



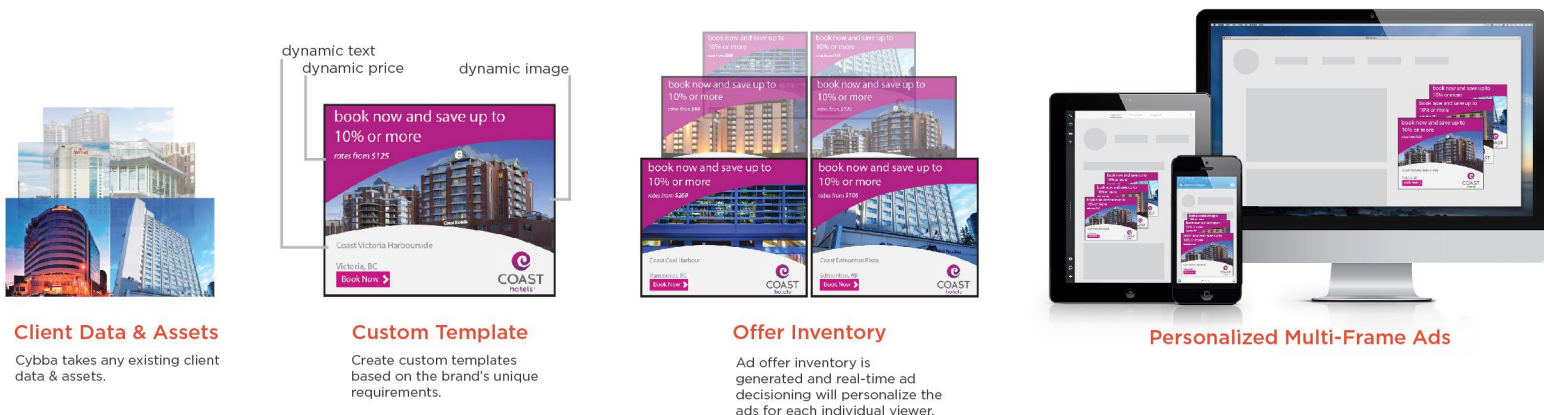
Data Feed Best Practices

I Introduction

Cybba has a powerful and flexible real time creative (RTC) advertising platform designed expressly for agencies and advertisers to create successful data driven RTC display campaigns. A key element of real time creative campaigns is the use of data feeds for the large scale generation and automated updates of ad content. This document provides an overview of best practices and guidelines for the use of data feeds in creating a Cybba real time creative campaign.

I How it works?

As illustrated in the diagram below, the example takes existing advertiser data and assets and combines them with custom designed creative templates to generate thousands upon thousands of individual “ad frame” variations. When a dynamic ad impression is served, ad frames are dynamically selected according to the specific targeting setup of the campaign, thus delivering a personalized ad to each individual viewer across any type of device. Data feed updates can be automated to enable frequent creative and content updates to live campaigns, without having to traffic new ad tags.



I Data Sources and Formats

Cybba can work with a variety of data formats:

XML: XML feeds are the preferred format.

API: For clients with API's, Cybba can work with both REST or SOAP based APIs, with either XML or JSON outputs.

CSV or TXT: Spreadsheet or flat files in CSV or TXT format are also acceptable. With flat files it is important the file is tab or comma delimited and contains a header row.

RSS: RSS feeds are another format we can work with.

SITE SCRAPER: In the event a client does not have a data feed or source as listed above, Cybba can use its own scraper technology to scrape assets and content off the advertiser's website.

I Data Content & Structure

Quality data feeds have both the following types of data:

CONTENT DATA: The data feed should contain fields for every dynamic asset to be used as content within the ads. For example, a retailer's data feed would typically include content fields such as product name, product image URL, price, sale price and destination URL.

META/TARGETING DATA: Targeting or metadata is a critical element of any data feed. Targeting data is information about products/offers in the data feed that may not necessarily be used as content. For example, in a retail data feed, targeting data might include: category, subcategory, best-seller, in-stock/out-of-stock, or gender.

I Automated Updates

Cybba's preferred method of campaign set up is to automate the data feed update process. The following points are the key details defined with the advertiser as part of Cybba's campaign set up process.

