

KEY CONTRIBUTORS:

MARK ISHERWOOD

NIELS RUMP

JILL CHAPMAN

PETE JOHNSTON

DDEX RELEASE NOTIFICATION STANDARD STARTER GUIDE FOR IMPLEMENTATION

VERSION 1.0 | JULY 2016



00

CONTENTS

CONTENTS

Quick Start/Cheat Sheet.....	05	Language and Character	
Asset Formats.....	05	Set Support.....	24
Metadata.....	05	Track Samples.....	24
Delivery.....	05	Specifying Cost Tiers	
XML Considerations.....	05	in the Metadata File.....	24
Introduction.....	07	Takedowns or Removing Offers.....	25
A Brief Overview of the Digital		New Territories	25
Music Ingestion Process.....	07	Validating Your XML.....	25
Reception.....	07	Delivering Your Catalog.....	26
Validation.....	07	Naming Conventions.....	26
Transcoding.....	08	Managing Your Catalog.....	27
Availability.....	08	Initial Delivery.....	27
Preparing Your Assets.....	09	Updating Your Catalog.....	27
Audio Files.....	09	Getting Started:	
Video Files.....	09	Initial Integration Testing.....	28
Digital Booklet Files (PDF files).....	10	Prepare Your Assets.....	28
Album Art.....	10	Delivery #1 – Original Delivery.....	28
Naming Conventions.....	10	Delivery #2 – Update Delivery.....	29
Preparing your Metadata.....	12	Delivery #3 – Update Delivery	
The DDEX Standard.....	13	(Takedown).....	29
Registering for a DDEX		Appendix A: XML Reference.....	31
Party Identifier.....	14	Supported Territory Codes.....	31
DDEX Structural Overview.....	15	XML Schema &	
<MessageHeader>.....	15	Field Descriptions.....	31
<ResourceList>.....	16	XML Metadata Example.....	38
<ReleaseList>.....	19	Appendix B: Tools.....	45
<DealList>.....	22	XML Tools.....	45
Using Special Characters		MD5 Checksums.....	45
in your XML file.....	23		

A close-up photograph of a Fender guitar headstock, showing the tuning pegs and the Fender logo. The image is partially obscured by a blue geometric overlay.

01

QUICK START/CHEAT SHEET

QUICK START /CHEAT SHEET

This section summarizes the requirements for implementing DDEX's digital music delivery standard. Please refer to Appendix A for the full XML specification, or the relevant part of the documentation for more information.

ASSET FORMATS

Asset formats for audio, video, booklets and artwork are to be agreed upon between the label or aggregator and each retail partner. For example, some retail partners prefer lossless audio codecs while others prefer pre-encoded assets to meet a specific business need.

METADATA

Each album or track delivered must include a full set of metadata as specified in Appendix A. A few things to beware of:

- Metadata can be updated by sending metadata-only updates;
- You may change the titles of tracks – although this should only be done to correct errors; and
- You cannot change the number or order of tracks.

DELIVERY

- DDEX supports multiple choreographies for delivering content:
 - SFTP Release-by-Release Profile – Each release is delivered as its own entity, within its own directory; and
 - SFTP Batch Profile – Multiple releases are delivered as a batch, with no defined maximum size, where the presence of a manifest file signals the batch is complete;

01 QUICK START /CHEAT SHEET

- All files should be named in accordance with the DDEX standard:
 - The entire delivery should be placed in a directory named using the unique album identifier;
 - The XML file should be named using the unique album identifier (i.e. GRid, UPC, EAN, or JAN); and
 - Resource files also need to be named in accordance with the relevant choreography standard (see, <https://kb.ddex.net/display/ECHO16FTP/7.3+File+Naming+Conventions>, for the latest version).

XML CONSIDERATIONS

- Be sure to encode special characters (entities) correctly. For example, ampersands (&) must be encoded as & and
- Each element must only contain a single value – no comma-separated lists are allowed.



A hand wearing a black leather watch is adjusting a knob on a mixing console. The background is a blue geometric design with diagonal stripes and a large blue triangle. The number '02' is prominently displayed in white.

02

INTRODUCTION

INTRODUCTION

WELCOME TO DIGITAL MUSIC!

This document will guide labels and label aggregators through the process of uploading and managing their catalogs on digital retailers using the Digital Data Exchange, LLC (DDEX) Electronic Release Notification Standard (known as Release Notification). This standard ensures that the metadata identifying these catalogs and the files within will be standardized and easily searchable for digital music consumers.

Please Note: The digital delivery process is highly automated and designed to provide labels and aggregators with complete control over their digital catalog. Third-party sources are available to support or handle delivery for companies without the technological infrastructure to pass validation processes.

A BRIEF OVERVIEW OF THE DIGITAL MUSIC INGESTION PROCESS

Sending your digital assets to your retail partner is the first step towards publishing your catalog in the various available stores, services and marketplaces online. This section of the documentation gives you an overview of a typical ingestion system so that you may better understand the complexities involved, and why DDEX delivery specifications should be exacting. Please note that this is a highly simplified view of digital ingestion, and intended to give the reader a basic understanding of the process.

The process is broken into four basic steps: reception, validation, transcoding, and publishing (see Figure 1).



Figure 1: The four stages of ingestion

02 INTRODUCTION

RECEPTION

First your content must be delivered to your retail partner's ingestion queue using the DDEX ERN Choreography Standard. The current version is available from <https://kb.ddex.net/pages/viewpage.action?pageId=7210284>.

VALIDATION

After your content has been delivered, it enters the validation stage. This is where your retail partner can verify what you sent is complete, and contains a valid offer. A number of checks can be done at this stage, such as:

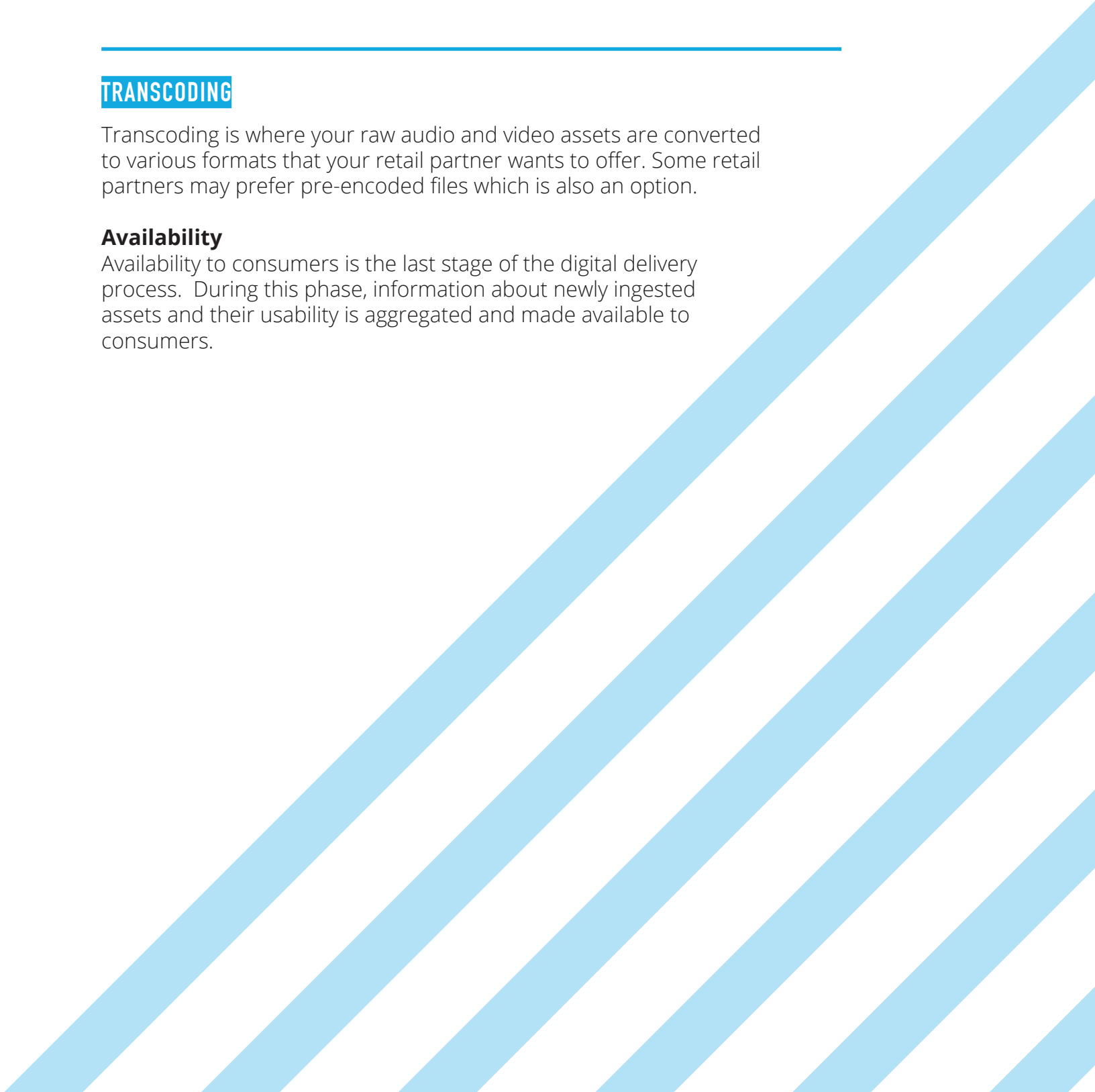
- Making sure your XML file is well-formed and contains no errors;
- Making sure the number of audio and artwork files corresponds to what you've specified in the XML file;
- Making sure you've sent all the necessary information (particularly that the offer data is complete);
- Making sure it doesn't conflict with an existing catalog asset; and
- Checking that the audio and artwork files didn't get corrupted during transport.
- Deliveries that pass the validation phase are handed off to the transcoding phase.

TRANSCODING

Transcoding is where your raw audio and video assets are converted to various formats that your retail partner wants to offer. Some retail partners may prefer pre-encoded files which is also an option.

Availability

Availability to consumers is the last stage of the digital delivery process. During this phase, information about newly ingested assets and their usability is aggregated and made available to consumers.



03

PREPARING YOUR ASSETS



PREPARING YOUR ASSETS

The first thing you must do before you can deliver your catalog is to convert your digital assets to a format that is acceptable for delivery. Most retail partners require high-quality assets from vendors so they can offer the highest possible quality to customers. You should agree on the format in which the assets will be delivered with your retail partner(s) before commencing any work in this area.

AUDIO FILES

Most retail partners prefer a lossless codec, of which there are many, although generally, but not exclusively, most retail partners will want Free Lossless Audio Codec (FLAC) or Waveform Audio File format (WAV). A lossless format means that the fidelity of the original audio file is completely preserved. If you do not already use one of these formats to store your audio masters, tools are readily available to convert your masters (see Appendix B).

VIDEO FILES

Most retail partners prefer to receive the highest possible quality file, although sometimes it simply isn't practical to send a master quality version because of the file size. Most labels or aggregators send an intermediate quality file. In the industry this is known as a mezzanine file. Most video production houses are capable of producing mezzanine files in a variety of formats and quality levels.

