

**User's  
Guide**



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Integrated Library System

**FRBR  
Implementation**

VIRTUA ILS – INTEGRATED LIBRARY SYSTEM

# **Functional Requirements for Bibliographic Records**

**Version 16.1**

**October 2017**

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# 1. Introduction

This user's guide introduces you to the FRBR (Functional Requirements for Bibliographic Records) model as implemented in the Virtua™ ILS – Integrated Library System. It describes all the functions and features available in this release of the Virtua ILS software and gives you step-by-step instructions for performing the tasks related to 1) searching for and displaying FRBR records in the client, 2) cataloging FRBR records in the client, 3) validating FRBR records, and 4) placing requests on FRBR records.

**Note:** From this point on, we will refer to the Virtua ILS—Integrated Library System as simply Virtua or the Virtua system in this guide.

This chapter covers the following topics:

- ⇒ [Understanding the FRBR Model](#)
- ⇒ [Features of the Virtua Implementation](#)
- ⇒ [Using This Guide](#)

## 1.1 Understanding the FRBR Model

The FRBR model is the result of a fundamental re-examination of cataloging theory and practice by a study group of the International Federation of Library Associations and Institutions (IFLA). In September 1997, the standing committee of the IFLA section on cataloging approved the Functional Requirements for Bibliographic Records.

The FRBR model is a conceptual model for cataloging bibliographic records, and it encompasses all types of materials such as...

- Books
- Serials (*Guidelines for using FRBR with serials are pending*)
- Maps and globes
- Manuscripts
- Musical scores
- Sound recordings
- Motion pictures
- Photographs and slides

- Multimedia
- Remote, digital materials

**Note:** The model developed for FRBR does not cover authority records, and the IFLA study group recognizes the need to extend the model at some future date to cover authority data. Currently, Virtua handles authority control in FRBR records the same as it does in traditional MARC 21 records. Upon converting a record to FRBR, Virtua recreates the authority headings in each FRBR record.

The purpose of the FRBR model is to meet the growing needs of users in their efforts to search for, identify, and select materials. It aims to extend the functions of the traditional bibliographic record to make it easier to find and obtain information. After years of research to discover what users of bibliographic records were most interested in, the FRBR model was developed. The results of the research hit upon various "key objects of interest" to users. The FRBR model provides a framework for identifying these key objects and setting up relationships and attributes among them in order to make them more accessible.

The "key objects of interest" are divided into three groups:

- Group 1 - Products of intellectual and artistic endeavor, such as books and musical scores.
- Group 2 - People/corporate bodies responsible for the intellectual and artistic content, such as authors.
- Group 3 - Subjects of the intellectual or artistic endeavors.

Although Innovative FRBR supports names in Group 2 and subjects in Group 3, its *raison d'être* is to support cataloging of so-called "entities" for Group 1.

### 1.1.1 The Four Entities

In the FRBR model there are four types of entities: Work, Expression, Manifestation, and Item. Unlike the traditional cataloging of one composite, bibliographic record, FRBR lets you catalog a "key object of interest" via a set of four records. Three of the entities have their own MARC record, while the fourth entity is an item record. Each of the four entities is related and linked to other entities in the set.

As defined by the FRBR model, the primary relationships between the four entities are as follows:

A created **Work** *is realized through an*

**Expression**, *which is embodied in a*

**Manifestation**, *which is exemplified by an*

### Item

Work and Expression have to do with *content*, whereas Manifestation and Item have to do with *form*, or the physical embodiment of the content. The Manifestation level is basically equivalent to the traditional bibliographic record, and the Item level is exactly the same as the item record in a non-FRBR database. The inclusion of Expression and Work allow for cataloging at two broader, more encompassing levels.

## 1.1.2 Benefits for Catalogers and Patrons

You will find that the FRBR model offers a number of benefits to both catalogers and patrons. It allows for better organization, easier cataloging, and a reduction in the cataloging workload. With FRBR, you catalog the Work only once while any number of Expressions is linked under it; likewise, you catalog an Expression only once while any number of Manifestations is linked under it. Furthermore, you have to search only once to retrieve all related materials, even if those materials are cataloged in different languages or with different subject headings. With FRBR, it is easy to find information because the model provides a clear, global picture of material and all the relationships between the different aspects of the material.

For more information on FRBR, go to the following URL:

*[www.ifla.org](http://www.ifla.org)*

## 1.2 Features of the Virtua Implementation

If you have purchased FRBR functionality, we will ship your Virtua software with FRBR features already enabled. Both FRBR and non-FRBR records can share the same Virtua database. Virtua's implementation of the FRBR model has its greatest impact on the Cataloging and OPAC subsystems, where it offers the same user-friendly features as the traditional cataloging model. Below is a list of some of those features.

- Tight integration between the Cataloging and OPAC subsystems.
- Clear, easy-to-read OPAC and Web browser displays of FRBR records.
- A GUI workstation serving as a cataloging client.
- Availability of user workforms for Work, Expression, and Manifestation records

- Automatic conversion of traditional, composite MARC 21 records to FRBR records, including a one-click FRBRizing option.
- One-click recombining of a set of FRBR records to a traditional MARC record.
- A rules-based module for the Virtua client to validate “content designations” for Work, Expression, and Manifestation records.
- Ability to place requests against FRBR records.
- Duplicate control for FRBR Work and Expression records.
- Ability to print, save, and e-mail FRBR records in a textual format.
- Ability to link (and deploy) a single Manifestation to multiple Expressions/Works.

If you want your database to support FRBR cataloging, contact your Innovative customer services representative.

## 1.3 Using this Guide

Use the list below and the table of contents to locate specific information in this guide. For your easy reference, the guide also offers a table of figures and an index. In addition, each chapter in this guide, where appropriate, begins with a list of hyperlinked topics that are included in the particular chapter.

<b><u>For:</u></b>	<b><u>See:</u></b>
An overview of the FRBR model.	<a href="#">Chapter 1</a>
Instructions for displaying FRBR records in the Virtua client and examples of special displays.	<a href="#">Chapter 2</a>
Instructions for creating FRBR records from scratch.	<a href="#">Chapter 3</a>
Instructions for creating FRBR records from an existing MARC 21 record.	<a href="#">Chapter 4</a>
Instructions for linking two converted MARC 21 records to an original FRBR record.	<a href="#">Chapter 5</a>
Instructions for recombining FRBR entities into a traditional MARC record.	<a href="#">Chapter 6</a>
Instructions for preparing FRBR records to load to another FRBR database	<a href="#">Chapter 7</a>
Instructions for validating FRBR records.	<a href="#">Chapter 8</a>
A description of duplicate control for FRBR records.	<a href="#">Chapter 9</a>
Instructions for placing and viewing requests placed on FRBR records.	<a href="#">Chapter 10</a>

Rules for FRBR splitting.	<a href="#">Appendix A</a>
Tables of tags/subfields copied to FRBR records during FRBR splitting.	<a href="#">Appendix B</a>
Changes to the database structure to accommodate FRBR.	<a href="#">Appendix C</a>
A description of a script that can identify potential FRBR records.	<a href="#">Appendix D</a>
Modifying FRBR records created before Virtua 49.6 to enable location filtering	<a href="#">Appendix E</a>
A list of FRBR-related executables and scripts	<a href="#">Appendix F</a>
Changes to this user's guide from the last version of the software.	<a href="#">Appendix G</a>

## 2. Displaying FRBR Records

**A** Virtua database can contain FRBR and non-FRBR records. The View Bibliographic Record window in the client accommodates both types of records. Both display all the FRBR entities that are linked to a single root, the Work record. In the client, using the “<” and “>” command buttons on the View Bibliographic Record window, you can navigate seamlessly between FRBR and non-FRBR records on the List of Titles window. When a FRBR entity is the active record, a special FRBR display, a “FRBR tree,” will be appear beneath the navigational aids.

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Displaying FRBR Records in the Client OPAC](#)
- ⇒ [Other Examples of FRBR Displays](#)

### 2.1 Introduction

**In the Virtua client**, the normal (default) view of a FRBR record in the View Bibliographic Record window consists of two parts—a top portion and a bottom portion. The top portion of the window displays all the entities that are linked to the single root Work. Here you can view the Work, any Expression(s) linked to the Work, and any Manifestation(s) linked to any Expression. The display of this hierarchy of relationships is called the FRBR tree. Each entity in the tree displays one line of text. At each entity level, you can expand the tree. In this way, you have a snapshot of each entity and its relationship to every other entity constituting the FRBR record.

The bottom portion of the View Bibliographic Record window displays the View of each record entity dynamically as you select it in the tree. A slider between the top portion and the bottom portion allows you to resize the view vertically.

It is also possible to display a [reverse FRBR tree](#) in the top portion of the View Bibliographic Record window of the Virtua client. Displaying a reverse FRBR tree is useful when you want to view the multiple Expressions/Works linked to a single Manifestation as is the case of aggregates.

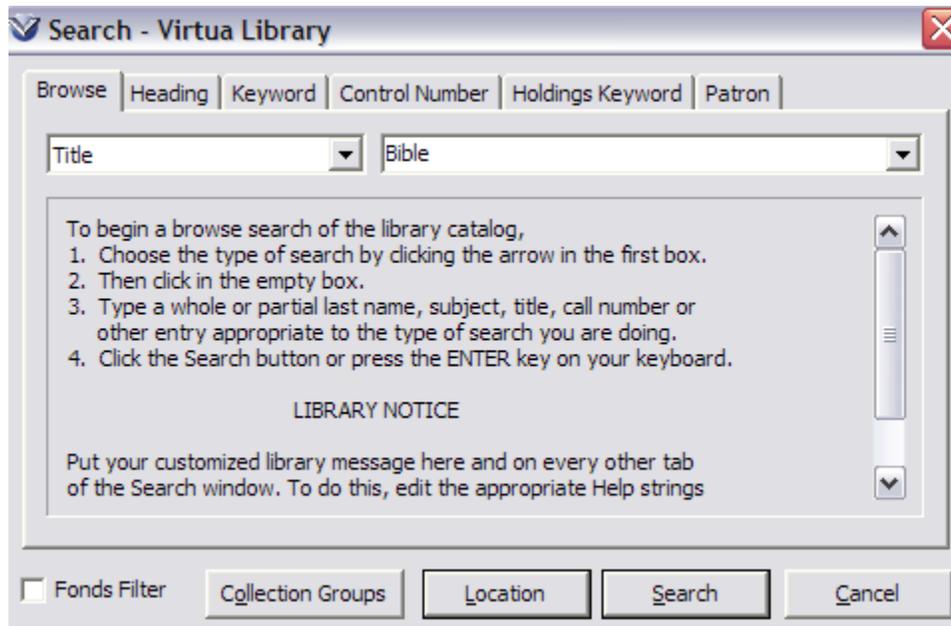
## 2.2 Displaying FRBR Records in the Client OPAC

The steps for displaying a FRBR record tree in the Virtua client are the same as for displaying a non-FRBR record.

**To display a FRBR record tree in the client,**

1. Open the Search window.
2. Enter a browse search query (*Figure 2-1*).

**Note:** You can also enter a heading, keyword, or control number search query. For details about how a keyword search differs from a browse search, see the section “[A Note about Keyword Searches](#).”



*Figure 2-1. Search Window – Searching for a FRBR Record*

3. If desired, click the Location button to select one or more location filters.
4. On the Browse window, double-click the desired heading (*Figure 2-2*).

