details on the default shipping option.
23	Availability	Text (50)	Optional	Denotes whether the product is in stock. Values will be one of 'in-stock', 'out-of-stock', 'preorder' or 'backorder'.
24	Universal Product Code	Text (15)	Optional	Universal Product Code. May be UPC, EAN or JAN.
25	Class ID	Number	Optional	Classification ID based on product type (see class definition table).
26	Currency	Text (3)	Required	The 3-character ISO Currency Code. Use ('USD', 'CAD', 'GBP', 'JPY', 'AUD', or 'EUR') for U.S. dollar, Canadian dollar, British pound, Japanese yen, Australian dollar, or Euro. USD is default.
27	M1	Text (2000)	Optional	Blank field unless other arrangements have been made.

Product Field #	Name	Data Type (Max Length)	Required/Optional	Key
28	Pixel	Text (128)	Optional	1x1 pixel <img> tag used to track impression data for the link. This is a full <img> tag with all appropriate attributes. See Appendix D for a sample record.
29	Attribute 1	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
30	Attribute 2	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
31	Attribute 3	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
32	Attribute 4	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
33	Attribute 5	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
34	Attribute 6	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
35	Attribute 7	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
36	Attribute 8	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B

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Product Field #	Name	Data Type (Max Length)	Required/Optional	Key
37	Attribute 9	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
38	Attribute 10	See Attribute definitions in Appendix B	Optional	See Attribute definitions in Appendix B
39-50	Attribute 11-12	See Attribute definitions in Appendix B	Optional	Only applicable for Credit Cards ClassID 150 See Attribute definitions in Appendix B
39(51)	Modification	Char(1)	Required (for delta files)	Available only in Delta files I = Insert U = Update D = Delete

Please note: Certain entries are required fields. If an advertiser does not submit attribute data, their Product Catalog file still contains 38 fields (39 fields in delta files).

Appendix B: Attribute File Class Definitions

Class ID	Class Name	Product Catalog Field #	Attribute Name	Definition	Key
10	**Books**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Title	Text (128)	Title of Book
		31	Author	Text (128)	Name of Author
		32	ISBN	Text (128)	An ISBN number
		33	Publisher	Text (128)	Publisher
		34	Publish Date	Text (128)	Publish Date
20	**Music**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Genre	Text (128)	Jazz, Blues, etc.
		31	Artist	Text (128)	Artist
		32	Format	Text (128)	CD, Cassette, or LP
		33	Album	Text (128)	Album Title
		34	Song Title	Text (128)	Titles of Songs on Album
		35	Label	Text (128)	Record Label
		36	Release Date	Text (128)	Date Album was released
30	**Movies**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Genre	Text (128)	Movie category – horror, sci-fi, etc.
		31	Title	Text (128)	Movie title
		32	Format	Text (128)	DVD, VHS
		33	Director	Text (128)	Director
		34	Actor	Text (128)	Lead Actors in cast
		35	Rating	Text (128)	MPAA rating
		36	Studio	Text (128)	Studio
		37	Release Date	Text (128)	Date movie was released
40	**Computer Hardware**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Platform	Text (128)	Mac, Windows, or Unix
		31	Ram	Text (128)	Amount of RAM in MB
		32	Hard Drive	Text (128)	Available memory in MB
		33	Processor	Text (128)	Speed in MHZ
		34	Monitor Size	Text (128)	Size in inches. 0 if no screen
		35	Modem	Text (128)	Speed in kbps. 0 if no modem
		36	Drive	Text (128)	CD DVD Floppy Zip
50	**Computer Software**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Platform	Text (128)	Platform – Windows, Mac, etc.
		31	Category	Text (128)	Category – accounting, educational, etc.
		32	Age	Text (128)	Adult or Kids
60	**Clothing & Accessories**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Product Type	Text (128)	Type of clothing or accessory
		31	Size	Text (128)	U.S. Sizes
		32	Material	Text (128)	Material
		33	Color	Text (128)	Color
		34	Gender	Text (128)	Male or Female or Unisex
		35	Style	Text (128)	Style
		36	Age	Text (128)	Adult, Kids, Infant

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Class ID	Class Name	Product Catalog Field #	Attribute Name	Definition	Key
70	**Art**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Product Type	Text (128)	Type of art work
		31	Artist	Text (128)	Artist
		32	Title	Text (128)	Title of work
		33	Dimensions	Text (128)	L x W or L x W x H
80	**Toys**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Age	Text (128)	Age range
		31	Gender	Text (128)	Male or Female
		32	Theme	Text (128)	Theme or character
90	**Pets**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Pet Type	Text (128)	Dogs, Cats, Lizards, etc.
		31	Product Type	Text (128)	Toys, treats, etc.
100	**Games**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Format	Text (128)	Format or Platform
		31	Title	Text (128)	Game Title
		32	Publisher	Text (128)	Publisher
		33	Age	Text (128)	Age Range
		34	Release Date	Text (128)	Release Date
110	**Food & Drink**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Product type	Text (128)	Type of food or drink
		31	Region	Text (128)	Origin of product
		32	Size	Text (128)	Volume in oz., fl oz., grams, etc
120	**Gifts & Flowers**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Occasion	Text (128)	Occasion – Mother's Day, Valentine's, etc.
		31	Recipient	Text (128)	Intended recipient – mother, father, spouse, friend, etc.
130	**Auto**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Make	Text (128)	Make
		31	Model	Text (128)	Model
		32	Part Number	Text (128)	Manufacturer's part number
		33	Category	Text (128)	Product sub-category – type of part
		34	Color	Text (128)	Color
140	**Electronics**	29	Miscellaneous	Text (128)	Extraneous Information
		30	Category	Text (128)	Product sub-category – type of product (CD/DVD player, PDA, etc.)
		31	Model	Text (128)	Model
		32	Features/Specs	Text (128)	Features and Specifications
		33	Color	Text (128)	Color
		34	Dimensions	Text (128)	L x W or L x W x H
		35	Power Type	Text (128)	AC/DC, battery, solar
		36	Warranty	Text (128)	Length of Warranty

