

Duet

EMD Subscription Services

Duet Warehouse Database Specification

Document DU-014a

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0.4	05/10	DW, KC	Divide into just Warehouse DB Spec and put Reporting in another document, further restructuring and fleshing out
0.3	05/07/01	DW	Restructured according to L. Goldberg's outline
0.2	04/30/01	DW	Fleshed out Reporting Requirements
0.1	04/13/01	DW	Initial draft seeded from DU-009, completed draft of data input section

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1 Introduction

The Duet Warehouse database handles content and transaction information needed for reporting and accounting in the Duet system. This document describes the Warehouse database and specifies the data that it requires.

1.1 Related Documents

- DU-014b *Duet Reporting Specification*—companion to this document that describes the reports generated and sent out by the Warehouse
- DU-015 *Duet Feed Database Dictionary*
- DU-013 *Duet Content Catalog Database Dictionary*
- DU-009 *Duet Data Flow Guidelines*
- *Duet: Technical Specification* (DUET001) by Plumb Design
- *Downloadable Reports* by Qpass
- DU-007 *Standard XML Interfaces for EMD Services*
- DU-006 *Duet Production Processes*
- DU-007 *Duet XML Interfaces*

1.2 Acronyms and Terms

Acronym	Meaning
AAC	Advanced Audio Coding
AMG	All Music Guide—providers of enhanced metadata
ASCAP	American Society of Composers, Authors, and Publishers
BMI	Broadcast Music, Inc.
DB	database
DI	Digital Island
DRM	digital rights management
DSP	digital service provider
EMD	electronic music distribution
GUI	Graphical user interface
ISO	International Organization for Standardization
ISRC	International Standard Recording Code

Acronym	Meaning
SESAC	Society of European Stage Authors & Composers (performing rights organization headquartered in Nashville)
UMG	Universal Music Group
UPC	Universal Product Code
URL	Uniform Resource Locator
XML	Extensible Markup Language

1.3 Overview of Duet System

The Duet system is a file distribution application that delivers on-demand streaming content to the consumer via a retailer Web site. Future implementations will support downloads. The various databases that comprise the Duet system and their relationships are summarized in Figure 1.

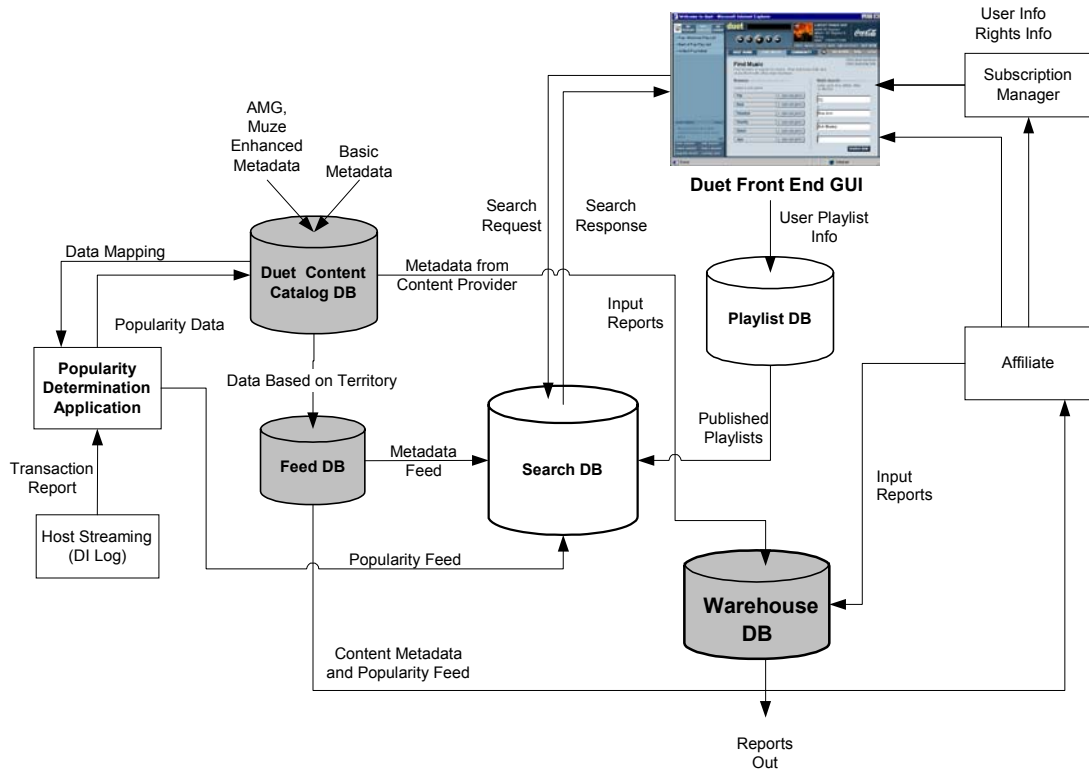


Figure 1. Duet System Data Flow Overview

The databases highlighted in gray are being developed by Duet.

Other key components of this system are:

- **Duet Content Catalog Database**—the database containing all the metadata and assets for Duet tracks. This will be developed by Duet. Refer to DU-013 *Duet Content Catalog Database Dictionary*.
- **Feed Database**—contains content data based on territory that is used to feed retailers and the search engine. This will be developed by Duet. This is covered in DU-015 *Duet Feed Database Dictionary*.
- **Popularity Determination Application**—determines a track's popularity. This is used for weighting search results. This will be developed by Plumb Design.
- **Playlist Database**—contains user playlists from the Duet system. This will be developed by Plumb Design.
- **Duet Front-end Application**—Duet front-end GUI with search functionality, playlists, lockers, promotions, and access to track assets. This will be developed by Plumb Design.
- **Search Database**—this database handles the search requests from the Duet front end. It uses a metadata feed combined with the popularity feed and playlist info. This will be developed by Plumb Design.

1.4 Contents of this Document

This document deals with the data requirements in to the Warehouse database and a specification of the Warehouse database itself.

Note: *Specification of the output reports generated by the Warehouse database is covered in a separate document, DU-14b Duet Reporting Specification.*

- Section 2 Warehouse Overview—overview of the Warehouse including data flow and sources of data (page 4)
- Section 3 Duet Content Catalog Data—format and specification of content and retailer metadata received from the Content Catalog database (see page 7)
- Section 4 Qpass Data— format and specification of sales and subscription data received from Qpass (see page 14)
- Section 5 Duet Application Data— format and specification of transaction, customer, playlist, and popularity data received from the Duet application (see page 25)
- Section 6 Search Engine Data— format and specification of search data received from Verity (see page 34)
- Section 7 Digital Island Data— format and specification of streaming and Web statistics data received from Digital Island (see page 35)
- Section 8 Message Board Data— format and specification of user forum data received from Jive (see page 37)

- Section 9 Warehouse Implementation—general specifications for the Warehouse database (page 38)
- Section 10 Warehouse Data Tables—Schema and data structure of the Warehouse database (see page 40)
- Section 11 Warehouse Maintenance—procedures required for the upkeep of the Warehouse, including testing, escalation, backup, and administrative procedures (page 40)
- Section 12 Additional Requirements for Downloads—defines the additional modifications necessary for the Warehouse to be able to handle downloads (page 42)

2 Warehouse Overview

2.1 Warehouse Data Flow

Figure 2 gives an overview of the data flow into the Warehouse database.