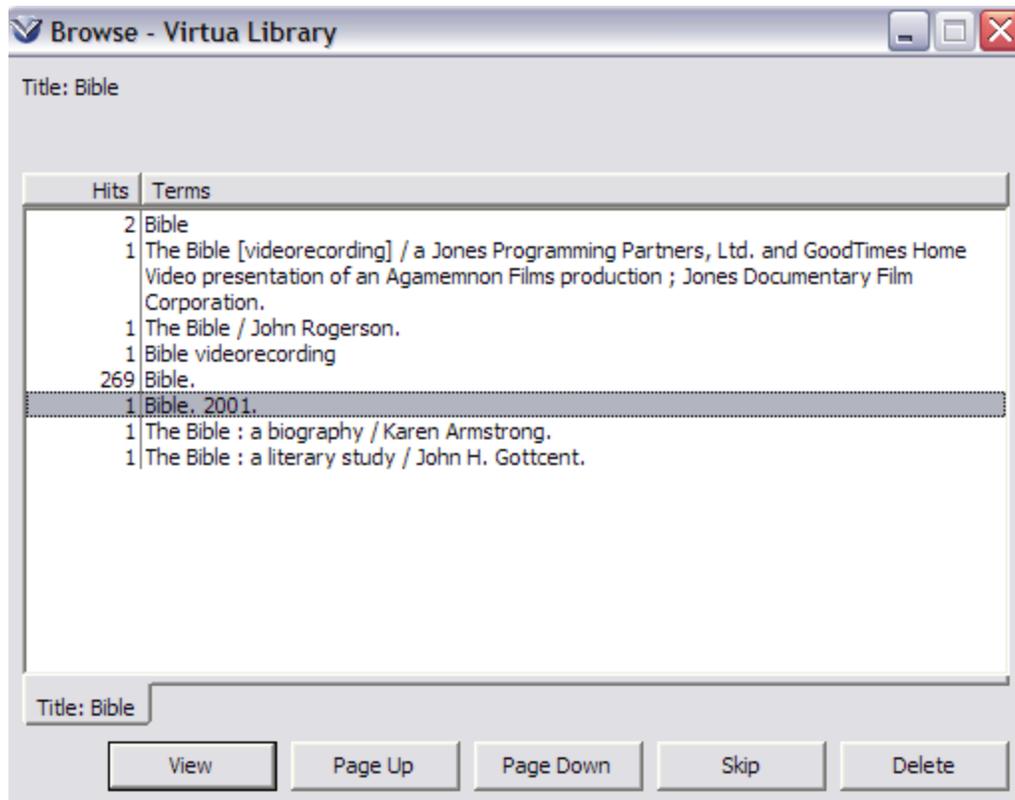


Figure 2-2. Browse Window – Searching for a FRBR Record

The View Bibliographic Record window appears ([Figure 2-3](#)), displaying the Manifestation record. The record's entry in the FRBR tree is highlighted.

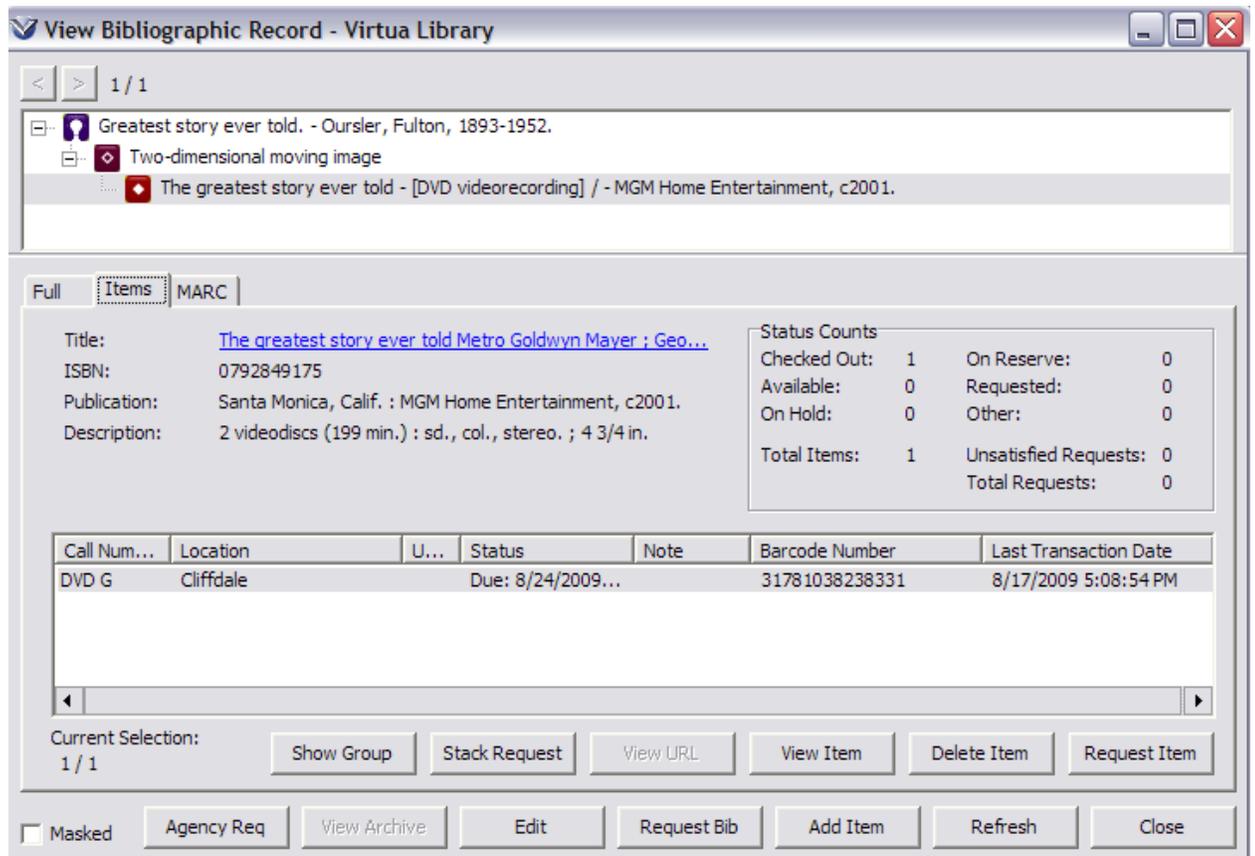


Figure 2-3. View Bibliographic Record Window – Displaying the FRBR Tree

The top part of the View Bibliographic Record window displays the expanded FRBR record tree for the heading you chose on the Browse window.

The top entry in the tree denotes the Work, which corresponds to a uniform title in the traditional bibliographic sense. In Figure 2-3, the Work is labeled *Greatest story ever told*. The second level in the tree denotes the Expression, and the third level denotes the Manifestation, which equates to the traditional MARC bibliographic record. Any number of records can be linked in the tree under the Work entity.

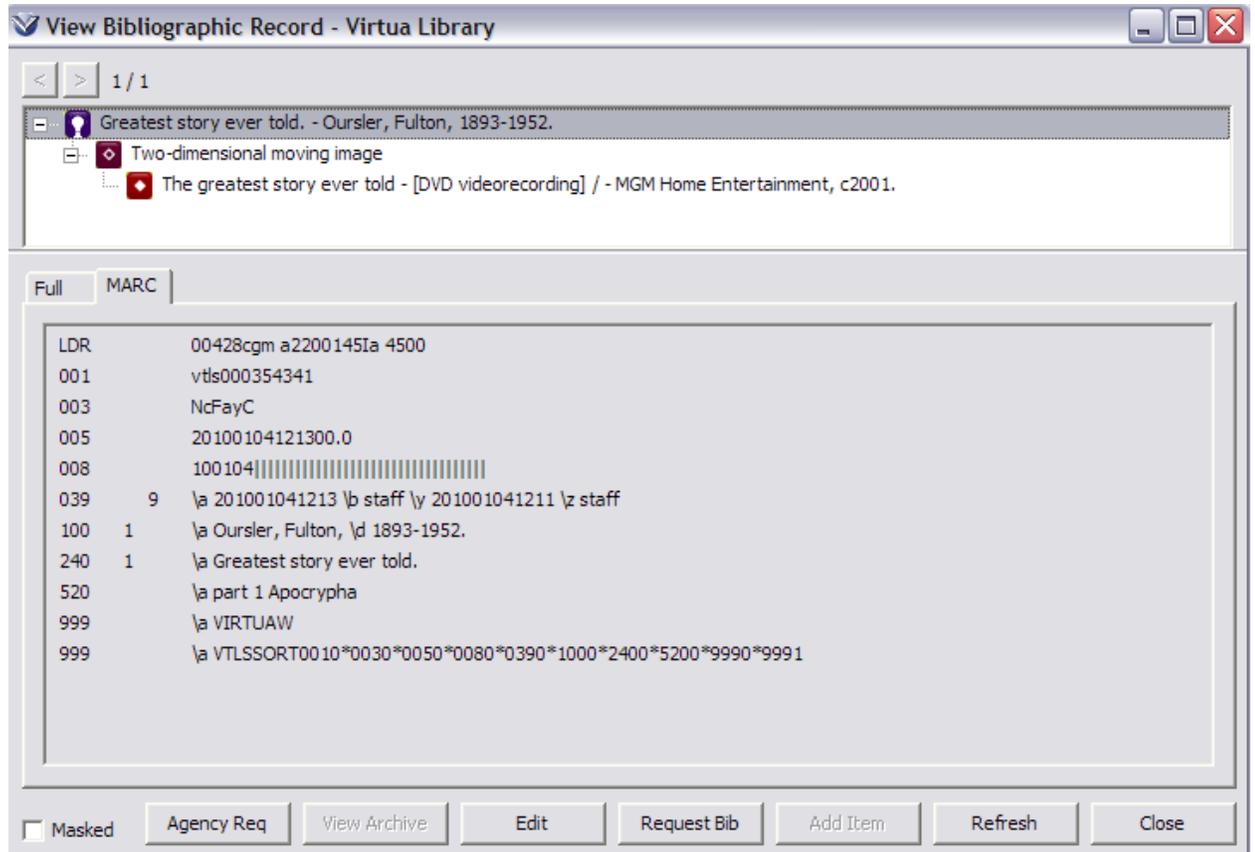
**Note:** If you have filtered your search results by location, the following rule will apply to the FRBR tree: Only those Manifestations that have items attached from the location(s) you selected will be displayed. If a Manifestation is “empty” after the location filter is applied, Virtua will not display it. Neither will Virtua display the associated Work or Expression.

The tabbed section of the View Bibliographic Record window for a Manifestation record behaves as it does for a traditional MARC bibliographic record. When a

Manifestation record is related to one or more exemplars, or Items, the Items tab is available ([Figure 2-3](#)), just as it is in a non-FRBR implementation.

**To see the Work record,**

- Click the Work entity in the FRBR tree ([Figure 2-4](#)).



*Figure 2-4. View Bibliographic Record Window – Displaying the Work*

The MARC record for the selected Work appears on the Full tab and MARC tab below the tree. As Work records do not have items, holdings, or statuses, only the Full and MARC tabs are available for viewing.

**To see the Expression record,**

- Click the Expression entity in the FRBR tree ([Figure 2-5](#)).