Class ID	Class Name	Product Catalog Field #	Attribute Name	Definition	Key
150	Credit Cards	29	Card Type	Text (128)	Business or Consumer Card
		30	Intro Purchase APR	Text (128)	Introductory Purchase APR & Period
		31	Ongoing Purchase APR	Text (128)	APR after Intro Period (if applicable)
		32	Ongoing Annual Fee	Text (128)	Ongoing Annual Fees (if applicable)
		33	Intro Bonus	Text (128)	Introduction Bonus
		34	Ongoing Balance Transfer APR	Text (128)	Ongoing Balance Transfer Details
		35	Rewards Earned	Text (1024)	Rewards Earned
		36	Terms URL	Text (1024)	Link to Terms and Conditions
		37	Intro Purch APR Duration	Text (128)	Intro Purchase APR Duration
		38	Ongoing Purch APR	Text (128)	Ongoing Purchase APR
		39	Intro BalanceTransfer APR	Text (128)	Intro Balance Transfer APR
		40	Intro BalanceTransfer APR Duration	Text (128)	Intro Balance Transfer APR Duration
		41	Intro BalanceTransfer Fee	Text (128)	Intro Balance Transfer Fee
		42	Ongoing BalanceTransfer Fee	Text (128)	Ongoing Balance Transfer Fee
		43	ForeignTrans Fee	Text (128)	Foreign Transfer Fee
		44	CashAdvance APR	Text (128)	Cash Advance APR
		45	CashAdvance Fee	Text (128)	Cash Advance Fee
		46	Penalty APR	Text (128)	Penalty APR
		47	Intro Annual Fee	Text (128)	Intro Annual Fee
		48	Intro Annual Fee Duration	Text (128)	Intro Annual Fee Duration
		49	Marketing Bullets	Text (1024)	Marketing Bullets
		50	Bonus Other	Text (1024)	Bonus Other
160	Consumer Banking	29	Marketing Bullets	Text (1024)	Bulleted product information, formatted as HTML, and copy
		30	APY	Text (128)	APY for said product with percentage followed by effective as of DATE. Note that some products do not have an APY.
		31	Min Balance to Open	Text (128)	Dollar value of Minimum balance to open the account.
		32	Monthly Service Fee	Text (128)	Dollar value of Monthly Service Fee
		33	NSF Fee	Text (128)	Dollar Value for Non Sufficient Funds Fee
		34	ATM Surcharge	Text (128)	Dollar Value for ATM Surcharge, will have US Dollar amount followed by Outside US in format : $X.XX (in US), $Y (outside US), with some exceptions if dollar amount is only until a specific date and must be noted.
		35	Teaser Copy	Text (1024)	Consumer Bonus for said product and action that must be taken to receive bonus

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Appendix C: XML Formatting Standards

XML Schema

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <xsd:element name="url">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="product"/>
                <xsd:element ref="productImage"/>
                <xsd:element ref="buy"/>
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="amount" type="xsd:string"/>
    <xsd:element name="attribute1" type="xsd:string"/>
    <xsd:element name="attributeClass">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element maxOccurs="unbounded" minOccurs="1" ref="attribute1"/>
            </xsd:sequence>
            <xsd:attribute name="class_id" type="xsd:string" use="optional"/>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="availability" type="xsd:string"/>
    <xsd:element name="brand" type="xsd:string"/>
    <xsd:element name="buy" type="xsd:string"/>
    <xsd:element name="category">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="primary"/>
                <xsd:element ref="secondary"/>
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="cost">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="amount"/>
            </xsd:sequence>
            <xsd:attribute name="currency" type="xsd:string" use="optional"/>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="createdOn" type="xsd:string"/>
    <xsd:element name="description">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="short"/>
                <xsd:element ref="long"/>
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="discount">
```

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```xml
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element ref="amount"/>
                    <xsd:element ref="type"/>
                </xsd:sequence>
                <xsd:attribute name="currency" type="xsd:string" use="optional"/>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="header">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element ref="merchantId"/>
                    <xsd:element ref="merchantName"/>
                    <xsd:element ref="createdOn"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="information" type="xsd:string"/>
        <xsd:element name="keywords" type="xsd:string"/>
        <xsd:element name="long" type="xsd:string"/>
        <xsd:element name="m1" type="xsd:string"/>
    <xsd:element name="modification" type="xsd:string"/>
        <xsd:element name="merchandiser">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element ref="header"/>
                    <xsd:element ref="product"/>
                    <xsd:element ref="trailer"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="merchantId" type="xsd:string"/>
        <xsd:element name="merchantName" type="xsd:string"/>
        <xsd:element name="numberOfProducts" type="xsd:string"/>
        <xsd:element name="pixel" type="xsd:string"/>
        <xsd:element name="price">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element ref="sale"/>
                    <xsd:element ref="retail"/>
                </xsd:sequence>
                <xsd:attribute name="currency" type="xsd:string" use="optional"/>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="primary" type="xsd:string"/>
        <xsd:element name="product">
            <xsd:complexType mixed="true">
                <xsd:choice maxOccurs="unbounded" minOccurs="0">
                    <xsd:element ref="category"/>
                    <xsd:element ref="url"/>
                    <xsd:element ref="description"/>
                    <xsd:element ref="discount"/>
```

