

# Digital Data Exchange An overview

Last updated December 2011



# Physical Music Supply Chain

- Means of manufacture and distribution largely controlled by rights owners
- Access scarce and defined by distribution mechanisms:
  - Record stores had to be open for you to buy
  - Or you needed a TV, or a radio or a set top box
  - And the artifacts themselves were not easily portable
- Transaction management of content and rights involved high values and low volumes

# Digital Music Supply Chain

- Means of manufacture and distribution no longer controlled but open to all
- Access is ubiquitous and no longer defined by distribution mechanism
  - You can buy 24 – 7 – 365
  - Individual devices no longer associated with single distribution mechanism
  - Content and devices highly portable
- Transaction management involves very low values but extremely high volumes

# What does management of this change require?

- Standardisation and automation of
  - Message creation and ingestion;
  - Message exchange;
  - Exchange of resource files;
  - Choreographies for message and resource exchange;
  - Unique identification of all relevant entities; and
  - Accessible databases of unique identifiers
- Only this will lead to efficient exchange of data along the digital music supply chain

# DDEX meets this challenge

- By developing standards for communication and management of metadata
- Creating standard worldwide formats for metadata exchange and management means
  - Transactions become more efficient
  - Costs reduce and
  - Revenues are maximized across the whole supply chain

# Digital Data Exchange, LLC

- Open and not-for-profit membership organisation formed in May 2006
- Original board members from three core groups
  - Record companies
  - Music rights societies and
  - Digital service providers
- Now comprised of nearly 70 member companies

# DDEX's Mission (1)

- Develop standard XML message formats including message choreographies around specific business transactions
- Develop standard communication protocols including delivery of the content itself
- Simplify implementations through “business and release profiles”
- Enable development of open source solutions to implementation

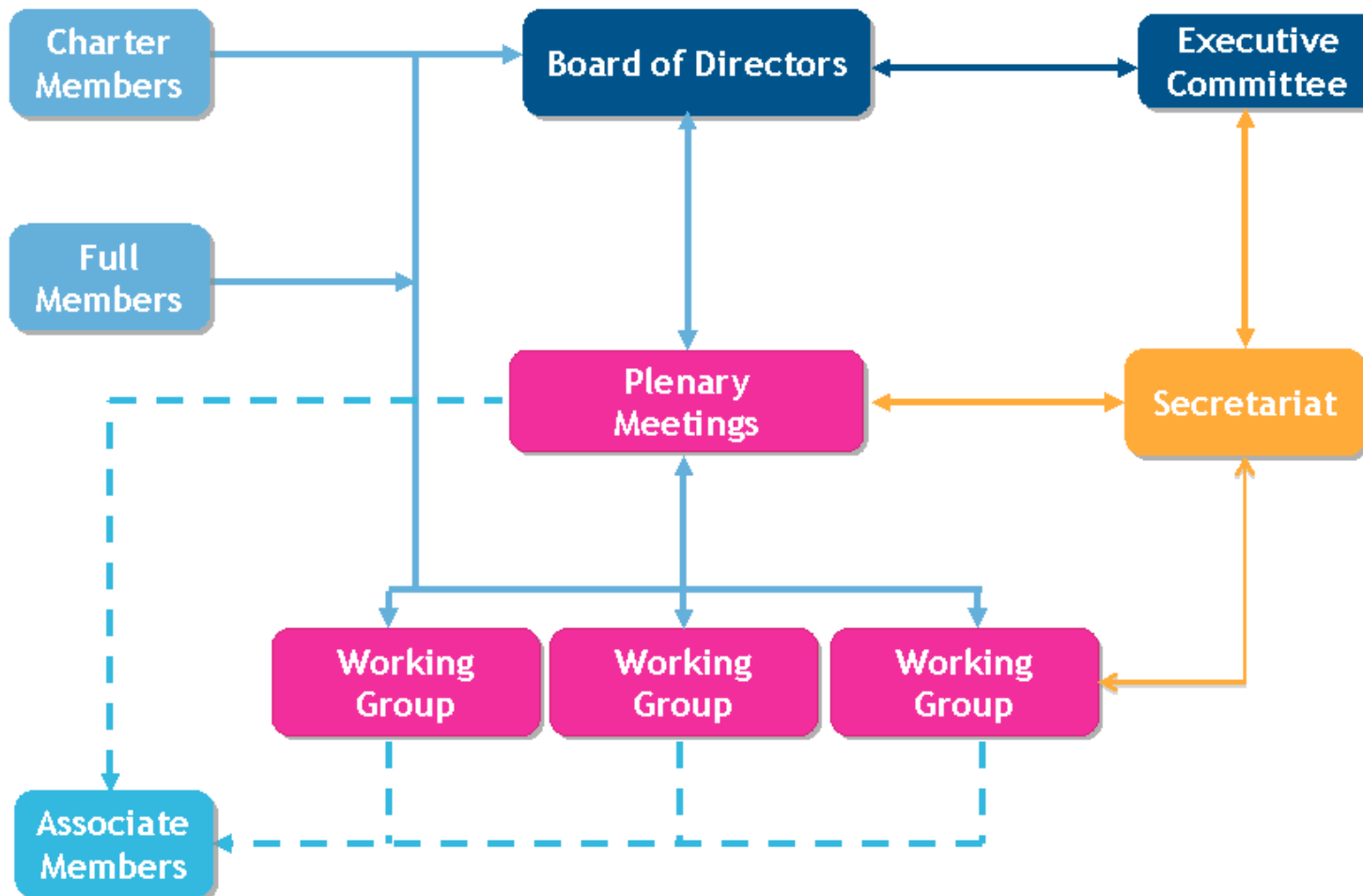
## DDEX's Mission (2)