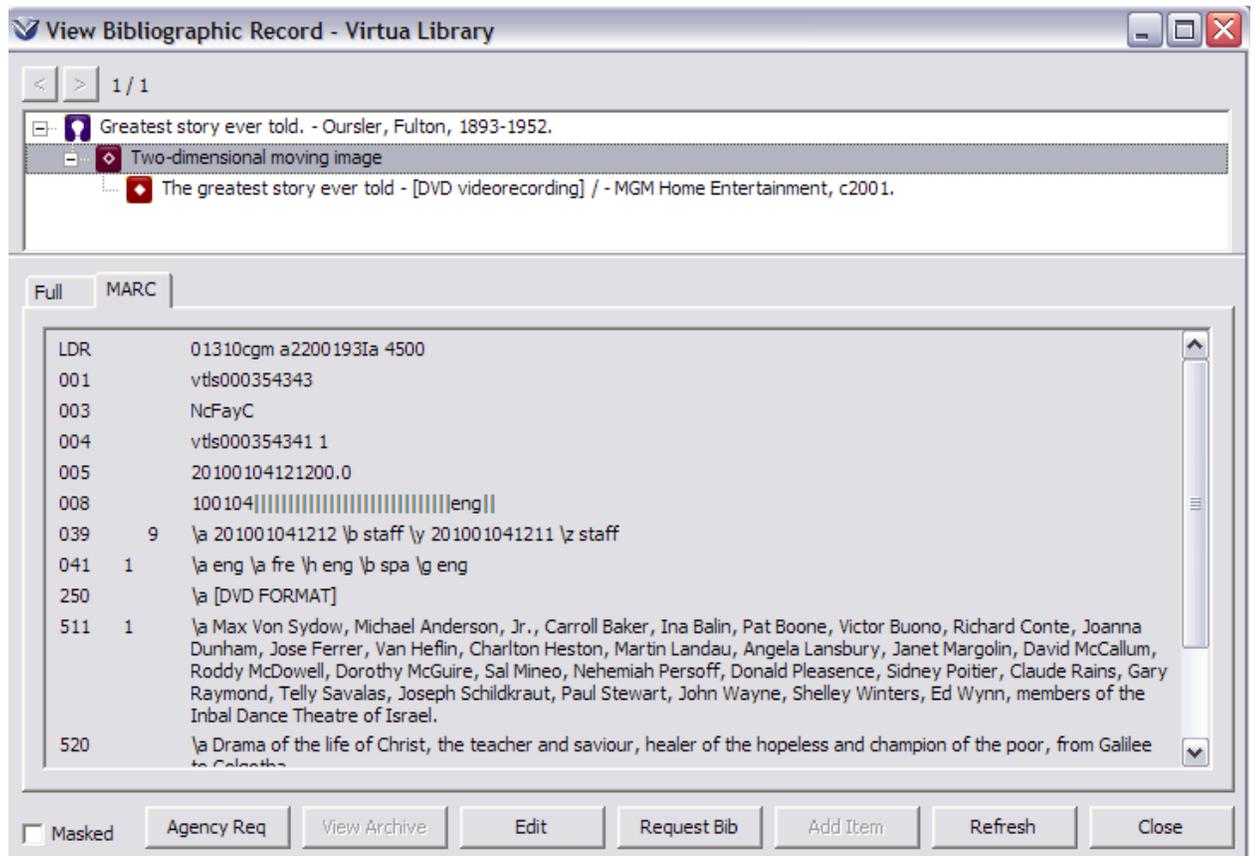


Figure 2-5. View Bibliographic Record Window – Displaying the Expression

The MARC record for the selected Expression appears on the Full tab and MARC tab below the tree. As Expression records do not have items, holdings, or statuses, only the Full and MARC tabs are available for viewing.

If different translations or modes (i.e., video recording, motion picture, audio recording) of a Work are cataloged, a number of different Expressions will appear on separate branches but at the same level in the tree.

### 2.2.1 A Note about Keyword Searches

The results of a *keyword* search in Virtua are displayed on the List of Titles window. In the case of a FRBR record, keyword search results will consist of *both* the Work and Manifestation of the combined FRBR record. In other words, if you search for a term that qualifies for the Manifestation but not the Work, the Work will appear nonetheless on the List of Titles window because it is part of the composite FRBR record (Figure 2-6).

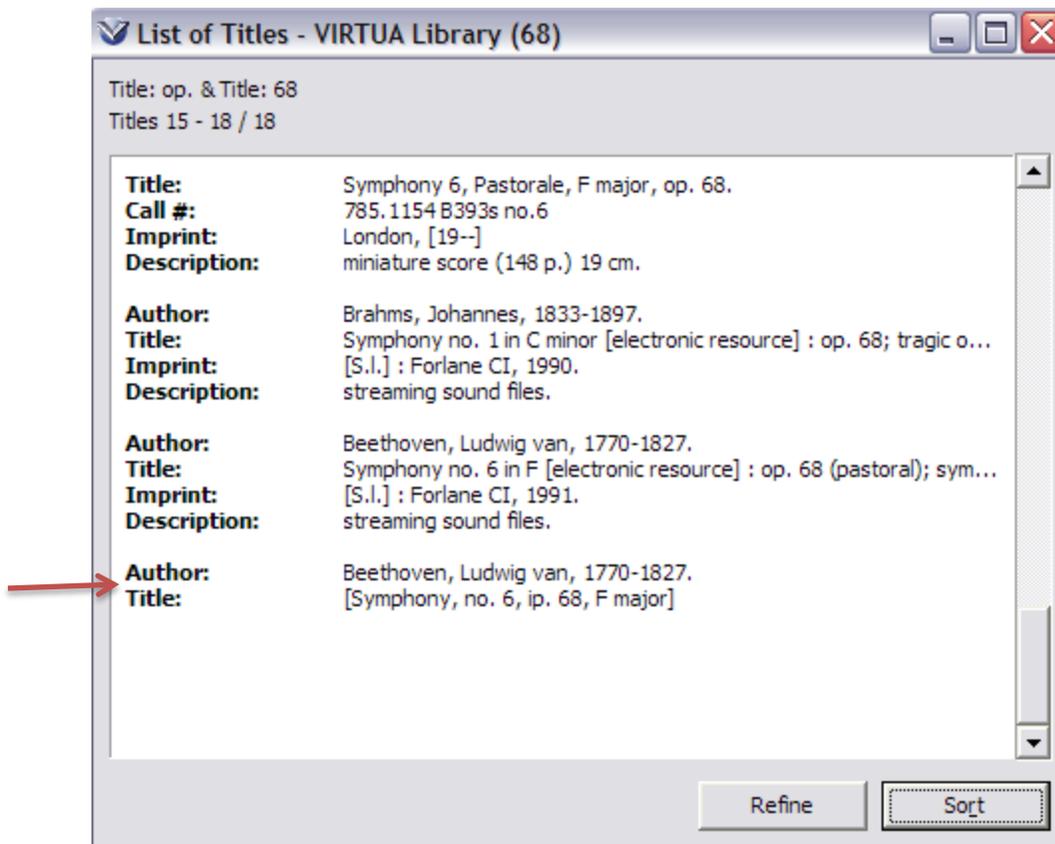


Figure 2-6. List of Titles Window – Displaying the Work and Manifestation

## 2.2.2 Details of FRBR Record Displays in the Client

In the FRBR tree, the display of each entity—Work, Expression, and Manifestation—is unique in four ways:

- **The icon that represents the entity.**
- **The sort order (where applicable) and whether re-sorting is possible.**
- **The source(s) used for the one-line description/label of the entity.**
- **The Local Level fixed field value in the 999 VIRTUA tag.**

**Note:** The 999 VIRTUA tag is one of several Innovative locally-defined MARC record tags. For FRBR records, Virtua uses the one-character Local Level fixed field within this tag to indicate the level of the FRBR record. In addition to the 999 VIRTUA tag, each FRBR entity contains another Innovative locally-defined tag—

tag 039. The 039 tag keeps track of the history of a record, which includes the date of database entry, the name of the database entry “person,” and a series of dates of modification and names of modifiers. (For more information about the 999 and 039 tags, see the *Virtua Cataloging User’s Guide*.)

### 2.2.2.1 The Work

This icon  represents a Work in a FRBR tree.

On the View Bibliographic Record window, the line of text in the FRBR record tree that represents the Work (*Figure 2-4*) contains the following data (in the order presented):

- The title, using all the subfields of tag 240, if it exists.
- The author or title main entry, using the subfields of the 1xx tag.

**Note:** The FRBR tree does not display the subfields \$w, \$e, \$4, \$6, or \$8 from the author (1xx) fields of Works.

For a Work record, the value of the Local Level in the 999 VIRTUA tag is W. The MARC record displays the tag as 999...a\VIRTUAW (*Figure 2-4*).

### 2.2.2.2 The Expression

This icon  represents an Expression in a FRBR tree.

On the View Bibliographic Record window, Expressions are sorted alphabetically by their descriptive line of text or label (*Figure 2-5*). The line of text or label that represents an Expression in the FRBR record tree is determined by the type of Expression. Here are the rules:

**If the Expression is a monograph or serial part (LDR 07 bib level ‘a’ or ‘b’) and the record has free text units in an 866 \$a,**

The line displays only tag 866 subfield \$a (Units). If there are multiple 866 tags, the line displays as many as will fit, separated by hyphens.

**If the Expression is language material (LDR 06 type ‘a’),**

The line displays ALL of the following:

- The text in tag 336 subfield \$a (Content Type) OR if the 336 \$a does not exist, a translatable string (*FRBR Expression label*) describing the LDR 06 record type (see the table below).
- A translatable string describing the MARC language code from tag 008/35-37 or, if this is blank or filled (| | |), tag 546 subfield \$a (Language), if it exists.
- The edition statement from tag 250 \$a (Edition), if it exists.
- A translatable string describing the form of the item from tag 008/23 (Material), if not blank or filled (|).

**If the Expression is music or a sound recording (LDR 06 types ‘c’, ‘d’, ‘i’, or ‘j’),**

The line displays both of the following:

- The text in tag 336 subfield \$a (Content Type) OR if the 336 \$a does not exist, a translatable string (*FRBR Expression label*) describing the LDR 06 record type (see the table below).
- The Performer/Participant string from all subfields of tag 511, if it exists. If there are multiple 511 tags, the line will display as many as will fit, each separated by a hyphen.

**If the Expression does not meet any of these criteria (for example, it is a movie),**

The line displays only the following:

- The text in tag 336 subfield \$a (Content Type) OR if the 336 \$a does not exist, a translatable string (*FRBR Expression label*) describing the LDR 06 record type (see the table below)

**Table of Expression Labels Based on LDR 06 Values**

<u>LDR06</u>	<u>LDR07</u>	<u>FRBR Expression Label</u>
a	m	Text/monograph
a	s	Text/serial
a	a or b	Text/analytic
a	i	Text/integrating resource
a	c	Collection
a	d	Subunit
c	c	Notated music/ Collection
c	d	Notated music/ Subunit
c	*	Notated music
d	c	Manuscript notated music/ Collection
d	d	Manuscript notated music/ Subunit
d	*	Manuscript notated music
e	c	Cartographic image/ Collection
e	d	Cartographic image/ Subunit
e	*	Cartographic image
f	c	Manuscript cartographic image/ Collection
f	d	Manuscript cartographic image/ Subunit
f	*	Manuscript cartographic image
g	c	Two-dimensional moving image/ Collection
g	d	Two-dimensional moving image/ Subunit
g	*	Two-dimensional moving image
i	c	Sounds/ Collection
i	d	Sounds/ Subunit
i	*	Sounds
j	c	Performed music/ Collection
j	d	Performed music/ Subunit
j	*	Performed music
k	c	Still image/ Collection
k	d	Still image/ Subunit
k	*	Still image
m	c	Computer program/ Collection
m	d	Computer program/ Subunit
m	*	Computer program
o	c	Kit/ Collection
o	d	Kit/ Subunit

o	*	Kit
p	c	Mixed materials/ Collection
p	d	Mixed materials/ Subunit
p	*	Mixed materials
r	c	Three-dimensional form/ Collection
r	d	Three-dimensional form/ Subunit
r	*	Three-dimensional form
t	c	Manuscript text/ Collection
t	d	Manuscript text/ Subunit
t	*	Manuscript text
* Any value other than c or d		

For an Expression record, the Local Level value in the 999 VIRTUA tag is E. The MARC record displays the tag as 999...a\VIRTUAE (*Figure 2-5*).

### 2.2.2.3 The Manifestation

This icon  represents a Manifestation in the FRBR tree.

On the View Bibliographic Record window, Manifestations are sorted by the value of “Date 1” (tag 008, position 7), with the most recent date on top (*Figure 2-3*). You have the ability to re-sort Manifestation records via an option on the pop-up menu.

The line of text representing a Manifestation in the FRBR record tree contains the following:

- The title from tag 245, subfield \$a, and remainder of the title from subfield \$b.
- The medium (microfilm, electronic, paper, etc.) from tag 245 subfield \$h, if it exists.
- The publication information from tag 264, subfields \$b and \$c. If there are multiple 264 tags, Virtua will use the following algorithm to display the appropriate 264 tag:

264\*1 \$b\$c when present; but when not present only, use:

264\*0 \$b\$c when present; but when not present only, use:

264\*2 \$b\$c when present; but when not present only, use:

264\*3 \$b\$c when present; but when not present only, use:  
 264\*4 \$b\$c when present; but when not present only, use:  
***260\*\* \$b\$c when present***

Note that each second indicator value represents a different type of 264 tag, as follows:

0 = Production  
 1 = Publication  
 2 = Distribution  
 3 = Manufacture  
 4 = Copyright

- The physical description from all subfields of tag 300 (*applies to sound recordings only*). If there are multiple 300 tags, the line will display as many descriptions as will fit, each separated by a hyphen.