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```xml
                    <xsd:element ref="price"/>
                    <xsd:element ref="brand"/>
                    <xsd:element ref="shipping"/>
                    <xsd:element ref="keywords"/>
                    <xsd:element ref="upc"/>
                    <xsd:element ref="m1"/>
                    <xsd:element ref="pixel"/>
                    <xsd:element ref="attributeClass"/>
                    <xsd:element ref="modification"/>
                </xsd:choice>
                <xsd:attribute name="manufacturer_name" type="xsd:string" use="optional"/>
                <xsd:attribute name="name" type="xsd:string" use="optional"/>
                <xsd:attribute name="part_number" type="xsd:string" use="optional"/>
                <xsd:attribute name="product_id" type="xsd:string" use="optional"/>
                <xsd:attribute name="sku_number" type="xsd:string" use="optional"/>
            </xsd:complexType>
    </xsd:element>
    <xsd:element name="productImage" type="xsd:string"/>
    <xsd:element name="retail" type="xsd:string"/>
    <xsd:element name="sale">
        <xsd:complexType>
            <xsd:attribute name="begin_date" type="xsd:string" use="optional"/>
            <xsd:attribute name="end_date" type="xsd:string" use="optional"/>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="secondary" type="xsd:string"/>
    <xsd:element name="shipping">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="cost"/>
                <xsd:element ref="information"/>
                <xsd:element ref="availability"/>
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="short" type="xsd:string"/>
    <xsd:element name="trailer">
        <xsd:complexType>
            <xsd:sequence>
                <xsd:element ref="numberOfProducts"/>
            </xsd:sequence>
        </xsd:complexType>
    </xsd:element>
```

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```
        <xsd:element name="type" type="xsd:string"/>
        <xsd:element name="upc" type="xsd:string"/>
    </xsd:schema>
```

XML Document Type Definition (DTD)

<!ELEMENT Actor (#PCDATA) >
<!ELEMENT Age (#PCDATA) >
<!ELEMENT Album (#PCDATA) >
<!ELEMENT APY (#PCDATA) >
<!ELEMENT Artist (#PCDATA) >
<!ELEMENT ATM_Surcharge (#PCDATA) >
<!ELEMENT Author (#PCDATA) >
<!ELEMENT Bonus_Other (#PCDATA) >
<!ELEMENT Card_Type (#PCDATA) >
<!ELEMENT CashAdvance_APR (#PCDATA) >
<!ELEMENT CashAdvance_Fee (#PCDATA) >
<!ELEMENT Category (#PCDATA) >
<!ELEMENT Color (#PCDATA) >
<!ELEMENT Dimensions (#PCDATA) >
<!ELEMENT Director (#PCDATA) >
<!ELEMENT Drive (#PCDATA) >
<!ELEMENT Features_Specs (#PCDATA) >
<!ELEMENT ForeignTrans_Fee (#PCDATA) >
<!ELEMENT Format (#PCDATA) >
<!ELEMENT Gender (#PCDATA) >
<!ELEMENT Genre (#PCDATA) >
<!ELEMENT Hard_Drive (#PCDATA) >
<!ELEMENT Intro_Annual_Fee (#PCDATA) >
<!ELEMENT Intro_Annual_Fee_Duration (#PCDATA) >
<!ELEMENT Intro_BalanceTransfer_APR (#PCDATA) >
<!ELEMENT Intro_BalanceTransfer_APR_Duration (#PCDATA) >
<!ELEMENT ISBN (#PCDATA) >
<!ELEMENT Label (#PCDATA) >
<!ELEMENT Make (#PCDATA) >
<!ELEMENT Marketing_Bullets (#PCDATA) >
<!ELEMENT Material (#PCDATA) >
<!ELEMENT Min_Balance_To_Open (#PCDATA) >
<!ELEMENT Miscellaneous (#PCDATA) >
<!ELEMENT Model (#PCDATA) >

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```
<!ELEMENT Modem ( #PCDATA ) >
<!ELEMENT Monitor_Size ( #PCDATA ) >
<!ELEMENT Monthly_Service_Fee ( #PCDATA ) >
<!ELEMENT NSF_Fee ( #PCDATA ) >
<!ELEMENT Occasion ( #PCDATA ) >
<!ELEMENT Ongoing_Annual_Fee ( #PCDATA ) >
<!ELEMENT Ongoing_Balance_Transfer_ARP ( #PCDATA ) >
<!ELEMENT Ongoing_BalanceTransfer_Fee ( #PCDATA ) >
<!ELEMENT Ongoing_Purchase_APR ( #PCDATA ) >
<!ELEMENT Ongoing_Purch_APR_Duration ( #PCDATA ) >
<!ELEMENT Part_Number ( #PCDATA ) >
<!ELEMENT Penalty_APR ( #PCDATA ) >
<!ELEMENT Pet_Type ( #PCDATA ) >
<!ELEMENT Platform ( #PCDATA ) >
<!ELEMENT Power_Type ( #PCDATA ) >
<!ELEMENT Processor ( #PCDATA ) >
<!ELEMENT Product_Type ( #PCDATA ) >
<!ELEMENT Publish_Date ( #PCDATA ) >
<!ELEMENT Publisher ( #PCDATA ) >
<!ELEMENT Ram ( #PCDATA ) >
<!ELEMENT Rating ( #PCDATA ) >
<!ELEMENT Recipient ( #PCDATA ) >
<!ELEMENT Region ( #PCDATA ) >
<!ELEMENT Release_Date ( #PCDATA ) >
<!ELEMENT Rewards_Earned ( #PCDATA ) >
<!ELEMENT Size ( #PCDATA ) >
<!ELEMENT Song_Title ( #PCDATA ) >
<!ELEMENT Studio ( #PCDATA ) >
<!ELEMENT Style ( #PCDATA ) >
<!ELEMENT Teaser_Copy ( #PCDATA ) >
<!ELEMENT Theme ( #PCDATA ) >
<!ELEMENT Title ( #PCDATA ) >
<!ELEMENT URL ( product, productImage, buyLink ) >
<!ELEMENT Warranty ( #PCDATA ) >
<!ELEMENT amount ( #PCDATA ) >
```

Rakuten Advertising

