

JISC PALS2 PROJECT: ONIX FOR LICENSING TERMS PHASE 2 (OLT2)

Functional requirements and design specification for an ONIX-PL license expression drafting system

1. Introduction

This document specifies a system for drafting license expressions using the ONIX for Licensing Terms Publications License format (ONIX-PL).

Full details of ONIX-PL are to be found on the [EDItEUR website](#). At the time of writing, the latest information is based on the state of development of the format as at the beginning of June 2006. Further drafts, and in due course a first formal release, will be published on the website as they become available.

A license expression in ONIX-PL is a structured, machine-readable expression of a license. An ONIX-PL license expression is not a license in the legal sense and therefore neither replaces nor has the legal force of the license itself. An ONIX-PL license expression is, nevertheless, generally expected to be a *complete* expression of the content of the original license. An ONIX-PL license expression is, as far as is practicable, a structured and codified expression of the terms of the original license, whose objective is to promote consistent interpretation by machines and thereby provide a basis for consistent machine action in response to the terms of the license.

The functional requirements take into account:

- the current draft specifications of ONIX-PL
- the views of the five publishers interviewed during the course of this project
- comments made by participants in the project workshop held in Loughborough on 22 May 2006
- comments made by participants in the seminar on Standards for the Expression of Licensing Terms held in London on 5 July 2006.

As a consequence of comments received, the functional requirements of the drafting system have been extended to include the requirements of licensees as well as licensors. Some of the comments also highlighted the need to support various types of use of a drafting system, with a consequential need to provide control of user access to different system functions.

The functional requirements specification is followed by a design specification for a license expression drafting system that fully implements the functional requirements. The proposed system architecture is web-based:

- to provide the required functionality (especially to provide different functionality

- according to user role)
- to minimise development costs
- to simplify installation.

It is hoped that an open source implementation of the system will be developed as a follow-on activity to this project, and that this implementation will soon be available for installation and use by both licensors and licensees at minimum cost.

2. Drafting system use cases

The drafting system is designed initially to be used to create machine-readable expressions of existing licenses, but it is also possible that original licenses and ONIX-PL expressions will be developed in parallel.

A license is a contract negotiated between both licensor and licensee, who may both therefore contribute to the drafting process. The initial draft of a license may be proposed by either licensor or licensee. It is anticipated that the drafting system will be used both by licensors and licensees to create ONIX-PL expressions for their own preferred license texts and for revisions to drafts proposed by the other party to the negotiation.

2.1 ONIX-PL expressions

A license expressed in ONIX-PL is a highly formalised expression that is designed to be machine-processable rather than human-readable. Since the majority of new licenses are in practice based upon pre-existing models (either existing licenses or established “model licenses”), the requirement is for a drafting system that enables ONIX-PL expressions of new licenses (ie licenses for which no ONIX-PL expression already exists) to be derived from existing ONIX-PL expressions, whether of actual licenses or of model licenses.

2.1.1 License expression templates

A pre-requisite for use of a license expression drafting system is the availability of *templates* to be used in creating new license expressions. A template is a license expression that has been specifically designed to be used as a form for the creation of new license expressions.

Two kinds of license expression template (and associated optional structural components, or “clauses”) are envisaged.

Public templates are those governed and maintained along with ONIX-PL and the OLT Dictionary and intended for general and widespread use. All license expressions, including all other templates, will ultimately be derived from these public templates. Public templates will be available to all ONIX-PL users from an online server that also provides access to the current specifications of ONIX-PL and the OLT Dictionary. Public templates are not primarily intended to be used directly in the creation of ONIX-PL expressions for specific licenses – and in most (if not all) cases are unlikely to be suitable for such a use – but are intended to be used in the design of the second kind of template.

The second kind of license expression template, termed a *private template*, is that developed by a license owner (or on their behalf) from an existing (public or private) template for use in the preparation of ONIX-PL expressions for specific licenses. (Private templates can be regarded as the exact ONIX-PL counterpart of the templates for paper licenses that are maintained by publishers and others, and which are themselves often based on widely-available “model licenses”.) Private templates may be shared with business partners or even made more widely available, but the precise terms of their accessibility and use are at the discretion of their “owner”. It is anticipated that some private templates will only be available

for use between the owner organisation and its business partners.