- Improve existing identification standards through collaboration with other standards organisations
- Develop unique identification systems where none exist
- Improve metadata quality and consistency
- Promote global awareness and compliant implementation of the standards

# Membership Benefit

- Members participate in:
  - Work prioritisation
  - Requirements gathering
  - Development and drafting of DDEX standards
- Members influence the direction of the standards development effort
- Members gain early mover advantage in carrying out implementations

# Governance Structure



# Membership Tiers

- Charter Members (limited to 20):
  - Appoints one member to the Board of Directors
  - Entitled to attend and vote in each Working Group
  - Eligible to nominate a Chair of a Working Group
  - Send representatives to Plenary Meetings
  - Send representatives to Annual Meetings
  - Receive and comment on Committee Draft standards
  - Annual membership dues: \$25,000
  - By invitation only

# Current Charter Members

## Labels/sound recording managers

- EMI Music
- The Orchard
- SCPP
- Sony Music
- Universal Music
- Warner Music

## Retailers/technology companies

- Apple Inc.
- Google
- Microgen Aptitude
- Nokia
- Omnifone

## Rights Societies

- American Society of Composers, Authors and Publishers (ASCAP)
- Harry Fox Agency, Inc. (HFA)
- PRS for Music (was: MCPS-PRS Alliance)
- Sociedad General de Autores y Editoriales (SGAE)
- Société des Auteurs, Compositeurs et Éditeurs de Musique (SACEM)

... plus 4  
vacancies

## Membership Tiers (2)

- Full Members:
  - Entitled to attend and vote in each Working Group
  - Eligible to nominate a Chair of a Working Group
  - Send representatives to Plenary Meetings
  - Send representatives to Annual Meetings
  - Receive and comment on Committee Draft standards
  - Annual membership fees based on revenue

Revenue	Fees
\$500m +	\$12,500
\$100m - \$500m	\$10,000
\$50m - \$100m	\$8,000
\$25m - \$50m	\$6,500
\$10m - \$25m	\$5,000
\$5m - \$10m	\$3,500
\$2m - \$5m	\$2,000
Up to \$2m	\$1,000
Individual	\$250

## Membership Tiers (3)

- Associate Members:
  - Receive and comment on Committee Draft standards
  - Entitled to attend one Plenary Meeting per annum for fee of \$500 per person
  - Entitled to attend Annual Meeting
  - Annual membership fees: \$2,500
- Member lists at <http://ddex.net/current-ddex-members-0>

# Members' Obligation and Rights

- Members sign the DDEX Operating Agreement which includes:
  - Governance rules
  - IP Policy
  - Standards development process
- Eligible are entities are businesses that “demonstrate an interest in digital media content”
- Members pay dues annually on anniversary of joining
- Members may comment on confidential Committee Draft standards before they are made public or declared