03 PREPARING YOUR ASSETS

High Definition Source Specifications

These formats have been extensively tested and are known to produce high quality outputs. Examples of high definition formats are detailed in the table below.

VIDEO SPEC	HIGH DEFINITION (HD)
Vertical Resolution	1080 or 720
Video Codecs	MPEG-2 or H.264/MPEG-4 AVC
Extensions	.mpeg, .mpg, .mp4, .m2v, .wmv
Container Type	Transport or Program Stream (unencrypted)
Interlaced/Progressive	Progressive
Color Space	YUV or ITU-R BT.709
Frame Rates	23.976p, 24p, 25p, 29.7p, 30p
Video Bit Rate	15 Mbps or higher (CBR or VBR)
Key Frame Interval	2 seconds (or less)
Audio Codec	PCM in SMPTE302m or MPEG-1/2 Audio Layer II
Audio Tracks	Single-track only
Audio Bit Rate	192 Kbps or higher VBR
Audio Sample Rate	48 KHz
Audio Channels	Stereo

Standard Definition Source Specifications

These Standard Definition Source formats have been extensively tested and are known to produce high quality SD outputs.

VIDEO SPEC	STANDARD DEFINITION
Vertical Resolution	480 or 576
Video Codecs	MPEG-2 or H.264/MPEG-4 AVC
Extensions	.mpeg, .mpg, .mp4, .m2v, .wmv
Container Type	Transport or Program Stream (unencrypted)
Interlaced/Progressive	Progressive
Color Space	YUV or ITU-R BT.601
Frame Rates	23.976p, 24p, 25p, 29.7p, 30p
Video Bit Rate	8 Mbps or higher (CBR or VBR)
Key Frame Interval	2 seconds (or less)
Audio Codec	PCM in SMPTE302m or MPEG-1/2 Audio Layer II
Audio Tracks	Single-track only
Audio Bit Rate	192 Kbps or higher VBR
Audio Sample Rate	48 KHz
Audio Channels	Stereo

03 PREPARING YOUR ASSETS

Digital Booklet Files (PDF files)

Most retail partners accept PDF files as part of album deliveries. There are no specific requirements with respect to color, dimensions, maximum pages, etc. Some retail partners may place stipulations on what, if any, other third party content, such as advertisements, may be contained in the PDF files.

ALBUM ART


High quality images of album covers are used on retail partner product pages and are often provided with purchased albums and tracks. The format and resolution of art work should be agreed upon between labels or aggregators and their retail partners.

NAMING CONVENTIONS

The new DDEX standard does not require that you name your files using any particular naming convention, except for the XML file that contains the information about your delivery. However, there is a recommended naming convention for resource files, which are your audio, video, and artwork files: `Releaseld_TechnicalResourceld_ResourceType_Hierarchy.Ext`
Where:

- **Releaseld** is the unique identifier for this product, preferably GRid, UPC, EAN or JAN;
- **TechnicalReleaseld** is the unique identifier for the resource, and should begin with a capital T;
- **ResourceType** is a text string such as Audio, Video or Text;
- **Hierarchy** is used to determine the ordering if needed; and
- **Ext** is the standard file extension, such as .jpg, .flac, or .pdf.

Every file you send should include a standardized identifier such as UPC, EAN, JAN, or GRid in the file name. There are no strict requirements, but using a naming convention as suggested above makes it easier for everyone involved. After you've prepared all your assets, it's time to prepare your metadata file, which is the topic of the next section.

A series of four parallel diagonal lines in a light blue color, extending from the bottom right corner towards the center of the page.



04

PREPARING YOUR METADATA

PREPARING YOUR METADATA

For each delivery you send, your retail partners need to know:

- Who you are;
- What files you're sending, and information about each file, i.e. title, duration, etc.; and
- What combination(s) these files should be sold in (albums, EPs, singles) as well as information about the combinations (album title, artist name, order, etc.).

This information is delivered in XML format, using the DDEX Electronic Release Notification (ERN) standard. There are two widely implemented versions of this standard in use, namely, v3.4.1 and v3.7. However, new versions are published regularly and DDEX recommends that implementers always implement the most recent version of the standard (the latest version is 3.8). Because the DDEX standard was designed to be flexible, it's helpful to understand DDEX terminology, which is used throughout this document. Instead of songs, albums, and releases, DDEX speaks in terms of resources, releases, and deals:

- **Resource** – a digital fixation of an expression of an abstract work (such as a Sound Recording, a video, an image, software, or a passage of text);
- **Resource File** – a file representing a resource;
- **Release** – a combination of resources representing a sellable product; and
- **Deal** – a set of rules that determine where and how a release (not a resource) can be sold or made available to consumers.

In DDEX terminology, you'll be delivering a number of resource files representing a number of resources (the songs and artwork), communicating

04 PREPARING YOUR METADATA

how these can be sold as releases (as an album, as individual tracks), and what the deals are for each release (on a territory by territory basis, by date range, etc.). All this information is sent to us in an XML file, using the DDEX ERN specification.

XML is a standard for exchanging data in a machine-readable format. It may look strange at first, but it's really not that complicated. If you keep a few simple rules in mind, you'll have no problem:

- **All data is enclosed by tags, for example:**
`<TitleText>Yellow Submarine</TitleText>;`
- **Tags are case sensitive** so `<TITLETEXT>` is not the same as `<TitleText>;`
- **An element consists of an opening tag, a closing tag** (with the slash before the tag name), and any data contained within the tags;
- **Elements can be nested.** For instance, your file will have a `<MessageHeader>` element, inside which will be `<MessageSender>` and `<MessageRecipient>` elements, and each of those will have other elements inside them;
- **Order is important.** You must submit the elements in the exact order specified;
- **Some elements can include a value inside the tag.** This is called an attribute: `<Title TitleType="DisplayTitle">`. In this case `TitleType` is an attribute of the `Title` tag, and the value of the `TitleType` attribute is `"DisplayTitle"`; and
- **Each element must only contain a single value.** Do not include a comma-separated list of values in any of your elements. Instead, you should supply multiple elements, each with a single value.

THE DDEX STANDARD

The DDEX ERN standard was developed by a consortium of music labels, technology intermediaries, and retailers to provide a comprehensive standard for exchanging digital product information.

As the ERN is able to cater for a wide array of types of Releases – from simple ring tones to complex classical albums and multimedia bundles, DDEX has developed a series of Profiles that indicate which data elements should be used for which Release type. These “Release Profiles” are DDEX standards as well and are published on <https://kb.ddex.net/display/GBK/Implementing+Release+Deliveries>. Similarly, there are different types of Deals by which a Release can be offered and DDEX has defined a series of “Business Profiles” to differentiate between the different types of exploitation. Together, Release and Business profiles make sure that a communication about ringtones only utilizes those aspects of the ERN message that are applicable to ringtone Releases and ringtone Deals. On the other hand, a communication about classical downloads would need to cater for the rules of the Classical Audio Album Release profile and the Generic Download Service Business Profile.

Although it’s important for you to be familiar with the ERN standard and particularly the relevant profiles, major highlights about the specification are listed here for a quick overview:

- All the DDEX standards uses complete set semantics. This means every XML delivery must be a complete set of all valid deals. Do not omit offers in subsequent updates for the sake of brevity or to attempt a takedown.
- To take down a Release, you will need to repeat the set of Deals currently available to your retail partners, albeit with the EndDate set to the last day when these rights are available. Any remaining Deals must be communicated in the same message. Subsequent messages must only communicate Deals for those commercial aspects that are (or are to become) active.

04 PREPARING YOUR METADATA

- The DDEX Choreography standard that accompanies the DDEX ERN standard enables Releases to be either delivered in batches or one at a time (“Release-by-Release”).

1. If using the batched mode, the ERN Choreography standard requires a batch complete file to show that a delivery is complete when Releases are being sent in batches. This file is recommended to be a manifest that provides a list of the Releases that make up the batch. However, the batch-complete signal may also be communicated with a zero-byte file.

2. If Releases are being communicated one-by-one (or “Release-by-Release”, as it is called in the relevant DDEX standard); and

- The DDEX ERN standard defines a specific file naming convention.

In addition to the structural and procedural improvements, the DDEX ERN standard offers comprehensive functionality:

- The DDEX ERN standard is designed for faster system throughput and better fault-tolerance;
- DDEX allows for multiple Titles, identified by using an attribute, i.e. DisplayTitle, FormalTitle, AbbreviatedDisplayTitle, and even a ReferenceTitle;
- DDEX allows for localized metadata. You can supply localized artist names, album titles, and song titles on a territory-by-territory basis. You can also provide metadata in different character sets and languages where needed;
- The DDEX ERN standard also allows for the inclusion of producer, mixer, and engineer information which may not be specifically required by your retailer partner but is useful in driving discovery;

-
- The DDEX ERN standard allows all distributors to deliver PDF booklets with their releases; and
 - The DDEX ERN standard allows all distributors to deliver multimedia releases that include video.

THE DDEX STANDARD: VERBOSE, EXPLICIT, AND COMPLETE

There are a number of advantages to using the DDEX standard; the first being that the DDEX standard is verbose, meaning it requires a lot more elements than other custom systems, and many tag names are much longer. Your XML files will be larger, but with the benefit that there is less chance of misinterpretation.

The other reason that there is less room for misinterpretation is because the DDEX standard is explicit, meaning that very little is assumed or inherited. For example, if you send an album and only a deal for the album, the tracks will not be available for sale individually (i.e. album only), because no explicit deals were received for the individual tracks.

Finally, and perhaps most important to note, is that DDEX uses complete set semantics. That means that each delivery is considered to be complete and authoritative. This is different from specifications which use update set semantics. With update semantics, new deals are added to existing deals and remained active until a takedown is received. This is not the case with DDEX, and deserves to be called out again:

Note: The DDEX standard is a complete set standard, which means that every XML file must include ALL valid deals. Takedowns must be communicated explicitly as defined in the Business Profile standard (<https://kb.ddex.net/display/ERNBP13/4.7.4+Take-downs+and+Reduction+of+Rights>).

04 PREPARING YOUR METADATA

REGISTERING FOR A DDEX PARTY IDENTIFIER

Before you deliver catalog using the DDEX standard, you must apply for a DDEX Party Identifier (DPID) on the DDEX website at <http://dpid.ddex.net>. All DDEX standards require the DPID of the sender and recipient of the message to be included in the message. The DPID enables each sender and recipient to be uniquely identified.

DDEX STRUCTURAL OVERVIEW

The layout of a DDEX ERN file is as follows (spaces and line breaks added for readability):

```
<NewReleaseMessage>
<MessageHeader>
  {various elements identifying the sender and recipient}
</MessageHeader>

<ResourceList>
  {various elements identifying all each file you're delivering to us}
</ResourceList>

<ReleaseList>
  {various elements identifying how resources combine into products}
</ReleaseList>

<DealList>
  {various elements describing how and where releases can be sold}
</DealList>
</NewReleaseMessage>
```

The entire file is enclosed in a <NewReleaseMessage> element. Inside that, there's the <MessageHeader> element, which contains information about who you are.