For a Manifestation record, the Local Level value in the 999 VIRTUA tag is M. The MARC record displays the tag as 999...a\VIRTUAM (*Figure 2-3*).

## **2.2.3 Working with the FRBR Record Display in the Client**

As with MARC 21 records in the Virtua client, you can manipulate the display of FRBR records to suit your needs. You can collapse, expand, print, re-sort, and reverse the FRBR tree as well as resize the tree's viewing area. In addition, you can refresh the View Bibliographic Record window, print/save/e-mail a copy of the current record in a textual format, and mask the FRBR entity.

### **2.2.3.1 Collapsing and Expanding the FRBR Tree**

To suit your viewing needs, you can expand and collapse entities in the FRBR tree.

You can expand the records at any level in the tree by clicking the plus sign (+) next to that level, or you can expand ALL the records in the tree at once.

**To expand ALL the records in the FRBR tree,**

1. Right click on the View Bibliographic Record window.
2. Choose Expand All from the pop-up menu.
3. The FRBR tree expands the records at all of its levels (*Figure 2-7*).

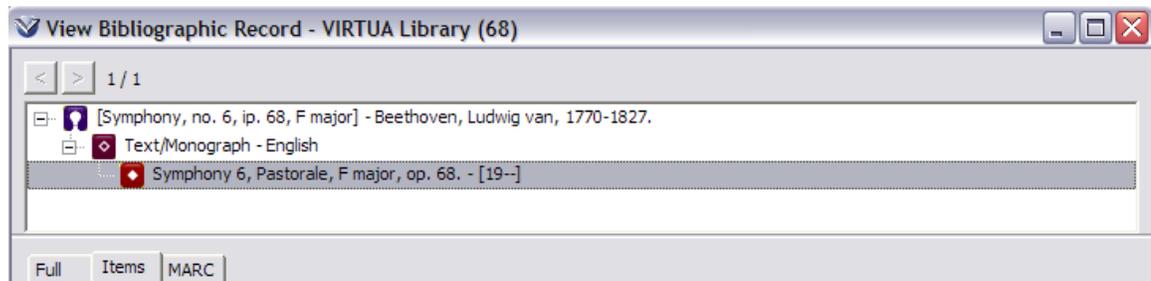


Figure 2-7. Expanded FRBR Tree

**To collapse ALL of the records in the FRBR tree,**

1. Right click on the View Bibliographic Record window.
2. Choose Collapse All from the pop-up menu.

The FRBR tree collapses to one entry—the Work record ([Figure 2-8](#)).

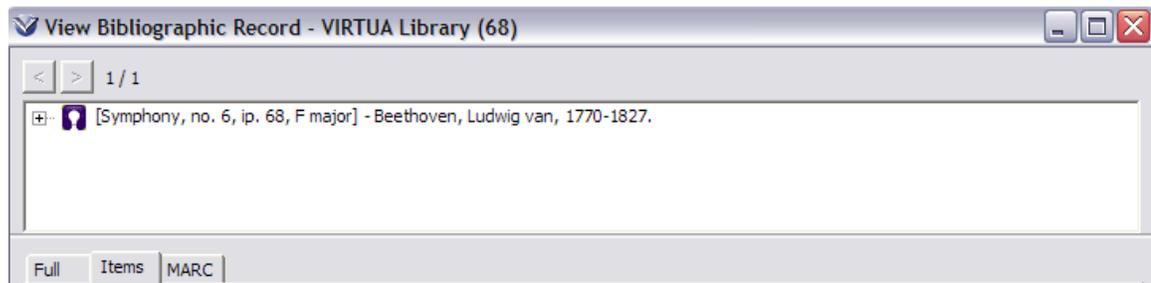


Figure 2-8. Collapsed FRBR Tree

### 2.2.3.2 Re-sorting Manifestation Records

To suit your viewing needs, you can re-sort Manifestation entities in the FRBR tree. By default, Manifestation records are sorted in descending order by the “Date 1” fixed field value.

**To re-sort Manifestation records in the FRBR tree,**

1. Scroll to the list of Manifestations that you want to re-sort.
2. Select a record ([Figure 2-9](#)).

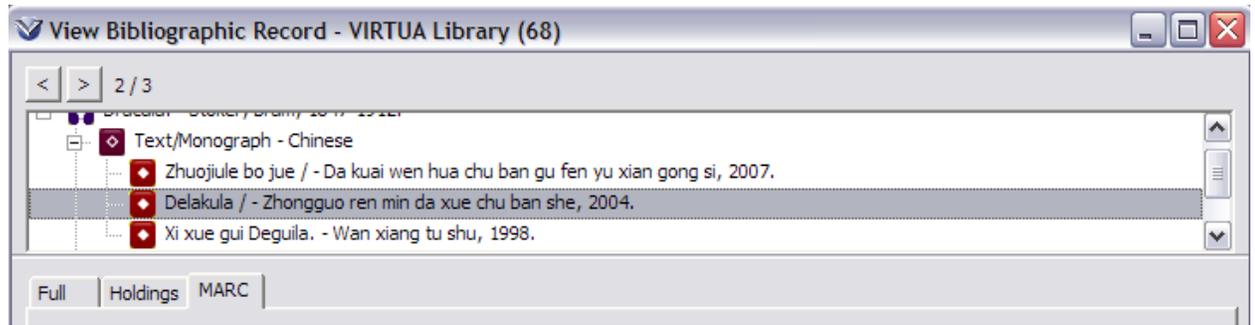


Figure 2-9. Re-sorting Manifestation Records in the FRBR Tree

3. Right click and choose Change Order from the pop-up menu.

The Change Sort Order window appears (*Figure 2-10*).

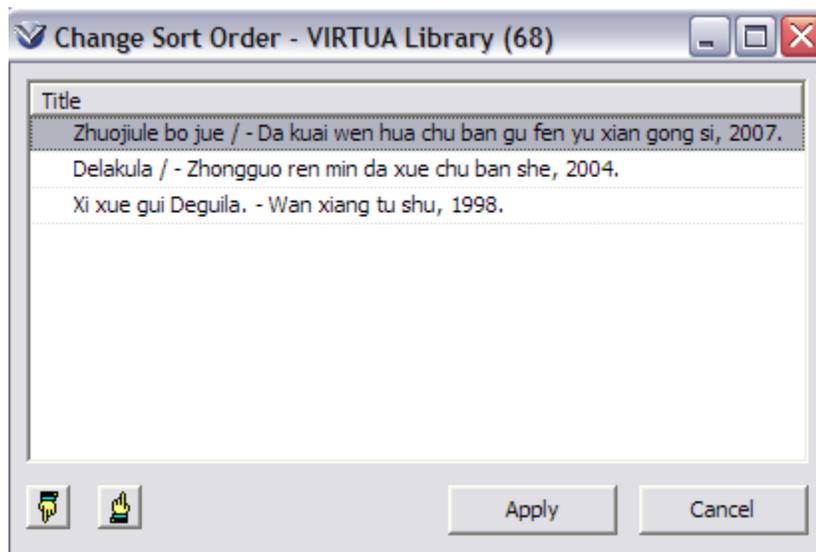


Figure 2-10. Change Sort Order Window

4. Using the hand icons at the bottom of the window, move a selected line item to the desired position in the list.
5. Click the Apply button.
6. View the changes on the View Bibliographic Record window (*Figure 2-11*).

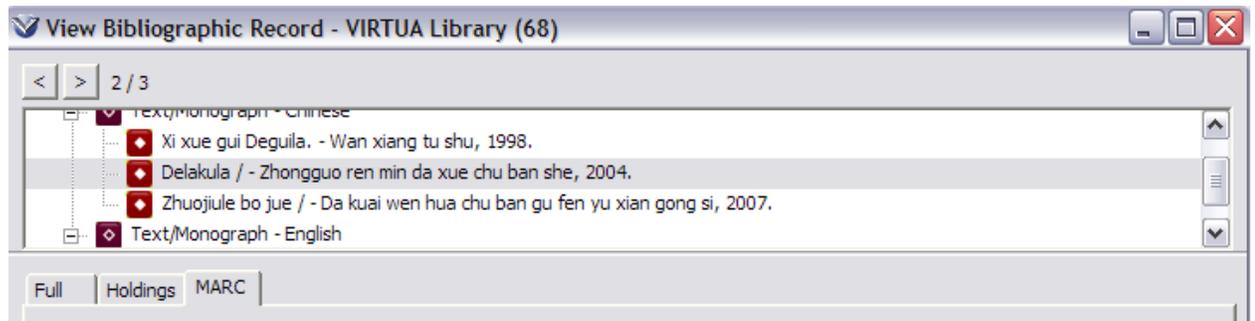


Figure 2-11. Results of Changing Sort Order

### 2.2.3.3 Reversing the FRBR Tree

Under some circumstances, especially when working with aggregates, “bound withs,” and analytics where a Manifestation is linked to multiple Expressions and Works, it may be more convenient to view the FRBR tree in reverse order. In reverse order, the tree displays the Manifestation at the top and the linked Expression(s) and Work(s) below it. (For more examples and discussion of aggregates, bound withs, and analytics, see the section “[Other Examples of FRBR Displays.](#)”)

To reverse the order of the FRBR tree,

1. Display the FRBR tree in normal mode.
2. Select the desired Manifestation. (*Figure 2-12*)

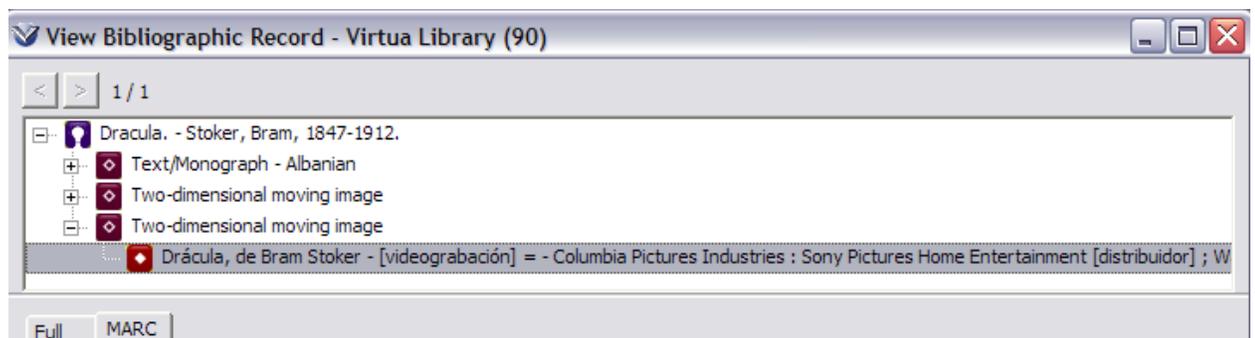


Figure 2-12. FRBR Tree – Reversing the Order

3. Right click and choose Show Reverse FRBR from the pop-up menu.

The software redraws the tree so that the selected Manifestation appears at the top and its associated Expression(s) and Work(s) are linked below it (*Figure 2-13*).