# DDEX Operation

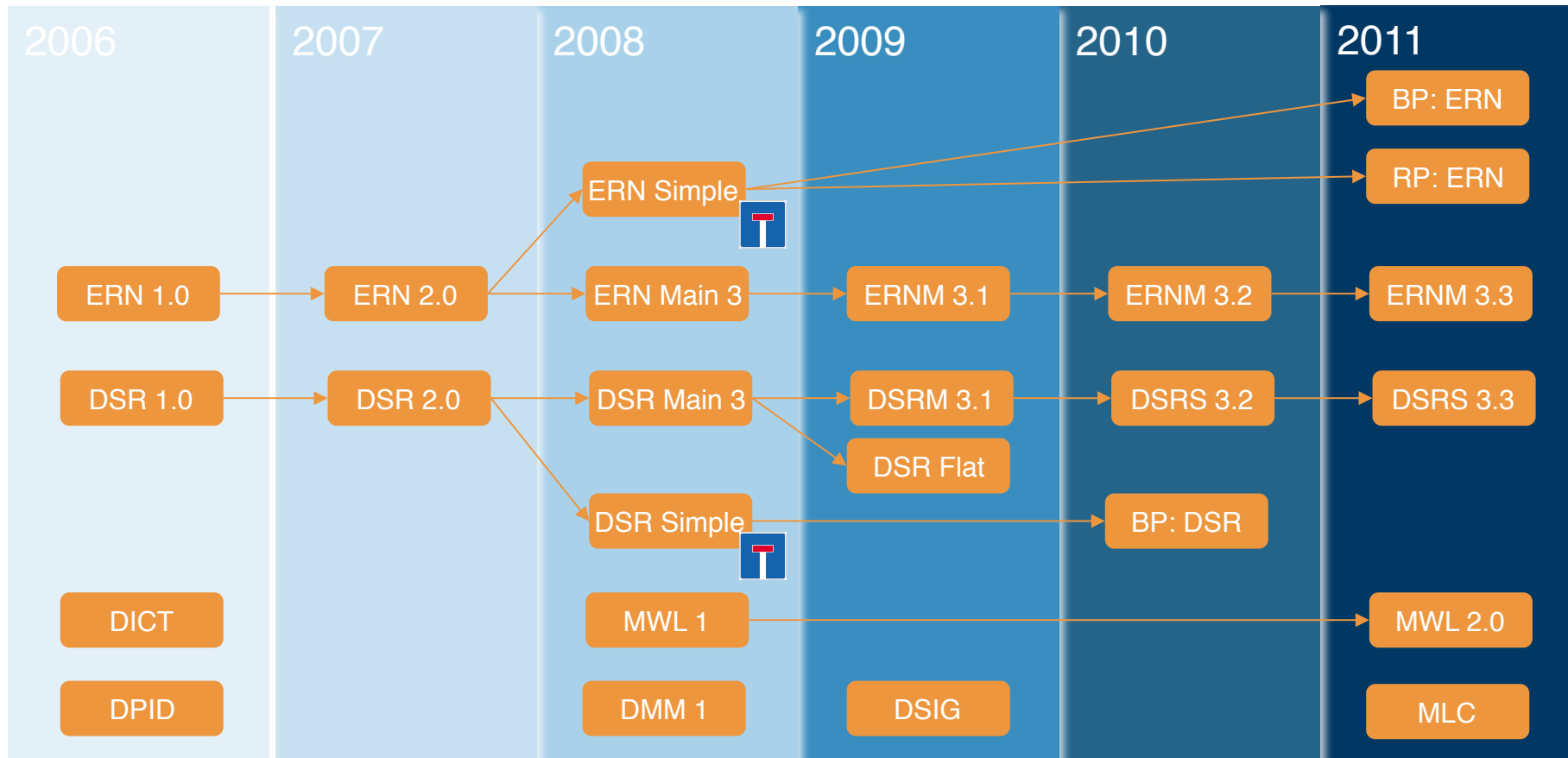
- Working Groups meet mainly on telephone & via web conference
- Essentially
  - Setting requirements
  - Reviewing and amending message structure proposed on basis of requirements
- Work by “consensus”
- Plenaries review WG work
- Location rotates
  - East Coast of N. America
  - West Coast of N. America
  - Europe
- Make recommendations to Board on work items
- Work by “consensus”