If you're sending ten tracks and an album cover, you'll have eleven entries in the <ResourceList>, and each will include metadata such as track title, artist, contributor information, publishing information, genre and technical details about each file, such as file name, the hash sum, number of channels, bit rate, etc.

The <ReleaseList> follows next, and it explains how you want to combine the Resources into Releases. Assuming the same ten tracks mentioned above, you would likely send one Release that included all ten tracks, and also send the Release information for each track individually (these are referred to as TrackReleases), for a total of eleven Releases.

Finally, you would send a list of deals for all your Releases in the <DealList> section. For each Release, you would send information about when the Release becomes available, what territories it's available in, and what the cost tier or wholesale cost is for that Release.

The following sections provide an overview of the major elements you'll be using to send the metadata required to offer your products. For more information, please refer to Appendix A, or download the full specification from the DDEX web site at <https://kb.ddex.net/display/GBK/Implementing+Release+Deliveries>.

<MessageHeader>

The <MessageHeader> element identifies the sender and intended recipient of the message. All the elements listed below are required; other elements may also be included.

- **<MessageThreadId>** - A string used to uniquely identify the thread of Messages of which the current message is a part;

04 PREPARING YOUR METADATA

- **<MessageId>** - A string used to uniquely identify the current message;
- **<MessageSender>** - A composite element used to identify the sender of the message;
- **<MessageRecipient>** - A composite element used to identify the intended recipient; and
- **<MessageCreatedDateTime>** - A string used to uniquely identify the time your system created this message.

The **<MessageSender>** and **<MessageRecipient>** elements include **<PartyID>** and **<PartyName>** elements that identify the respective parties. You must apply for a DDEX Party Identifier (DPID) on the DDEX website at <http://dpid.ddex.net>.

<ResourceList>

The **<ResourceList>** element enumerates all the files referenced in the Releases in this message. There are four types of elements that can be included in the list, one for each type of content DDEX allows:

- **<SoundRecording>** - A composite element used to describe audio recordings included in this delivery;
- **<Video>** - A composite element used to describe video recordings included in this delivery;
- **<Image>** - A composite element used to describe Images included in this delivery; and
- **<Text>** - A composite element used to describe text resources included in this delivery.

Releases may include any number or combination of Resources, but they must be listed in the order listed above, i.e. sound files, then video, then images, and finally text. Each of these elements is a composite element, enclosing elements that contain media file metadata. The following sections detail the information included in each media file element.

<SoundRecording>

The <SoundRecording> element contains metadata about an audio recording. There are a couple of global elements, namely a unique identifier and a duration element. Most of the details are included in the <SoundRecordingDetailsByTerritory> element.

There are many elements that can be included in this element. Only the common ones are listed here for illustrative purposes. For a full list of all available elements, please refer to Appendix A.

- **<SoundRecordingId>** - a composite element containing unique identifiers for the music. Most retail partners will expect this to be the ISRCs for each sound recording;
- **<ResourceReference>** - A unique identifier, always starting with the letter "A", that identifies this resource throughout the rest of the XML file;
- **<ReferenceTitle>** - A composite element containing title information for this sound recording. DDEX allows for many different types of titles, including sub-titles, display titles, shortened titles, etc;
- **<Duration>** - The duration of the sound recording (as embodied in the audio file);
- **<SoundRecordingDetailsByTerritory>** - A composite element that contains territory-specific information about a sound recording;

04 PREPARING YOUR METADATA

- **<TerritoryCode>** ISO territory code plus a DDEX code for “Worldwide”;
- **<Title>** - A composite element for title of the sound recording. DDEX allows for many different kinds of titles. This element takes an attribute to identify the type of title being provided, i.e. “FormalTitle,” “DisplayTitle,” or “AbbreviatedDisplayTitle”;
- **<DisplayArtist>** - A composite element used to specify the artist associated with each sound recording. It includes elements to specify an artist’s name as well as an optional **<ArtistRole>** element;
- **<ResourceContributor>** - DDEX includes the concept of a contributor. This field can be used to list contributing artists such as guest rappers, soloists, etc;
- **<LabelName>** - An element for the label name;
- **<PLine>** - A composite element that identifies the year of first release of the Resource or Release followed by the name of the entity that owns the phonographic rights in the Resource or Release;
- **<Genre>** - A composite element used to specify genre information;
- **<ParentalWarningType>** - The element used to identify whether the file includes explicit content or not;
- **<TechnicalSoundRecordingDetails>** - A composite element that includes all the technical details about an audio file, such as the codec, bit rate, number of channels, etc. This element also contains the file name and hash sum of the file; and
- **<IsPreview>** - Indication of whether the Resource is a preview of an associated full Resource. **<Video>**.

The <Video> element contains metadata about a video recording. Much like the <SoundRecording> element, there are a few global elements; most of the details are included in the <VideoDetailsByTerritory> element. Video metadata can be localized just like audio metadata. There are many elements that can be included in this element. Only the common ones are listed here for illustrative purposes. For a full list of all available elements, please refer to Appendix A.

- **<VideoType>** - Specifies the type of video, i.e. ShortFormMusicalWorkVideo, MusicalWorkTrailer;
- **<VideoId>** - a composite element containing unique identifiers for the video. Most retail partners will expect music videos to be identified with an ISRC. Other types of videos should normally use either ISAN or EIDR identifiers;
- **<ResourceReference>** - A unique identifier, always starting with the letter "A", that identifies this resource throughout the rest of the XML file;
- **<ReferenceTitle>** - A composite element containing title information for this video. DDEX allows for many different types of titles, including sub-titles, display titles, shortened titles, etc.
- **<Duration>** - The duration of the video;
- **<VideoDetailsByTerritory>** - A composite element that contains territory-specific information about a video;
- **<TerritoryCode>** - ISO territory code plus a DDEX code for "Worldwide";
- **<Title>** - A composite element for title information. DDEX allows for many different kinds of titles. This element takes an attribute to identify the type of title being provided, i.e. "FormalTitle," "DisplayTitle," or "AbbreviatedDisplayTitle";

04 PREPARING YOUR METADATA

- **<DisplayArtist>** - A composite element used to specify the artist associated with the video. It includes elements to specify an artist's name as well as an optional **<ArtistRole>** element;
- **<ResourceContributor>** - DDEX includes the concept of a contributor. This field can be used to list contributing artists such as guest rappers, soloists, etc;
- **<LabelName>** - An element for the label name;
- **<PLine>** - A composite element that identifies the year of first release of the Resource or Release followed by the name of the entity that owns the phonographic rights in the Resource or Release ;
- **<Genre>** - A composite element used to specify genre information;
- **<ParentalWarningType>** - The element used to identify whether the file includes explicit content or not; and
- **<TechnicalVideoDetails>** - A composite element that includes all the technical details about a video file, such as the frame rate, bit rate, aspect ratio, etc. This element also contains the file name and hash sum of the file.

<Image>

The **<Image>** element contains metadata about an image such as a cover art. Much like the **<SoundRecording>** element, there are a few of global elements; most of the details are included in the **<ImageDetailsByTerritory>** element. Image metadata can be localized just like audio metadata.

There are many elements that can be included in this element. Only the common ones are listed here for illustrative purposes. For a full list of all available elements, please refer to Appendix A.

- **<ImageType>** - Specifies the type of image, i.e. `FrontCoverImage`;
- **<ImageId>** - a composite element containing unique identifiers for the image. Absent an international identification system for images this is usually a proprietary identifier;
- **<ResourceReference>** - A unique identifier, always starting with the letter "A", that identifies this resource throughout the rest of the XML file;
- **<Title>** - A composite element containing title information for this image;
- **<ImageDetailsByTerritory>** - A composite element that contains territory-specific information about an image;
- **<TerritoryCode>** - ISO territory code plus a DDEX code for "Worldwide"; and
- **<TechnicalImageDetails>** - A composite element that includes all the technical details about an image file, such as the height, width, etc. This element also contains the file name and hash sum of the file.

04 PREPARING YOUR METADATA

<Text>

The <Text> element contains metadata about a text Resource. If you're sending a PDF booklet, you'll be using this element to send information about the booklet. Much like the <SoundRecording> element, there are a few global elements; most of the details are included in the <TextDetailsByTerritory> element. Text metadata can be localized just like audio metadata.

Many elements can be included in this element. Only the required ones are listed here for illustrative purposes. For a full list of all available elements, please refer to Appendix A.

- **<TextType>** - Specifies the type of text, i.e. NonInteractiveBooklet;
- **<TextId>** - a composite element containing unique identifiers for the text file;
- **<ResourceReference>** - A unique identifier, always starting with the letter "A", that identifies this resource throughout the rest of the XML file;
- **<Title>** - A composite element containing title information for this text. DDEX allows for many different types of titles, including subtitles, display titles, shortened titles, etc;
- **<TextDetailsByTerritory>** - A composite element that contains territory-specific information about a text file;
- **<TerritoryCode>** - ISO territory code plus a DDEX code for "Worldwide"; and
- **<TechnicalTextDetails>** - A composite element that includes all the technical details about a text file if one is used. This element also contains the file name and hash sum of the file.

After you've specified all the resources you're sending in the <ResourceList> element, you have to tell your retail partner how they can be combined into various Releases to be sold. That is done in the <ReleaseList> element. It is critical to reference the digital booklet (PDF) under <ResourceGroupContentItem> just like an album cover art.

<ReleaseList>

The <ReleaseList> section defines Releases that can be sold or made available, comprising the Resources listed in the <ResourceList>. For example, if you're delivering ten audio tracks you'll have to send one Release that includes all the tracks (the album) and ten individual track Releases, for a total of eleven Releases.

The <ReleaseList> element contains multiple <Release> elements. The <Release> elements include the metadata for each Release, such as artist, label, title, and genre. It also includes a list of all the Resources (specified previously in the <ResourceList> section) that are included in the Release, as well as the order in which they should appear.

Following are a list of required elements included in the <Release> element. For complete documentation please refer to appendix A.

- **<ReleaseId>** - A composite element containing unique identifiers for this release. Most retail partners will expect to see GRiDs or UPC/EAN/JAN [here](#);
- **<ReleaseReference>** - A unique identifier, beginning with a capital "R," that is used to reference this Release. Deals will use this reference to associate usage and cost information. Convention is to use R0 for the album Release, and R1 through Rn for the individual track Releases;
- **<ReferenceTitle>** - A composite element containing elements for a "Reference Title";

04 PREPARING YOUR METADATA

- **<ReleaseResourceReferenceList>** - A composite element that enumerates the Resources that make up this Release (including cover art images and booklets). Each **<ReleaseResourceReference>** element contained within this element contains a reference to a Resource, such as A1, which refers to a Resource listed in the **<ResourceList>** above;
- **<ReleaseType>** - Contains the Release type, i.e. Album, Single, VideoSingle, TrackRelease;
- **<ReleaseDetailsByTerritory>** - A composite element containing territory-specific metadata. If only a single Worldwide element is included, the metadata applies to all territories. (Please see **<ReleaseDetailsByTerritory>** section below for more information);
- **<PLine>** - A composite element that identifies the year of first release of the Resource or Release followed by the name of the entity that owns the phonographic rights in the Resource or Release; and
- **<CLine>** - A composite element that identifies the year of publication of the copyright elements of of the Resource or Release such as the the compilation/order of tracks, the artwork or text used followed by the entity that owns the copyright in such Resources.