```
<!ELEMENT attributes ( Actor | Age | Album | APY | Artist | ATM_Surcharge | Author | Bonus_Other |
            Card_Type | CashAdvance_APR | CashAdvance_Fee | Category | Color | Dimensions |
            Director | Drive | Features_Specs | ForeignTrans_Fee | Format | Gender | Genre |
            Hard_Drive | Intro_Annual_Fee | Intro_Annual_Fee_Duration | Intro_BalanceTransfer_APR|
            Intro_BalanceTransfer_APR_Duration | Intro_BalanceTransfer_Fee | Intro_Purchase_APR|
            Intro_Purch_APR_Duration | ISBN | Label | Make | Marketing_Bullets | Material |
            Min_Balance_To_Open | Miscellaneous | Model | Modem | Monitor_Size |
            Monthly_Service_Fee | NSF_Fee | Occasion | Ongoing_Annual_Fee |
            Ongoing_Balance_Transfer_ARP | Ongoing_BalanceTransfer_Fee |
            Ongoing_Purchase_APR | Ongoing_Purch_APR_Duration | Part_Number | Penalty_APR |
            Pet_Type | Platform | Power_Type | Processor | Product_Type | Publish_Date | Publisher |
            Ram | Rating | Recipient | Region | Release_Date | Rewards_Earned | Size | Song_Title |
            Studio | Style | Teaser_Copy | Terms URL | Theme | Title | Warranty )* >

<!ATTLIST attributes class_id NMTOKEN #REQUIRED >

<!ELEMENT availability ( #PCDATA ) >

<!ELEMENT brand EMPTY >

<!ELEMENT buyLink ( #PCDATA ) >

<!ELEMENT category ( primary, secondary ) >

<!ELEMENT cost ( amount ) >

<!ATTLIST cost currency NMTOKEN #REQUIRED>

<!ELEMENT createdOn ( #PCDATA ) >

<!ELEMENT description ( short, long ) >

<!ELEMENT discount ( amount, type ) >

<!ATTLIST discount currency NMTOKEN #REQUIRED>

<!ELEMENT header ( merchantId, merchantName, createdOn ) >

<!ELEMENT information EMPTY >

<!ELEMENT keywords ( #PCDATA ) >

<!ELEMENT long ( #PCDATA ) >

<!ELEMENT m1 EMPTY >

<!ELEMENT modification (#PCDATA) >

<!ELEMENT merchandiser ( header, product+, trailer ) >

<!ELEMENT merchantId ( #PCDATA ) >

<!ELEMENT merchantName ( #PCDATA ) >

<!ELEMENT numberOfProducts ( #PCDATA ) >

<!ELEMENT pixel ( #PCDATA ) >

<!ELEMENT price ( sale, retail ) >

<!ATTLIST price currency NMTOKEN #REQUIRED>

<!ELEMENT primary ( #PCDATA ) >

<!ELEMENT product ( category, URL, description, discount, price, brand, shipping, keywords, upc, m1, pixel,
            attributes, modification? ) >
```

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```
<!ATTLIST product manufacturer_name CDATA #FIXED "" >
<!ATTLIST product name CDATA #REQUIRED >
<!ATTLIST product part_number CDATA #FIXED "" >
<!ATTLIST product product_id NMTOKEN #REQUIRED >
<!ATTLIST product sku_number ID #REQUIRED >
<!ELEMENT productImage ( #PCDATA ) >
<!ELEMENT product ( #PCDATA ) >
<!ELEMENT retail ( #PCDATA ) >
<!ELEMENT sale EMPTY >
<!ATTLIST sale begin_date CDATA #FIXED "" >
<!ATTLIST sale end_date CDATA #FIXED "" >
<!ELEMENT secondary ( #PCDATA ) >
<!ELEMENT shipping ( cost, information, availability ) >
<!ELEMENT short ( #PCDATA ) >
<!ELEMENT trailer ( numberOfProducts ) >
<!ELEMENT type ( #PCDATA ) >
<!ELEMENT upc EMPTY >
```

Appendix D: Sample Records

Pipe-Delimited Product Catalog File

HDR|1234|CDLinkShare|2013-03-14/20:30:40

202232415|GreatExpectations|A01245|books|Classics|http://click.linksynergy.com/link?id=xxxxxxxx xxx&offerid=xxxxx.xxxxxxxxxx&type=15&murl=http%3A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F10003|http://www.merchantsite.com/images/ AO1245.gif|http://click.linksynergy.com/link?id=xxxxxxxxxxx&offerid=xxxxx.xxxxxxxxxx&type=15&murl=http%3A%2F%2Fwww.examplem erchant.com%2Fa%2Fproduct s%2F10003|Charles Dickens Masterpiece|What this cautionary tale of a young man raised high above his station by a mysterious benefactor lacks in length, it more than makes up for in its remarkable characters and compelling story.|0|Amount|29.95|29.95|01/01/2013|12/31/2013||4.00|Dickens~~Expectations|CU12345||Overni gh t/UPS|IN|788334995|10|USD||http://ad.linksynergy.com/fs-bin/show?id=xxxxxxxxxxx&bids=xxxxx.xxxxxxxxxx&type=15&subid=0|hardcover| Great Expectations|Charles Dickens|023119240|Columbia University Press|10/25/1998|I