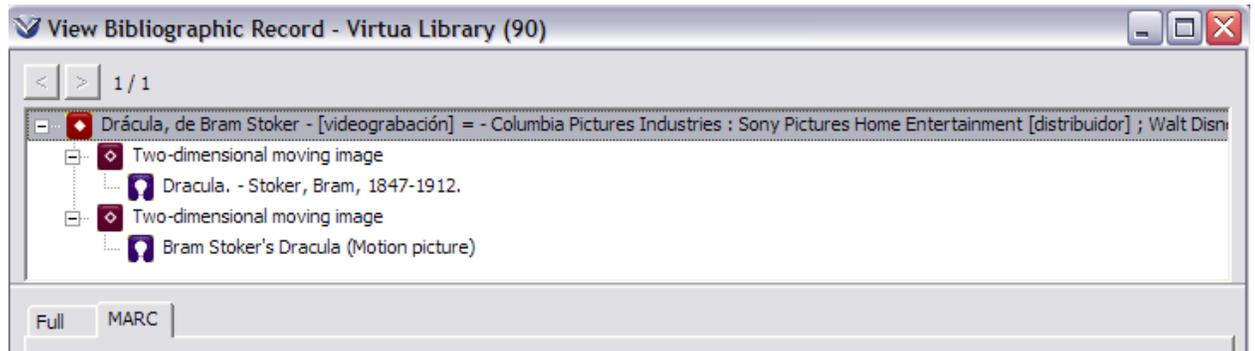


Figure 2-13. Results of Reversing the Order of the FRBR Tree

To return the FRBR tree to the normal view,

1. In the reverse FRBR tree, select the Work that was originally displayed in normal mode ([Figure 2-14](#)).

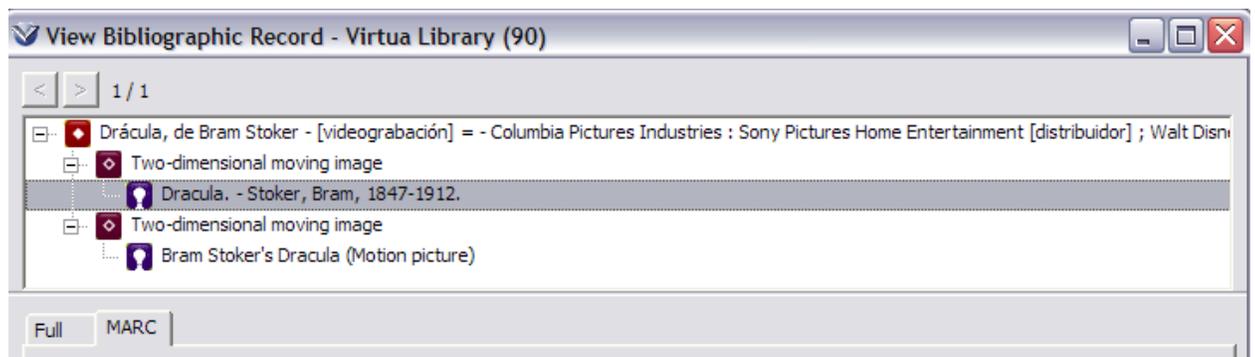


Figure 2-14. FRBR Tree – Returning to a Normal FRBR Tree

2. Right click and choose Show Normal FRBR from the pop-up menu.

The software returns the FRBR tree to the normal view shown in [Figure 2-12](#).

### 2.2.3.4 Printing the FRBR Tree

To print the FRBR tree,

1. Right click anywhere on the View Bibliographic Record window.

- Choose Print Tree from the pop-up menu. The Print dialog box appears ([Figure 2-15](#)).



Figure 2-15. Printing the FRBR Tree Function

- Choose a print range:
  - All** - Prints information for all of the records in the record tree. If the tree is very large, this may take a long time.
  - Selected Records** - Prints information for only those record(s) you have highlighted. To highlight multiple records, hold down the CTRL key as you select records in the tree, or hold down the SHIFT key to select a range of records.
  - Selected with Child Records** - Prints information for the currently selected record(s) and all child records, including children of the child records.
- Choose the number of copies, and click OK.

**Hint:** To print a copy of a *single* record, display the desired record in the View Bibliographic Record window. Right click and choose Print. In the Print dialog box, select Full or MARC in the Format drop-down list.

### 2.2.3.5 Resizing the FRBR Tree Area

On the View Bibliographic Record window, you can resize the viewing area of the FRBR tree to make more entities visible.

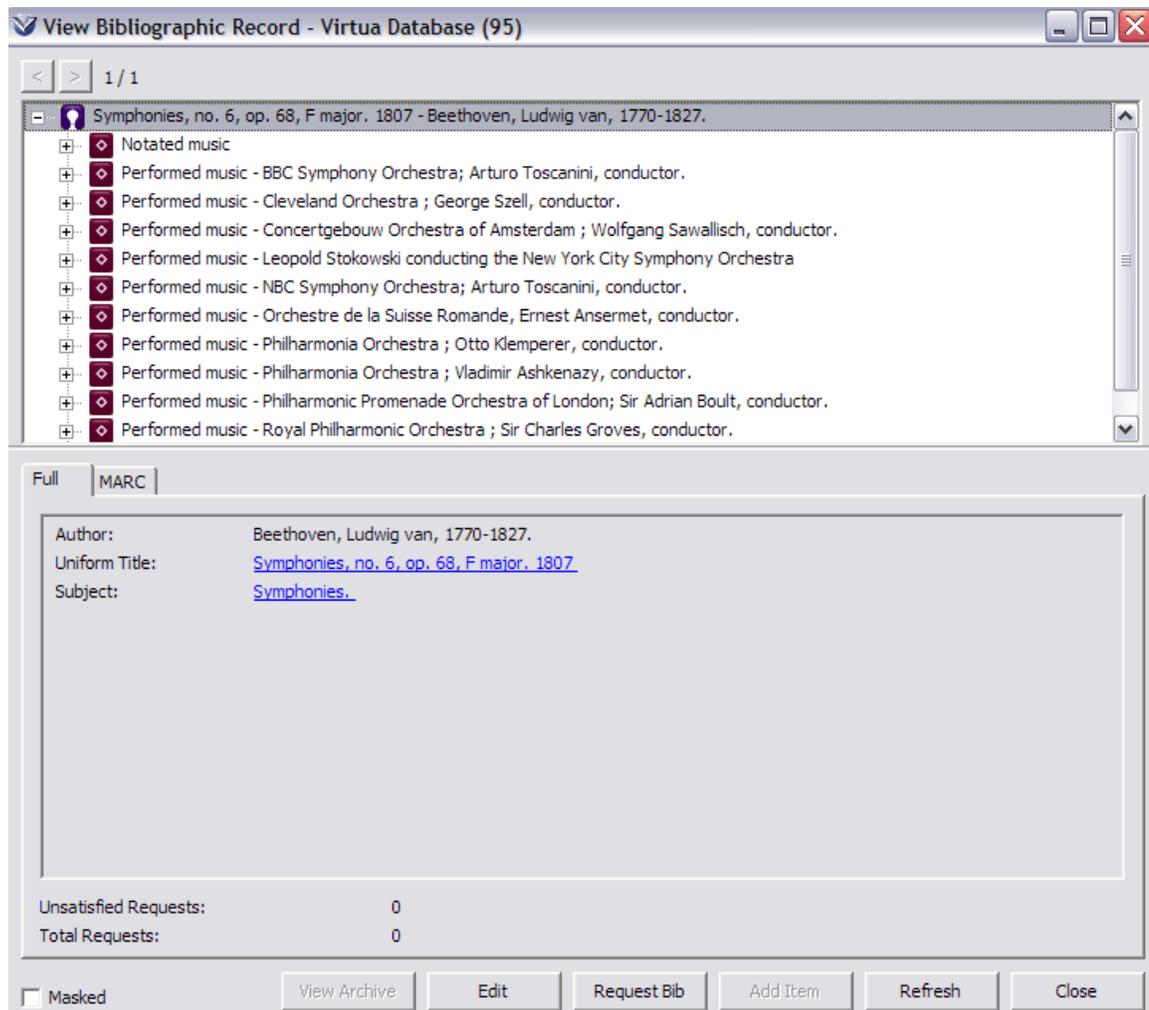
**To resize the FRBR tree,**

1. Place your mouse cursor on the border between the FRBR tree and the tabs below the tree.

The cursor turns into a double arrow.

2. Drag the tabular portion of the window downward.

The size of the viewing area for the FRBR tree increases to the extent that you drag the tabbed portion down (*Figure 2-16*).



*Figure 2-16. Resized FRBR Tree*

### 2.2.3.6 Refreshing the FRBR Record Window

A Refresh button on the View Bibliographic Record window lets you refresh the window to include any new data. For FRBR records, the Refresh button refreshes the current FRBR entity—whether it is a Work, Expression, or Manifestation. It does not refresh the entire FRBR tree.

### 2.2.3.7 Printing, Saving and E-mailing the FRBR Record

On the View Bibliographic Record window, you can print, save, or e-mail a copy of a FRBR record in a textual format. When the active window is an Expression, the printed, saved, or e-mailed copy includes the Work. When the active window is a Manifestation, the printed, saved, or e-mailed copy includes the Expression and the Work.

**To print, save, or e-mail the current record,**

1. Right-click on the View Bibliographic Record window.
2. Choose Print, Save, or E-mail from the pop-up menu.

The selected operation completes.

### 2.2.3.8 Masking and FRBR Records

The ability to mask MARC 21 bibliographic and holdings records, either in the MARC Editor or on the View Bibliographic Record/View Holdings Record windows in the Virtua client, extends to FRBR records. If you have the proper permission, you can mask from users any FRBR entity in the database, whether it is a Work, an Expression, a Manifestation, or a holdings record attached to a Manifestation. In effect, a masked record ceases to exist for all users except those who have explicit permission to view masked records.

When you mask a FRBR parent record, all linked *subordinate* records are implicitly masked. That is, if you mask a Work record, the system will automatically mask any linked Expression and/or Manifestation records. Conversely, if you unmask a Work record, the system will automatically unmask any linked Expression and/or Manifestation records. For information on masking records, see the *Virtua Cataloging User's Guide*.

**Note:** Users who do not have permission to view masked bibliographic and holdings records will still be able to view any item records attached to masked FRBR parent or holdings records; however, these item records will be accessible only via control number searches or any search that bypasses access to the bibliographic or holdings record.

## 2.3 Other Examples of FRBR Displays

The following examples of FRBR record displays give you an idea of how the FRBR model handles different bibliographic cataloging scenarios.

### 2.3.1 Super Work

To accommodate the linking of related Works so that they can be displayed together in a FRBR tree, Innovative supports the concept of a “Super Work.” A Super Work is an artificial construct that extends the flexibility and usefulness of the FRBR model.

A Super Work is an entity that has other Works, or “subworks,” linked to it. [Figure 2-17](#) shows an example of a Super Work—the novel *Beau Geste* by P. C. Wren. Its derivative subworks include motion pictures created from the book, a comic book, and a radio drama. Each item is cataloged as a separate FRBR Work.

Thus the FRBR tree and the concept of a “Super Work” give you a convenient way to see all related Works displayed together. In addition, they are useful for displaying the “family” of works for serials or continuing resources.