Note: Most retail partners use the ReleaseId value to create a unique identifier for each album. Therefore, this value cannot change when sending an update. If this value is changed, retail partner systems may treat the delivery as a new album.

Note: The behavior should be to use the **<ReferenceTitle>** element if the **<DisplayTitle>** and **<FormalTitle>** elements are not present in the **<ReleaseDetailsByTerritory>** element.

<ReleaseDetailsByTerritory>

The DDEX standard allows you to specify certain aspects of a Release on a territory-by-territory basis. For example, a Release may have different genre information or a slightly different title, or a title written in the local character set. All this is taken care of in the <ReleaseDetailsByTerritory> element.

Following are a list of elements included in the <ReleaseDetailsByTerritory> element. For complete documentation please refer to Appendix A.

- **<TerritoryCode>** - ISO territory code plus a DDEX code for "Worldwide";
- **<DisplayArtistName>** - The main artist for this Release;
- **<LabelName>** - The label responsible for this Release;
- **<Title>** - The title of the Release. Each Release may have numerous titles, identified by including an attribute, i.e. FormalTitle, DisplayTitle, AbbreviatedDisplayTitle;
- **<DisplayArtist>** - As well as the main artist, which is specified in the <DisplayArtistName> element above, a Release may have additional artists specified in this element, which is a composite including both the artist name and their role in this release;
- **<RelatedRelease>** - A composite element used to specify a related physical release, using standard identifiers such as UPC or EAN;
- **<ParentalWarningType>** - Used to specify a parental warning, such as Explicit, ExplicitContentEdited, NotExplicit, Unknown, or UserDefined;
- **<ResourceGroup>** - A composite element used to specify all the Resources used in this Release. (Please see the <ResourceGroup> section below for more information);

04 PREPARING YOUR METADATA

- **<Genre>** - A composite element containing genre information for this Release;
- **<OriginalReleaseDate>** - The earliest Release date for this Release across all territories. This should be the date that a collection of songs was first available to consumers as a bundled Release, regardless of format, or the first date a single/EP was made available. This element is for informational purposes only; the street or sales start date is specified in the Deal elements; and
- **<Keywords>** - Used to specify keywords for this Release

Note: For product versions which are edited, also commonly known as clean or amended, you should use the value ExplicitContentEdited. Please be sure to set the ParentalWarningType especially if the relevant version title does not contain any version information.

<ResourceGroup>

DDEX uses the concept of Resource groups to enumerate all the Resources on an album, as well as how they are grouped into volumes or discs. For example, if a title is a two-disc set, the XML would use a Resource group to enclose the album, as well as two nested Resource groups, one for each disc, as follows:

```
<ResourceGroup>
  <ResourceGroup>
    {elements included on the first disc or volume}
  </ResourceGroup>
  <ResourceGroup>
    {elements included on the second disc or volume}
  </ResourceGroup>
  {elements that are related to the entire album}
</ResourceGroup>
```

Note: The elements that are related to the entire album, such as the album cover art and/or PDF booklets are included in the top-level resource group, after the nested Resource groups that represent the discs included with this album. To clarify, Releases with a single disc will have a top-level Resource group to delineate the album, a nested Resource group with all the audio and/or video Resources, and then elements to enclose the Resources for the entire album.

The <ResourceGroup> element includes the following elements. For full documentation please refer to Appendix A.

- **<SequenceNumber>** - The volume or disc number;
- **<ResourceType>** - The type of resource this volume is, i.e. SoundRecording, Video; and
- **<ResourceGroupContentItem>** - A composite element used to list the Resources included in this group, including the sequence number and internal Resource reference (i.e. A1, A2, etc.) of each item. Make sure to reference an art file. If not, your release will not have an album cover. Also, please reference a digital booklet (PDF under ResourceGroupContentItem just like an album cover art.

Resource groups can be confusing – be sure to check the XML sample in Appendix A to see how to specify a Resource group for your Release.

<DealList>

The <DealList> element is where you communicate when a Release can be made available, where, and at what cost. Each Release in the <ReleaseList> section should have one or more deals associated with it in this element. If you do not specify a deal for a Release, it may not be made available for sale or distributed in any other way.

04 PREPARING YOUR METADATA

The `<DealList>` contains a list of deals, each one contained in a `<ReleaseDeal>` element. It does not contain any other elements; all the interesting elements are contained in the `<ReleaseDeal>` elements, and the `<Deal>` elements nested inside the `<ReleaseDeal>` elements.

<ReleaseDeal>

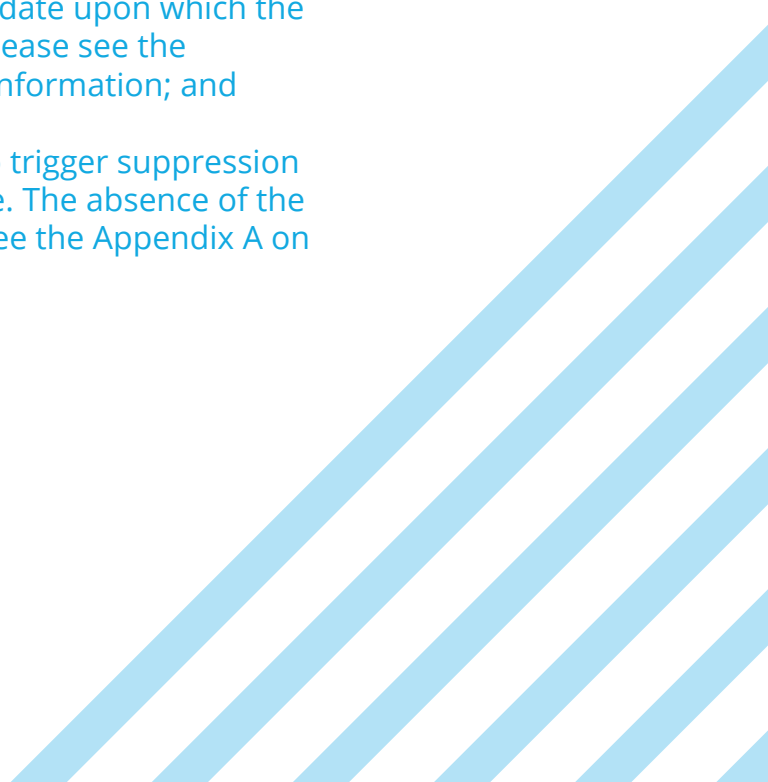
Each `<ReleaseDeal>` element contains a Release reference and one or more deals.

- **<DealReleaseReference>** - Contains a reference to the corresponding Release, as defined in the `<ReleaseList>`. As mentioned above, it is custom to use R0 for the album release, and R1, R2...R(n) for the track Releases.
- **<Deal>** - A composite element containing information about this deal. Please see the `<Deal>` section below.

<Deal>

The `<Deal>` element is where the important information about the deal is stored, such as the territory, allowed usage types, cost information, and the street date. The `<Deal>` element only contains an optional `<DealReference>` element, and a composite `<DealTerms>` element, where most of the deal information is.

- **<DealReference>** - An optional element containing a reference to a text document related to the deal;
- **<DealTerms>** - A composite element containing the terms of the deal;
- **<CommercialModelType>** - A composite element used to define the commercial model between the label or aggregator and their retail partners. For example, you would supply "PayAsYouGoModel" for standard download and "SubscriptionModel" for subscription streaming or download. Also see the descriptions of `<Usage>` element below;

-
- **<Usage>** - A composite element that contains the **<UseType>** element, which specifies what types of usages are allowed;
 - **<TerritoryCode>** - ISO territory code plus a DDEX code for "Worldwide";
 - **<DistributionChannel>** - A composite that includes elements describing the intended distribution channel. Be sure to use your retail partners' DPID in this element;
 - **<PriceInformation>** - A composite element that contains the cost information for this deal;
 - **<ValidityPeriod>** - The start date of the ValidityPeriod is the date upon which the deal will become effective. Please note that you can set this date independently for a track Deal vs. the album Deal. Please see the Addendum on common use cases for more information;
 - **<PreOrderReleaseDate>** - This field sets the date upon which the album will become available for pre-order. Please see the Addendum on common use cases for more information; and
 - **<PreOrderPreviewDate>** - This tag is used to trigger suppression of the 30-sec sample clips prior to street date. The absence of the tag also enables the audio samples. Please see the Appendix A on common use cases for more information.
- 

04 PREPARING YOUR METADATA

USING SPECIAL CHARACTERS IN YOUR XML FILE

There are a number of characters that are considered part of the code in XML files. For example, all elements are enclosed in angled brackets (i.e. <ALBUM>), so if you would like to use the less than or greater than characters in values included in your XML file, you must use the entity code instead. For example, if you have an album by a duo named Seals & Crofts, you'd submit this information as follows:

<DisplayArtistName>Seals & Crofts</DisplayArtistName>

The following entity codes are accepted:

CHARACTER	ENTITY CODE	ADDITIONAL PARAMETERS
&	&	Must be used for all ampersands, because the ampersand is reserved as the beginning character of an entity
'	'	Can be used to include a single quote (apostrophe) inside a string that is delimited by single quotes.
"	"	Can be used to include a double quote inside a string delimited by double quotes
<	<	Must be used for all less than signs.
>	>	Must be used for all greater than signs

LANGUAGE AND CHARACTER SET SUPPORT

Many retail partners use the UTF-8 character set, but not all of them support UTF-8. It's always safest to use the simplest character set possible, and to avoid platform-specific characters such as "smart quotes." Instead use simple single or double quotes, and avoid user-defined characters and pictograms such as smileys or emoticons.

One of the new features that the DDEX specification brings is the ability to supply localized title information. When you're putting together your Release information, you can specify title information for each territory. In most cases this information will be the same, but in some cases you may want to specify a title using a different language, or even a different character set.