2.1.2 License expression public clauses and public clause sets

The library of public templates will include a selection of structural components, termed *public clauses*, for use in modifying existing templates to create new templates and one-off license expressions (see below).

A public clause will typically contain a prototype expression for one or more definitions or terms that can be added to an existing template or one-off license expression.

Public clauses are only available from the public template server. There will be no provision for the creation of new clauses within the license expression drafting system, nor for the use of clauses from sources other than the public template server.

The license expression drafting system will enable a license owner (typically a licensee) to construct a *public clause set* containing a combination of public clauses that they wish to make available as a set for incorporation in complete license expressions.

2.1.3 Construction of specific license expressions from templates

The process of constructing a new ONIX-PL license expression from existing templates will in general involve:

- Selection of an existing (normally private) template that provides an appropriate basis for the complete license expression. The most appropriate template will be the one that requires least effort to derive the complete license expression, and this will not normally involve much if any modification of the basic structure of the expression.
- Selection among options that are contained within the selected template. A template will in the general case contain some optional “clauses” – components of an ONIX-PL expression that can be included or excluded according to the requirements of a specific license expression – and part of the process of creating a new license expression will involve deciding which of these options to include and which to exclude.
- Adding specific textual or numeric values in gaps deliberately left for these in the template; and selecting from ranges of code value options to customise the expression to match the specifics of the license in question, in particular by completing the definitions of (for example) the specific parties (agents), resources, supply, usage and payment terms involved.

2.1.4 One-off license expressions

It is anticipated that a private template will normally include all the options that are needed for constructing complete license expressions for most licenses that are largely based upon an established model. However, there will be exceptions in which the construction of complete license expressions for certain licenses will necessarily involve the addition of structural components to meet particular licensing requirements that have not been incorporated within the template. In such circumstances the drafting of such a *one-off license expression* would involve modification of the template to include the additional public clauses (or public clause sets) that are required in this specific case. This would be very much akin to creating a new

template, except that the modified template would not be saved as a new template but would simply be used immediately to create a complete license expression.

2.2 Licensor use cases

Licensors (typically, publishers) will create ONIX-PL expressions for their own original licenses. Licensors will review draft ONIX-PL expressions proposed by licensees, may compare these with their own preferred expressions and may create revised drafts in response. In exceptional cases a licensor may wish to create an ONIX-PL expression for a license that originates with a licensee or from some other source.

In the general case a licensor aims to negotiate licenses that are consistent in both wording and effect for comparable uses of similar packages of products and services. Each new license and its corresponding ONIX-PL expression will be based upon either a public or private template.

Sometimes it may be necessary to add to an ONIX-PL expression new terms that were not anticipated in the design of the template and are therefore not immediately available as selectable options. The capability is therefore needed to modify ONIX-PL expressions to include options not available in the template. All such options will, however, be publicly-defined options. Individual users will not be expected to create expressions of terms for which no publicly-defined form exists.

Occasionally there will be a requirement to draft ONIX-PL expressions for new types of license suitable for new usages or new packages of products and services. In such cases there is the need to modify existing templates to create new templates.

A licensor who is developing or modifying a draft license in response to terms proposed by a licensee will need to compare successive drafts of ONIX-PL expressions in order to identify changes that have been made between drafts.

2.2.1 Licensor user roles

It is possible to identify three different user roles in the preparation of licenses. Sometimes these roles will be combined in a single person, but sometimes it will be necessary to distinguish them, to ensure that each role can be undertaken only by a suitably authorised person :

1. *License development*: the creation of private templates or one-off license expressions from the complete range of available public templates, the licensor's own private templates, optional public clauses and possibly public clause sets provided by licensees. This role also includes the preparation of one-off license expressions which, although substantially based on a template, involve changes that go beyond the regular options that the template allows.
2. *License preparation*: the preparation of a license expression for a specific license by filling in gaps and selecting from available options in a private template.
3. *License approval*: the final checking and authorisation of the ONIX-PL expression of a specific license .

In each case the drafting system will present appropriate functionality to user according to the user role that they are authorised to play when they sign on to the system.