Data Sources

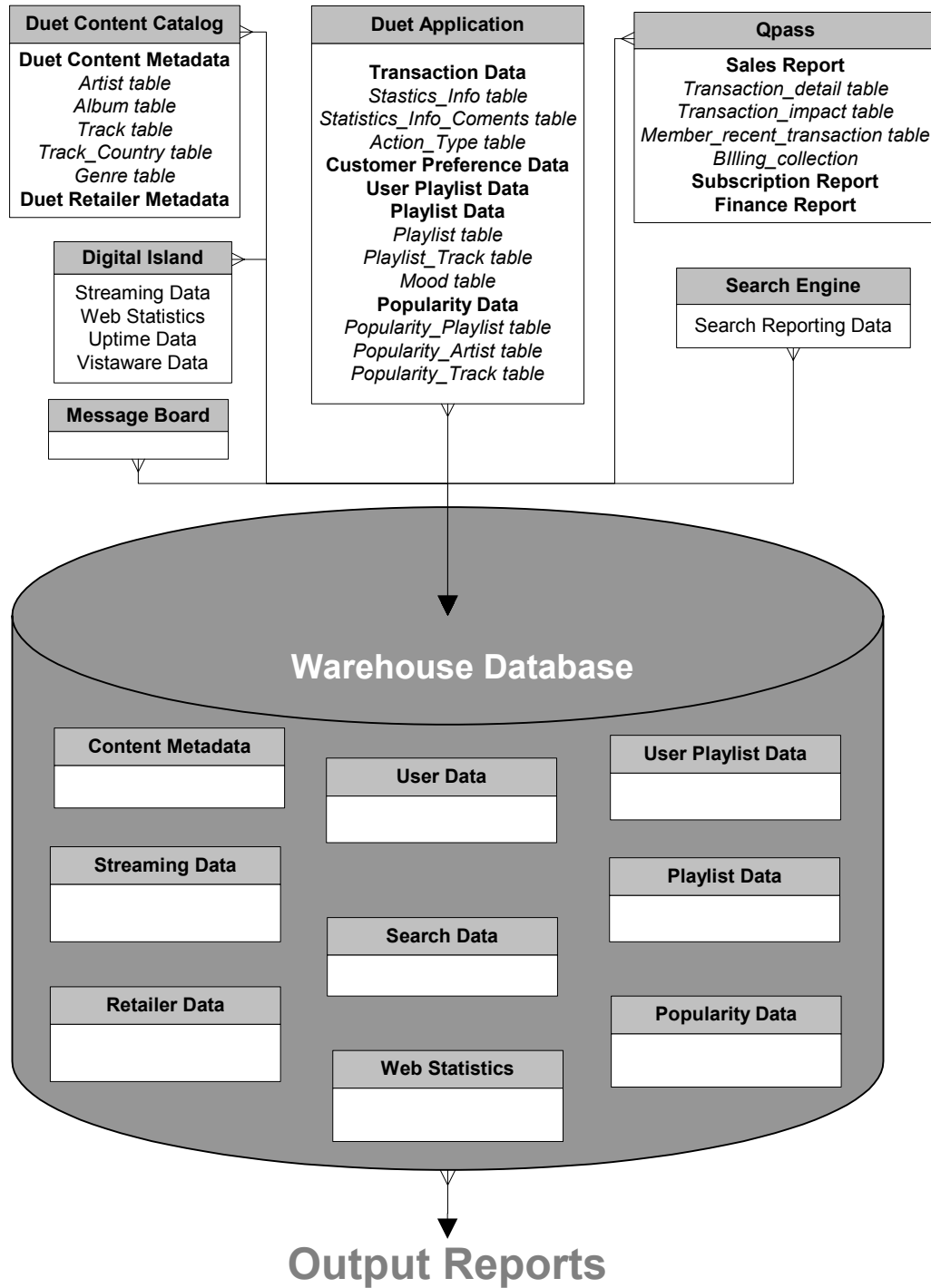


Figure 2. Warehouse Data Structure

The data sources and reports that feed the Duet Warehouse database are listed at the top of the diagram. These are defined in detail subsequently.

The Warehouse processes this data and filters what it needs into the Warehouse database tables. The Warehouse database tables are described on page 40.

The Warehouse then generates reports to send back to external and internal recipients. These reports are the subject of the companion document, *DU-014b Duet Reporting Specification*.

2.2 Input Data Sources

The sources of data required to build the Warehouse database are summarized in Table 1.

Table 1. Data Sources

Data Source	Report Type	Description	Freq	Ref
Duet Content Catalog	Content metadata	Includes content metadata and other data from the following tables: <ul style="list-style-type: none"> • ARTIST • ALBUM • TRACK • TRACK_COUNTRY • GENRE 	Daily	Page 7 Page 8 Page 9 Page 10 Page 12 Page 12
	Retailer metadata	Data specifying the retailer from the RETAILER table	Daily	Page 13
Qpass	Sales Report—Transaction_detail	Data on activity that affects a customer's account balance	Daily	Page 15
	Sales Report—Transaction_impact	Describes how associated transactions affect customer account balances and gives tax information	Daily	Page 15
	Sales Report—Member_recent_transaction	Contains demographic profile information about the customer	Daily	Page 15
	Sales Report—Billing_collection	Data about transactions in the Qpass billing and collection system	Daily	Page 15
	Subscription Report	Contains subscription and demographic information about customers	Weekly	Page 23
	Finance Report	Contains information on transactions for which taxes have been collected	Monthly	Page 24
Duet Application (Plumb Design—Production Database)	Transaction Data	Streaming track data from the GUI application	Daily	Page 26
	Customer Preference Data	Information on customer defaults and preferences, including playlist preferences	Daily/weekly	Page 30
	User Playlist Data	Information on the playlists that the user subscribes to as favorite playlists	Daily	Page 31
	Playlist Data	Descriptive information about playlists	Daily	Page 31
	Popularity Determination Data	Includes data on track, artist, and playlist popularity	Daily	Page 33

Data Source	Report Type	Description	Freq	Ref
Search Engine (Verity)	Search Data	Provides information on what tracks, artists, and playlists customers are searching for to help determine popularity	Daily/weekly	Page 34
Digital Island	Streaming Log	Includes information about tracks streamed		Page 36
	Web Statistics	Web page visitation statistics		Page 36
	Uptime Data	???		Page 36
	Vistaware Data	???		Page 37
Message Board (Jive)		Data on user discussion forum and threads?		Page 37

Specifics about the data included in each of these reports and feeds is included in subsequent sections.

3 Duet Content Catalog Data

The Warehouse receives two types of data from the Duet internal/feed database—content metadata and retailer data.

3.1 Format and Frequency of Content Catalog Feed

The Warehouse database pulls data daily from the Content Catalog database.

Each day, the Warehouse replicates the Duet internal database via Oracle Snapshot Replication.

3.2 Duet Content Metadata

Content metadata is basic product data provided by the Duet for the purposes of reporting.


The following tables are replicated in the Content Metadata feed:

- ARTIST (see below)
- ALBUM (see page 9)
- TRACK (see page 10)
- TRACK_COUNTRY (see page 12)
- GENRE (see page 12)

3.2.1 Artist Table

The ARTIST table defines the artist or band and the associated assets. Table 2 lists all the fields in the ARTIST table.


Table 2. ARTIST Fields

Data Field	Datatype	NULL	Description
 ARTIST_ID	NUMBER(6)	No	Unique identifier for the artist or performer
DISPLAY_NAME	VARCHAR2(200)	No	The name of the artist as displays on the physical product
SORT_NAME	VARCHAR2(200)	No	Name of artist as used for sorting and searching purposes stripped of articles (a, an, the). For example if the DISPLAY_NAME is "The Beatles", the SORT_NAME would be "Beatles" or John Lennon would be "Lennon, John"
AMG_ARTIST_ID	CHAR(10)	Yes	AMG assigned ID for the artist
IS_GROUP	CHAR(1)	No	(Y/N) Indicates whether the artist is a group or an individual
GENRE_ID	NUMBER(6)	Yes	The unique identifier for the artist primary genre.
DECADE	VARCHAR2(10)	Yes	The decade(s) relevant to the album, where 5 indicates 1950, 6 indicates 1960 and so on. The colon (:) indicates 2000. Multiple decades are allowed, for example, 789 indicates the album corresponds to 1970, 1980, and 1990.
BIRTH	VARCHAR2(10)	Yes	The birth date of the artist or the date the group was formed in YYYY MM DD format
BPLACE	VARCHAR2(33)	Yes	Where the artist was born or where the group was formed
DEATH	VARCHAR2(10)	Yes	The date the artist died or the date the group broke up in YYYY MM DD format
DPLACE	VARCHAR2(33)	Yes	Where the artist died (if applicable)
ARTIST_IMAGE	VARCHAR2(100)	Yes	File name of the image or portrait of the artist. Format is similar to thumbnail name (TBD).
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

3.2.2 Album Table

The ALBUM table defines albums and their associated assets. Table 3 lists the fields in the ALBUM table.