Location: The data feed must be accessible via a static URL or FTP. Cybba can retrieve files hosted by the advertisers, but if an advertiser cannot host the data feed themselves, Cybba can provide an FTP account for hosting the file.

Access Credentials: Please provide any necessary account credentials such as username, password, API key or IP whitelisting details so that Cybba can access the data. If Cybba is hosting, Cybba will provide credentials to the advertiser.

Consistent Filename: Ensure the data feed filename is consistent (e.g. datafeed.csv). Changing the filename will break the update process.

Update Frequency, Time & Time Zone: Frequency of updates will be defined as part of the campaign set up process. Note that this includes frequency and time/timezone (e.g. daily updates, 1am, EST).

I Frequently Asked Questions

EXISTING FEEDS: Can advertisers use an existing feed like a Google Product Feed?

Yes, Cybba can use existing data feeds the advertiser may already have or that have been created by other third party providers.

AUTOMATED UPDATES: Is the data feed update process automated?

Yes, Cybba's preferred method is to automate the data feed update process so clients can control ad content via the data feed.

FREQUENCY OF UPDATES: How frequently can data feeds be updated?

Cybba can process data feeds ranging from hourly to daily or weekly. Frequency of updates is determined at the time of campaign setup based on advertiser requirements and the size of the data feed.

UPDATES GOING LIVE: Once the data feed is updated, how long does it take for the changes to go live?

Data feed updates are normally pushed live and visible in the ads within 5 minutes of the update.

DATA FEED SIZE: Is there a size limit for data feeds?

There are no specific size limits enforced. Cybba routinely works with large data feeds so it's only a matter of understanding campaign requirements and update frequency.

MULTIPLE FEEDS: Can Cybba use multiple data feeds for a campaign?

Yes, Cybba can access multiple data feeds to construct and update a campaign. A common example is with travel advertisers that may provide a CSV file with all their hotel details and a separate API used to access daily price data.

EXTRA FIELDS: What if my data feed has extra fields and content, can the extra data be ignored?

Yes, Cybba can work with data feeds that have extra fields and content. Cybba will define specific rules for which fields to use and which ones to be ignored.

ALTERING DATA CONTENT: Can Cybba apply rules to alter or adjust data feed content?

Yes, Cybba uses XSLT to apply rules for transforming content within a data feed. Here are just a few example scenarios of transformation rules that Cybba can apply.

Truncating text length after a designated character or word count.

Add or remove specific text or characters to a parameter value (e.g. add a "\$" before a numerical price value)

Transform date formats (e.g. change 10/18/2015 to 2015-10-18)

Numerical calculations (e.g. apply a formula to change a temperature value from Celcius to Fahrenheit).

MISSING VALUES: What happens if a parameter within the data feed is missing a value (e.g. missing price or image)?

Cybba can apply different rules depending on the nature of the missing parameter.

OPTIONAL: If a parameter in the data feed is an optional asset within the creative design (e.g. sale price), Cybba can generate an ad frame for that data feed entry without the missing element.

REQUIRED: If a parameter is a required asset within the creative design (e.g. product image URL), Cybba will bypass the data feed entry and will not generate an ad frame for that product/offer.

ENCODING: Should the data feed use a particular encoding?

Yes, please ensure the data feed uses UTF-8 encoding. This is particularly important when dealing with text content in different languages using different font characters.

FEED UPDATE FAILURES: Does Cybba monitor data feed updates? What happens if there is a failure?

Yes, Cybba monitors all automated data feed updates. In the event of a data feed update failure, Cybba's managed services team receives a failure notification. Cybba will then assess the cause of the failure and address the matter accordingly.

Data Feed Samples

XML Sample – Retail

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<Items>
<Item>
<SKU>46018</SKU>
<Category>Leather Bags</ProductCategory>
<ProductImage>http://www.site.com/catalog/product/image-1214469-46018.jpg</ProductImage>
<Description>Cross body brown leather bag</ProductDescription>
<Brand>Kate Spade</ProductBrand>
<ProductURL>http://www.site.com/product/brown-leather-bag-46108</ProductURL>
<Price>599</ProductPrice>
<SalePrice>550</ProductSalePrice>
<Gender>women</ProductGender>
<Feature_Label>sale</Feature_Label>
<currency>USD</currency>
</Item>
<Item>
```

XML Sample – Travel (hotel)

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<Root xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<Row>
<Hotel_Name>Super Hotel High Rise Suites Los Angeles</Hotel_Name>
<PropertyID>LAHRS</Hotel_Code>
<Hotel_City>Los Angeles</Hotel_City>
<Airport_IATAs>LAX, ONT, SNA</Airport_IATAs>
<Hotel_Image>http://cdn.superhotel.com/images/property/LAHRS</Hotel_Image>
<Hotel_URL>www.superhotel.com/property/reservations/index.html?propertyID=LAHRS</Hotel_URL>
</Row>
</Root>
```