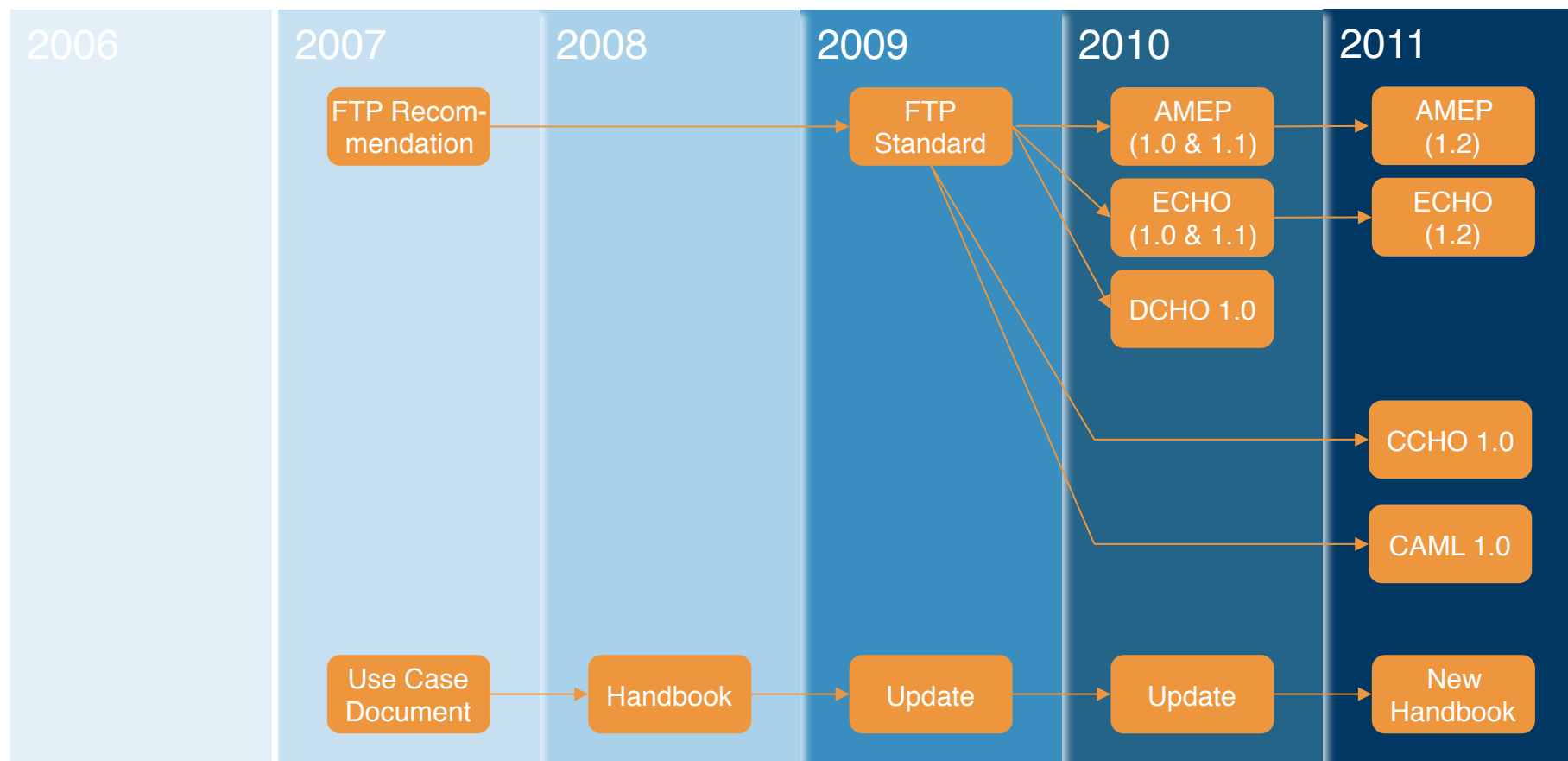
# DDEX Standards



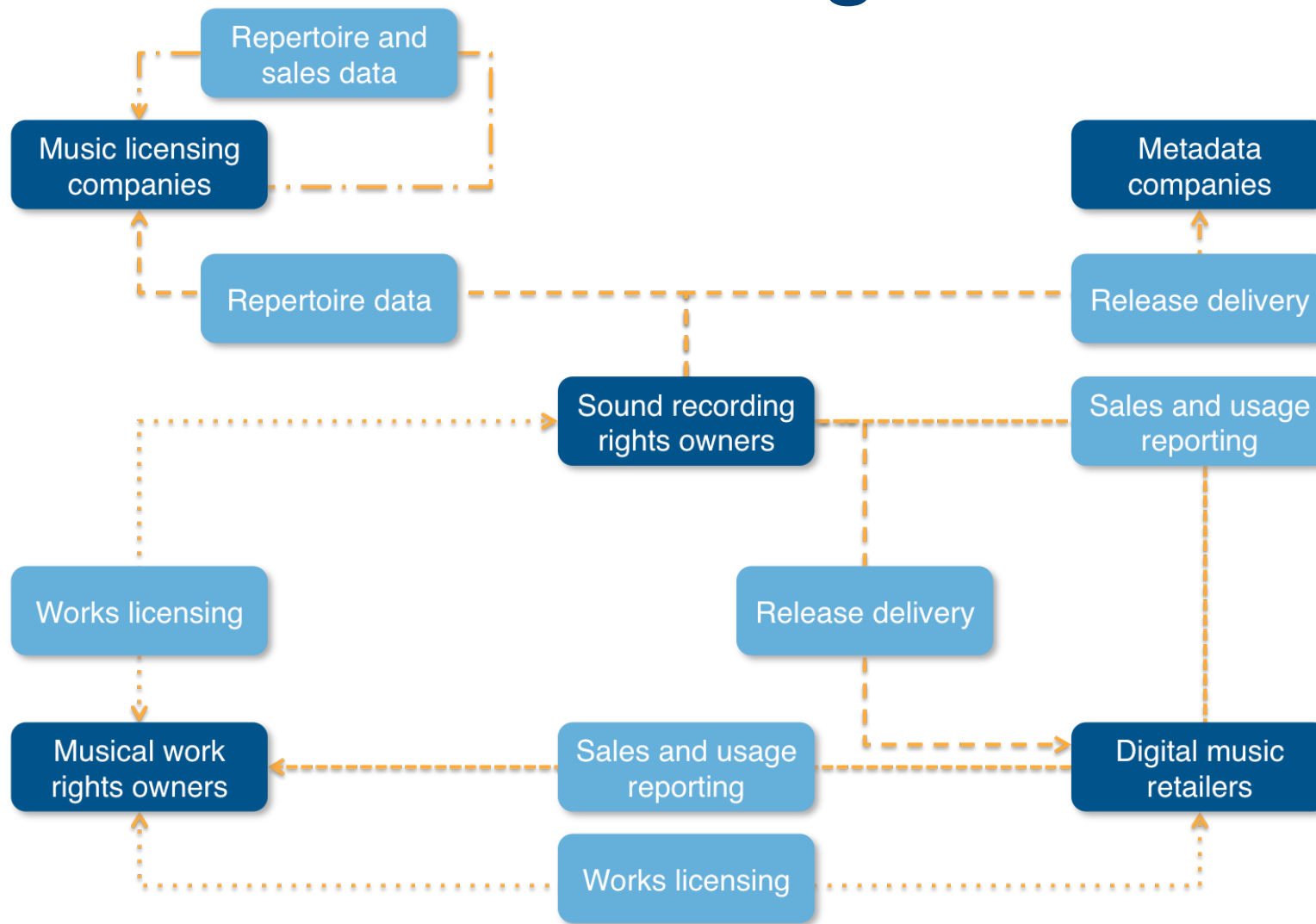
# Standards and Documentation



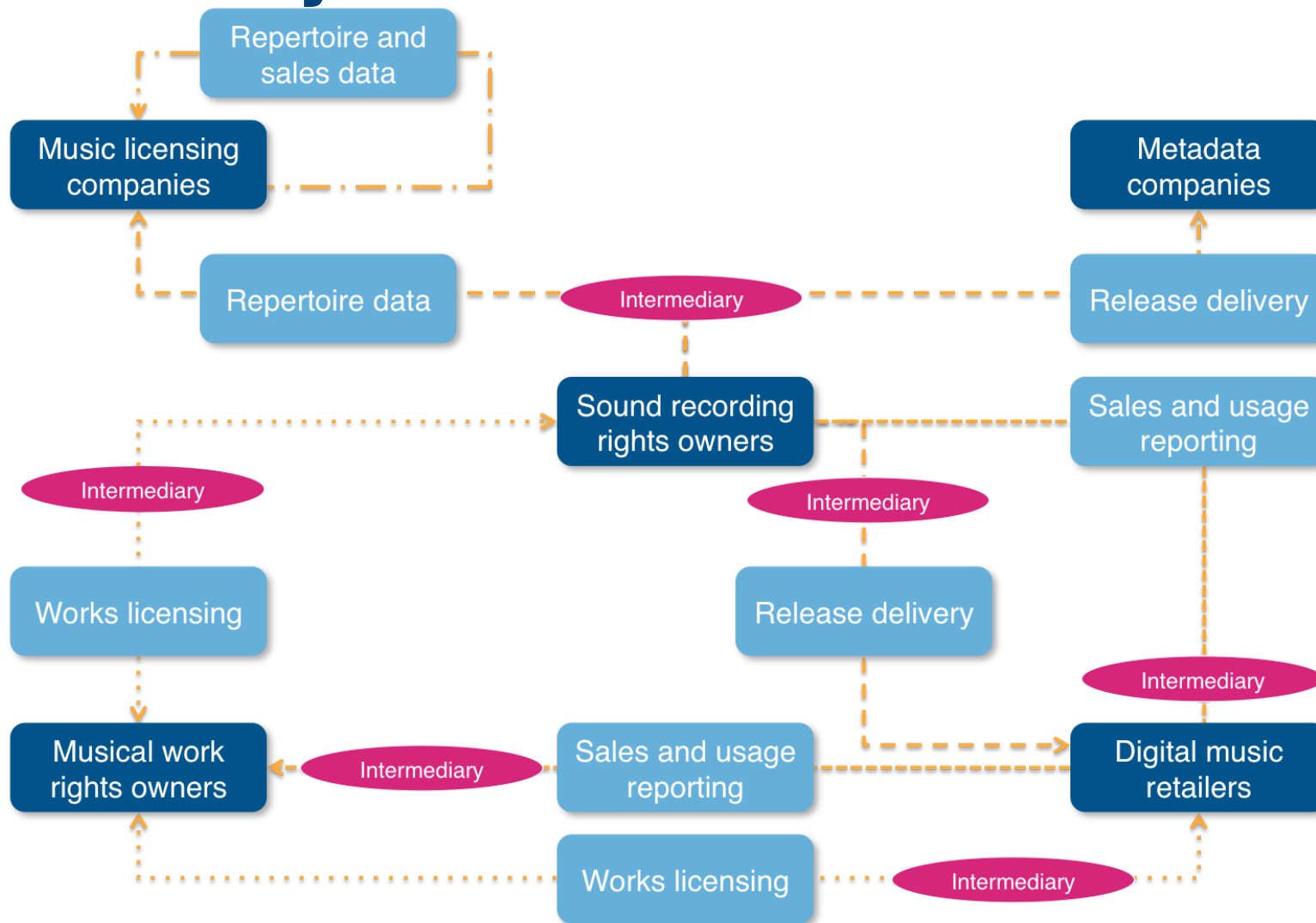
# Standards and Documentation



# Current DDEX Messages



# Flow may involve intermediaries



# Electronic Release Notification

- Enables content owner to provide information on Releases and Deals
- Usually from a label to DSP but also, for example:
  - Label to charts companies, label to its distributor, etc.
- Message contains metadata only
  - Not for sending sound files, videos, text files, etc.
  - But can reference such files
- Three individual messages
  - New “Release”
  - New “Deal”
  - Information on musical works used within a Release (to aid musical works licensing)

# Digital Sales Report

- Enables retailer to provide information on sales and usage to content and rights owners
  - Includes details of commercial model types, use types, user interface types, distribution channel types, carrier type to describe any business model
  - Includes full range of quantitative and pricing information
- Three messages
  - Sales Report to a label (or distributor or chart company etc.)
  - Sales Report to a rights society (or music publisher or other rights owner etc.)
  - Invoice message

# Musical Works Licensing

- Allows potential licensees to exchange information with licensors to obtain licences for musical works
  - Request, grant, reject, accept, refuse and revoke licences
- Close integration with ERN and DSR
- Also for communicating
  - Claims
  - Invoices with respect to Claims or Licences
- Supports
  - “Blanket” licences
  - Work-by-work licences
  - Currently focused on audio licensing

# Music Licensing Companies

- Communication amongst Music Licensing Companies (formerly known as Performers/Producers Collection Societies) on
  - Declaration of mandates
  - Declaration of revenues
  - Sales and usage reporting