2.3 Licensee use cases

Licensees have varying degrees of participation in the process of drafting licenses. In the majority of cases draft licenses are exchanged between licensor and licensee and the final agreed form of the license contains some amalgam of terms proposed by both parties.

In cases where a licensor provides an ONIX-PL expression of a license in draft form for consideration and response, the licensee will need to be able to view the draft license expression, possibly make modifications to it and return the modified draft as a counter-proposal for consideration by the licensor.

If a licensor is unable to provide an ONIX-PL expression of a license, the licensee may wish to create their own ONIX-PL interpretation of the licensor's original license, to facilitate access to the terms of the license within their internal systems. For this purpose the licensee will need to use a drafting system that is similar to that used by a licensor.

If a licensee has their own license terms under which they prefer or are obliged by their status to operate, they would need to express these in ONIX-PL in order to supply them to licensors for consideration as alternatives to their own license texts. In such cases a licensee would supply either a complete template or a public clause set.

Licensees will have a similar need to that of licensors to compare drafts to identify changes between drafts.

2.3.1 Licensee user roles

Licensee user roles will vary according to whether or not the licensee maintains its own model licenses or standard clauses and whether or not licensors are able to provide ONIX-PL expressions for their licenses.

If a licensee needs to develop expressions of their own model licenses or standard clauses, they will have the same user roles as licensors for license development, preparation and approval.

If a licensee does not have their own model licenses or standard clauses, and relies upon ONIX-PL license expressions being prepared initially by the licensor, they will simply respond to drafts prepared by the licensor, so will only need the user roles associated with license preparation and approval.

If a licensee wishes to create their own interpretations in ONIX-PL of licenses, for whatever reason, they will need three additional user roles that correspond exactly to license development, preparation and approval roles but are specific to the creation of interpretations of other parties' licenses: *license interpretation development*, *license interpretation preparation* and *license interpretation approval*.

3. Functional requirements for an ONIX-PL license expression editing system

3.1 Access to public templates, public clauses and the OLT Dictionary

The drafting system will always have access to all current public templates and public clauses, the current version of the ONIX-PL XML Schema and the current version of the OLT Dictionary of controlled (ontologised) terms. The drafting system must therefore have access to the public Internet in order to function properly.

3.2 Private template development

The drafting system will support the development of private templates based upon public templates, public clauses and the controlled terms of the OLT Dictionary, as well as upon existing private templates and public clause sets.

The development of a new private template will involve selection of an existing public or private template and its modification by the addition or removal of optional public clauses and the addition or removal of text from editable fields within clauses.

An optional public clause may be marked as required in a private template, in which case it cannot be removed when creating a license expression from that template, while optional clauses can be added or removed when creating a specific license expression. Both required and optional clauses may contain editable fields whose contents may be free text or selections of OLT Dictionary-controlled terms.

An editable field may be left blank in a template or it may be filled in with a specific value that may be locked so as not to be editable when creating a specific license expression. Editable fields that are left blank or are filled in but not locked may be edited when creating a specific license expression.

Where a clause contains an editable field whose value must be taken from a list of controlled values (OLT Dictionary controlled terms or locally-defined labels), individual values may be marked to be included or excluded from the use of that clause in a specific template.

The drafting system may only allow the creation of templates that are valid in terms of the ONIX-PL schema and that conform to whatever other business rules are defined in the ONIX-PL specification. The drafting system will, however, allow incomplete expression templates to be saved.

The following functionality for creating private templates will be supported:

- Create a new private template based upon an existing public or private template.
- Open an existing private template.
- Save existing private template.
- Save a new private template.
- Insert optional public clause.

- Insert public clause set.
- Remove optional public clause.
- Mark an optional public clause to be required in this template.
- Edit data values in public clauses.
- Mark a data value to be locked in this public clause.
- Mark a data value option to be included or excluded in this public clause.
- Test private template for completeness against schema and business rules.