Table 3. ALBUM Fields


Data Field	Datatype	NULL	Description
 ALBUM_ID	NUMBER(16)	No	The unique identifier for the album
DISPLAY_NAME	VARCHAR2(200)	No	The name of the album as it displays on the physical product
SORT_NAME	VARCHAR2(200)	No	Name of album as used for sorting purposes with articles (a, an, the) stripped. For example, a DISPLAY_NAME of "The White Album" would have a SORT_NAME of "White Album (the)".
UPC	CHAR(12)	Yes	Physical album Universal Product Code (12 digits)
AMG_ALBUM_ID	CHAR(10)	Yes	AMG assigned ID for the album
ARTIST_ID	NUMBER(6)	No	The unique identifier for the artist or band recording the album as defined in the artist table
GENRE_ID	NUMBER(6)	Yes	The identifier for the album primary genre
ORIGINAL_RELEASE_YEAR	NUMBER(4)	Yes	The year in YYYY format when the album was originally released
NUMBER_OF_TRACKS	NUMBER(2)	No	The number of tracks on the album
NUMBER_OF_DISCS	NUMBER(1)	No	The number of discs making up the album in the case of multiple disc sets, i.e. a double-album would be 2
ALBUM_DURATION	VARCHAR(7)	Yes	The length of the entire album in MMM:SS format
LABEL_NAME	VARCHAR2(100)	No	The name of the label
DISTRIBUTOR_NAME	VARCHAR2(100)	No	The name of the distributor
THUMBNAIL_FILENAME	VARCHAR2(100)	Yes	<p>Root name of thumbnail in XXXNNNNNNNNNNNNNN format where XXX is the distributor or content provider (UMG, SM1) and the 12 N digits represent a serial number assigned by the encoding party.</p> <p>The full name of the thumbnail file is XXXNNNNNNNNNNNN_MMM.jpg where MMM represents the pixel dimensions:</p> <ul style="list-style-type: none"> • 001 is for 75x75 • 002 is for 100x100 <p>The PREFIX_VALUE for thumbnail must also be appended to compose the entire</p>

Data Field	Datatype	NULL	Description
			URL pointing to the thumbnail location.
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

3.2.3 Track Table

The TRACK table defines the track and its associated attributes. Table 4 lists all the fields in the TRACK table.

Table 4. TRACK Fields



Data Field	Datatype	NULL	Description
 TRACK_ID	NUMBER(16)	No	Unique identifier for the song associated with an album. If a song appears on different albums it will have different Track IDs for each case.
DISPLAY_NAME	VARCHAR2(200)	No	The title of the track as displayed on the product
SORT_NAME	VARCHAR2(200)	No	The sort name of the track used for sorting and searching
AMG_TRACK_ID	CHAR(10)	Yes	AMG assigned ID for the track
ALBUM_ID	NUMBER(16)	Yes	Unique identifier for the album so the track can be mapped to the ALBUM table
ARTIST_ID	NUMBER(6)	Yes	Unique identifier for the artist so the track can be mapped to the ARTIST table
GENRE_ID	NUMBER(6)	Yes	The unique identifier for the primary genre. Track genre is based on the album genre.
ISRC	CHAR(12)	Yes	12-character universal ISRC code
DURATION	VARCHAR2(27)	Yes	The length of the track in MM:SS format
UPC	CHAR(12)	Yes	Universal Product Code (12 digits) for download track only
DISC_NUMBER	NUMBER(1)	No	The number of the disc in the case of multiple disc sets
TRACK_NUMBER	NUMBER(2)	No	The track sequence number on the album
EXPLICIT_LYRICS	CHAR(1)	No	Y/N flag specifying whether the track contains explicit lyrics

Data Field	Datatype	NULL	Description
STREAMING_FILE_NAME	VARCHAR2(100)	No	<p>The root name of the streaming file in XXXNNNNNNNNNNNNNN format where XXX is the content provider code (UMG or SM1) and the 12 N digits represent a serial number assigned by the encoding party.</p> <p>The full name of the streaming file is XXXNNNNNNNNNNNNNN_MMM.zz (z) where MMM represents the bitrate</p> <ul style="list-style-type: none"> • 001 is for 20 Kbps (.wma) • 002 is for 32 Kbps (.wma) • 003 is for 96 Kbps (.wma) • 04 20, 32, 105 Kbps (.rm) <p>And the zz (z) file extension represents the following file formats:</p> <ul style="list-style-type: none"> • .rm for RealAudio • .wma for Windows Media <p>The PREFIX_VALUE for the track PREFIX_NAME (RM STREAM or WMA STREAM) must also be appended to compose the entire URL pointing to the track location.</p>
P_DOWNLOAD_FILE_NAME	VARCHAR2(100)	Yes	Primary download root file name. The file format is similar to above, and the corresponding PREFIX_NAME is P_DOWNLOAD.
S_DOWNLOAD_FILE_NAME	VARCHAR2(100)	Yes	Secondary download root file name in the case where more than one DRM system is supported. The file format is similar to above, and the corresponding PREFIX_NAME is S_DOWNLOAD.
P_DOWNLOAD_FILE_SIZE	NUMBER(6)	Yes	Primary download file size
S_DOWNLOAD_FILE_SIZE	NUMBER(6)	Yes	Secondary download file size in the case where more than one DRM system is supported
PD_TRANSFER	CHAR(1)	Yes	Y/N flag determining whether the track has rights to be transferred to a portable device
IS_ACTIVE	CHAR(1)	No	Y/N flag determining whether the track is active or not
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

3.2.4 Track Country Table

The TRACK_COUNTRY table defines the countries that have received clearance to stream or download a track. Table 5 lists the fields in the TRACK_COUNTRY table.


Table 5. TRACK_COUNTRY Fields

Data Field	Datatype	NULL	Description
 COUNTRY_CODE	CHAR(3)	No	3-character ISO country code for country licensed to sell track.
 TRACK_ID	NUMBER(16)	No	The unique identifier for the track
CATEGORY	VARCHAR2(20)	Yes	For future use, currently set to NULL
CLIP_URL	VARCHAR2(256)	Yes	Location of 30-second clip
STREAMING_RELEASE_DATE	DATE	No	The release data when the track is available for streaming in the specified country
DOWNLOAD_RELEASE_DATE	DATE	Yes	The release data when the track is available for download in the specified country
STREAMING_IS_ACTIVE	CHAR2(1)	No	Y/N flag determining the status of the streaming track in the country
DOWNLOAD_IS_ACTIVE	CHAR(1)	No	Y/N flag determining the status of the download track in the country
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

3.2.5 Genre Table

The GENRE table defines the genres or styles of music. This information is used to categorize albums, artists, and tracks, and also to enhance search and associative functionality. Table 6 lists all the fields in the GENRE table.

Table 6. GENRE Fields


Data Field	Datatype	NULL	Description
 GENRE_ID	NUMBER(6)	No	Unique identifier for the genre
DISPLAY_NAME	VARCHAR2(100)	No	The name of the genre as displays.
PARENT_GENRE_ID	NUMBER(6)	Yes	The identifier of the parent or primary genre
IS_PRIMARY	CHAR(1)	No	Y/N flag indicating if this is a primary genre
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

3.3 Duet Retailer Metadata

In addition to content metadata, the Content Catalog also provides retailer metadata to the Warehouse database. Only the RETAILER table is replicated for the retailer metadata feed.

The RETAILER table lists the affiliates or retailers selling the Duet service. It also contains the default retailer profile. Table 7 lists the fields in the RETAILER table.

Table 7. RETAILER Fields

Data Field	Datatype	NULL	Description
 RETAILER_ID	CHAR(5)	No	Unique identifier for the retailer
DISPLAY_NAME	VARCHAR2(100)	No	Name of the retailer as displays
INTERNAL_NAME	VARCHAR2(100)	No	Retailer name (with no spaces and lowercased) used for sorting purposes
COUNTRY_CODE	CHAR(3)	No	3-character ISO country code of country where the retailer is licensed to sell Duet
IS_ACTIVE	CHAR(1)	No	Y/N flag indicating if the retailer is active
RETAILER_TYPE	VARCHAR2(20)	No	The type of retailer—for future use
EMAIL	VARCHAR2(100)	Yes	e-mail of the contact of the retailer, e.g. joe@retailer.com
START_DATE	DATE	Yes	Start date of the contract agreement between Duet and the retailer
TERMINATION_DATE	DATE	Yes	Termination date of contract between Duet and the retailer
URL	VARCHAR2(256)	Yes	The URL of the retailer. URLs must start with http:// , for example http://retailer.com
COMMISSION	NUMBER(6,2)	Yes	The percentage the retailer makes off a sale (in parts of a hundred)
STREAMING	CHAR(1)	No	Y/N flag indicating if streaming is available through this retailer
DOWNLOAD	CHAR(1)	No	Y/N flag indicating if downloads are available through this retailer
REQUIRED_STREAMING_MEDIA	VARCHAR2(20)	Yes	The default streaming media type that the retailer prefers
REQUIRED_DOWNLOAD_MEDIA	VARCHAR2(20)	Yes	The default download media type that the retailer prefers
EXPLICIT_LYRICS	CHAR(1)	No	Y/N flag indicating if retailer accepts explicit lyrics
STREAMING_PREFIX_RM	VARCHAR2(256)	Yes	The prefix or file location for real media streaming files

Data Field	Datatype	NULL	Description
STREAMING_PREFIX_WMA	VARCHAR2(256)	Yes	The prefix or file location for Windows Media streaming files
DOWNLOAD_PREFIX	VARCHAR(256)	Yes	The prefix or file location for downloadable files
LAST_UPDATED_DATE	DATE	No	Indicates when the row was last updated

4 Qpass Data

Qpass has download reports available for download, these are defined in more detail in the Qpass *Downloadable Reports* document.