# Data Mismatch Messages

- To inform business partners of “data errors” beyond those detected by simple XML validation
- Party 1 detects an error and sends a Data Mismatch Message to Party 2 giving
  - Location of the mismatch
  - Data found and data expected
  - Data Mismatch Type
  - Potentially: Action that Party 1 suggests Party 2 takes
- Party 2 may send a Data Mismatch Response Message

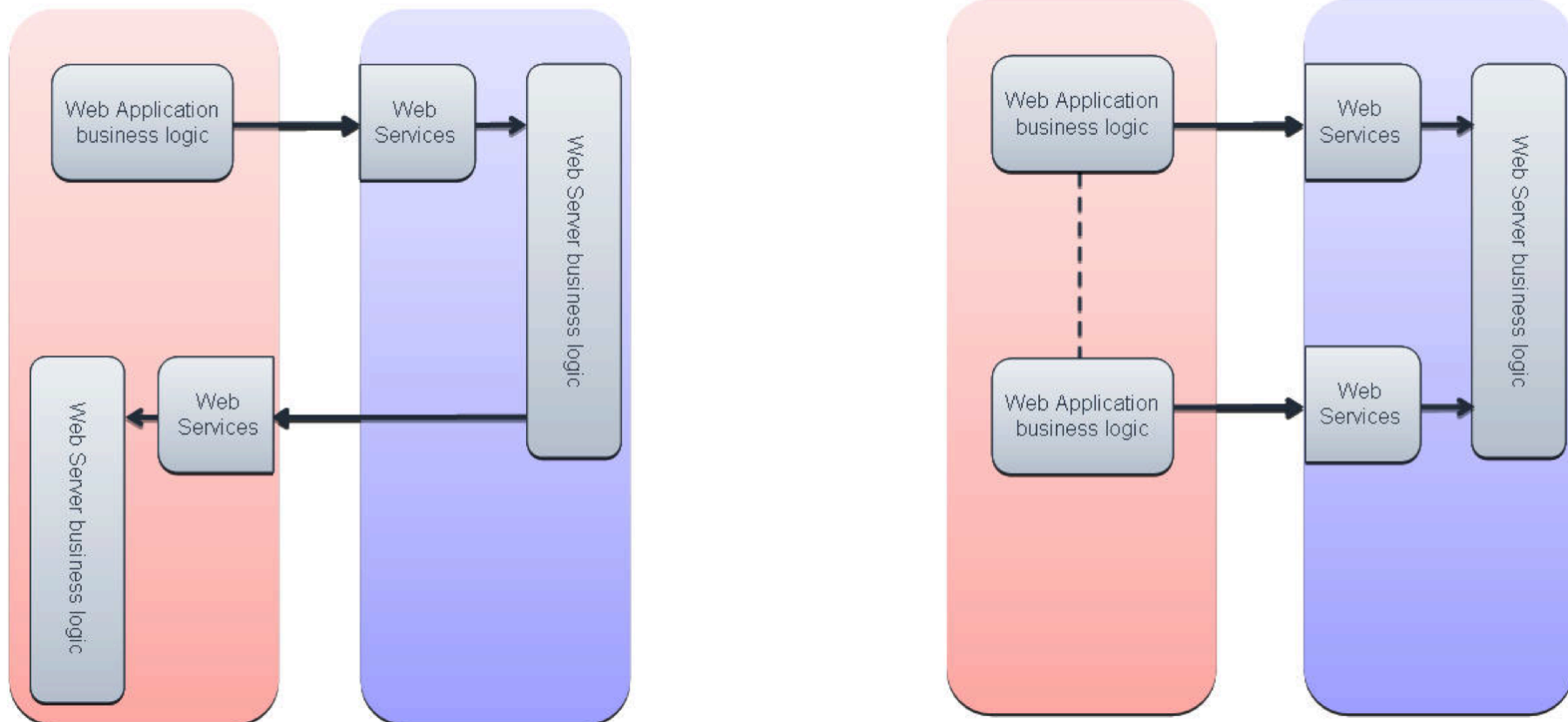
# Automated Message Exchange Protocol

- Automated exchange of message in three “tiers” offering increasing interactivity:
  - FTP exchange
  - Asymmetric web service architecture (where only one party publishes a web service)
  - Symmetric web service architecture
- Content files always communicated via FTP