3.2.1 Development of public clause sets

A public clause set is a collection of public clauses that are packaged together for incorporation in templates or one-off license expressions. The drafting system will support the creation of public clause sets using the following functionality:

- Create a new public clause set.
- Open an existing public clause set.
- Save existing public clause set.
- Save a new public clause set.
- Insert optional public clause.
- Remove optional public clause.
- Mark an optional public clause to be required in this public clause set.
- Edit data values in public clauses.
- Mark a data value to be locked in this public clause.
- Mark a data value option to be included or excluded in this public clause.

3.3 Preparation of complete license expressions

The drafting system will support the preparation of complete expressions of individual licenses using a selected public or private template as a starting point in each case.

Two methods of preparation are supported:

- Preparation of a complete license expression based solely upon a selected template.
- Preparation of a “one-off” license expression, requiring modification of the selected template to incorporate additional public clauses.

3.3.1 Preparation of complete license expressions based solely upon a selected template

This is the normal method of preparation of license expressions as performed by a user in the license development role.

The drafting process will involve the following steps:

- Selection of a template.
- Selection of appropriate clause options within a template.
- Completion of editable fields.

The system will allow incomplete license expressions to be saved and exported for communication with business partners, but their incomplete status will be indicated accordingly.

The following functionality for drafting specific license expressions will be supported:

- Create a new draft license expression from a selected template.
- Open an existing draft license expression.
- Save an existing draft license expression.
- Save a new draft license expression.
- Select optional clause.
- De-select optional clause.
- Edit free-text field.
- Select value(s) from a list of controlled value options.

3.3.2 Preparation of “one-off” license expressions, involving template modification

This method of preparation of license expressions combines the functionality required for template development and completion of the license expression. All the functionality specified in sections 3.2 and 3.3.1 above is required in this case.

3.4 Review and approval of private templates and license expressions

When a draft license expression is thought to be ready to be exchanged with a business partner, the system will enable an authorised user to review the draft and approve it for export.

The drafting system will enable review of the license expression as a whole and will also highlight or summarise the revisions made to the last approved draft.

The approval of a license expression may involve some final tasks to complete the expression, such as selection of specific clause options or the editing of specific fields. Once a draft is thought to be complete, the system will provide tools to assist in checking that it is complete and valid in accordance with the ONIX-PL schema and business rules.

In addition to the functionality provided for license expression drafting, the drafting system will provide the following functionality specifically for review / approval tasks:

- Highlight revisions made to this template or draft license expression since the last approved version.
- Check license expression for completeness and highlight omissions and other errors.
- Approve draft license expression as a new draft version or, if prepared by the owner of the original license, as an completed and agreed license expression.

3.5 Design, preparation and review of license interpretations

If a license is to be expressed in ONIX-PL by anyone other than the license owner and is not commissioned and authorised by the license owner, the resulting expression is a license interpretation. The ONIX-PL schema and drafting system will support the design, preparation and review of license interpretations by enabling the incorporation of suitable status information and digital signatures in an expression to indicate reliably whether it is the owner's expression of their license or someone else's interpretation of the license.

3.6 Management of templates and license expression drafts

The drafting system will support management of the drafting process by providing means for version control and for maintaining status information about both templates and license expression drafts. The system will also support revision management by maintaining information on the derivation of a template or license expression and by maintaining an audit trail of revisions between drafts.

When a template is revised, the system will use stored derivation information to report (on request) on other templates and specific license expressions that may need to be revised as a result of the template revisions.

3.7 Export license expressions for communication with business partners

The drafting system will support the export of license expressions for communication with business partners in at least two formats:

- ONIX-PL XML format
- HTML format

In addition to these, the system may support the export of both templates and complete expressions in other formats, such as may be required for printing or other purposes.

3.8 Access management by user role

The drafting system will require users to identify their role at the start of a drafting session in order that appropriate functionality can be presented at the user interface. Three user roles will be recognised:

- Template development (including one-off license preparation)
- License preparation
- License approval.

The system may manage access either by simply allowing the user to select the role they wish to play or by requiring users to enter username and password before selecting from one or more roles that the system is configured to allow the particular user to play.

4. Design specification for an ONIX-PL drafting system for piloting, demonstration and related purposes

The following design specification is for a ONIX-PL license expression drafting system that fully meets the functional requirements specified above. Although also designed for initial piloting and demonstration purposes, a drafting system developed from this specification should be fully functional and usable for “live” license expression drafting.