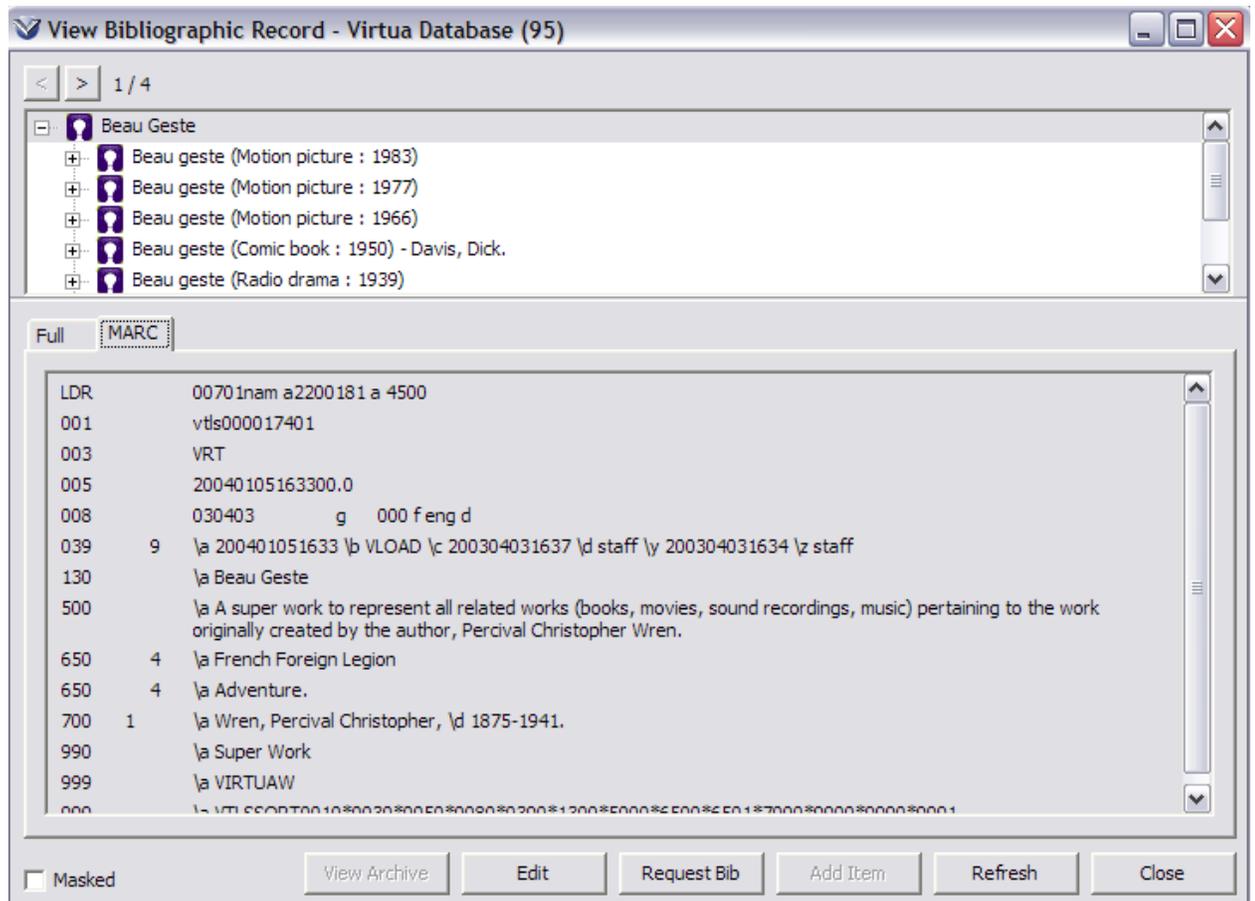


Figure 2-17. FRBR Display – Example of Super Work

## 2.3.2 Aggregates

In another extension of the FRBR model, Innovative’s implementation supports aggregates, which are composed of multiple works. Aggregates are defined as 1) anthologies, selections, and collections (of poetry, short stories, or essays); 2) augmentations (original text augmented with illustrations, notes, introductions, etc.); 3) monographic series; 4) serials; 5) multipart monographs; and 6) integrating resources.

In our implementation, when Innovative FRBRizes the traditional MARC record of an aggregate, the software automatically creates the Manifestation entity and links it to the multiple associated Expressions/Works. The MARC tab in [Figure 2-18](#) shows the multiple 004 tags of the aggregating Manifestation *Obras selectas* that serve as links to the multiple Expressions/Works. Note that [Figure 2-18](#) shows the normal FRBR tree, with the Work at the top followed by the Expression and Manifestation, which is highlighted.

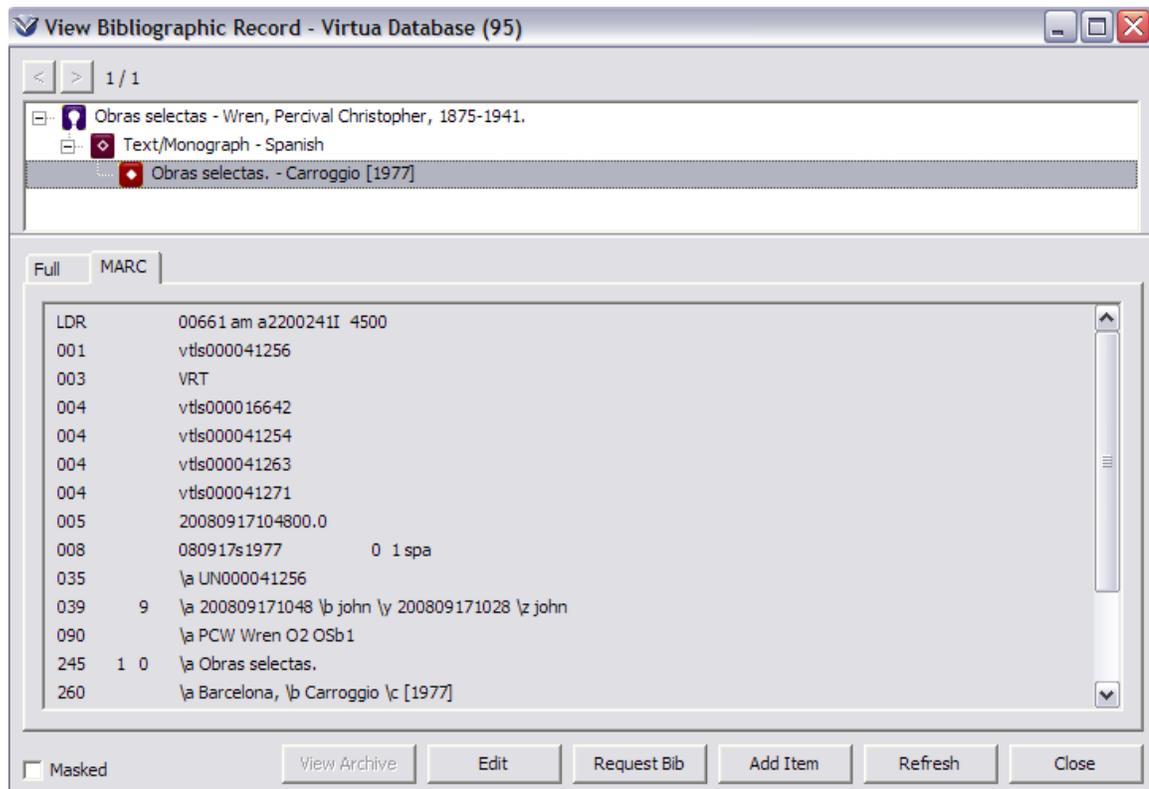


Figure 2-18. FRBR Display – Normal View of Manifestation

The power of FRBR is its ability to link a single Manifestation to multiple Expressions and multiple Works. The Show Reverse FRBR right-click function in Virtua underscores this power.

The FRBR tree in *reverse* order nicely accommodates aggregates and provides a convenient view of their contents. For example, [Figure 2-19](#) displays a reverse FRBR tree for the *Obras Selectas* Manifestation entity.

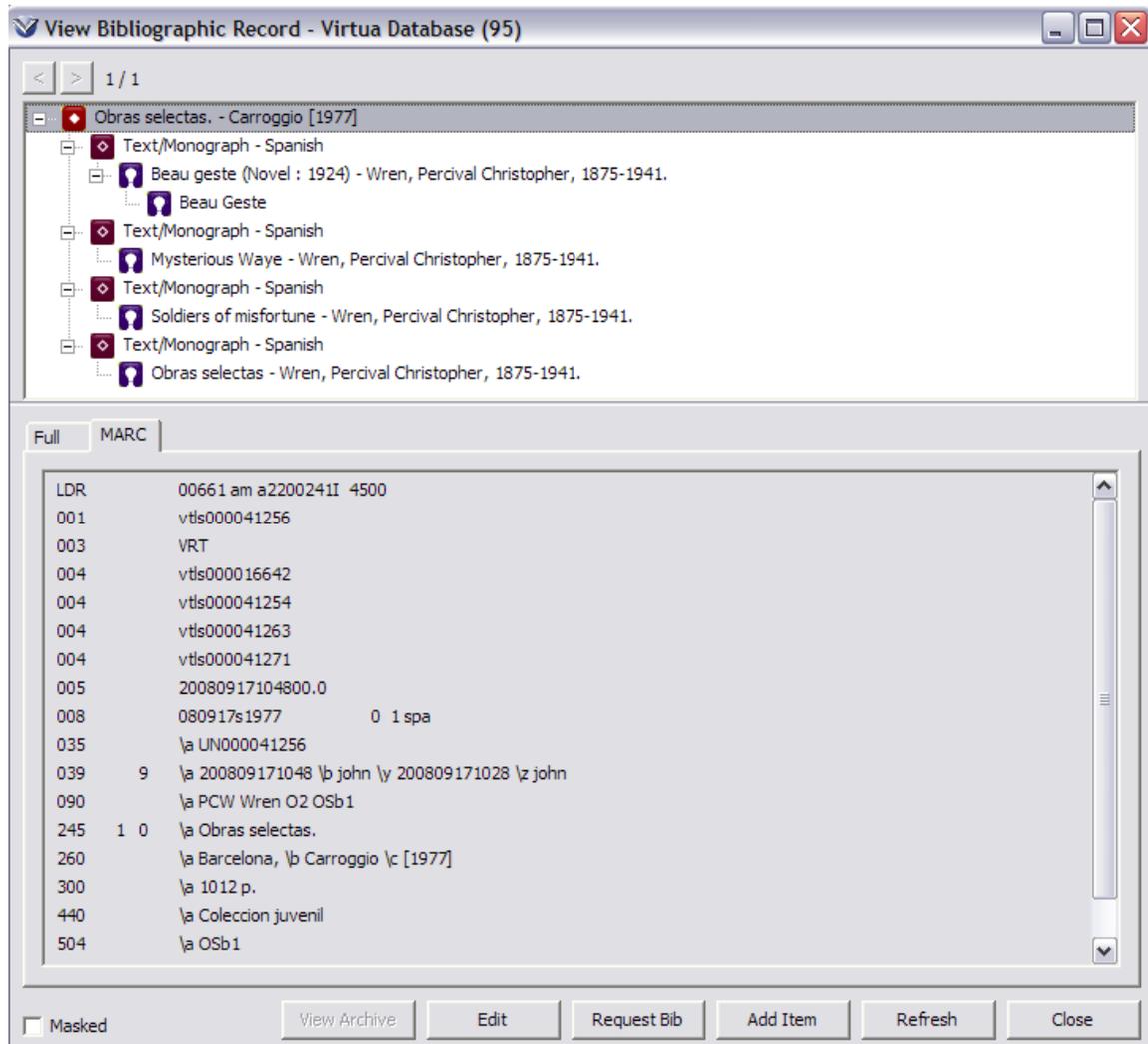


Figure 2-19. FRBR Display – Reverse View of Manifestation Supporting Aggregates

Note that in the reverse tree display, the Manifestation (i.e., the aggregating Manifestation for *Obras selectas*) is at the top and is followed by the linked Expressions/Works for the novels *Beau Geste*, *Mysterious Waye*, *Soldiers of Misfortune*, and *Obras Selectas*.

### 2.3.3 Bound Withs

The FRBR model offers an efficient way to catalog “bound with” titles. For example, *Talbot Mundy Stories from Adventure* is one physical binding that contains separate stories of the popular pulp magazine fiction writer, Talbot Mundy. Each story, originally published in a separate issue, has its own Work record and Expression record.

Figure 2-20 shows the Work and Expression for one of these stories, *Benefit of Doubt*. Notice that there is only one Manifestation, *Talbot Mundy Stories from Adventure*, representing the “bound with” volume of four stories.