# Protocol and Choreographies

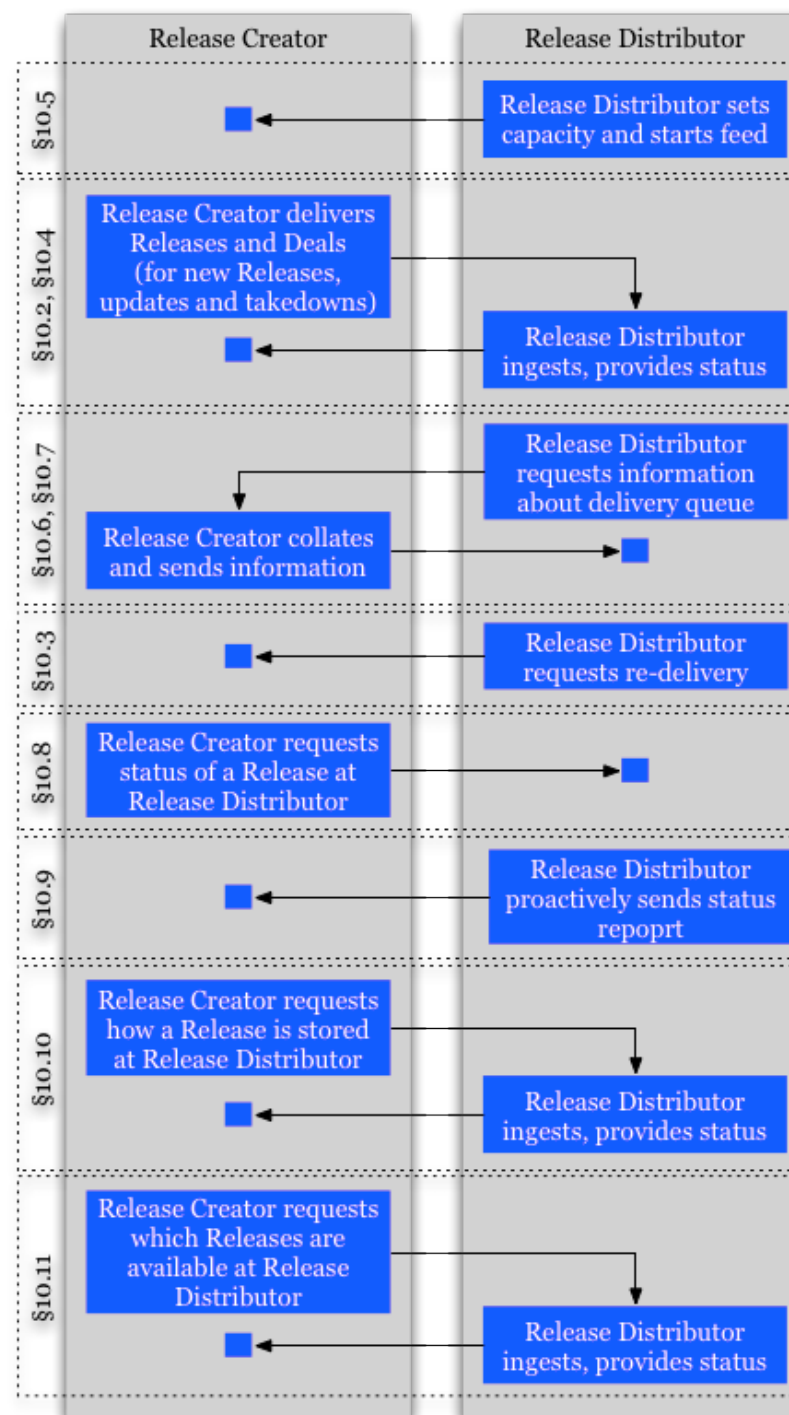
- Protocol standard defines
  - How to exchange stuff(\*) via FTP
  - How to exchange stuff(\*) via RESTful web services
  - How to handle security and non-repudiation
- Choreographies define
  - How to use the protocols to exchange XML messages as well as Resource files

# Symmetric and Asymmetric Web Services



# Choreography Standards

- Based on protocol standard
- Enables “daisy chaining” of messages to manage transaction
  - Helper messages
  - Expected behaviour
- ECHO includes rich “visibility” functions giving label and DSP knowledge of status of processes
- DCHO includes ability to send claims and/or licences



# Supporting Standards (1)

- Data Dictionary
  - Contains all terms used in the DDEX messages
  - Provides the semantics for these terms including “allowed-value sets”
  - Ensures consistency of nomenclature
  - New terms and definitions are added over time

## Supporting Standards (2)

- Party Identifier (DPID)
  - Enables unique identification of business partners using DDEX message suite standards
  - 3<sup>rd</sup> parties in the messages may also identified by DPIDs
  - Excludes individual artists

# Supporting Standards (3)

- Digital Signature
  - Ensures messages arrive in their entirety
  - Indicates whether or not message has been tampered with in transit
  - However, third parties can still read the message in transit