201132306|Akadema APM-42 Praying Mantis Series 32.5 Inch Baseball Catcher's Mitt |201132306|Sports |Sports~~Baseball Gloves Catchers Mitts|http://affiliate.buy.com/link?id=xxxxxxxxxxx&offerid=xxxxxx.xxxxxxxxxx&type=15&murl=http%3A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F10002|http://ak.buy.com/PI/0/500/20 1132306.jpg|http://affiliate.buy.com/link?id=xxxxxxxxxxx&offerid=xxxxx.xxxxxxxxxx&type=15&murl= http%3A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F10002||Akadema APM-42 Praying Mantis Series 32.5 Inch Baseball Catcher's Mitt|The Akadema(r) APM-42 Praying Mantis Series 32.5in baseball catcher's mitt uses Stress Wedge technology with shock-absorbing protection for the hand against injury and sting when receiving the ball. Double-sided Slim Padding allows for increased pocket size and easier ball retention and the unique shape gives the throwing hand easier access into the pocket, resulting in a quicker glove-to-hand transfer and faster times to second base.||amount|149.44|199.99|05/01/2013|12/30/2013|Akadema|0.00||APM-42REG|Akademia|Overnight/FedEx|yes|008962990||USD||http://ad.linksynergy.com/fsbin/show?id=xxxxxxxxxxx&bids=xxxxx.xxxxxxxxxx&type=15&subid=0|U

TRL|2

Please note: The first entry is an appropriate record for the book Great Expectations. Data items have been omitted for brand, manufacturer name, and M1. Omitted data items are represented by consecutive pipe-delimiters. Field values containing pipe delimiter will be enclosed in double quotes.

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XML Product Catalog File

```xml
<?xml version="1.0" encoding="UTF-8"?>
 <Product Catalog>
  <header>
   <merchantId>3354</merchantId>
   <merchantName>LinkSquare, Inc.</merchantName>
   <createdOn>2013-05-19/22:03:34</createdOn>
  </header>
  <product product_id="1" name="A Simple Product" sku_number="SKU-
                      SIM10001" manufacturer_name="" part_number="" >
   <category>
    <primary>Primary Category</primary>
    <secondary>Secondary Category</secondary>
   </category>
   <url>
   <product>http://click.linksynergy.com/link?id=xxxxxxxxxxx&amp;offerid=90431.1
0000046&amp;murl=htt p%3
A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F678262</product>
   <productImage>http://m.banner.linksynergy.com/fs/banners/2385/2385_10000046.gif</productIma
ge>
   <buyLink>http://click.linksynergy.com/link?id=xxxxxxxxxxx&amp;offerid=90431
.10000046&amp;murl=htt p%3
A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F678263</buyLi
nk>
   </url>
   <description>
    <short>This is the Short Description of the Product</short>
    <long>This is the Long Description of the Product</long>
   </description>
   <discount currency="USD">
    <amount>0</amount>
    <type>amount</type>
   </discount>
   <price currency="USD">
    <sale begin_date="" end_date=""></sale>
    <retail>2.5</retail>
   </price>
   <brand></brand>
   <shipping>
    <cost currency="USD">
     <amount></amount>
    </cost>
    <information></information>
    <availability>AVAILABLE</availability>
   </shipping>
   <keywords>Simple~~Simple Product</keywords>
   <upc></upc>
   <m1></m1>
```

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```xml
                     <pixel>http://ad.linksynergy.com/fsbin/show?id=wYeATVOgE
                     nE&amp;bids=80126.2&a mp;type=15&amp;subid=0</pixel>
      <attributes class_id="1"></attributes>
      <modification>I</modification>
</product>
   <product product_id="101" name="Sample Book" sku_number="SKU-SIM10101"
                     manufacturer_name="" part_number="" >

     <category>
       <primary>Primary Category</primary>
       <secondary>Secondary Category</secondary>
     </category>
     <url>
         <product>http://click.linksynergy.com/link?id=xxxxxxxxxxx&amp;offerid=9
         0431.10000046&amp;mur l=htt
         p%3A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F67826
         2</product>
  <productImage>http://m.banner.linksynergy.com/fs/banners/2385/2385_10000046.gif</productImage
>
     <buyLink>http://click.linksynergy.com/link?id=xxxxxxxxxxx&amp;offerid=90431
     .10000046&amp;murl=htt p%3
     A%2F%2Fwww.examplemerchant.com%2Fa%2Fproducts%2F678263</buyLi
     nk>
     </url>
   <description>
     <short>This is the Short Description</short>
     <long>This is the Long Description of the Product</long>
   </description>
   <discount currency="USD">
     <amount>0</amount>
     <type>amount</type>
   </discount>
   <price currency="USD">
     <sale begin_date="" end_date=""></sale>
     <retail>2.5</retail>
   </price>
   <brand></brand>
   <shipping>
     <cost currency="USD">
       <amount></amount>
     </cost>
     <information></information>
     <availability>AVAILABLE</availability>
   </shipping>
   <keywords>Simple~~Simple Product</keywords>
   <upc></upc>
   <m1></m1>