CSV Sample – Auto

| id | vehicle | availableColors | color | titleFr | offerPrice | titleEn | offerTitleEn |
|--------|---|--|-------------------------|-------------------------|------------|-----------------------|--------------------|
| ID1001 | 4973 - Honda - Fit - DX - 2016 | [Modern Steel Metallic][Aegean Blue Metallic][Crystal Black Pearl][White Orchid Pearl][Milano red] | [White Orchid Pearl] | HONDA FIT 2016 | 44 | 2016 Honda Fit DX | Lease from |
| ID1002 | 5210 - Honda - Civic Berline - DX - 2016 | [Modern Steel Metallic][Taffeta White][Crystal Black Pearl] | [Taffeta White] | HONDA CIVIC DX 2016 | 46 | 2016 Honda Civic DX | Receive a |
| ID1003 | 5186 - Honda - CR-V - LX - 2016 | [Modern Steel Metallic][Alabaster Silver Metallic][Aspen White Pearl][Crystal Black Pearl][Basque Red Pearl II] | [Aspen White Pearl] | HONDA CR-V LX 2016 | 1 500 | 2016 Honda CR-V LX | 60 month lease |
| ID1004 | 5158 - Honda - Accord Berline - LX - 2016 | [Lunar Silver Metallic][Crystal Black Pearl][White Orchid Pearl] | [White Orchid Pearl] | HONDA ACCORD LX 2016 | 69 | 2016 Honda Accord LX | 60 month lease |
| ID1005 | 3723 - Honda - Odyssey - LX - 2015 | [White Diamond Pearl][Crystal Black Pearl] | [White Diamond Pearl] | HONDA ODYSSEY SE 2016 | 91 | 2016 Honda Odyssey SE | 60 month lease |
| ID1006 | 4810 - Honda - Pilot - EX - 2016 | [Modern Steel Metallic][Lunar Silver Metallic][Obsidian Blue Pearl][White Diamond Pearl][Crystal Black Pearl] | [White Diamond Pearl] | HONDA PILOT EX 4RM 2016 | 132 | 2016 Pilot EX 4WD | 60 month lease |
| ID1007 | 4786 - Honda - HR-V - LX - 2016 | [Modern Steel Metallic][Deep Ocean Pearl][Crystal Black Pearl][White Orchid Pearl] | [Modern Steel Metallic] | HONDA HR-V LX 2RM 2016 | 68 | 2016 HR-V LX 2WD | Purchase financing |
| ID1008 | 4973 - Honda - Fit - DX - 2016 | [Modern Steel Metallic][Aegean Blue Metallic][Crystal Black Pearl][White Orchid Pearl][Milano red] | [Milano red] | HONDA FIT 2016 | 44 | 2016 Honda Fit DX | Purchase financing |
| ID1009 | 5210 - Honda - Civic Berline - DX - 2016 | [Modern Steel Metallic][Taffeta White][Crystal Black Pearl] | [Modern Steel Metallic] | HONDA CIVIC DX 2016 | 46 | 2016 Honda Civic | 60 month lease |
| ID1010 | 5186 - Honda - CR-V - LX - 2016 | [Modern Steel Metallic][Alabaster Silver Metallic][Aspen White Pearl][Crystal Black Pearl][Basque Red Pearl II] | [Aspen White Pearl] | HONDA CR-V LX 2016 | 1 500 | 2016 Honda CR-V LX | 60 month lease |
| ID1011 | 5158 - Honda - Accord Berline - LX - 2016 | [Lunar Silver Metallic][Crystal Black Pearl][White Orchid Pearl] | [Lunar Silver Metallic] | HONDA ACCORD LX 2016 | 69 | 2016 Honda Accord LX | 60 month lease |
| ID1012 | 3723 - Honda - Odyssey - LX - 2015 | [White Diamond Pearl][Crystal Black Pearl] | [White Diamond Pearl] | HONDA ODYSSEY SE 2016 | 91 | 2016 Honda Odyssey SE | 60 month lease |