Specific choices have been made as to how to implement such a system that may not necessarily be relevant in all license expression (or license interpretation) drafting contexts. However, the system may find wider application than its initial intended uses.

The aim is to specify a drafting system that will provide an adequate level of support for all the use cases described above. The system will meet all the functional requirements specified above, and will also provide some additional functionality that is thought to be desirable, including the ability to compare two license expressions (not necessarily successive drafts of the same expression) and report upon the differences between them.

4.1 Drafting system architecture

The drafting system will be implemented on a popular web-based client-server technology platform. This will keep the requirement for bespoke software development to a minimum and make it easy to find the resources for developing and maintaining the bespoke software components. The system will employ standard web browser clients to provide user interfaces to the system, which will reduce the implementation of the user interface to simply one of web page design. This will also make it relatively easy to roll out access to the system to any number of users, thereby supporting adoption of the system by both smaller and larger organisations.

Installations will typically be network-based, as public Internet access is in any case a requirement (for access to public templates, the ONIX-PL Schema and the OLT Dictionary), but both client and server could be implemented on a single workstation if desired.

Figure 1 gives a schematic view of the drafting system. The box in the bottom left-hand corner contains a schematic of a single drafting system, while the remainder of the diagram represents the ability of the system to communicate via the public Internet with other drafting systems and with the server providing access to public templates, the ONIX-PL Schema and the OLT Dictionary.

4.2 Web Browser Client

4.2.1 Graphical user interface

The drafting system should be able to use any popular web browser to provide the graphical user interface for the system. The system will be configured as a minimum to function satisfactorily with Microsoft Internet Explorer v6.x and Mozilla Firefox v1.x.

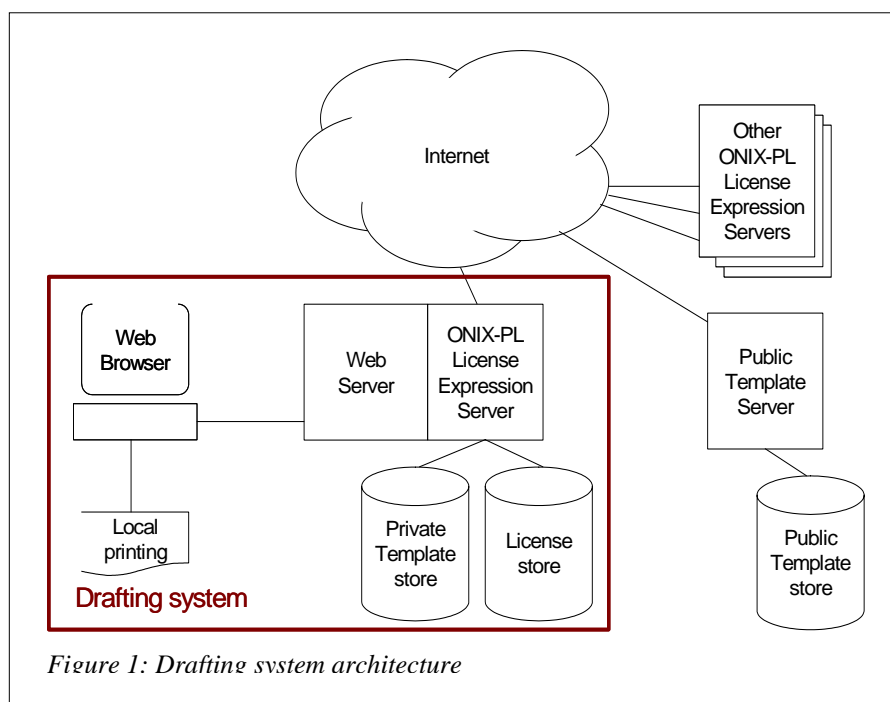


Figure 1: Drafting system architecture

The drafting system will support two “views” of a license expression:

- Form view
- Page view.

The Form view of a license expression will be used primarily for editing purposes and will present the license expression as a series of editable forms, each form representing a logical section of the license expression. The number of editable forms will depend upon the length and complexity of the license expression, but the aim is to make each editable form sufficiently small to have most of the section in view without scrolling the on-screen display (some vertical scrolling is acceptable). The Form view will not be readily printable.