                     <pixel>http://ad.linksynergy.com/fsbin/show?id=wYeATVOgE
                     nE&amp;bids=80126.2&a mp;type=15&amp;subid=0</pixel>
      <attributes class_id="10">
```

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```
            <Miscellaneous>Extraneous Information</Miscellaneous>
            <Title>Title of Book</Title>
            <Author>Name of Author</Author>
            <ISBN>An ISBN number (13 characters long; ignore dashes, spaces, etc.
                          when processing; first 9 are always numeric)</ISBN>
            <Publisher>Publisher</Publisher>
            <Publish_Date>Publish Date</Publish_Date>
         </attributes>
         <modification>U</modification>
      </product>
      <trailer>
         <numberOfProducts>2</numberOfProducts>
      </trailer>
   </Product Catalog>
```
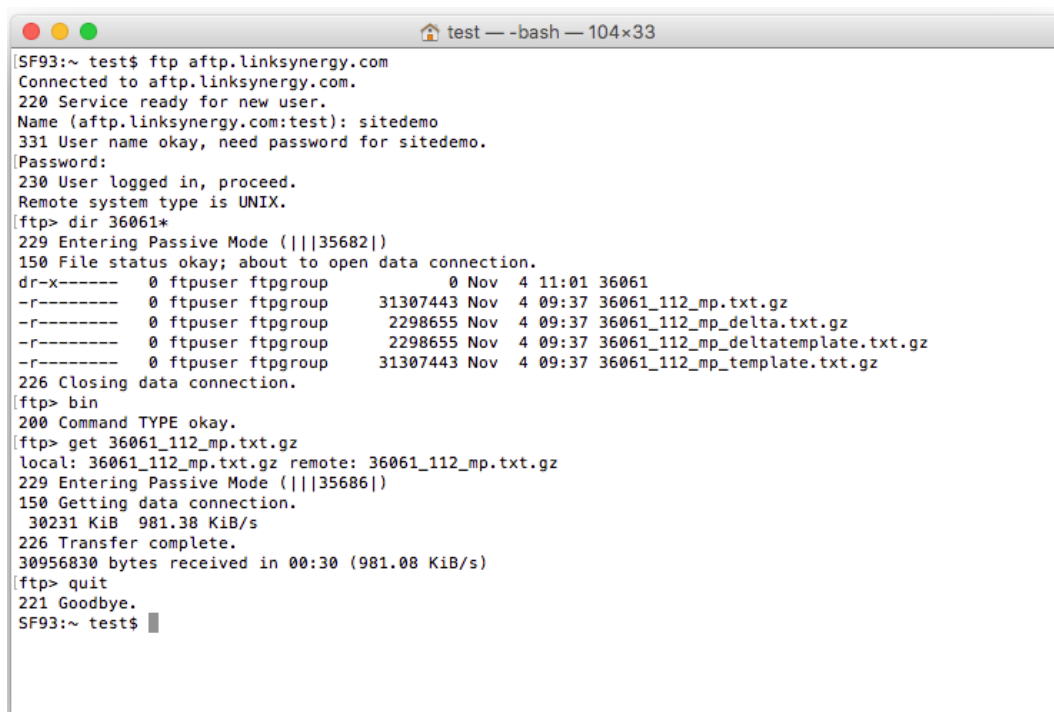
Appendix E: Instructions for Manual Download of Product Catalog Files via FTP

There are two different methods to access your Product Catalog files: using a command prompt window and using Filezilla FTP client.

Instructions for Using a Command Prompt Window

1. Open a command prompt window and type `ftp aftp.linksynergy.com`. You will be prompted for the username on your account, then the password. Enter those and you'll get an `ftp>` prompt.

2. To see what files are on the server, just type `dir`. This will list all files available.

3. To see just files for a specific program, type `dir <MID>` where `<MID>` is the merchant ID for the program you want to see.

4. Before pulling product files be sure to type `bin`. This allows the program to correctly pull compressed files.

5. To pull a file, type `get <filename>` where `<filename>` is the name of the file you want to get

```
[SF93:~ test$ ftp aftp.linksynergy.com
Connected to aftp.linksynergy.com.
220 Service ready for new user.
Name (aftp.linksynergy.com:test): sitedemo
331 User name okay, need password for sitedemo.
[Password:
230 User logged in, proceed.
Remote system type is UNIX.
[ftp> dir 36061*
229 Entering Passive Mode (|||35682|)
150 File status okay; about to open data connection.
dr-x------    0 ftpuser ftpgroup           0 Nov  4 11:01 36061
-r--------    0 ftpuser ftpgroup    31307443 Nov  4 09:37 36061_112_mp.txt.gz
-r--------    0 ftpuser ftpgroup     2298655 Nov  4 09:37 36061_112_mp_delta.txt.gz
-r--------    0 ftpuser ftpgroup     2298655 Nov  4 09:37 36061_112_mp_deltatemplate.txt.gz
-r--------    0 ftpuser ftpgroup    31307443 Nov  4 09:37 36061_112_mp_template.txt.gz
226 Closing data connection.
[ftp> bin
200 Command TYPE okay.
[ftp> get 36061_112_mp.txt.gz
local: 36061_112_mp.txt.gz remote: 36061_112_mp.txt.gz
229 Entering Passive Mode (|||35686|)
150 Getting data connection.
 30231 KiB  981.38 KiB/s
226 Transfer complete.
30956830 bytes received in 00:30 (981.08 KiB/s)
[ftp> quit
221 Goodbye.
SF93:~ test$
```

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6. OPTIONAL: Each program will also have category listings as well as the full product feed. To get a category listing, you first need to change directory to see the category file. To do this, type CD <MID>' where <MID> is the merchant ID for the program you want to see.