| ID1013 | 4810 - Honda - Pilot - EX - 2016 | [Modern Steel Metallic][Lunar Silver Metallic][Obsidian Blue Pearl][White Diamond Pearl][Crystal Black Pearl] | [Lunar Silver Metallic] | HONDA PILOT EX 4RM 2016 | 132 | 2016 Pilot EX 4WD | 60 month lease |
| ID1014 | 4785 - Honda - HR-V - EX-L NAVI - 2016 | [Modern Steel Metallic][Mulberry Metallic][Crystal Black Pearl][White Orchid Pearl][Milano red][Misty Green Pearl] | [Milano red] | HONDA HR-V LX 2RM 2016 | 68 | 2016 HR-V LX 2WD | 60 month lease |
| ID1015 | 4973 - Honda - Fit - DX - 2016 | [Modern Steel Metallic][Aegean Blue Metallic][Crystal Black Pearl][White Orchid Pearl][Milano red] | [Milano red] | HONDA FIT 2016 | 44 | 2016 Honda Fit DX | Lease from |
| ID1016 | 5210 - Honda - Civic Berline - DX - 2016 | [Modern Steel Metallic][Taffeta White][Crystal Black Pearl] | [Taffeta White] | HONDA CIVIC DX 2016 | 46 | 2016 Honda Civic DX | Receive a |
| ID1017 | 5186 - Honda - CR-V - LX - 2016 | [Modern Steel Metallic][Alabaster Silver Metallic][Aspen White Pearl][Crystal Black Pearl][Basque Red Pearl II] | [Basque Red Pearl II] | Honda CR-V LX 2016 | 1 500 | 2016 Honda CR-V LX | 60 month lease |
| ID1018 | 5158 - Honda - Accord Berline - LX - 2016 | [Lunar Silver Metallic][Crystal Black Pearl][White Orchid Pearl] | [Crystal Black Pearl] | HONDA ACCORD LX 2016 | 69 | 2016 Honda Accord LX | 60 month lease |
| ID1019 | 3723 - Honda - Odyssey - LX - 2015 | [White Diamond Pearl][Crystal Black Pearl] | [White Diamond Pearl] | HONDA ODYSSEY SE 2016 | 91 | 2016 Honda Odyssey SE | 60 month lease |
| ID1020 | 4810 - Honda - Pilot - EX - 2016 | [Modern Steel Metallic][Lunar Silver Metallic][Obsidian Blue Pearl][White Diamond Pearl][Crystal Black Pearl] | [Obsidian Blue Pearl] | HONDA PILOT EX 4RM 2016 | 132 | 2016 Pilot EX 4WD | 60 month lease |
| ID1021 | 4786 - Honda - HR-V - LX - 2016 | [Modern Steel Metallic][Deep Ocean Pearl][Crystal Black Pearl][White Orchid Pearl] | [Modern Steel Metallic] | HONDA HR-V LX 2RM 2016 | 68 | 2016 HR-V LX 2WD | 60 month lease |
| ID1022 | 4973 - Honda - Fit - DX - 2016 | [Modern Steel Metallic][Aegean Blue Metallic][Crystal Black Pearl][White Orchid Pearl][Milano red] | [White Orchid Pearl] | HONDA FIT DX 2016 | 44 | | |
| ID1023 | 5210 - Honda - Civic Berline - DX - 2016 | [Modern Steel Metallic][Taffeta White][Crystal Black Pearl] | [Modern Steel Metallic] | HONDA CIVIC 2016 | 46 | | |
| ID1024 | 5186 - Honda - CR-V - LX - 2016 | [Modern Steel Metallic][Alabaster Silver Metallic][Aspen White Pearl][Crystal Black Pearl][Basque Red Pearl II] | [Basque Red Pearl II] | HONDA CR-V 2016 | 1 500 | | |
| ID1025 | 5158 - Honda - Accord Berline - LX - 2016 | [Lunar Silver Metallic][Crystal Black Pearl][White Orchid Pearl] | [Lunar Silver Metallic] | HONDA ACCORD LX 2016 | 69 | | |