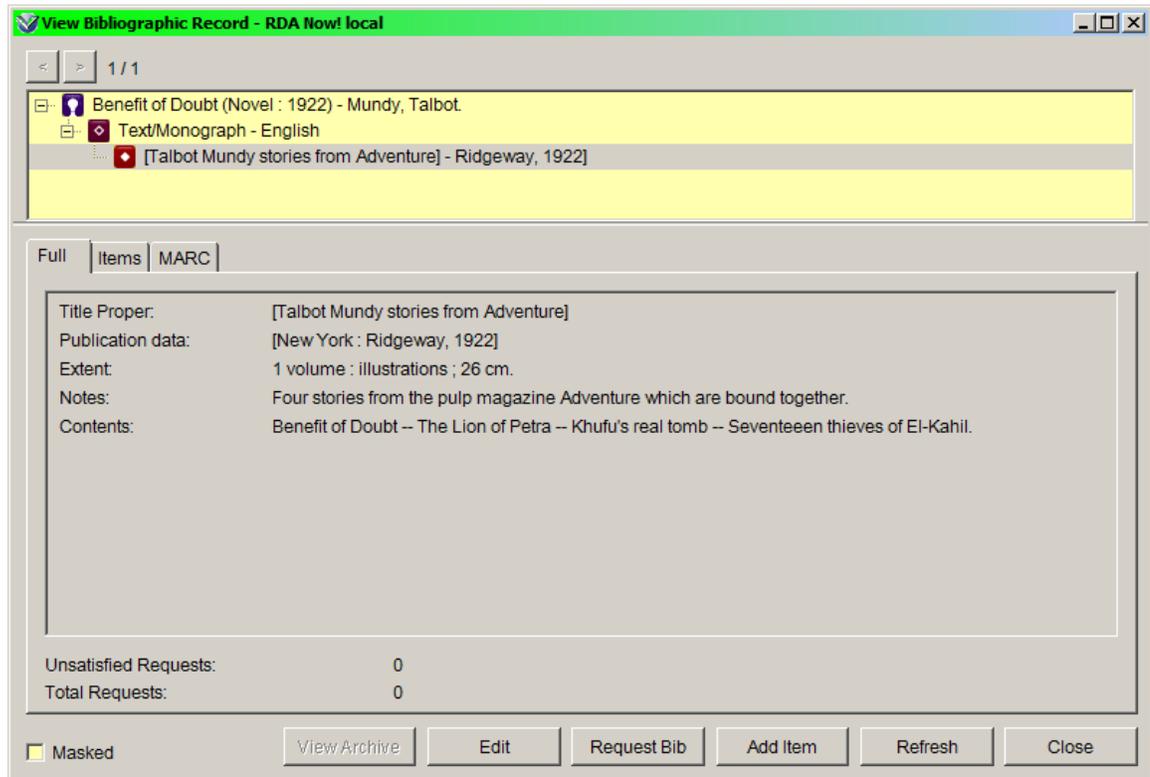


Figure 2-20. FRBR Display – Support for “Bound Withs”

That one Manifestation is linked to multiple Expressions via repeatable 004 fields. The MARC tab of the Manifestation record (Figure 2-21) shows the 004 tag repeated four times and displays in the 500 tag the note that the Manifestation is for the complete bound volume.

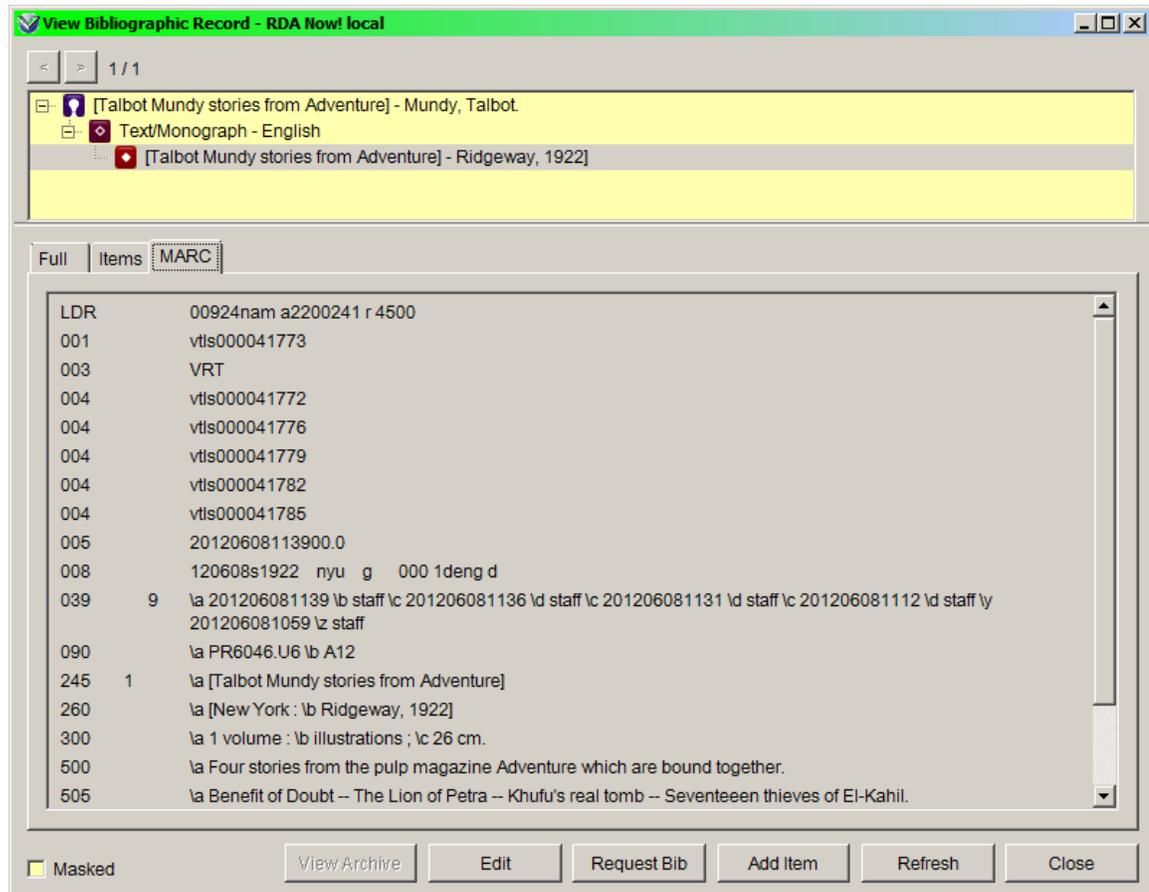


Figure 2-21. FRBR Display – Support for “Bound Withs”

The Item tab of the Manifestation record (Figure 2-22) shows that *Talbot Mundy Stories from Adventure* (barcode 20031111) is checked out.

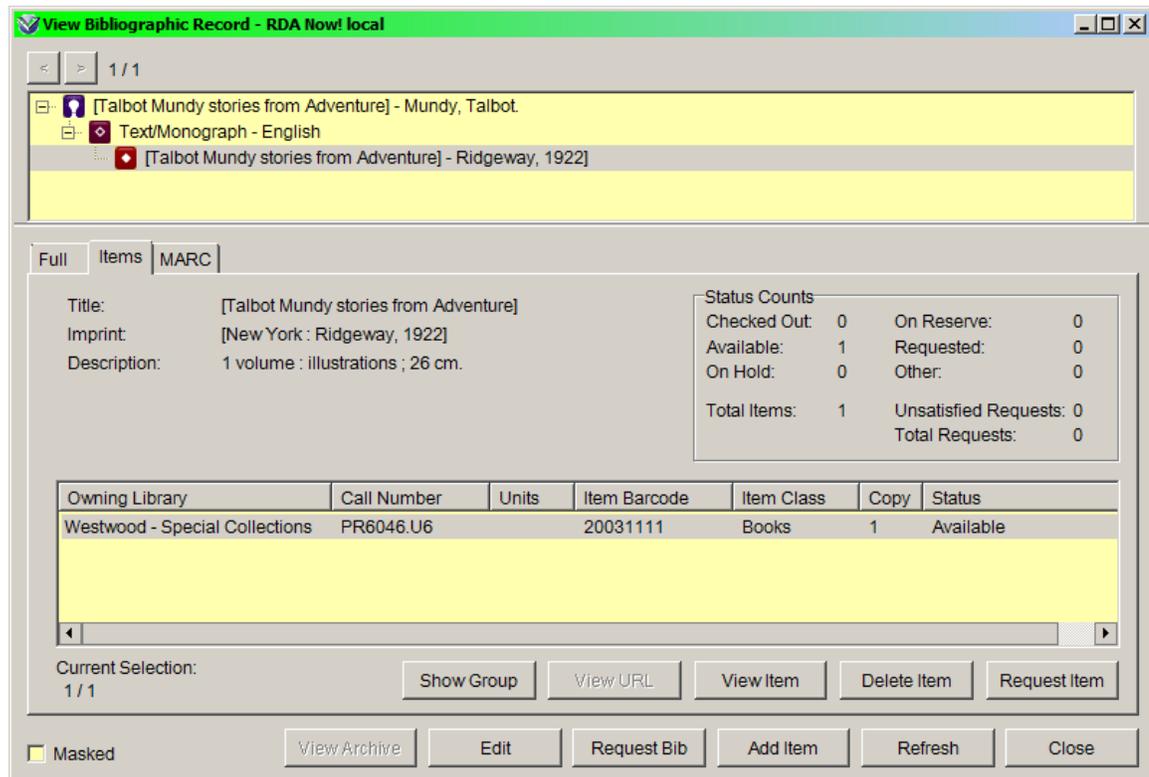


Figure 2-22. FRBR Display – Support for “Bound Withs”

If you search for another title in this bound volume, for example *Lion of Petra*, you will see the same item record attached to *Talbot Mundy*... that you saw when you searched for *Benefit of Doubt*. Thus, regardless of the title you search for in the “bound with” volume, you will always see the item record for the physical bound volume and will always know its status. This ability to link one Manifestation to multiple Expressions or Works is one of the advantages that FRBR cataloging offers.

### 2.3.4 Music Analytics

Figure 2-23 shows how FRBR handles component parts, in this case, those of musical recordings on CDs or tape. The recordings contain different works, all of which may be by one composer or several composers. Each component of a recording is fully cataloged.

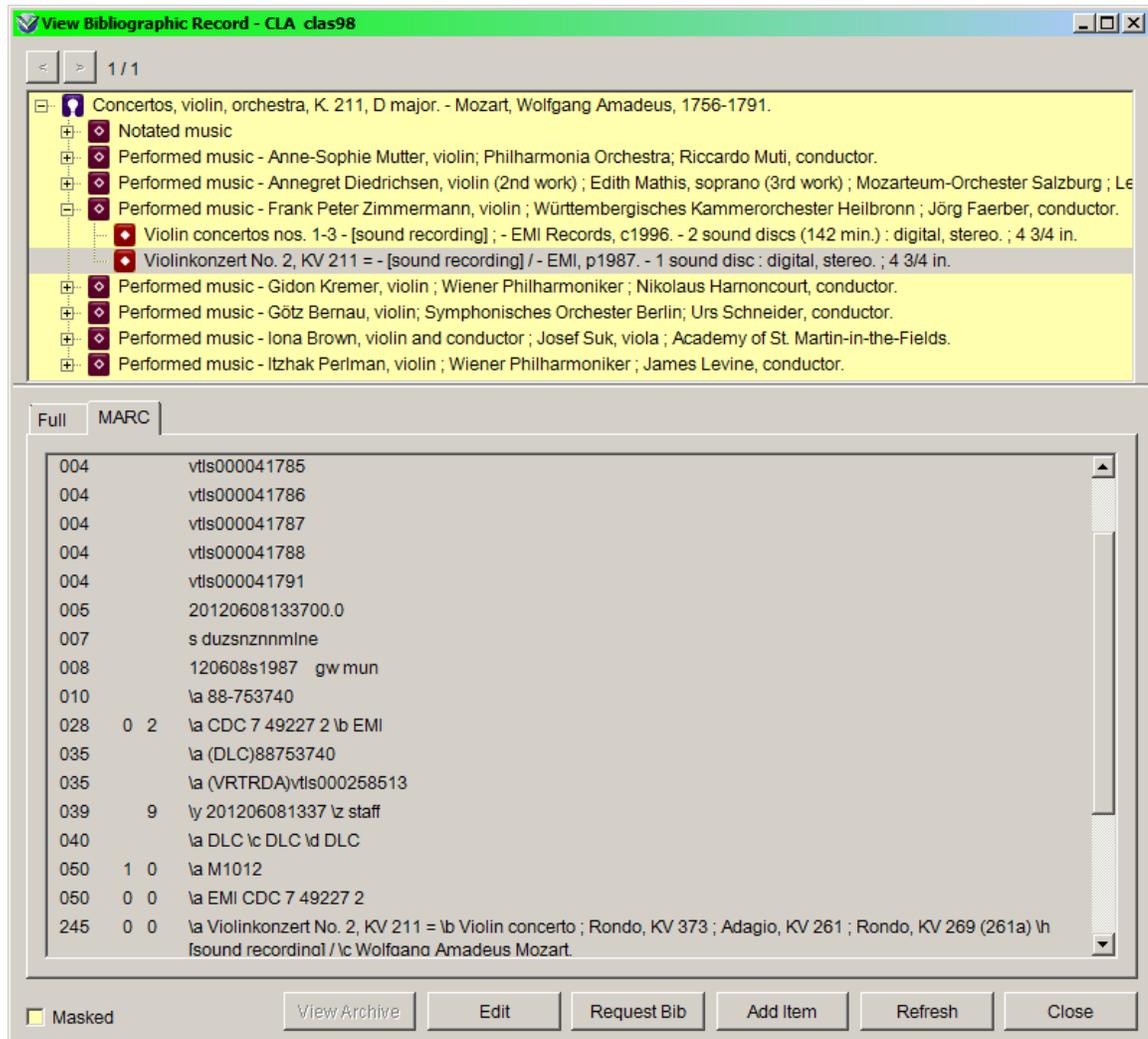


Figure 2-23. FRBR Display – Support for Music Analytics

In Figure 2-23, the Manifestation *Violinkonzert No.2* is highlighted in the FRBR tree.