# Profiles



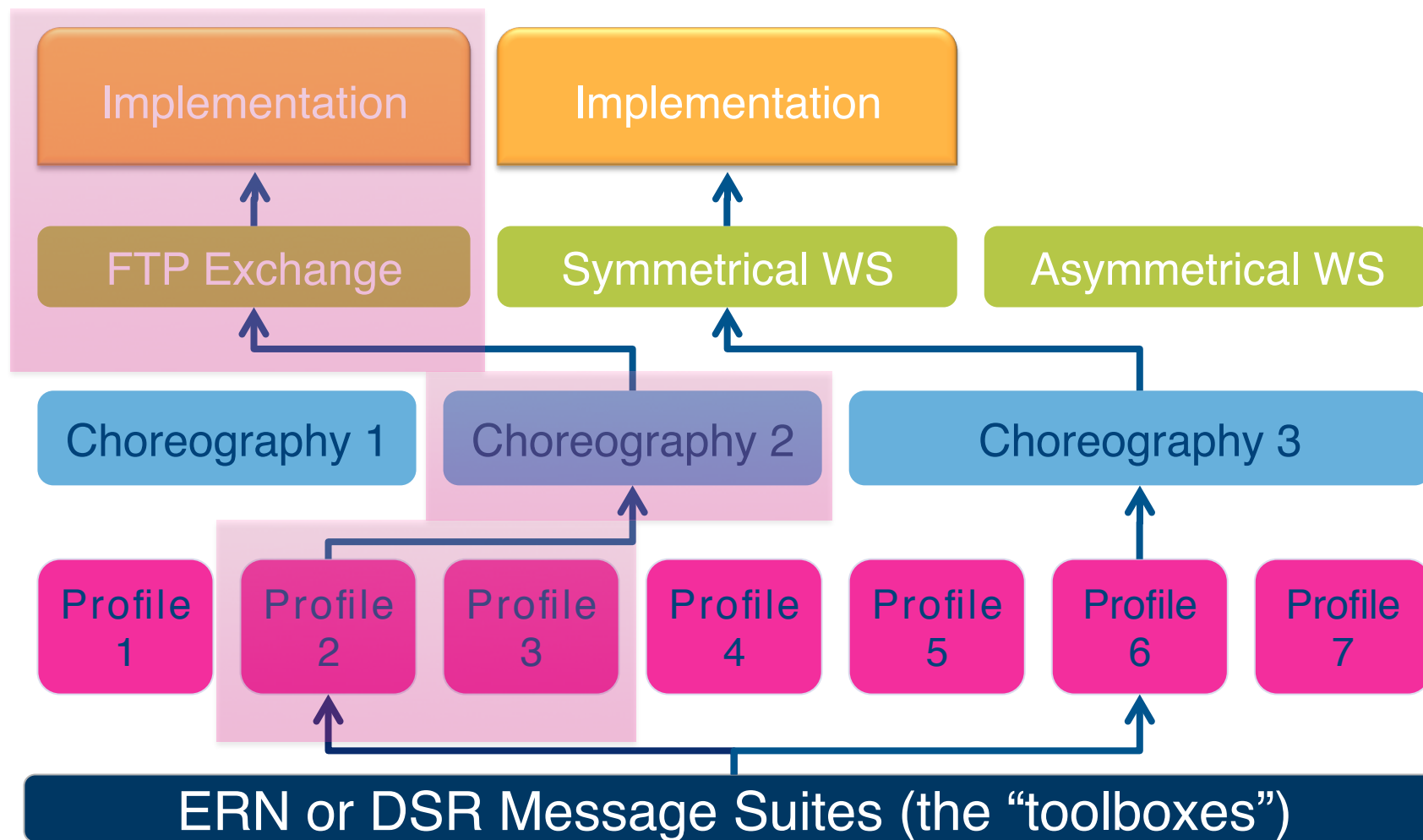
# History

- In 2008 DDEX developed “main” and “simple” profiles for ERN and DSR standards
  - Aimed to make implementation easier for less complex business transactions
- In 2010 DDEX recognised that an even simpler approach is required
  - “Business Profiles” for ERN and DSR

# Business and Release Profiles

- Define how to use the main Standard for specific business cases
- Makes implementations much easier
- Replace the Message Suite Standards as the “foreground” specifications
- Will be expressed (eventually) as
  - Sample XML file
  - ISO/Schematron file to enforce profile rules

# Profiles and Choreographies



# Supporting Documentation



# Supporting documentation

- DDEX On A Page - for decision makers
- Presentations
  - High level overview - for decision makers
  - General overview - for operational personnel
  - Standards overview - for technical personnel
- DDEX Handbook
  - For decision makers and operational personnel
  - Answers: Why should anyone be using DDEX?
  - High-level description of major standards
- Library of technical handbooks
  - For operational/technical personnel
  - One handbook for each major standard
  - Contains detail and XML samples
- Knowledge base and FAQs

# Implementations



# Across the supply chain

- Digital retailers
  - Rhapsody, Apple iTunes, Spotify, Napster, Clear Channel, Fox Mobile
- Digital distributors and aggregators
  - Consolidated Independent, Digiplug,
- Record companies
  - SME, WMG, UMG, EMI, PIAS, Red Admiral

# Across the supply chain

- Music rights societies
  - ASCAP, BMI, HFA, SACEM, PRS for Music, NCB, SUIA, GEMA, SOCAN
- Technical service providers
  - Sony DADC, Catch Media, Omnifone, Gracenote
- And over 700 implementation licensees

# Ensuring Common Implementation Approaches

- Regular discussion of implementation issues at Plenary Meetings
- Solutions agreed to any problems identified
- The agreed common approach currently documented in handbooks
- In future, common approach to implementation issues will be documented as part Conformance Standard
- Some form of conformance regime necessary as “self-certification” insufficient

# Work Plan



# Work Plan

- Communication of physical Releases
- Communication between labels and music licensing companies
- Sales reporting profile for reports to record companies
- Identifying and resolving general metadata consistency and availability issues
- Identification issues — Parties, Releases, Sound Recordings, individual tracks within a Sound Recording

# Find out more

- Public website: <http://www.ddex.net>
- Prime location for non-members to learn about DDEX
  - Announcements, lists of our members, an FAQ
  - Our “modus operandi”, our IP policy, list of events
  - Forms to get in contact or take out a licence to use the DDEX Standards
- All DDEX Standards, including supporting documentation are available for download



**Join us, you'll be in good company**