The following reports are available from Qpass:

- **Sales Report**—reports on transactions, and how these transactions affect the customer's balance. Also contains customer demographic and billing collection information (see page 15)
- **Subscription Report** —contains records of all customers (subscribers) holding active subscriptions at the time that the report was generated, and gives corresponding demographic profile information (see page 23)
- **Finance Report**—contains information on transaction for which taxes have been collected during the reporting period (see page 24)

4.1.1 Format and Frequency of Qpass Feed

Sales reports are available on a weekly basis, the subscription report is available weekly, and the Taxation report is available monthly, corresponding to a remittance period.

Data is provided to Duet in zipped ASCII format (Microsoft Access format is also available, but not applicable to Duet). Qpass provides data files with filenames of the format:

```
DR_cpid_startdate_enddate.zip
```

where:

- DR—type of report with possible values of Report, Subscription, or Finance
- cpid—Qpass assigned content provider ID
- startdate—beginning of reporting period in YYYYMMDD format
- enddate—ending of reporting period in YYYYMMDD format

Note: for a subscription report the start and end dates are the same.

Within the zip file, the individual tables within each report use a similar naming convention, with the addition of the tablename:

```
DR_cpidd_startdate_enddate_filename.txt
```

- **tablename**—the individual table name. The format is the actual table name minus the underscores. Possible values are:

transactionDetail

transactionImpact

memberRecentTransaction

memberRecentUpdate

billingCollection

memberCurrentSubscriber

taxRemittance

For the Sales Report, the set of five tables will be included.

4.2 Qpass Data Download

To retrieve reports from Qpass, a Perl script is created that automatically gets the reports and delivers them to the Duet local machine. For specific details on this, including sample PERL code, see the Qpass document, *Download Reports*.

These reports are then loaded to the Warehouse database via SQL Loader

4.3 Qpass Sales Report

The Qpass Sales report consists of five tables:

- **Transaction_detail**—reports any activity that affects a customer's balance during the reporting period, including purchases, recurring subscription charges, and refunds (see page 16)
- **Transaction_impact**—describes how associated transactions affect customer account balances (see page 19)
- **Member_recent_transaction**—contains demographic profile information about customers who have initiated certain types of transactions during the reporting period (see page 19)
- **Member_recent_update**—contains a record of customer (subscribers) with active subscriptions that have made changes to their user profile during the reporting period, and gives updated demographic information since the last update. This table is not used by Duet.

- **Billing_collection**—records changes in the status of a transaction as it moves through the Qpass billing and collection processes (see page 21)

The schema for these tables that shows important relationships is shown in Figure 3.

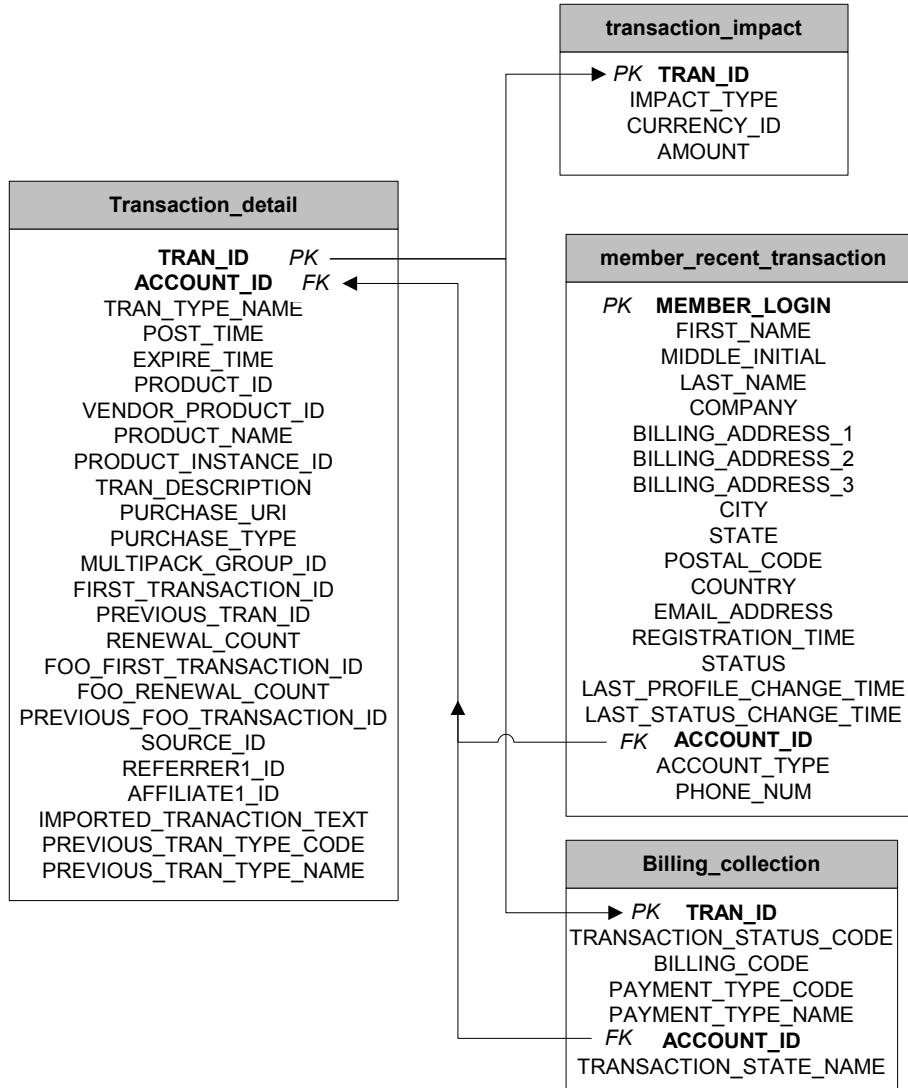



Figure 3. Qpass Sales Report Schema

4.3.1 Qpass Transaction Detail Table

The Transaction_detail table reports any activity affecting the customer’s balance, including purchases, recurring subscription charges, and refunds. Customers creating one or more transactions will have an entry with a unique transaction ID (TRAN_ID) in the Transaction_detail table. Each transaction also creates at least one item in the Transaction_impact table (see page 19) and may create an item in the Billing_collection table (see page 20).

Table 8 defines the fields in the Transaction_detail table.

Table 8. Transaction_detail Table Fields

Qpass Field	Datatype	Null	Comment
 TRAN_ID	Numeric(20)	No	Unique transaction identifier
ACCOUNT_ID	Numeric(20)	No	Qpass account identifier
TRAN_TYPE_NAME	Text(50)	No	Transaction type, see Qpass <i>Downloadable Reports</i> appendix I for a list of TRAN_TYPE definitions
TRAN_TIME	Date/Time(19)	No	The time the transaction occurred in MM/DD/YYYY HH:MM:SS format
POST_TIME	Date/Time(19)	No	The time the transaction was recorded at the Qpass service center in MM/DD/YYYY HH:MM:SS format. Note that this might be different from the time the customer actually made the purchase (TRAN_TIME).
EXPIRE_TIME	Date/Time(19)	Yes	The time that access to the product expires in MM/DD/YYYY HH:MM:SS format
PRODUCT_ID	Numeric(20)	Yes	The product identifier for the purchase as defined by the Qpass Control Station
VENDOR_PRODUCT_ID	Text(255)	Yes	Product identifier assigned by the content partner using the Qpass Control Station
PRODUCT_NAME	Text(255)	Yes	Name of the product as assigned by the Qpass Control Station
PRODUCT_INSTANCE_ID	Text(50)	Yes	The identifier of the instance of the product that was purchased (used to organize content into many instances of a few products, rather than a large number of individual products)
TRAN_DESCRIPTION	Text(255)	No	Description of the transaction
PURCHASE_URI	Text(255)	Yes	URI of purchased content. In redirect configurations, this is the URI to which the browser is redirected
PURCHASE_TYPE	Number(1)	No	Type of purchase transaction. Possible values are: <ul style="list-style-type: none"> • 0 = regular product purchase • 1 = free access of content under a multipack • 2 = purchase of a multipack
MULTIPACK_GROUP_ID	Text(50)	Yes	Identifier that groups the records of multipack usage events together