7. OPTIONAL: After moving into the program directory, you can use 'dir' to see the list of files. There filenames will include your SID and the category ID for each category. To get a list of the categories and product counts for each category you can pull a copy of the category list. Just type 'get <MID>_category_list.txt'. The file is plain text and can be opened in any text program such as notepad, textedit, or wordpad.

```
● ● ●                         🏠 test — ftp aftp.linksynergy.com — 104×33
[ftp> cd 36061                                                                    ]
 250 Directory changed to /36061
[ftp> dir *.txt                                                                   ]
 229 Entering Passive Mode (|||39432|)
 150 File status okay; about to open data connection.
 -r--------   0 ftpuser ftpgroup       32852 Nov  4 09:36 36061_category_list.txt
 226 Closing data connection.
[ftp> get 36061_category_list.txt                                                 ]
 local: 36061_category_list.txt remote: 36061_category_list.txt
 229 Entering Passive Mode (|||39446|)
 150 RETR
  33885      335.68 KiB/s
 226 RETR
 33885 bytes received in 00:00 (334.89 KiB/s)
[ftp> dir                                                                         ]
 229 Entering Passive Mode (|||39462|)
 150 File status okay; about to open data connection.
 -r--------   0 ftpuser ftpgroup        1074 Nov  4 09:37 36061_112_100029392_cmp.txt.gz
 -r--------   0 ftpuser ftpgroup          88 Nov  4 09:37 36061_112_100029392_cmp_delta.txt.gz
 -r--------   0 ftpuser ftpgroup          88 Nov  4 09:37 36061_112_100029392_cmp_deltatemplate.txt.gz
 -r--------   0 ftpuser ftpgroup        1074 Nov  4 09:37 36061_112_100029392_cmp_template.txt.gz
 -r--------   0 ftpuser ftpgroup        2140 Nov  4 09:37 36061_112_100134121_cmp.txt.gz
 -r--------   0 ftpuser ftpgroup         684 Nov  4 09:37 36061_112_100134121_cmp_delta.txt.gz
 -r--------   0 ftpuser ftpgroup         684 Nov  4 09:37 36061_112_100134121_cmp_deltatemplate.txt.gz
 -r--------   0 ftpuser ftpgroup        2140 Nov  4 09:37 36061_112_100134121_cmp_template.txt.gz
 -r--------   0 ftpuser ftpgroup        1713 Nov  4 09:37 36061_112_100149669_cmp.txt.gz
 -r--------   0 ftpuser ftpgroup          88 Nov  4 09:37 36061_112_100149669_cmp_delta.txt.gz
 -r--------   0 ftpuser ftpgroup          88 Nov  4 09:37 36061_112_100149669_cmp_deltatemplate.txt.gz
 -r--------   0 ftpuser ftpgroup        1713 Nov  4 09:37 36061_112_100149669_cmp_template.txt.gz
 -r--------   0 ftpuser ftpgroup        3745 Nov  4 09:37 36061_112_100149670_cmp.txt.gz
 -r--------   0 ftpuser ftpgroup        1027 Nov  4 09:37 36061_112_100149670_cmp_delta.txt.gz
 -r--------   0 ftpuser ftpgroup        1027 Nov  4 09:37 36061_112_100149670_cmp_deltatemplate.txt.gz
 -r--------   0 ftpuser ftpgroup        3745 Nov  4 09:37 36061_112_100149670_cmp_template.txt.gz
```

Summary

Here's the short list of commands you'll need to know:

ftp: starts the ftp session/process

dir: lists the files available in the current directory

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bin: tells the system to pull compressed files correctly

get: pull a copy of a specific file

CD: changes to a sub-directory to see MID specific files • CD..: CD with the '..' moves you back to the home directory.

Instructions for Using Filezilla

Filezilla is an FTP client commonly used on both Mac and PC. This screenshot shows setting up a connection to aftp.linksynergy.com:

