# Technical Description of RIN

The Recording Information Notification (RIN) is a DDEX standard. It allows the capture and communication of all aspects of a studio event, including the minimum metadata set described above. The RIN standard also enables the capture of metadata about all the parties and tools that were involved in a studio event. It is based around a series of simple and powerful concepts, a few of which are depicted below.

The concepts are:

- **Sessions** are the events in which sound recordings of musical works are created. Sessions are typically described by the location where, and the time when, the session took place as well as a list of parties that were present;

- **Parties** are individuals or groups that contribute to the creation of music. These include the composers, arrangers, lyricists, performers (both featured and non-featured), producers and engineers. Each party is described by a name, a unique identifier (optional but valuable), and contact information (optional);

- **Equipment** includes the instruments played by the parties in the session as well as other equipment used during the session. Equipment can be described by a simple name, but also more specific information, such as the serial number of the particular device, can be captured;

- **Musical** works are the compositions (or songs) that are being recorded or mixed. Each musical work can be described by its title, its writers and by a unique identifier;

- **Recording components** are the recorded elements that are captured with a view to them being contributed to a sound recording (including those components that are not part of an initial public release). Recording components are typically described by their title, their sequence number and some annotations. Additionally, information about involved parties, their role(s) and instrument(s), if any, can provide further detail about a recording component;

- **Resources** are the sound recordings (typically of a musical work), of which many versions can be created. Resources are typically described by their title and a list of parties involved in their creation as well as information such as which work has been recorded, its key, time signature, duration, etc.;

- **Projects** are groupings of sound recordings, for both accounting and artistic reasons. Projects are typically described by a reference number, often provided by the commissioning label to tie back to a cost/profit centre, and the main artist as well as other parties and a status code;

- **Data carriers** are the specific configurations of sound recordings for use in many scenarios. Data carriers are typically described by the type of carrier (e.g. ¼ inch analogue tape), a unique identifier such as a barcode ID and their location (e.g. "Abbey Road Vault");

- **Elements** are the specific configurations of sound recordings for various uses. Examples include multi-track masters, mix master versions, instrument stems, surround mixes, TV mixes, instrumental mixes and the like. Elements are typically described by their designation, configuration, title, data carrier and format, and file type; and

- **Files** are the actual data items associated with the project. These files can be any type, but are usually either audio, image or data files. A RIN file only contains information about the file itself (i.e. the location, the file name, the format and, potentially, a hash sum); the actual file itself is not part of the RIN file.
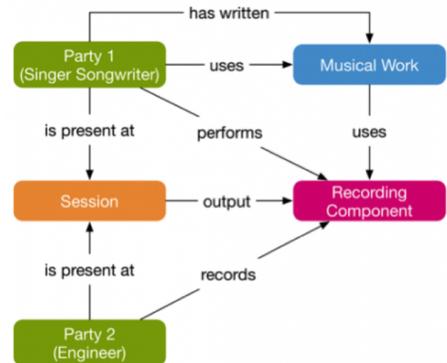
It is important to stress, that while a RIN file can contain all of the individual data items listed above it does not have to contain all of this information. In many situations, it may not be applicable to assign a key signature to a sound recording resource or it may not be known who was attending a specific session. Conversely, the RIN capabilities are extended to incorporate the ability to provide as granular metadata as possible, as long as it adheres to the RIN standard.

Each of these entities are described in a RIN file in a way that is compatible with the data structures used by all other standards published by DDEX. This means that a record company that receives a Recording Information Notification from one of its musicians or a studio manager will find it very easy to forward this information to its retail partners, metadata aggregators and music licensing companies, with all the benefits of efficiency outlined above.

DDEX uses, for most of its standards, XML as the underlying syntax. This is because XML, which has become the lingua franca for many ecommerce applications, allows the capture of very simple and very rich data sets using the same data structures. For RIN this means that the same data structures can be employed to capture the minimum data set discussed above, as well as the data necessary for the more complicated scenario depicted in the figure below and the scenarios captured in the RIN files in the Annex.This in turn means that implementers of the RIN standard will find that RIN scales very well to their particular needs.

When implementing RIN, DAW and other studio equipment manufacturers can be expected to create different user interfaces, each working well with their particular application or device, using the terms their users are familiar with, and are appropriate for the type of application or device (instead of the generic terms used in the standard). This will allow one device to guide users to provide the minimum data set, while other devices will allow much richer information to be handled. But, whatever the extent of the data being captured, any company in the supply chain that receives and can ingest RIN files will be able to use all types of recording information and make it available.

Example RIN Files

The attached four RIN sample files detail the session activity of 14th April 1969 at Abbey Road Studio 3 in London, UK where John Lennon and Paul McCartney (working as The Beatles) recorded the single "The Ballad Of John And Yoko". Also included are hypothetical sessions from 2009 where the multi-track and mix master tapes were digitised for archival and digital distribution. The original session data has been taken from "The Beatles Recording Sessions" by Mark Lewisohn. The 2009 session data is derived from the article "Remastering The Beatles", Sound On Sound Magazine, October 2009.

Sample 1 in XML
Sample 1 in human readable format

Sample 2 in XML
Sample 2 in human readable format

Sample 3 in XML
Sample 3 in human readable format

Sample 4 in XML
Sample 4 in human readable format

1. The first sample RIN file contains only the minimal metadata set as defined by The Recording Academy (see here for details). In this file, one would find details about the session itself (date, time, venue, location), the parties involved in the session (be they artists, producers, engineers or "tea boys"), the recordings of musical works (in this case, ten recordings (takes) of one musical work) and the overall project information.
2. The second sample RIN file contains the minimal metadata set plus all of the recording components identified for each sound recording. In studio parlance, these recording components would be called "tracks". In this sample file, one will see the three recording components for each of the sound recordings that were designated as "outtakes" and the eight recording components that comprise the sound recording "master take" (Take 10).
3. The third sample RIN file builds on the typical metadata set from the second example but also includes metadata about any data carriers used during this session (in this case, both analogue tape and hard disk drives). Additionally, metadata about the sound recording elements is listed. This metadata represents the actual multi-track set, stereo mix files, transfers, stems and other configurations of the sound recording. Using this sample file allows the location of all elements' data carriers.
4. The final sample RIN file shows the full flexibility of the RIN format. In this file which can be used to describe an archival scenario, all of the metadata from the three previous examples is present as well as metadata for all of the files associated with this project (whether they be audio, image or data files) and finally metadata about pertinent equipment used during the sessions.

Not shown in any of the files is the capability to include an old RIN file for archiving and storage.

Please note that these sample files are formed in accordance with the current RIN XML Schema Definition. They serve, at this stage, solely to demonstrate some of the capabilities of the Recording Information Notification format.