Qpass Field	Datatype	Null	Comment
FIRST_TRANSACTION_ID	Number(20)	Yes	The TRAN_ID associated with the first purchase of a subscription product (for first transactions this will be the same as TRAN_ID)
PREVIOUS_TRAN_ID	Number(20)	Yes	The subscription transaction previous to the current transaction. NULL if non-subscription product, or initiation of subscription. At the first renewal of a subscription, this will be identical to the FIRST_TRANSACTION_ID of the same row. For a cancellation, this will indicate the subscription being cancelled.
RENEWAL_COUNT	Numeric(10)	Yes	Number of renewals that have occurred between subscription initiation and the current transaction
FOO_FIRST_TRANSACTION_ID	Numeric(20)	Yes	The TRAN_ID associated with the transaction from which a follow-on offer was initiated. NULL if the purchase was not associated with a follow-on offer (new customers).
FOO_RENEWAL_COUNT	Numeric(10)	Yes	Number of follow-on offers that have occurred between the current transaction and the original follow-on offer
PREVIOUS_FOO_TRANSACTION_ID	Numeric(20)	Yes	The TRAN_ID of the previous follow-on offer.
SOURCE_ID	Text(765)	Yes	The source ID parameter passed in a buy link to identify the specific source for a purchase. Used in cases where more than one buy link may point to the same product.
REFERRER1_ID	Numeric(20)	Yes	Referrer account ID if a referrer is associated with the transaction
AFFILIATE1_ID	Text(60)	Yes	Affiliate or retailer account ID if an affiliate is associated with the referral
IMPORTED_TRANSACTION_TEXT	Text(20)	Yes	Indicates the current transaction was created through the user import process. Possible values are: <ul style="list-style-type: none"> Membertransfer NULL
PREVIOUS_TRAN_TYPE_CODE	Numeric(8)	Yes	The TRAN_TYPE_CODE of the previous transaction for the subscription. See <i>Qpass Downloaded Reports</i> for possible values. Populated only for successive transactions of a subscription, otherwise this is NULL.


Qpass Field	Datatype	Null	Comment
PREVIOUS_TRAN_TYPE_NAME	Text(50)	Yes	The TRAN_TYPE_NAME of the previous transaction for the subscription. See <i>Qpass Downloaded Reports</i> for possible values. Populated only for successive transactions of a subscription, otherwise this is NULL.

4.3.2 Qpass Transaction Impact Table

The Transaction_impact table describes how associated transactions affect customer account balances, even those with zero monetary impact. Transactions can use a combination of currency types and create an impact in each type, as well as an impact for taxation.

Table 9 lists the fields in the Transaction_impact table.



Table 9. Transaction_impact Table Fields

Qpass Field	Datatype	Null	Comment
 TRAN_ID	Numeric(20)	No	Unique transaction identifier
IMPACT_TYPE	Text(15)	No	Cause of the balance impact. Possible values are: <ul style="list-style-type: none"> Normal—the portion of any transaction that is not tax-related Tax—the portion of any transaction that is tax-related
CURRENCY_ID	Text(30)	No	The ID of the medium of exchange for the balance impact (Content Partner pricing currency, Qpass currency, or Content Partner promotional currency)
AMOUNT	Decimal(38)	No	Amount of the impact

4.3.3 Qpass Member Recent Transaction Table

The Member_recent_transaction table contains demographic profile information about customers who have initiated transactions from the Web site. The types of transactions that cause a customer to be listed in this report are purchases (including zero dollar purchases), subscription renewals, refunds, chargebacks, subscription cancellations and non-renewals.

Table 10. Member_recent_transaction Table Fields


Qpass Field	Datatype	Null	Comment
 MEMBER_LOGIN	Text(255)	No	Unique login of a Qpass account holder. Of the format member-GUID.
FIRST_NAME	Text(90)	Yes	First name of account holder
MIDDLE_INITIAL	Text(90)	Yes	Middle name or initial of the account holder
LAST_NAME	Text(90)	Yes	Family (last) name of the account holder
COMPANY	Text(90)	Yes	Account holder's employer
BILLING_ADDRESS_1	Text(255)	Yes	Billing address of account holder (1 st field)
BILLING_ADDRESS_2	Text(128)	Yes	Billing address of account holder (2 nd field)
BILLING_ADDRESS_3	Text(128)	Yes	Billing address of account holder (3 rd field)
CITY	Text(90)	Yes	City of the billing address
STATE	Text(90)	Yes	State or province of the billing address
POSTAL_CODE	Text(60)	Yes	Postal or ZIP code of the billing address
COUNTRY	Text(60)	Yes	Country of the billing address. Generally, though not necessarily, these are normalized to two or three-character ISO country codes.
EMAIL_ADDRESS	Text(90)	No	The e-mail address of the account holder
REGISTRATION_TIME	Date/Time(19)	No	The time that the account holder registered with Qpass in MM/DD/YYYY HH:MM:SS format
STATUS	Text(15)	No	The current status of the account. Possible values are: <ul style="list-style-type: none"> • Active—account can purchase products • Inactive—account has been inactivated by the Qpass system due to inability to collect funds • Closed—account has been closed by user action
LAST_PROFILE_CHANGE_TIME	Date/Time(19)	No	Time the account holder last changed profile information in MM/DD/YYYY HH:MM:SS format
LAST_STATUS_CHANGE_TIME	Date/Time(19)	No	Time the account holder last changed status in MM/DD/YYYY HH:MM:SS format
 ACCOUNT_ID	Numeric(20)	No	Qpass unique account identifier
ACCOUNT_TYPE	Text(15)	Yes	Current account type held by the customer. Possible values are: <ul style="list-style-type: none"> • Free Account—account that has not provided a payment method and can only purchase free products • Payment enabled—fully

Qpass Field	Datatype	Null	Comment
			functional account that has provided a payment method
PHONE_NUM	Text(30)	Yes	Phone number of account holder

4.3.4 Qpass Billing Collection Table

The billing collection table records each change in the status of a transaction as it moves through the Qpass billing and collection system.

Table 11. Billing_collection Table Fields



Qpass Field	Datatype	Null	Comment
 TRAN_ID	Numeric(20)	No	Unique transaction identifier
PAYMENT_TYPE_CODE	Numeric(8)	Yes	Payment method for a purchase. Possible values are: <ul style="list-style-type: none"> • 0—none (not charged) • 1—American Express • 2—Carte Blanche • 3—Diner's Club (only in USD) • 4—Discover (only in USD) • 5—JCB (not currently supported) • 6—Mastercard • 7—Optima • 8—Visa
PAYMENT_TYPE_NAME	Text(50)	Yes	Payment method used for a purchase. Possible values are: <ul style="list-style-type: none"> • none • American Express • Carte Blanche • Diners Club • Discover • JCB • MasterCard • Optima • Visa
ACCOUNT_ID	Numeric(20)	No	Qpass unique account identifier

Qpass Field	Datatype	Null	Comment
TRANSACTION_STATE_NAME	Text(50)	No	<p>Status of a transaction as it moves through the Qpass billing and collection process. Possible values are:</p> <ul style="list-style-type: none"> • Purchase • Billing Anniversary • Billing Anniversary Post Cancellation • Billing Anniversary Clear • Billing Threshold • Billing Threshold Post Cancellation • Billing Threshold Clear • Collection Approved • Billing Threshold Clear Post Cancellation • Collection Approved Clear • Collection Declined • Collection Declined Post Cancellation • Collection Declined Clear • Billing in Transit • Billing in Transit Clear • Refund • Cancellation • Refund Clear • Cancellation Clear • Adjustment • Adjustment Clear • Chargeback • Chargeback Representment • Vendor Currency Purchase • Vendor Currency Refund • Vendor Currency Cancellation • Collection Hard Declined • Collection Hard Declined Clear

4.4 Qpass Subscription Report

The Subscription report contains records and demographic information of all customers (subscribers) holding active subscriptions. Customers with multiple active subscriptions will have multiple records. The Subscription report has one table, the Member_current_subscriber table. The fields in this table are described in Table 12.