TRACK SAMPLES

The DDEX specification provides for a method to specify which section of a song should be used for the sample. Please message the sample start time by using this element:

`/ResourceList/SoundRecording/SoundRecordingDetailsByTerritory/
TechnicalSoundRecordingDetails/PreviewDetails/StartPoint`

Specifying Cost Tiers in the Metadata File

Specifying a wholesale cost tier for an album is done in the `<PriceType>` element, which is contained in the `<DealTerms>` element in each `<Deal>`. If the tiers are proprietary values, you must use the `Namespace` attribute in the `<PriceType>` element as follows:

```
<PriceType Namespace="DPID:YOURDDEXPARTYID">RETAILER_COST_CODE</PriceType>
```

Because the DDEX specification allows for multiple `<Deal>` elements, you are free to specify different cost bases in different territories. For example, to specify a different cost basis in the US than the cost basis in France, your metadata file would include the following code:

04 PREPARING YOUR METADATA

```

<DealList>
  <ReleaseDeal>
    <DealReleaseReference>R0</DealReleaseReference>
    <Deal>
      <DealTerms>
        <CommercialModelType>PayAsYouGoModel</CommercialModelType>
        <Usage>
          <UseType>PermanentDownload</UseType>
        </Usage>
        <TerritoryCode>US</TerritoryCode>
        <PriceInformation>
          <PriceType Namespace="DPID:YOURDDEXPARTYID">RETAILER_COST_
CODE_A</PriceType>
        </PriceInformation>
        <ValidityPeriod>
          <StartDate>2012-03-01</StartDate>
        </ValidityPeriod>
      </DealTerms>
    </Deal>
    <Deal>
      <DealTerms>
        <CommercialModelType>PayAsYouGoModel</CommercialModelType>
        <Usage>
          <UseType>PermanentDownload</UseType>
        </Usage>
        <TerritoryCode>FR</TerritoryCode>
        <PriceInformation>
          <PriceType Namespace="DPID:YOURDDEXPARTYID">RETAILER_COST_
CODE_B</PriceType>
        </PriceInformation>
        <ValidityPeriod>
          <StartDate>2012-03-01</StartDate>
        </ValidityPeriod>
      </DealTerms>
    </Deal>
  </ReleaseDeal>
</DealList>

```

Takedowns or Removing Offers

In the case that the reduction of rights is communicated on or after the date the reduction comes into effect:

- Please repeat the set of Deals currently available to your retail partner, albeit with the <EndDate> set to yesterday. Any remaining rights need to be communicated in the same message;
- Any subsequent messages should only communicate Deals for those commercial aspects that are (or are to become) active; and
- The <TakeDown> or <AllDealsCancelled> flags in the XSD have been retired.

New Territories

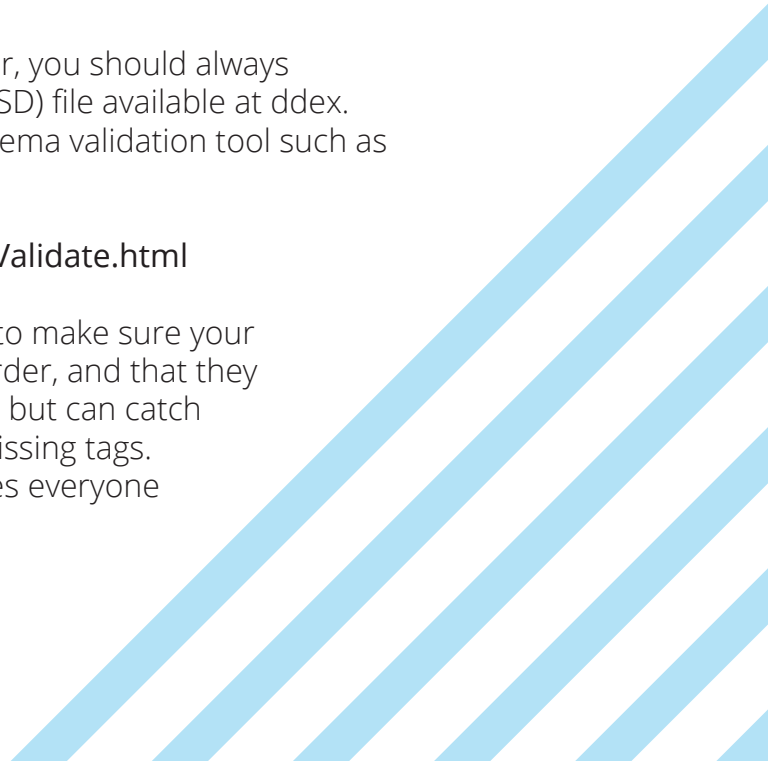
If possible, it is important that you submit complete licensing information for your entire catalog. This allows your retail partners to make your catalog available in new marketplaces without additional metadata updates.

Validating Your XML

Before you send your xml files to any retail partner, you should always validate them using the XML Schema Definition (XSD) file available at ddex.net. Use XML validation software, or an online schema validation tool such as this one:

<http://www.corefiling.com/opensource/schemaValidate.html>

Schema validation tools use the XSD file to check to make sure your elements are all valid, that they're in the proper order, and that they contain valid data. Validation can't catch all errors, but can catch simple errors such as misspelled elements and missing tags. Validating your XML files is good practice and saves everyone time and effort.



05

DELIVERING YOUR CATALOG



DELIVERING YOUR CATALOG

After you have assembled all your digital assets and authored the metadata files, it's time to deliver your catalog to your retail partners. Each delivery should be contained in a single directory, containing all the resources related to a particular album:

- All the audio, video, image, and PDF files; and
- The XML file containing the album metadata.

NAMING CONVENTIONS

The DDEX standard defines requirements for naming conventions (see <https://kb.ddex.net/display/ECHO16FTP/7.3+File+Naming+Conventions>): The directory that contains all the Resources for your product delivery should be named using the unique product identifier, and a timestamp in YYYYMMDDhhmmss format, i.e.

014431851865_20120301162217

Most retail partners expect the use of a standardized identifier such as GRiD or UPC/EAN.

It is critical that you always update the timestamps used in your directory names, because this determines the most recent and therefore authoritative delivery. It's important that your retail partners process your deliveries in order, so that the metadata are processed in the order you intend. Furthermore, directory names must be unique. If you're redelivering a product, you must upload it to a new directory with a new timestamp.

The XML file included in your delivery must be named using the unique product identifier (i.e. UPC, EAN, or JAN) and the .xml file extension.

05 DELIVERING YOUR CATALOG

Putting it all together, the directory structure of a delivery should look something like this:

```
014431851865_20120301162217/  
  014431851865.xml  
  resources/  
    014431851865.jpg  
    014431851865_01_001.flac  
    014431851865_01_002.flac
```



06

MANAGING YOUR CATALOG



MANAGING YOUR CATALOG

If you've read the documentation up to this point, you now have all the information you need to deliver and manage your catalog. This section provides examples of everyday interactions with your catalog.

In general, interactions with your catalog fall into three categories:

- Initial delivery of assets;
- Updating your catalog; and
- Taking down assets that are no longer available.

All interactions involve sending deliveries to your retail partner's automated ingestion systems. In general you should be able to manage your catalog with minimal need for assistance from your retail partner.

INITIAL DELIVERY

The first delivery of any catalog asset must be a complete delivery, including all album art, audio, video, booklets, and xml. All assets must be included in a single directory that is named using the unique album identifier specified in the XML file and a timestamp in YYYYMMDDhhmmss format. The XML file should be in this directory, along with a directory named Resources that includes all art, audio, video, and booklet files.

UPDATING YOUR CATALOG

After an album has been successfully delivered and ingested, you can send periodic updates to your retail partners to change metadata such as genres or the cost basis. To do this, send a metadata-only update.

Metadata-only updates must not include any audio, video, artwork, or booklet files. Simply send the metadata file. Remember that you cannot change any of the identifiers in the <ReleaseId> element. If you do so, it will be considered a separate catalog item.

If you need to update a Resource, you need to include the metadata and all deals for all affected Releases. Also, to simplify ingestion, the specification requires that.

06 MANAGING YOUR CATALOG

- If you need to update any of the “primary Resource files”. i.e. the sound recordings and videos, you need to update all primary Resource files; and
- if you need to update any of the “secondary Resource files”. i.e. the booklets and cover images, you need to update all secondary Resource files.





07

GETTING STARTED:
INITIAL INTEGRATION TESTING

GETTING STARTED: INITIAL INTEGRATION TESTING

Before you are allowed to publish and manage your catalog, you may be asked by your retail partner to go through an integration test to make sure you can successfully deliver your catalog using the DDEX standard.

The integration process may be simple but can be tricky. Most vendors end up having to redeliver one or more deliveries a few times to get it just right. The entire process usually lasts two to three weeks. Below are examples of the types of test cases your retail partners may ask you to perform.

PREPARE YOUR ASSETS

To begin with you must deliver five albums using very specific metadata settings. The albums you deliver should have the following characteristics:

#	TYPE	ALBUM COST CODE	TRACK COST CODE	OFFER	ADDITIONAL PARAMETERS
1	Single disc, 8 tracks or less	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Set audio sample suppression
2	Single disc, 10 tracks or more	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Make track #1 available as a free download
3	Multi-disc	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Set sample audio index for track#1
4	Single disc with a PDF file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	none
5	Single disc with a video file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	none

07 GETTING STARTED: INITIAL INTEGRATION TESTING

Be sure to:

- Prepare all your assets using the guidelines in this documentation;
- Name your delivery directories using the naming conventions;
- Prepare the metadata using the settings in the table above; and
- Upload the XML file last.

DELIVERY #1 – ORIGINAL DELIVERY

First your deliveries will be inspected visually, to make sure your directory structure is correct and that you adhered to the naming conventions. Provided you pass visual inspection your XML files will be passed through an xml validation tool. Your retail partners will work through any errors with you until your albums are delivered successfully.

DELIVERY #2 – UPDATE DELIVERY

After your initial delivery has been successfully delivered, you would deliver updates for the albums, using the following settings:

#	TYPE	ALBUM COST CODE	TRACK COST CODE	OFFER	ADDITIONAL PARAMETERS
1	Single disc, 8 tracks or less	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Set track #1 to album-only. track#1
2	Single disc, 10 tracks or more	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Remove free-download rights for track #1. Set ID_T3 for all tracks.
3	Multi-disc	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Change the album street date.
4	Single disc with a PDF file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Add Japanese translation.
5	Single disc with a video file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Change US street date. Set a different street date for GB.

Be sure to:

- Set all the parameters correctly.

DELIVERY #3 – UPDATE DELIVERY (TAKEDOWN)

After you've successfully passed both phases of the test, you would send update deliveries to takedown the test titles (#1, 4, and 5).

#	TYPE	ALBUM COST CODE	TRACK COST CODE	OFFER	ADDITIONAL PARAMETERS
1	Single disc, 8 tracks or less	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Set track #1 to album-only. track#1
2	-	-	-	-	No update to album # 2
3	-	-	-	-	No update to album # 3
4	Single disc with a PDF file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Takedown the album from US and JP
5	Single disc with a video file	RETAILER_COST_CODE	RETAILER_COST_CODE	US only	Takedown the album from US only

08

APPENDIX A: XML REFERENCE



APPENDIX A: XML REFERENCE

This section provides details on each field in the XML schema. If there are any discrepancies between this document and the official DDEX published .xsd file, the DDEX .xsd is the correct version to use. The cardinalities for each element (the How Many? column) reflect the requirements as set out in v3.7. If you are implementing a different version, extreme care should be taken with regard to the cardinalities you use for each element. Always validate XML files against the .xsd for the appropriate DDEX version of the standard you're using.

SUPPORTED TERRITORY CODES

Please see the list of accepted Territory Codes for DDEX 3.4: http://ddex.net/dd/DDEX-ERN-341-DD/dd/iso3166a2_TerritoryCode.html

XML SCHEMA & FIELD DESCRIPTIONS

The following tables describe the schema elements, multiplicity, and valid values. The tables are broken into sections, one for each major element at each level. Required elements are printed in bold and marked with an asterisk.