The Page view will be used primarily for review purposes and for comparing license expressions with original licenses, whether on screen or on paper. The license expressions presented in Page view will not be editable, but will be in a general human-readable format comparable to that of a printed license and will be readily printable.

Help text will be viewable in on-screen 'pop-ups'. In Form view pop-ups will also be used for editing annotations.

The drafting system will support a similar Form view for template creation and revision, but with modifications for the additional functionality required, such as for adding and removing optional public clauses.

4.2.2 Other client-side functionality

The web browser client will not be required to provide any functionality other than to act as a user interface to the drafting system. Clients may be required to store “cookies” to enable system states to be preserved during arbitrary interruptions of drafting sessions. Client-side processing, apart from page-based display, forms-based editing and local printing, will be limited to simple validation tasks such as enforcing string length or value range constraints.

If a machine-readable version of a license expression is required for other purposes, the user will request that the license expression server deliver the license expression in a suitable format as a file that can be saved locally. The user may request such a file to be delivered to the browser in the normal way (then either saved or opened directly if suitable application software is locally available), or may request that it be delivered as an attachment to an email or stored on an FTP server.

4.3 ONIX-PL license expression server

The ONIX-PL license expression server is a software application that delivers the full functionality of the drafting system via a web server interface to the user interface on a standard web browser.

The principal functions of the license expression server are:

- To manage the storage and retrieval of license expressions and private templates
- To manage drafting sessions based upon a chosen user role and web client's IP address, or by user identification
- To manage the drafting process: by maintaining an audit trail of the revision history of a draft; by managing multiple draft versions of the same expression or template
- To generate web forms for license templates and expressions and deliver these to the user interface in Form view for editing purposes
- To generate web pages for license expressions and deliver these to the user interface in Page view for review or comparison purposes
- To make regular checks for updates of public templates, the ONIX-PL XML Schema and associated business rules and the OLT Dictionary; and to perform all necessary local re-configuration tasks associated with updates
- To validate templates and license expressions with reference to the ONIX-PL XML Schema and any associated business rules
- To communicate with other license expression servers for the purposes of exchanging draft license expressions
- To deliver license expressions to users in other formats as required for printing and for exchange with other types of system.

4.3.1 Storage and retrieval facilities

The license expression server will have access to a suitable storage device (database or file store) on which license expressions and private templates will be stored. Working copies of public templates, the ONIX-PL XML Schema and the OLT Dictionary may also be stored temporarily (cached) on the license expression server for performance optimisation reasons.

4.3.2 Drafting session management

The license expression server will be capable of managing multiple simultaneous user sessions, ensuring that the right forms/pages are served to each user and allowing a user to suspend a session for an arbitrary period before resuming where they left off.

4.3.3 Revision management

The license expression server will track changes to a draft license expression or template and will allow the user to review changes made in the current session as well as changes compared with the previous version(s) of a draft.

The license expression server will maintain multiple versions of a draft license expression and will only allow revisions to the current version.

The license expression server will also track dependencies between distinct license expressions and templates and the templates from which they are derived, so that when changes are made to the latter, the user is alerted to review the changes in case they also should be applied to the derived expressions and templates.

4.3.4 Delivery of web forms for license expression / template editing

The license expression server will be capable of delivering a license expression or template to the user as a sequence of web forms, allowing the user to navigate around a license expression by including suitable navigation aids on each form.

The license expression server will provide a forms design mode, enabling some control of forms layout by suitably-trained users.

4.3.5 Delivery of web pages for license expression review

The license expression server will be capable of delivering a license expression as a single web page or as a series of web pages linked by suitable navigation tools.

The license expression server will provide a web page design mode, enabling some control of page layout by suitably-trained users.

4.3.6 Periodic checks for changes to public templates, the ONIX-PL schema and the OLT Dictionary

The license expression server will make periodic checks for updates and additions to the public template server, and automatically update its own configuration to make the new templates available to users.

The license expression server will make periodic checks for updates to the ONIX-PL schema and will automatically install updates to its own software that are necessitated by changes to the schema. The same will apply to updates to the OLT Dictionary.