Table 12. Member_current_subscriber Table Fields

Qpass Field	Datatype	Null	Comment
 MEMBER_LOGIN	Text(255)	No	Unique login of a Qpass account holder. Of the format member-GUID
FIRST_NAME	Text(90)	Yes	First name of account holder
MIDDLE_INITIAL	Text(90)	Yes	Middle name or initial of the account holder
LAST_NAME	Text(90)	Yes	Family (last) name of the account holder
COMPANY	Text(90)	Yes	Account holder's employer
BILLING_ADDRESS_1	Text(255)	Yes	Billing address of account holder (1 st field)
BILLING_ADDRESS_2	Text(128)	Yes	Billing address of account holder (2 nd field)
BILLING_ADDRESS_3	Text(128)	Yes	Billing address of account holder (3 rd field)
CITY	Text(90)	Yes	City of the billing address
STATE	Text(90)	Yes	State or province of the billing address
POSTAL_CODE	Text(60)	Yes	Postal or ZIP code of the billing address
COUNTRY	Text(60)	Yes	Country of the billing address. Generally, though not necessarily, these are normalized to two or three-character ISO country codes.
EMAIL_ADDRESS	Text(90)	No	The e-mail address of the account holder
REGISTRATION_TIME	Date/Time(19)	No	The time that the account holder registered with Qpass in MM/DD/YYYY HH:MM:SS format
STATUS	Text(15)	No	The current status of the account. All entries in this table have a status of: <ul style="list-style-type: none"> Active—account can purchase products
LAST_PROFILE_CHANGE_TIME	Date/Time(19)	No	Time the account holder last changed profile information in MM/DD/YYYY HH:MM:SS format
LAST_STATUS_CHANGE_TIME	Date/Time(19)	No	Time the account holder last changed status in MM/DD/YYYY HH:MM:SS format
 ACCOUNT_ID	Numeric(20)	No	Qpass unique account identifier

Qpass Field	Datatype	Null	Comment
ACCOUNT_TYPE	Text(15)	Yes	Current account type held by the customer. Possible values are: <ul style="list-style-type: none"> Free Account—account that has not provided a payment method and can only purchase free products Payment enabled—fully functional account that has provided a payment method
PHONE_NUM	Text(30)	Yes	Phone number of account holder
PRODUCT_ID	Numeric(20)	Yes	The product identifier for the purchase as defined by the Qpass Control Station
VENDOR_PRODUCT_ID	Text(255)	Yes	Product identifier assigned by the content partner using the Qpass Control Station
TRAN_TIME	Date/Time(19)	No	The time the transaction occurred in MM/DD/YYYY HH:MM:SS format
EXPIRATION_DATE	Date/Time(19)		The time the purchase is due to expire at the Qpass engine in MM/DD/YYYY HH:MM:SS format
TRANSACTION_ID	Numeric(20)	No	Transaction identifier
SOURCE_ID	Text(255)	Yes	If the subscription was initiated by a referral, this provides the identifier of the referral partner as specified in the Buy Link

4.5 Qpass Finance Report

The finance report contains information on transactions for which taxes have been collected during the reporting period. It contains on table, whose fields are described in Table 13.

Table 13. Taxation Table Fields

Qpass Field	Datatype	Null	Comment
TRAN_ID	Numeric(20)	No	Unique transaction identifier
POST_DATE	Date/Time(19)	No	The time the purchase that generated the tax was made in MM/DD/YYYY HH:MM:SS format
COLLECTED_DATE	Date/Time(19)	No	The time the purchase was collected in MM/DD/YYYY HH:MM:SS format
TAX_TYPE	Text(16)	No	Level of jurisdiction for which the tax was applied (state, city, county, etc.)
PRODUCT_NAME	Text(255)	No	Name of product purchased
CATEGORY	Text(255)	No	Tax category, as set by Qpass, of the product that generated the tax

Qpass Field	Datatype	Null	Comment
JURISDICTION	Text(255)	No	Jurisdiction(s) to which tax is owed— Country, State, County, City
COUNTRY	Text(60)	No	The customer's country to which the tax was applied
STATE	Text(2)	Yes	2-digit postal abbreviation for the customer's state or province for which the tax was applied
COUNTY	Text(255)	Yes	Customer's county to which the tax was applied—calculated by postal code
CITY	Text(255)	Yes	Customer's city to which the tax was applied—calculated by postal code
ZIP	Text(20)	Yes	Customer's postal code
PURCHASE_AMOUNT	Decimal(38)	No	Price of the product (amount from which the tax was calculated)
TAXED_AMOUNT	Decimal(38)	No	The amount of tax collected
TAX_CURRENCY	Text(30)	No	The currency in which the tax amount was calculated (US Dollars, UK Pounds Sterling, Euros)
VAT_ID	Text(255)	Yes	VAT identification of the customer (when present)
COMPANY	Text(90)	Yes	Company name provided in the customer's billing address

5 Duet Application Data

This section defines the data required by the Duet application as designed by Plumb Design. The following types of data are collected from the production database:

- Transaction Data (see page 26)
- Customer Preference Data (see page 30)
- Customer Playlist Data (see page 31)
- Playlist Data (see page 31)
- Popularity Data (see page 33)

5.1 Format and Frequency of the Duet Application Feed

The Warehouse database pulls application data daily from the Duet Production database.

Each day, the Warehouse replicates the Duet Production database via Oracle Snapshot Replication.

5.2 Transaction Data


The following Production data tables are replicated to the Warehouse for transaction data:

- STATISTICSINFO (see below)
- ACTION_TYPE (see page 27)
- STATISTICS_STORAGE (see page 29)

5.2.1 Statistics Info Table

The STATISTICSINFO table records statistics about customer actions and usage. The fields in the STATISTICSINFO table are defined in Table 14.


Table 14. STATISTICSINFO Table Fields

Data Field	Datatype	NULL	Description
 STAT_ID	NUMBER(38)	No	The unique identifier for the statistic
ACTION_TYPE	NUMBER(16)	Yes	See Table 16 for an explanation of possible values
USER_ID	NUMBER(38)	Yes	Unique identifier of the user
PRIMARY_ID	NUMBER(38)	Yes	A multi-purpose placeholder or variable. For examples on how this is used, see Table 16.
SECONDARY_ID	NUMBER(38)	Yes	Another multi-purpose placeholder or variable. For examples on how this is used, see Table 16.
ACTION_DATE	DATE	Yes	Date the action corresponding to the STAT_ID occurred
IS_POLLED	CHAR(1)	No	Whether the statistic is recorded in the STATISTICS_STORAGE table???

5.2.2 Action Type Table

The ACTION_TYPE defines the types of actions that a user can perform on playlists and tracks. Table 15 lists the fields in this table.

Table 15. ACTION_TYPE Table Fields

Data Field	Datatype	NULL	Description
 ACTION_TYPE_ID	NUMBER(38)	No	Unique identifier for the action
ACTION_TYPE_NAME	VARCHAR2(50)	Yes	The name of the action. For a complete list of names, see Table 16.
ACTIONTYPE_WEIGHT	NUMBER(2)	Yes	The weight of the action if it is used to determine popularity. For example listening to a playlist might carry a different weight than adding a playlist to your favorites list.
ACTION_TYPE_EXPLANATION	CLOB	Yes	Description of the action type. For corresponding explanation, see Table 16.

The possible action types are defined in Table 16. This table also defines how the USER_ID, PRIMARY_ID, and SECONDARY_ID fields are used for each action. For example, for example when a user sends a playlist to another user, this is recorded as ACTION_TYPE_ID = 13 and ACTION_TYPE_NAME = INBOX SENT. When this action occurs, the recipient's USER_ID is recorded as the USER_ID, the PRIMARY_ID stores the PLAYLIST_ID, and the SECONDARY_ID is used to store the sender's USER_ID.