Note: A few simple rules to keep in mind when you are authoring your XML files.

- **Order is important.** Elements must be used in the exact order they are listed in this documentation;
- **Be sure to use entity codes for special characters when necessary** (<, >, &, ", ');
- **Most retail partners use the UTF-8 character set.** While this character set is capable of representing most characters, it's always safest to stick to the simplest character set possible. Please do not use "smart quotes", custom characters, or pictographic characters such as smileys, hearts, etc; and
- **Always validate your XML files** using the published XSD at <http://kb.ddex.net>.

08 APPENDIX A: XML REFERENCE

STRUCTURAL OVERVIEW

As detailed earlier, the DDEX XML structure has sections, enclosed in a `NewReleaseMessage` element:

```
<NewReleaseMessage>

  <MessageHeader>
    {various elements identifying the sender and recipient}
  </MessageHeader>

  <ResourceList>
    {various elements identifying each file you're sending us}
  </ResourceList>

  <ReleaseList>
    {various elements identifying how resources combine into
products}
  </ReleaseList>

  <DealList>
    {various elements describing how and where releases can be
sold}
  </DealList>

</NewReleaseMessage>
```

The following sections detail each of the four main parts of the DDEX XML specification.

<MessageHeader>

The <MessageHeader> element contains the elements that identify the message sender and intended recipient, as well as some elements that uniquely identify the message.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
MessageThreadId *	0..1	An identifier used to tie this message together with other messages regarding this product. The MessageThreadId was mandatory in early versions of ERN. However as this element has no real purpose for ERN messages, many companies simply add the MessageId into this field.	Any string up to 250 characters long.
MessageId *	1	An identifier that uniquely identifies this message.	Any string up to 250 characters long.
MessageSender *	1	Identifies the message sender. Please use your DDEX PartyID here.	A composite element containing a required <PartyId> element and other optional elements.
SentOnBehalfOf	0..1	Identifies whom the message was sent on behalf of. Delivery services should use the PartyID for the relevant client partner here.	A composite element containing a required <PartyId> element and other optional elements.
MessageRecipient *	1	Identifies the intended recipient.	A composite element containing a required <PartyId> element and other optional elements.
MessageCreatedDateTime *	1	The date and time the message was created.	A timestamp in YYYY-MM-DD-HH:MM:SS format.
MessageCreatedDateTime *	0..1	Enumerates parties between the sender and recipient.	A composite element containing numerous sub-elements.

* Required files are marked with an asterisk and in bold.

08 APPENDIX A: XML REFERENCE

<MessageSender>, <MessageRecipient>

These elements must include the DDEX PartyId of the sender and recipient, but may also contain other values such as their full names.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
PartyId *	xxx	The DDEX PartyID.	Any valid DDEX PartyId.
PartyName	0..1	Contains the name(s) of the sender or recipient, spelled out. Numerous types of names may be sent such as FullName, KeyName, AbbreviatedName, etc.	A composite element containing numerous elements, each of which contains a DDEX Name element.
TradingName	1	Contains the trading name of the sender or recipient, spelled out.	A composite element containing a DDEX Name element.

* Required files are marked with an asterisk and in bold.

<ResourceList>

The ResourceList element is an enclosing element, enclosing a list of Resources. These Resources may be SoundRecording, Video, Image or Text elements. The four Resource elements (<SoundRecording>, <Video>, <Image>, <Text>) contain elements describing the Resource being delivered. The elements vary slightly by Resource type, in that the element names use the type of Resource (i.e. SoundRecordingId vs. TextId).

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
SoundRecordingId, VideoId, ImageId, TextId*	1..n	Contains unique identifiers for this Resource Note: For Resources without standard identifiers, such as images or booklets, you still must send an identifier. You can use the file name as the identifier, but you must specify that you're sending a proprietary identifier, including the Namespace attribute (see example at right).	A composite element that includes ISRC or other user-defined identifiers. If you're sending a proprietary identifier (as suggested), please use the following syntax, substituting your own DDEX ID: <ProprietaryId Namespace="DPID:PAD-PIDA2012071601U">USAB10701210.jpg</ProprietaryId>
ResourceReference*	1	A reference used throughout the rest of the XML file.	Always begin with the letter A, usually in ascending numerical order, i.e. A1, A2, etc.
ReferenceTitle (for SoundRecording and Video) or Title (for Image and Text)	1	The reference title of a Resource.	A composite containing a required TitleText element and an optional SubTitle element. Note: this element is only read if the Release title is omitted from the Release list.
LanguageOfPerformance	0.1	The language used in the performance. (Not applicable for Image Resources.)	The two-letter ISO language code.
Duration *	1	The duration of the performance. (Not applicable for Image or Text Resources.)	A duration in PT[[hhH]mmM]ssS format, where lower case characters indicate variables, upper case characters are part of the string, e.g. two minutes and three seconds would be PT2M3S).
SoundRecordingDetailsByTerritory, VideoDetailsByTerritory, ImageDetailsByTerritory, TextDetailsByTerritory *	1..n	Territory-specific metadata.	A composite containing multiple sub-elements (see next section).

* Required files are marked with an asterisk and in bold.

08

Resource Details By Territory

All Resources include territory-specific information, in the <SoundRecordingDetailsByTerritory>, <VideoDetailsByTerritory>, <ImageDetailsByTerritory>, and <TextDetailsByTerritory> elements. They all contain similar sets of sub-elements, with a few minor differences, which are called out in the table below.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
TerritoryCode *	0..1	This element describes where the included Resource is available	Always supply "Worldwide". The other values will fail at the ingestion.
Title (Not required for video resources. Not used with image or text resources.)	1..n	The title(s) associated with this Resource. You may provide multiple titles, using the Type attribute, i.e. FormalTitle, DisplayTitle, etc. DisplayTitle takes precedence over the Format Title	A composite containing a required TitleText element and an optional SubTitle element. Note: this element is only read if the Release title is omitted from the Release list.
DisplayArtist (Not used in image or text resources.)	0..n	Contains the artist name and their role.	A composite element containing a PartyName and an optional ArtistRole element.
ResourceContributor	0..n	Contains the name and role of additional contributors.	A composite element containing a PartyName and an optional ResourceContributorRole element.
LabelName (Not used with video, image or text resources.)	0..n	The name(s) of the label(s) under which the Resource is released.	Any string up to 250 characters.
Rightscontroller (Not used with video, image or text resources.)	0..1	The organization(s) controlling the rights to this Resource.	A composite containing the PartyId and/or PartyName of the organization, along with other optional elements.
RemasteredDate (Not used with video, image or text resources.)	0..1	The date the Resource was remastered (usually refers to the digital remastering).	A composite containing date and location of the remastering.
PLine (Not used for video, image, or text resources_	0..1	Contains the year of first release of the Resource followed by the name of the entity that owns the phonographic rights in the Resource.	A composite element containing optional Year and PLineCompany elements, and a required PLineText element.
CLine	0..1	The copyright information.	A composite containing optional Year and CLineCompany elements, as well as a required CLineText element.
CourtesyLine	0..1	Contains text for a courtesy line, i.e. "John Smith appears courtesy of Super Duper Records."	Any string up to 250 characters in length.
OriginalResourceRelease-Date	0..n	The date of the original Release of this Resource (not the original Release of this version).	A date using YYYY-MM-DD syntax
Genre (Not used with image or text resources.)	0..n	Contains genre information.	A composite containing a GenreText element and an optional SubGenre element.
ParentalWarningType	0..1	Whether or not the Resource contains objectionable material.	One of: Explicit, ExplicitContentEdited, NotExplicit, Unknown, UserDefined
AVRating (video resources only)	0..n	The rating and rating agency for the video.	A composite containing the RatingText and RatingAgency elements.

* Required files are marked with an asterisk and in bold.

RESOURCE TECHNICAL DETAILS

Each Resource's territory information includes a technical details section, specifically in the SoundRecordingTechnicalDetails, VideoTechnicalDetails, ImageTechnicalDetails, and TextTechnicalDetails elements.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
TechnicalSoundRecordingDetails/PreviewDetails/StartPoint	1	The start index, in seconds, where the 30 second sample clip should be extracted from the full length audio file.	An integer representing the number of seconds from the beginning of the song.
TechnicalResourceDetails-Reference *	1	A label used to reference this Resource throughout the rest of the XML file.	Technical references always begin with a capital "T" and generally use consecutive integers, i.e. T1, T2, T3, etc.
Audio or ImageCodec-Type*	1..n	Indication of a type of audio/image codec.	Agreed upon between the two parties
IsPreview* (SoundRecording only)	1..n	Indication of whether the Resource is a preview of an associated full Resource.	True or False
File *	1..n	Details about the Resource file(s) you're sending us.	A composite containing the FileName and HashSum elements
FileName *	1	The name of the file.	Any string up to 250 characters.
HashSum *	1	The MD5 hash sum of the file.	Any valid 32 character hex value.

* Required files are marked with an asterisk and in bold.

08 APPENDIX A: XML REFERENCE

<ReleaseList>

The ReleaseList is an enclosing element that contains Release elements, which combine resources into sellable products. The contents of the Release elements are detailed in the table below.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
ReleaseId *	xxx	The unique identifiers for this Release. For example, UPC or GRid	A composite element containing GRid, ISRC, and ICPN elements. The ICPN element is used for UPC, EAN, and JAN identifiers. Note: The ICPN element requires the IsEAN attribute.
ReleaseReference	xxx	A reference that is used to tie Releases to Deals elsewhere in the XML.	Start with the letter R, and usually use consecutive integers, i.e. R0, R1, etc. R0 by convention refers to the album Release.
ReferenceTitle **	xxx	The non-territory specific title of a Release.	A composite element containing a required TitleText sub-element and an optional SubTitle element.
ReleaseResourceReferenceList *	xxx	Contains a list of all the Resources contained in this Release.	Contains one or more ReleaseResourceReference sub-elements, each of which contains reference to a Resource specified above in the Resources section, i.e. A0, A1, etc.
ReleaseType	xxx	An optional element describing the type of Release	Album, Single, TrackRelease
ReleaseDetailsByTerritory	xxx	Contains all the territory-specific information (see section below).	
Pline	xxx	Contains the year of first release of the Release followed by the name of the entity that owns the phonographic rights in the Release	A composite containing a required PlineText element and a number of optional elements. Please see the DDEX documentation for further detail.

* Required files are marked with an asterisk and in bold.

<ReleaseDetailsByTerritory>

The ReleaseDetailsByTerritory element contains all the territory-specific information about a Release. This is our preferred element for reading most metadata about a Release, such as artist, title, and genre information. Some retail partners support localized artist and album names, supplied via the elements contained herein.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
TerritoryCode *	1	"Worldwide"	"Worldwide"
DisplayArtistName *	0..n	<p>The primary album artist name. Note that featured or guest artists should be listed in DisplayArtist elements, not in the DisplayArtistName element.</p> <p>While technically optional, the provision of a DisplayArtistName is highly recommended (and has been made technically mandatory in later versions of ERN).</p>	Any text string.
Title	0..n	Each title may have multiple titles.	A composite containing a TitleType attribute, a required TitleText element, and an optional SubTitle element.
Display Artist	0..n	Featured or guest artists on this release.	A composite containing a required PartyName element and an optional ArtistRole element.
RelatedRelease	0..n	Usually a related physical release	A composite element that must contain ReleaseId and ReleaseRelationshipType elements, amongst others.
ParentalWarningType *	1	Whether or not the content has explicit lyrics.	Explicit, NotExplicit, ExplicitContentEdited, NoAdviceAvailable, Unknown
Genre *	1..n	The genre of the content.	A composite containing a required GenreText element and an optional SubGenre element.