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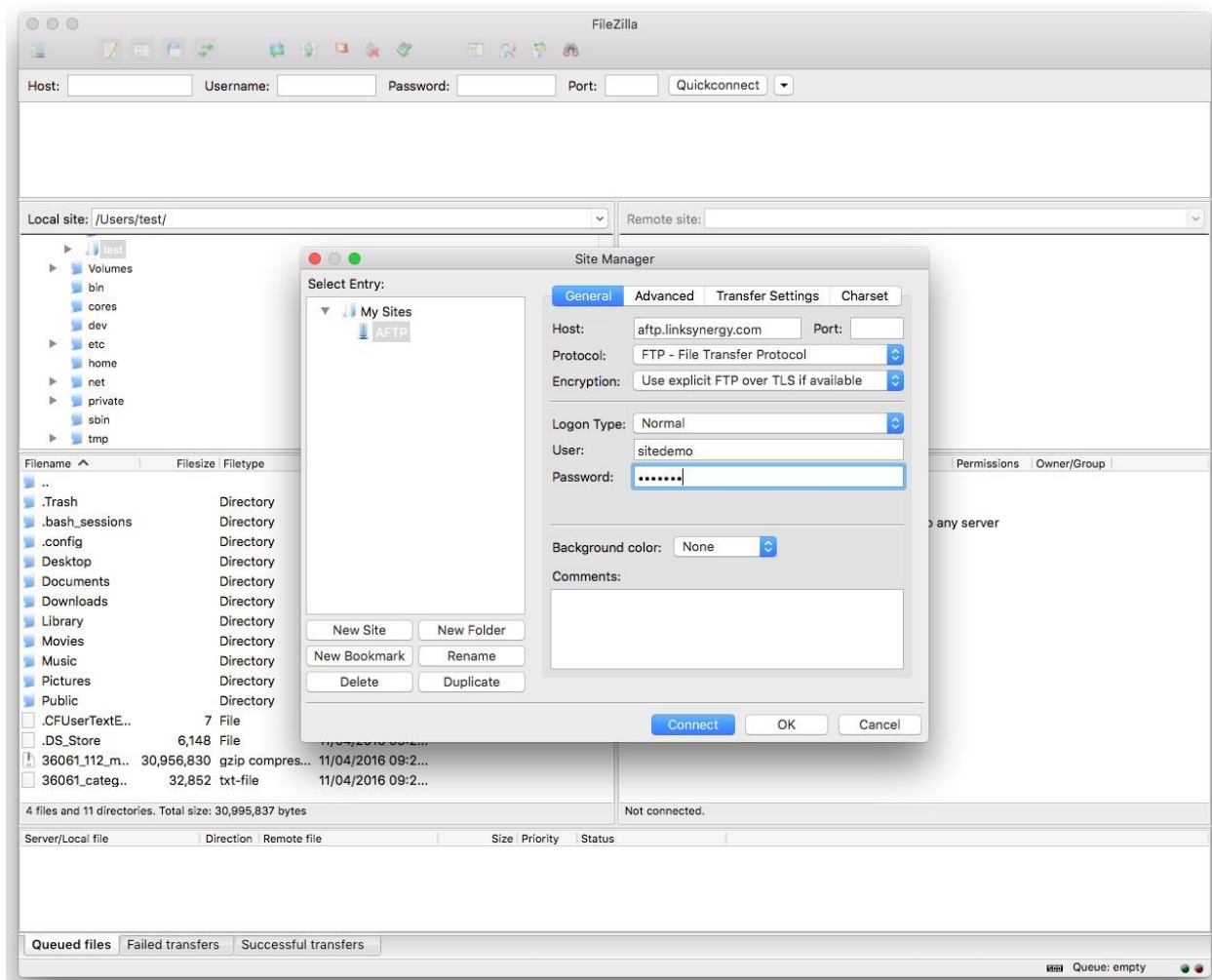
In this screenshot, you can see that after connecting to the server, this is how the program displays files:
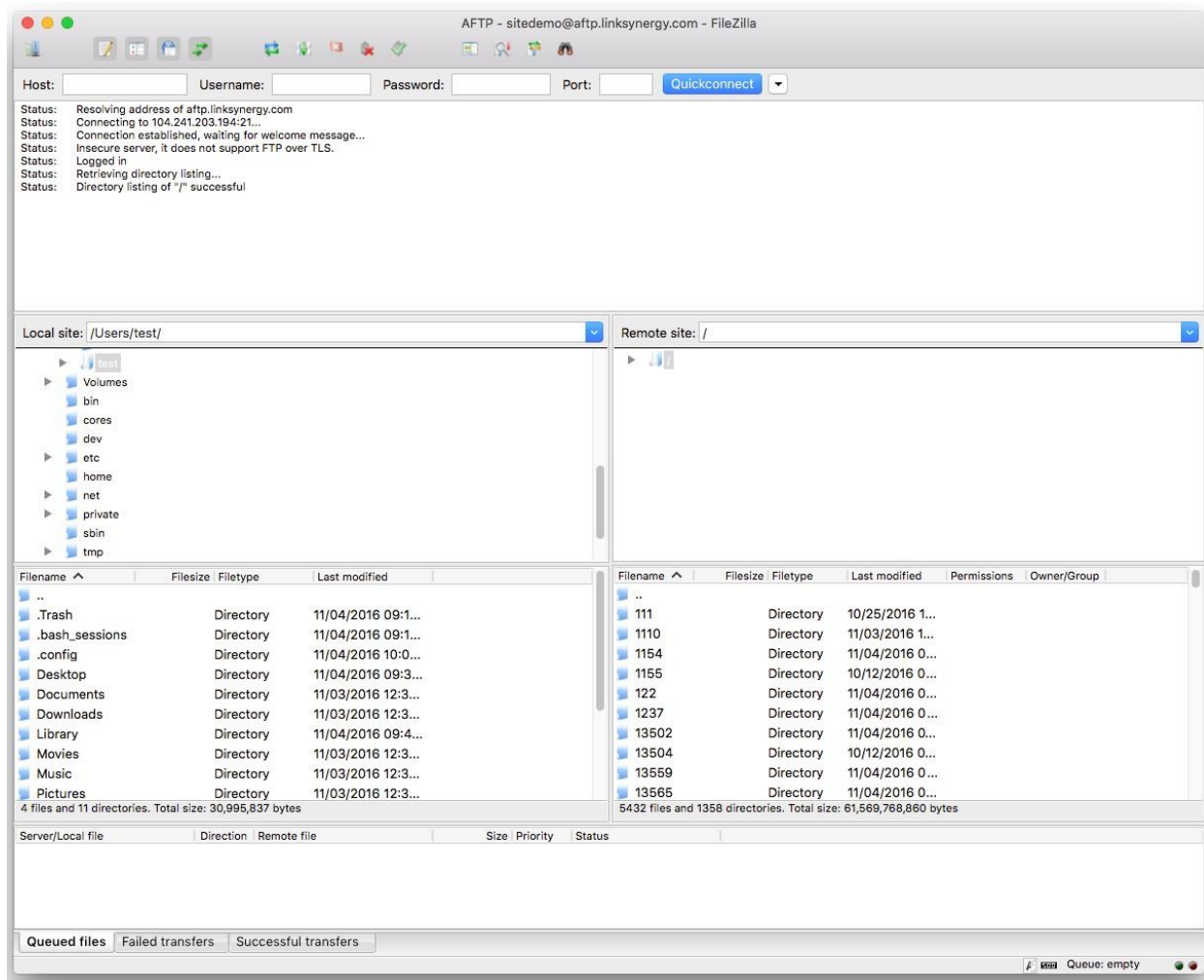
Your machine and files are on the left, the aftp server files are on the right. To get a copy of a file simply drag and drop from the right to the left.

Troubleshooting

If you are unable to open a product file after retrieving it, the likely cause is that the file was downloaded from the command prompt in text mode, not binary. That will cause the file to be corrupted. In that case, you'll want to reconnect, enter the 'bin' command at the prompt, and then re-pull the file.

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