Table 16. Action Type Definitions and Consequences

ACTION_TYPE_ID	ACTION_TYPE_NAME	ACTION_TYPE_EXPLANATION	USER_ID	PRIMARY_ID	SECONDARY_ID	Tables Affected
1	PLAYLIST CREATE	Playlist is created	AUTHOR field in the PLAYLIST table (user who created playlist)	The new PLAYLIST_ID	NULL	PLAYLIST
2	PLAYLIST PUBLISH	Playlist is published	AUTHOR field in the PLAYLIST table	PLAYLIST_ID	NULL	PLAYLIST
3	PLAYLIST UNPUBLISH	Playlist is unpublished	AUTHOR field in the PLAYLIST table	PLAYLIST_ID	NULL	PLAYLIST

ACTION_TYPE_ID	ACTION_TYPE_NAME	ACTION_TYPE_EXPLANATION	USER_ID	PRIMARY_ID	SECONDARY_ID	Tables Affected
4	PLAYLIST DELETE	Playlist is deleted	AUTHOR field in the PLAYLIST table	PLAYLIST_ID	NULL	PLAYLIST
5	PLAYLIST MODIFY	Playlist is modified	AUTHOR field in the PLAYLIST table	PLAYLIST_ID	NULL	PLAYLIST
6	PLAYLIST COPY	Playlist is copied from another existing one	The new AUTHOR field in the PLAYLIST table (for the user who copies the playlist)	PLAYLIST_ID	NULL	PLAYLIST
7	PLAYLIST_ADDED	Playlist is added to a user's preferences or favorites	USER_ID for user adding playlist to favorites	PLAYLIST_ID	NULL	USER_PLAYLIST
8	PLAYLIST_REMOVED	Playlist is removed from a user's preferences or favorites	USER_ID for user removing playlist	PLAYLIST_ID	NULL	USER_PLAYLIST
9	PLAYLIST_LISTENED TO	Playlist is listened to	USER_ID for user listening to playlist	PLAYLIST_ID	NULL	USER_PLAYLIST
10	TRACK ADDED	A track is added to a playlist	USER_ID for user adding track to playlist	TRACK_ID	PLAYLIST_ID	PLAYLIST_TRACK
11	TRACK REMOVED	A track is removed from a playlist	USER_ID for user adding track to playlist	TRACK_ID	PLAYLIST_ID	PLAYLIST_TRACK
12	TRACK LISTENED TO	A track is listened to	USER_ID for listening user	TRACK_ID	NULL	
13	INBOX SENT	Playlist is sent to another user's inbox	Recipient's USER_ID	PLAYLIST_ID of playlist sent	Sender's USER_ID	USER_PLAYLIST with INBOX_SENTER = SENT
14	INBOX READ	Playlist is sent to another user's inbox and is read by recipient	Recipient's USER_ID	PLAYLIST_ID of playlist sent	Sender's USER_ID	USER_PLAYLIST with INBOX_SENTER = READ

ACTION_TYPE_ID	ACTION_TYPE_NAME	ACTION_TYPE_EXPLANATION	USER_ID	PRIMARY_ID	SECONDARY_ID	Tables Affected
15	INBOX REFUSED	Playlist is sent to another user's inbox and the user doesn't want it	Refusing recipient's USER_ID	PLAYLIST_ID of playlist refused	Sender's USER_ID	USER_PLAYLIST (playlist removed)
16	INBOX ACCEPTED	Playlist is sent to another user's inbox and the user accepts it	Accepting recipient's USER_ID	PLAYLIST_ID of accepted playlist	Sender's USER_ID	USER_PLAYLIST with INBOX_SENDED = ACCEPTED


Actions 7 (PLAYLIST_ADDED) and 9 (PLAYLIST_LISTENED TO) affect the rating of the playlist popularity, and actions 10 (TRACK ADDED) and 12 (TRACK LISTENED TO) affect the rating of the track popularity. These statistics are accumulated in the STATISTICS_STORAGE table.

5.2.3 Statistics Storage Table

The STATISTICS_STORAGE stores statistics that can be used to calculate values such as track or playlist popularity. Statistics are stored on a daily basis, and when the calculation is made, the total is summed for the days in question.

Table 17 lists all the fields in the STATISTICS_STORAGE table.

Table 17. STATISTICS_STORAGE Table Fields


Data Field	Datatype	NULL	Description
 STATSTORE_ID	NUMBER(38)	No	The unique identifier for day for which statistics are recorded
ACTION_TYPE_ID	NUMBER(38)	No	Unique identifier for the action
USER_ID	NUMBER(38)	Yes	Unique identifier of the user performing the action
PRIMARY_ID	NUMBER(38)	Yes	A multi-purpose placeholder or variable. For examples on how this is used, see Table 16.
SECONDARY_ID	NUMBER(38)	Yes	Another multi-purpose placeholder or variable. For examples on how this is used, see Table 16.
ACTION_DATE	DATE	No	The date for which statistics are being accumulated for all the actions
TOTAL_COUNT	NUMBER(16)	Yes	The total number of occurrences of the action corresponding to the ACTION_TYPE_ID

5.3 Customer Preference Data

Customer preference data yields information about user patterns and preferences—what genre of music they prefer, the default settings on their computer, etc. This data is provided by the playlist application and is stored in the USERS table (see below) in the Duet Production database.

The fields in the USERS table are defined in Table 18.

Table 18. USERS Fields

Data Field	Datatype	NULL	Description
 USER_ID	NUMBER(38)	No	Unique identifier of the user
QPASS_ACCOUNT_ID	CHAR(18)	Yes	Unique identifier for the Qpass account ID
NAME	VARCHAR(100)	No	Full name of the user, format ???
PREFERRED_FILE_CODE	CHAR(3)	No	Specifies the user's default or preferred type of file. Possible values are: <ul style="list-style-type: none"> • 001 is for 20 Kbps (.wma) • 002 is for 32 Kbps (.wma) • 003 is for 96 Kbps (.wma) • 04 20, 32, 105 Kbps (.rm)
COUNTRY_CODE	CHAR(3)	No	3-digit ISO country code for the country where the user resides
RETAILER_ID	CHAR(5)	No	The unique identifier of the retailer through which the user purchased the Duet service
RETAILER_CUSTOMER_ID	CHAR(10)	Yes	The unique identifier of the user as given by the retailer
CONSPEED_ID	NUMBER(38)	No	The identifier for the speed of the user's internet connection
GENRE_ID	NUMBER(6)	No	User's favorite genre
PLAYLIST_SEND	CHAR(1)	No	Whether the user wants to received playlists (Y or N)
ACCEPT_EXPLICIT	CHAR(1)	No	Whether the user will accept tracks with explicit tracks (Y or N)
CREATE_TM	DATE	Yes	
MOD_TM	DATE	Yes	
IS_ACTIVE	CHAR(1)	Yes	
IS_DUET	CHAR(1)	Yes	



5.4 User Playlist Data

There are two sources for user playlist data depending on whether the user owns or subscribes to the playlist:

- **USER_PLAYLIST**—contains data for playlists that the user subscribes to. These playlists are created other users. The **USER_PLAYLIST** table defines the links for these favorite or preferred playlists. These are described below.
- **PLAYLIST**—this table contains specific information about the playlists the user creates. This table is described in the next section on page 31.

Table 19 lists the fields in the **USER_PLAYLIST** table.

Table 19. USER_PLAYLIST Table Fields

Data Field	Datatype	NULL	Description
 USER_ID	NUMBER(38)	No	Unique identifier for the user
 PLAYLIST_ID	NUMBER(38)	No	Unique identifier for the playlist
INBOX_STATUS	NUMBER(2)	Yes	Status of the playlist. Possible values are (2-value codes?): <ul style="list-style-type: none"> • SENT • READ • ACCEPTED
INBOX_SENDER	NUMBER(38)	Yes	USER_ID of the person sending the playlist
ORDINAL	NUMBER(2)	Yes	???

5.5 Playlist Data

The Playlist report contains information about actions performed on the playlist. This includes creating, publishing, modifying and copying playlists.

Note: data for playlists that the user has accepted into their favorite lists is recorded in a different table, the **USER_PLAYLIST** table (see previous section).


Playlist data comes from the following tables in the Duet Production database:

- **PLAYLIST**—this table contains descriptive data for the playlist, including mood, genre, and a description (see below)
- **PLAYLIST_TRACK**—lists the tracks that comprise the playlist (see page 33)
- **MOOD**—gives a description of the referenced mood for the playlist (see page 33)

5.5.1 Playlist Table

The PLAYLIST table contains descriptive data for playlists that user creates, modifies, or publishes. The fields in the PLAYLIST table are listed in Table 20.



Table 20. PLAYLIST Table Fields

Data Field	Datatype	NULL	Description
 PLAYLIST_ID	NUMBER(38)	No	Unique identifier for the playlist
GENRE_ID	NUMBER(6)	No	Unique identifier for the genre associated with the playlist
SECONDARY_GENRE_ID	NUMBER(5)	Yes	Unique identifier for the secondary genre associated with the playlist
AUTHOR	NUMBER(6)	No	The USER_ID of the user creating or performing an action on the playlist
MOOD_ID	NUMBER(6)	No	Unique identifier for the assigned mood of the playlist
NAME	VARCHAR2(20)	No	Full name of the playlist
CREATE_TM	DATE	Yes	Creation date
MOD_TM	DATE	Yes	Date the playlist was last modified
DESCRIPTION	VARCHAR2(500)	No	Text description of the playlist
IS_PUBLISHED	CHAR(1)	Yes	Designates whether the playlist has been published (Y or N)
IS_ACTIVE	CHAR(1)	Yes	Designates whether the playlist is active (Y or N)

5.5.2 Playlist Track Table

The PLAYLIST_TRACK table lists the tracks and order of the tracks in the playlist (see Table 21).