* Required files are marked with an asterisk and in bold.

08 APPENDIX A: XML REFERENCE

<DealList>

The DealList element contains the availability and cost information for all the Releases listed in the <ReleaseList> section. Each Release may have multiple deals, for different territories or different time periods. The DealList is just a container for ReleaseDeal elements. The ReleaseDeal elements are listed below.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
DealReleaseReference *	1	Identifies the Release this deal refers to.	Any Release included in the Releases section above, i.e. R0, R1, etc.
Deal *	1..n	Contains the elements that define the deal. See next section.	

* Required files are marked with an asterisk and in bold.

<Deal>

The Deal element contains the information that defines a deal. There is only a single optional top-level element, DealReference. All other elements are contained in the <DealTerms> element.

The DealTerms element must include either a Usage as well as a TerritoryCode element.

ELEMENT NAME	HOW MANY	DESCRIPTION	VALUES
CommercialModelType	0..1	Indicate how a customer uses a service or Release.	Please refer to the complete list of acceptable DDEX values at https://kb.ddex.net/display/ERNBP13/Business+Profiles+for+Common+Deal+Types+1.3.1 Business+Profiles+for+Common+Deal+Types+1.3.1Business+Profiles+for+Common+Deal+Types+1.3.1
Usage	0..1	Used to specify the type of usage the Deal refers to.	"PermanentDownload" or "OnDemandStream" are common values
TerritoryCode	0..n	The territory or territories included in this Deal. Please supply a single territory per element.	Any valid two-letter ISO Country code supported in DDEX 3.4. The list of supported codes is found here. Note: 'Worldwide' is supported for a takedown request only.
<PriceInformation>	0..1	An enclosing element containing the cost information for this Deal.	Should contain a PriceType element that includes the namespace attribute and a valid retail partner cost tier, i.e.: <PriceType Namespace="DPID:YOURDDEXPARTYID">COST_CODE</PriceType>
<ValidityPeriod>	0..1	The StartDate of the Deal	A composite containing StartDate and EndDate elements. The dates should be in YYYY-MM-DD format.
PreOrderReleaseDate	0..1	The date upon which the product becomes available for pre-order on our site. See addendum for more details.	Any valid date in YYYY-MM-DD format.
PreOrderPreviewDate	0..1	A simple trigger to turn off 30 sec sample clips prior to street date. Most common usage is to set this to street date. See addendum for more details.	Any valid date in YYYY-MM-DD format.

* Required files are marked with an asterisk and in bold.

08 APPENDIX A: XML REFERENCE

XML METADATA EXAMPLE

For the sake of brevity, an album with two tracks is used in this example. Note that three Releases are included, one for the album, and one for each track. Note also that the track Releases do not require the ResourceGroup elements, as they only contain a single Resource.

```
<?xml version="1.0" encoding="UTF-8"?>
<ernm:NewReleaseMessage MessageSchemaVersionId="ern/341"
LanguageAndScriptCode="en" xs:schemaLocation="http://ddex.net/xml/ern/341
http://ddex.net/xml/ern/341/release-notification.xsd" xmlns:ernm="http://
ddex.net/xml/ern/341" xmlns:xs="http://www.w3.org/2001/XMLSchema-instance">

  <MessageHeader>
    <MessageThreadId>TEST00001</MessageThreadId>
    <MessageId>1234567890ABCDEF</MessageId>
    <MessageSender>
      <PartyId>YOURDDEXPARTYID</PartyId>
      <PartyName>
        <FullName>Label or Aggregator 1</FullName>
      </PartyName>
    </MessageSender>
    <MessageRecipient>
      <PartyId>PADPIDA20110217043</PartyId>
      <PartyName>
        <FullName>Retail Partner 1</FullName>
      </PartyName>
    </MessageRecipient>
    <MessageCreatedDateTime>2014-04-11T22:47:07Z</MessageCreatedDateTime>
    <MessageControlType>LiveMessage</MessageControlType>
  </MessageHeader>
  <UpdateIndicator>OriginalMessage</UpdateIndicator>
  <ResourceList>
    <SoundRecording>
      <SoundRecordingType>MusicalWorkSoundRecording</SoundRecordingType>
      <SoundRecordingId>
```

```

        <ISRC>USAB10701210</ISRC>
    </SoundRecordingId>
    <ResourceReference>A1</ResourceReference>
    <ReferenceTitle>
        <TitleText>Super Great Shiba Song</TitleText>
    </ReferenceTitle>
    <Duration>PT3M22S</Duration>
    <SoundRecordingDetailsByTerritory>
        <TerritoryCode>Worldwide</TerritoryCode>
        <Title TitleType="FormalTitle">
            <TitleText>Super Great Shiba Song</TitleText>
        </Title>
        <Title TitleType="DisplayTitle">
            <TitleText>Super Great Shiba Song</TitleText>
        </Title>
        <DisplayArtist>
            <PartyName>
                <FullName>Shiba</FullName>
            </PartyName>
            <ArtistRole>MainArtist</ArtistRole>
        </DisplayArtist>
        <LabelName>Rufus</LabelName>
        <PLine>
            <Year>2014</Year>
            <PLineText>2014 Rufus Inc.</PLineText>
        </PLine>
        <Genre>
            <GenreText>Rock</GenreText>
        </Genre>
        <ParentalWarningType>Explicit</ParentalWarningType>
        <TechnicalSoundRecordingDetails>
            <TechnicalResourceDetailsReference>T1</
TechnicalResourceDetailsReference>
            <AudioCodecType>FLAC</AudioCodecType>
            <IsPreview>false</IsPreview>
            <PreviewDetails>

```

08 APPENDIX A: XML REFERENCE

```

        <StartPoint>35</StartPoint>
        <ExpressionType>Informative</ExpressionType>
    </PreviewDetails>
    <File>
        <FileName>012345678901_01.flac</FileName>
        <FilePath>resources/</FilePath>
        <HashSum>
            <HashSum>9bf5afed596030b88d3b0577a95d96cs</HashSum>
            <HashSumAlgorithmType>MD5</HashSumAlgorithmType>
        </HashSum>
    </File>
</TechnicalSoundRecordingDetails>
</SoundRecordingDetailsByTerritory>
</SoundRecording>
<SoundRecording>
    <SoundRecordingType>MusicalWorkSoundRecording</SoundRecordingType>
    <SoundRecordingId>
        <ISRC>USAB10701210</ISRC>
    </SoundRecordingId>
    <ResourceReference>A2</ResourceReference>
    <ReferenceTitle>
        <TitleText>Super Great Akita Song</TitleText>
    </ReferenceTitle>
    <Duration>PT3M22S</Duration>
    <SoundRecordingDetailsByTerritory>
        <TerritoryCode>Worldwide</TerritoryCode>
        <Title TitleType="FormalTitle">
            <TitleText>Super Great Akita Song</TitleText>
        </Title>
        <Title TitleType="DisplayTitle">
            <TitleText>Super Great Akita Song</TitleText>
        </Title>
        <DisplayArtist>
            <PartyName>
                <FullName>Akita</FullName>
            </PartyName>

```

```

        <ArtistRole>MainArtist</ArtistRole>
    </DisplayArtist>
    <LabelName>Rufus</LabelName>
    <PLine>
        <Year>2014</Year>
        <PLineText>2014 Rufus Inc.</PLineText>
    </PLine>
    <Genre>
        <GenreText>Rock</GenreText>
    </Genre>
    <ParentalWarningType>Explicit</ParentalWarningType>
    <TechnicalSoundRecordingDetails>
        <TechnicalResourceDetailsReference>T2</
TechnicalResourceDetailsReference>
        <AudioCodecType>FLAC</AudioCodecType>
        <IsPreview>false</IsPreview>
        <PreviewDetails>
            <StartPoint>35</StartPoint>
            <ExpressionType>Informative</ExpressionType>
        </PreviewDetails>
        <File>
            <FileName>012345678901_02.flac</FileName>
            <FilePath>resources/</FilePath>
            <HashSum>
                <HashSum>9bf5afed596030b88d3b0577a95d96ss</HashSum>
                <HashSumAlgorithmType>MD5</HashSumAlgorithmType>
            </HashSum>
        </File>
    </TechnicalSoundRecordingDetails>
</SoundRecordingDetailsByTerritory>
</SoundRecording>
<Image>
    <ImageType>FrontCoverImage</ImageType>
    <ImageId>
        <ProprietaryId
Namespace="DPID:YOURDDEXPARTYID">012345678901.jpg</ProprietaryId>

```

08 APPENDIX A: XML REFERENCE

```

    </ImageId>
    <ResourceReference>A3</ResourceReference>
    <ImageDetailsByTerritory>
      <TerritoryCode>Worldwide</TerritoryCode>
      <TechnicalImageDetails>
        <TechnicalResourceDetailsReference>T3</
TechnicalResourceDetailsReference>
        <ImageCodecType>JPEG</ImageCodecType>
        <File>
          <FileName>012345678901.jpg</FileName>
          <FilePath>resources/</FilePath>
          <HashSum>
            <HashSum>4ddc5513d9091d258e22c521f86b3d8s</HashSum>
            <HashSumAlgorithmType>MD5</HashSumAlgorithmType>
          </HashSum>
        </File>
      </TechnicalImageDetails>
    </ImageDetailsByTerritory>
  </Image>
</ResourceList>
<ReleaseList>
  <Release>
    <ReleaseId>
      <GRid>A10302B0002480303S</GRid>
    <ICPN IsEan="false">012345678901</ICPN>
    </ReleaseId>
    <ReleaseReference>R0</ReleaseReference>
    <ReferenceTitle>
      <TitleText>Super Great Inu Album</TitleText>
    </ReferenceTitle>
    <ReleaseResourceReferenceList>
      <ReleaseResourceReference>A1</ReleaseResourceReference>
      <ReleaseResourceReference>A2</ReleaseResourceReference>
      <ReleaseResourceReference>A3</ReleaseResourceReference>
    </ReleaseResourceReferenceList>
    <ReleaseType>Album</ReleaseType>
  </Release>
</ReleaseList>

