Communicating Binaries

One Binary for each Resource Composite

To indicate that a binary (a.k.a. Resource file such as an AAC-encoded sound recording) is being communicated as part of a Release delivery, the Message Sender needs to provide a `TechnicalSoundRecordingDetails` composite for the relevant Resource. Conversely, the absence of a `TechnicalSoundRecordingDetails` composite for a specific Resource indicates to the recipient, that no binary is being delivered at this stage. The most typical case for this is an update to a previously sent `NewReleaseMessage`.

However, to simplify the processing, DDEX has agreed rules as to what binaries can be communicated and/or omitted under which circumstances. These rules are as follows:

- Typically, a first `NewReleaseMessage` about a new Release would contain all primary and secondary binaries. Therefore all `Resource` composites would contain one `TechnicalSoundRecordingDetails` composite each;
- It is permissible that a Release delivery does not contain *any* binaries; in that case, the `NewReleaseMessage` must not contain any `TechnicalSoundRecordingDetails` composites either;
- If, however, a binary for a primary Resource needs communicating (e.g. because it was corrupt in an earlier delivery), binaries for *all* primary Resources must be be communicated; it is not necessary to also communicate binaries for secondary resources in this case; and
- If a binary for a secondary Resource needs communicating, binaries for *all* secondary Resources must also be communicated; it is not necessary to communicate binaries for primary resources in this case.

This approach has been chosen to simplify implementations – it is acknowledged that this approach may lead to an increased amount of data to be transferred.

> **Primary and Secondary Resources**
> DDEX distinguishes between "primary" and "secondary" Resources.
>
> The former are "Resources that are a main Resource of a Release" whereas the latter are "Resources that are not a main Resource of a Release supporting the Primary Resources (examples are lyrics, cover art etc)". Whether a Resource is deemed to be primary or secondary for a given Release is communicated in the ResourceGroup with the appropriate flag.

Multiple Resource Files for each Resource Composite

It is possible, that more than one binary needs providing for a single Resource composite. This allows offerings with different sound quality levels or with DRM-protected and unprotected files for a single Release.

To indicate that multiple binaries are communicated for for a single Resource, the Message Sender must provide one `TechnicalSoundRecordingDetails` composite for each binary. Thus a delivery of a Release with ten sound recordings plus one image, where all sound recordings are provided in (lossy compressed) MP3 and (losslessly compressed) FLAC, would contain of 2*10+1 = 21 binaries.

The above rules about sending binaries to all primary Resources when one primary Resource needs to be communicated is still in force and needs extending:

- If a binary for a primary Resource needs communicating, *all* binaries for *all* primary Resources must be be communicated; it is not necessary to also communicate binaries for secondary resources in this case; and
- If a binary for a secondary Resource needs communicating, *all* binaries for *all* secondary Resources must also be communicated; it is not necessary to communicate binaries for primary resources in this case.

The same rule applies to secondary Resources.