Table 21. PLAYLIST_TRACK Table Fields

Data Field	Datatype	NULL	Description
 TRACK_ID	NUMBER(16)	No	
 PLAYLIST_ID	NUMBER(38)	No	
PLAYLIST_TRACK_ORDER	NUMBER(16)	Yes	

5.5.3 Mood Table

The MOOD table gives a full description of the moods that can be used to describe a playlist. The fields in the MOOD table are defined in Table 22.

Table 22. MOOD Table Fields

Data Field	Datatype	NULL	Description
 MOOD_ID	NUMBER(6)	No	
MOOD_DESC	VARCHAR2(100)	No	
LAST_UPDATED_DATE	DATE	No	

5.6 Popularity Reporting Data

The popularity report contains data on the popularity of a track, artist, and genre based on the number of streams. This data is used to weight search results.

Popularity data is provided by the Duet Popularity application via the Duet Production database. The following tables provide popularity data:


- POPULARITY_PLAYLIST (see below)
- POPULARITY_ARTIST (see page 34)
- POPULARITY_TRACK (see page 34)

Note: Album popularity is based on track popularity.

5.6.1 Popularity Playlist Table

The POPULARITY_PLAYLIST table determines the popularity of a playlist based on the number of times the playlist was accessed.


Table 23. POPULARITY_PLAYLIST Table Fields

Data Field	Datatype	NULL	Description
 PLAYLIST_ID	NUMBER(38)	No	Unique identifier for the playlist
ACCESS_TIMES	NUMBER(16)	Yes	The number of times the playlist was accessed or listened to

5.6.2 Popularity Artist Table

The POPULARITY_ARTIST table determines the popularity of an artist based on the popularity of tracks by that artist during the previous six months.


Table 24. POPULARITY_ARTIST Table Fields

Data Field	Datatype	NULL	Description
 ARTIST_ID	NUMBER(16)	No	Unique identifier of the artist
ACCESS_TIMES	NUMBER(16)	Yes	Sum total of listens for all the tracks by this artist during the previous six months

5.6.3 Popularity Track Table

The POPULARITY_TRACK table determines the popularity of a track based on the number of listens.

Table 25. POPULARITY_TRACK Table Fields

Data Field	Datatype	NULL	Description
 TRACK_ID	NUMBER(16)	No	Unique identifier for the track
ACCESS_TIMES	NUMBER(16)	Yes	Number of times the track was listened to

6 Search Engine Data

TBD from Verity.

6.1 Format and Frequency of Search Engine Feed

6.2 Search Reporting Data

The search report yields information on consumer search patterns—the number of times a particular track, artist, or playlist was searched for, and whether the customer searched by track name, artist name, album name, playlist name, description, genre, etc. Data will come from the search application. Table 26 lists all the data fields in the Search report.

Table 26. Search Report Data Fields

Data Element	Datatype	Mandatory	Comment
EXTRACT_NAME		YES	The name of the data file being sent
PERIOD_START_DATE_TIME	DATE/TIME	YES	Start date and time in DD/MM/YYYY HH:MM:SS format for data being provided
PERIOD_END_DATE_TIME	DATE/TIME	YES	End date and time in DD/MM/YYYY HH:MM:SS format for data being provided
TOTAL_NUMBER_RECORDS	NUMBER(7)	YES	The total number of records submitted within this file
Detail Record			
SEARCH_TYPE			What the user searched for—content or playlist
SEARCH_ELEMENT			The specific element the search was performed against—artist, album, track, genre, or browse
SEARCH_STRING			Search string entered by user
SEARCH_DATETIME			The date and time the search was executed
SEARCH_RESULT			Whether the search was successful

7 Digital Island Data

This section defines the data input specification from Digital Island. TBD

7.1 Format and Frequency of Digital Island Feed

7.2 Native Reports Available from Digital Island

TBD ...What native reports can we received from DI?

7.3 Streaming Log Data

The streaming data in Table 27 is provided by Digital Island via the streaming log. TBD

Table 27. Streaming Report Fields

Field	Datatype	Mandatory	Comment
EXTRACT_NAME		YES	The name of the data file being sent
STREAMING_HOST			The name of the host sending the report (Digital Island)
PERIOD_START_DATE_TIME	DATE/TIME	YES	Start date and time in MM/DD/YYYY and HH:MM:SS format for data being provided
PERIOD_END_DATE_TIME	DATE/TIME	YES	End date and time in MM/DD/YYYY and HH:MM:SS format for data being provided
TOTAL_NUMBER_RECORDS	NUMBER(7)	YES	The total number of records submitted within this file
Detail Record			
STREAMING_FILE_NAME		YES	The name of the track
STREAM_DATE	DATE	YES	Date of stream in MM/DD/YYYY format
STREAM_TIME	CHAR(8)	YES	Time of stream in HH:MM:SS format (all times will be GMT)
STREAMING_STATUS_CODE			Whether the track was streamed successfully

TBD ... in addition we need the reason for aborted streams.

7.4 Web Statistics

The following data needs to be collected from Digital Island:

- Page View
- Hits
- Drop off in sign in process

7.5 Uptime Data from Digital Island

- Databases

- Search engine
- Application
- DI Network

7.6 Monitoring Capabilities of Vistaware

TBD

8 Message Board Data

TBD ... the following types of data needs to be collected:

- User of message board
- Number of posts per day/month
- Topic of message board posts

8.1 Format and Frequency of Message Board Feed

8.2 Message Board Data

Table 28. Message Board Data

Data Element	Datatype	Mandatory	Comment
EXTRACT_NAME		YES	The name of the data file being sent
PERIOD_START_DATE_TIME	DATE/TIME	YES	Start date and time in DD/MM/YYYY HH:MM:SS format for data being provided
PERIOD_END_DATE_TIME	DATE/TIME	YES	End date and time in DD/MM/YYYY HH:MM:SS format for data being provided
TOTAL_NUMBER_RECORDS	NUMBER(7)	YES	The total number of records submitted within this file
Detail Record			
CUSTOMER_ID			
MESSAGE_TOPIC			

Data Element	Datatype	Mandatory	Comment
POST_DATE_TIME			

9 Warehouse Implementation

The Warehouse database should have the capability to identify, sort, and track each unique item of content and its associated metadata, transaction usage, and customer data from multiple sources. The Warehouse then generates reports and sends information back to internal or external sources through various delivery formats regarding content, financial transactions, customer activity, sales, marketing, and operations.

9.1 Duet Numbering Schema, Rules?

9.2 Data Warehouse General Specifications

9.2.1 Reporting Interface

9.2.2 Scalability Planning

- Volume Projections—TBD
- Timetable for adding retailers—TBD
- Timetable for adding content providers—TBD

9.2.3 Report Distribution Methods

Reporting data will be delivered once daily. The timing is TBD. Batched? All reports are delivered in XML format.

Hard-coded reports will use the BRIO interface tool. They must be exportable to Excel.

Only Duet employees will be allowed access to the Content Catalog interface.

A procedure needs to be established to verify scheduled deliver and receipt of feeds.

9.2.4 Report User Groups

Groups	Description
Duet Management	
Duet Employees by Department	
Duet Board	
Duet Parent Companies	

9.2.5 Security

Access will be defined per user group.

9.2.6 Access by Duet Employees

9.2.7 Process for Changes

9.3 Payment Flow

- Parents
- Affiliates
- Licensors
- Qpass
- Other vendors

9.4 Information Management

Additional considerations:

- How are we going to array customer data with usage
- How are we going to tie into outbound marketing
- How will we measure/setup a marketing program
- Data mining strategies
- How are we measuring marketing promotions for Duet
- How are we measuring promotional offer for labels

9.5 Auditing

- How are we auditing data?
- How often are we auditing data?
- Which sources will be checked against the others?
- What is the process if there is a discrepancy?
- Which data source is the ultimate arbiter?
- Who does the audit, who confirms?

10 Warehouse Data Tables

TBD

11 Warehouse Maintenance

11.1 Testing

Testing of data feeds

Matching

Reconciliation

11.1.1 Transaction Testing

Affecting cash

Not affecting cash

11.1.2 Procedures

11.1.3 Payment/Reimbursement for Testing

Internal

External

11.2 Escalation Procedures

11.3 Backup Procedures

11.4 Handling of File or Data Errors

11.5 Disaster Recovery

11.6 Database Administration

12 Additional Requirements for Downloads

When downloads are implemented into the Duet system, we must collect the following additional data:

- Number of licenses served
- Do we replace Qpass data with license data when downloads are added?
- How do we track plays?
- What are the royalty payments?

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