```

```

<ReleaseDetailsByTerritory>
  <TerritoryCode>Worldwide</TerritoryCode>
  <DisplayArtistName>Shiba</DisplayArtistName>
  <LabelName>Rufus</LabelName>
  <Title TitleType="FormalTitle">
    <TitleText>Super Great Inu Album</TitleText>
  </Title>
  <Title TitleType="DisplayTitle">
    <TitleText>Super Great Inu Album</TitleText>
  </Title>
  <DisplayArtist>
    <PartyName>
      <FullName>Shiba</FullName>
    </PartyName>
    <ArtistRole>MainArtist</ArtistRole>
  </DisplayArtist>
  <RelatedRelease>
    <ReleaseId>
      <ICPN IsEan="false">12341234123412</ICPN>
    </ReleaseId>
    <ReleaseRelationshipType>IsPhysicalEquivalentToDigital
  </ReleaseRelationshipType>
  </RelatedRelease>
  <ParentalWarningType>Explicit</ParentalWarningType>
  <ResourceGroup>
    <ResourceGroup>
      <SequenceNumber>1</SequenceNumber>
      <ResourceGroupContentItem>
        <SequenceNumber>1</SequenceNumber>
        <ResourceType>SoundRecording</ResourceType>
        <ReleaseResourceReference>A1</ReleaseResourceReference>
      </ResourceGroupContentItem>
      <ResourceGroupContentItem>
        <SequenceNumber>2</SequenceNumber>
      </ResourceGroupContentItem>
    </ResourceGroup>
    <ResourceType>SoundRecording</ResourceType>
    <ReleaseResourceReference>A2</ReleaseResourceReference>
  </ResourceGroup>
</ReleaseDetailsByTerritory>

```

08 APPENDIX A: XML REFERENCE

```

        </ResourceGroupContentItem>
    </ResourceGroup>
    <ResourceGroupContentItem>
        <ResourceType>Image</ResourceType>
        <ReleaseResourceReference>A3</ReleaseResourceReference>
    </ResourceGroupContentItem>
</ResourceGroup>
<Genre>
    <GenreText>Rock</GenreText>
</Genre>
<OriginalReleaseDate>2014-04-22</OriginalReleaseDate>
</ReleaseDetailsByTerritory>
<PLine>
    <Year>2014</Year>
    <PLineText>2014 Rufus Inc.</PLineText>
</PLine>
<CLine>
    <Year>2014</Year>
    <CLineText>2014 Rufus Inc.</CLineText>
</CLine>
</Release>
<Release>
    <ReleaseId>
        <GRid>A10302B0002480305G</GRid>
        <ISRC>USAB10701210</ISRC>
    </ReleaseId>
    <ReleaseReference>R1</ReleaseReference>
    <ReferenceTitle>
        <TitleText>Super Great Shiba Song</TitleText>
    </ReferenceTitle>
    <ReleaseResourceReferenceList>
        <ReleaseResourceReference>A1</ReleaseResourceReference>
    </ReleaseResourceReferenceList>
    <ReleaseType>TrackRelease</ReleaseType>
    <ReleaseDetailsByTerritory>
        <TerritoryCode>Worldwide</TerritoryCode>
    </ReleaseDetailsByTerritory>
</Release>

```

```

    <DisplayArtistName>Shiba</DisplayArtistName>
    <LabelName>Rufus</LabelName>
    <Title TitleType="FormalTitle">
        <TitleText>Super Great Shiba Song</TitleText>
    </Title>
    <Title TitleType="DisplayTitle">
        <TitleText>Super Great Shiba Song</TitleText>
    </Title>
    <DisplayArtist>
        <PartyName>
            <FullName>Shiba</FullName>
        </PartyName>
    <ArtistRole>MainArtist</ArtistRole>
    </DisplayArtist>
<ParentalWarningType>Explicit</ParentalWarningType>
    <Genre>
        <GenreText>ROCK</GenreText>
        <SubGenre>POP</SubGenre>
    </Genre>
    <Genre>
        <GenreText>WORLD/AFRO-POP</GenreText>
        <SubGenre>WORLD/AFRO-BEAT</SubGenre>
    </Genre>
</ReleaseDetailsByTerritory>
<PLine>
    <Year>2014</Year>
    <PLineText>2014 Rufus Inc.</PLineText>
</PLine>
</Release>
<Release>
    <ReleaseId>
        <GRid>A10302B0002480305G</GRid>
        <ISRC>USAB10701210</ISRC>
    </ReleaseId>
    <ReleaseReference>R2</ReleaseReference>
    <ReferenceTitle>

```

08 APPENDIX A: XML REFERENCE

```

        <TitleText>Super Great Akita Song</TitleText>
    </ReferenceTitle>
    <ReleaseResourceReferenceList>
        <ReleaseResourceReference>A2</ReleaseResourceReference>
    </ReleaseResourceReferenceList>
    <ReleaseType>TrackRelease</ReleaseType>
    <ReleaseDetailsByTerritory>
        <TerritoryCode>Worldwide</TerritoryCode>
        <DisplayArtistName>Akita</DisplayArtistName>
        <LabelName>Rufus</LabelName>
        <Title TitleType="FormalTitle">
            <TitleText>Super Great Akita Song</TitleText>
        </Title>
        <Title TitleType="DisplayTitle">
            <TitleText>Super Great Akita Song</TitleText>
        </Title>
        <DisplayArtist>
            <PartyName>
                <FullName>Akita</FullName>
            </PartyName>
            <ArtistRole>MainArtist</ArtistRole>
        </DisplayArtist>
        <ParentalWarningType>Explicit</ParentalWarningType>
        <Genre>
            <GenreText>Rock</GenreText>
        </Genre>
    </ReleaseDetailsByTerritory>
    <PLine>
        <Year>2014</Year>
        <PLineText>2014 Rufus Inc.</PLineText>
    </PLine>
</Release>
</ReleaseList>
<DealList>
    <ReleaseDeal>
        <DealReleaseReference>R0</DealReleaseReference>
    </ReleaseDeal>

```

```

<Deal>
  <DealTerms>
    <CommercialModelType>PayAsYouGoModel</CommercialModelType>
    <Usage>
      <UseType>PermanentDownload</UseType>
    </Usage>
    <TerritoryCode>US</TerritoryCode>
    <PriceInformation>
      <PriceType Namespace="DPID:YOURDDEXPARTYID">ID_A1</PriceType>
    </PriceInformation>
    <ValidityPeriod>
      <StartDate>2014-09-22</StartDate>
    </ValidityPeriod>
    <PreOrderReleaseDate>2014-04-16</PreOrderReleaseDate>
    <PreOrderPreviewDate>2014-04-22</PreOrderPreviewDate>
  </DealTerms>
</Deal>
</ReleaseDeal>
<ReleaseDeal>
  <DealReleaseReference>R1</DealReleaseReference>
  <Deal>
    <DealTerms>
      <CommercialModelType>PayAsYouGoModel</CommercialModelType>
      <Usage>
        <UseType>PermanentDownload</UseType>
      </Usage>
      <TerritoryCode>US</TerritoryCode>
      <PriceInformation>
        <PriceType Namespace="DPID:YOURDDEXPARTYID">ID_T1</PriceType>
      </PriceInformation>
      <ValidityPeriod>
        <StartDate>2014-09-22</StartDate>
      </ValidityPeriod>
    </DealTerms>
  </Deal>
</ReleaseDeal>

```

08 APPENDIX A: XML REFERENCE

```
<ReleaseDeal>
  <DealReleaseReference>R2</DealReleaseReference>
  <Deal>
    <DealTerms>
      <CommercialModelType>PayAsYouGoModel</CommercialModelType>
      <Usage>
        <UseType>PermanentDownload</UseType>
      </Usage>
      <TerritoryCode>US</TerritoryCode>
      <PriceInformation>
        <PriceType Namespace="DPID:YOURDDEXPARTYID">ID_T1</PriceType>
      </PriceInformation>
      <ValidityPeriod>
        <StartDate>2014-09-21</StartDate>
      </ValidityPeriod>
    </DealTerms>
  </Deal>
</ReleaseDeal>
</DealList>
</ernm:NewReleaseMes
```

```

        </DealTerms>
    </Deal>
</ReleaseDeal>
<ReleaseDeal>
    <DealReleaseReference>R1</DealReleaseReference>
    <Deal>
        <DealTerms>
            <CommercialModelType>PayAsYouGoModel</CommercialModelType>
            <Usage>
                <UseType>PermanentDownload</UseType>
            </Usage>
            <TerritoryCode>US</TerritoryCode>
            <PriceInformation>
                <PriceType
Namespace="DPID:YOURDDEXPARTYID">ID_T1</PriceType>
            </PriceInformation>
            <ValidityPeriod>
                <StartDate>2014-09-22</StartDate>
            </ValidityPeriod>
        </DealTerms>
    </Deal>
</ReleaseDeal>
<ReleaseDeal>
    <DealReleaseReference>R2</DealReleaseReference>
    <Deal>
        <DealTerms>
            <CommercialModelType>PayAsYouGoModel</CommercialModelType>
            <Usage>
                <UseType>PermanentDownload</UseType>
            </Usage>
            <TerritoryCode>US</TerritoryCode>
            <PriceInformation>
                <PriceType Namespace="DPID:YOURDDEXPARTYID">ID_T1</PriceType>
            </PriceInformation>
            <ValidityPeriod>
                <StartDate>2014-09-21</StartDate>
            </ValidityPeriod>
        </DealTerms>
    </Deal>
</ReleaseDeal>

```

08 APPENDIX A: XML REFERENCE

```
        </ValidityPeriod>
      </DealTerms>
    </Deal>
  </ReleaseDeal>
</DealList>
</ernm:NewReleaseMes
```


09

APPENDIX B: TOOLS



APPENDIX B: TOOLS

XML TOOLS

Labels or aggregators who use the digital delivery method need to build their own XML packaging process for creating feeds. It is strongly recommended that you build content validation into your packaging process. Specifically, this means incorporating a programmatic schema validator into your xml generation.

In order to ingest content properly, most retail partners strictly validate each bundle that they receive and reject any bundles that fail validation. Invalid XML can be easily caught during the packaging process by validating each bundle metadata file against our XSD schema.

An example of an XML debugging software is XMLSpy but there are several alternatives with varying feature sets:

- **Altova XMLSpy** - Industry-standard XML Editor
(<http://www.altova.com/xmlspy.html>).
- **XMLmind** – WYSIWYG XML Editor
(<http://www.xmlmind.com/xmleditor/>).
- **Oxygen** – Codeview XML Editor
(<http://www.oxygenxml.com/>).
- **Exchanger** – Java-based XML Editor
(<http://www.exchangerxml.com/>).
- **XmlGrid** - Free, web-based XML Editor
(<http://www.xmlgrid.net/>).
- **CoreFiling** – XSD schema validator
(<http://www.corefiling.com/opensource/schemaValidate.html>).
- **Additional options can be found at**
http://en.wikipedia.org/wiki/Comparison_of_XML_editors.

09 APPENDIX B: TOOLS

MD5 CHECKSUMS

In order to verify that your retail partners have received your cover art file and digital audio files correctly, most retail partners will ask that you provide a checksum for these files. FileName and HashSUM elements should be included in the TechnicalResourceDetailsReference element under the ResourceList.

There are several free tools and code libraries available for generating MD5 checksums. One such debugging tool is FSUM (<http://www.slavasoft.com/fsum/>), a command-line based tool. A good GUI-based alternative is MD5summer (<http://www.md5summer.org/>).