The MARC tab is active so that you can see the five 004 tags, each of which contains the Bib-ID of a parent record. That is to say that the Manifestation is linked to five Expressions/Works; four others besides the one in our example. To find the other Expressions/Works, you need only use the Show Reverse FRBR function, which will redraw the FRBR tree, placing the Manifestation at the top and its associated Expressions/Works below it.

## 3. Creating New "Original" FRBR Records

Creating a set of original FRBR bibliographic records is basically the same as creating an original non-FRBR bibliographic record. You can do both using the MARC Editor in the Virtua client, but differences exist in three major areas:

- The tags used to create the FRBR bibliographic records.
- The workforms used to create the "original" FRBR records.
- The need to create three levels of records instead of one record.

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Creating a New Work Record](#)
- ⇒ [Creating a New Expression Record](#)
- ⇒ [Creating a New Manifestation Record](#)
- ⇒ [Adding an Item Record](#)

### 3.1 Introduction

Virtua provides three default workforms for creating FRBR records, one for each of three bibliographic levels: Work, Expression, and Manifestation. The default workforms are...

**frbrwork.wfm**  
**frbrexpr.wfm**  
**frbrmanifest.wfm**

By default, the FRBR workforms reside in the Catalog folder of the Virtua directory along with other non-FRBR workforms. As with other workforms, your library can customize the FRBR workforms or use them "as is."

In our current implementation of FRBR, we recommend creating the Work before creating the other two entities. After you create a Work record, you can easily create the first Expression record by commanding the software to generate the record automatically and create the link between the Expression and the Work. Similarly, once

you create a new Work record and Expression record, you can easily catalog the first Manifestation record (and subsequent Manifestations) by commanding the software to generate the record automatically and create the link between the Manifestation and the Expression. The system-generated links mean that you do not have to catalog as many tags in the Manifestation as would be required in a non-FRBR database.

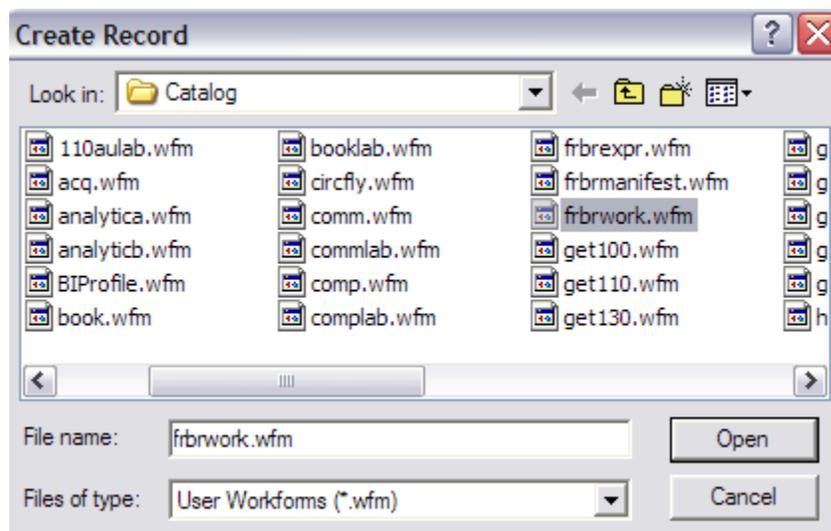
## 3.2 Creating a New Work Record

Every Work must have a title. In a traditional bibliographic sense, a FRBR Work title is a uniform title. This is the reason that the FRBR Work workform displays the 240 tag by default. (Note that when you are creating FRBR records from a traditional bibliographic record that does NOT have a uniform title, the system will create one using subfield \$a of the record's 245 tag and preserving the 245 tag's second indicator value. For details, see "[Appendix A - Rules for FRBR Splitting.](#)")

**To create a new Work record,**

1. On the Virtua menu bar, click File — Records — Create Record.

The Create Record window appears (*Figure 3-1*).



*Figure 3-1. Create Record Window*

2. Select the Work workform (**frbrwork.wfm**).
3. Click the Open button.

The Book Work workform appears in the MARC Editor (*Figure 3-2*), displaying the 240 tag by default.

<input type="checkbox"/>	008			120510d g 000 f eng d
<input type="checkbox"/>	100	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	240	<input type="checkbox"/>	<input type="checkbox"/>	la \h
<input type="checkbox"/>	500	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	650	<input type="checkbox"/>	0	

(a) Language material (m) Monograph/Item  Masked

< > MARC 21 Bib: Book Work New Record Modified

Untitled1

*Figure 3-2. MARC Editor – Book Work Workform*

Notice in *Figure 3-2* that the workform contains the 008 tag. Each FRBR record has its own 008 field.

- Click in the 008 field in the MARC Editor to see the Fixed Field Editor and the 008 fixed field layout for the Work record ([Figure 3-3](#)).

The screenshot shows the 'Fixed Field Editor' window for 'Book 008 Fixed Fields'. The fields are arranged in a grid:

Local Lvl: <input type="text" value="W"/>	Analyzed: <input type="checkbox"/>	Rec Stat: <input type="text" value="New"/>
Archive: <input type="text" value="No specific type"/>	Enc Lvl: <input type="text" value="( # ) Full level"/>	Desc: <input type="text" value="AACR 2"/>
Multipart: <input type="text" value="Not specified or not applica"/>	Date Tp: <input type="text" value="Continuing resource cease"/>	Date 1: <input type="text"/>
Date 2: <input type="text"/>	PI Pub: <input type="text" value="Not specified"/>	Illus: <input type="text"/>
Audience: <input type="text" value="General"/>	Form: <input type="text" value="None of the following"/>	Contents: <input type="text"/>
Govt Pub: <input type="text" value="Not a govt. publication"/>	Conf Pub: <input type="text" value="Not a conference pub."/>	Festschr: <input type="text" value="Not a festschrift"/>
Index: <input type="text" value="No index"/>	Fiction: <input type="text" value="Novels"/>	Biography: <input type="text" value="No biographical material"/>
Lang: <input type="text" value="English (eng)"/>	Mod Rec: <input type="text" value="Not modified"/>	Source: <input type="text" value="Other"/>
Entered: <input type="text" value="120510"/>	Virtua: <input type="text"/>	Used: <input type="text"/>

Buttons: OK, Cancel

*Figure 3-3. Fixed Field Editor – Book 008*

In the 008 fixed field layout for a Work record, the first position, which is Local Lvl, contains the value W. This value will appear in the 999 VIRTUA $\overline{W}$  tag of the newly created Work record, and the software will use it to identify the record as a Work.

- Catalog the FRBR Work record, using the suggested specifications provided in [Appendix B](#) of this guide.

When you are finished cataloging, the Work record might look like [Figure 3-4](#).

The screenshot shows the MARC Editor interface for Virtua Library (90). The window title is "MARC Editor - Virtua Library (90)". The interface is divided into several sections:

- Header:** A text field containing "120510d g 000 f eng d".
- Author:** A text field containing "\a Wren, Percival Christopher".
- Title:** A text field containing "\a The wages of virtue".
- Subject:** A text field containing "\a India \x History \y British occupation, 1764-1947 \v Fiction.".
- Control Fields:** A grid of input boxes for MARC tags:
 

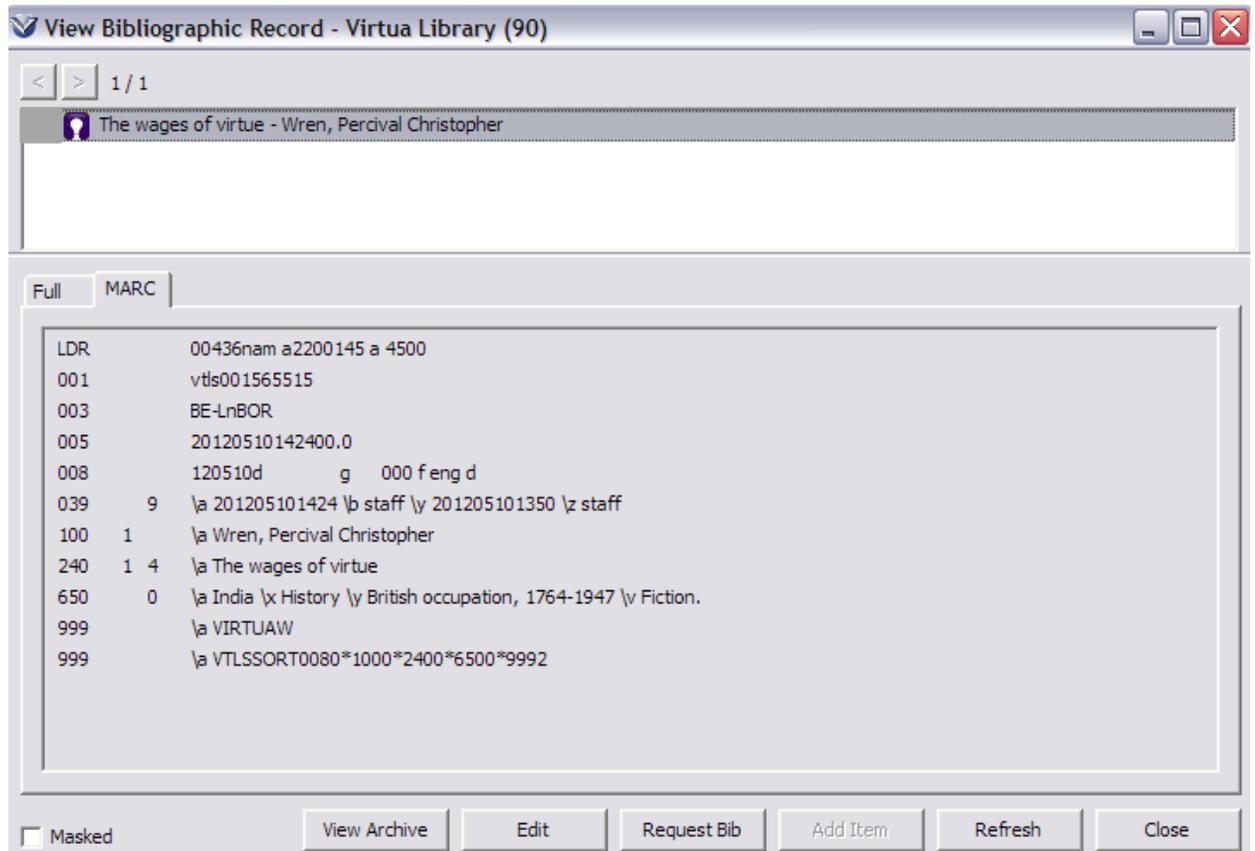
<input type="checkbox"/>	008		
<input type="checkbox"/>	100	1	<input type="checkbox"/>
<input type="checkbox"/>	240	1	4
<input type="checkbox"/>	650	<input type="checkbox"/>	0
- Language and Form:** Two dropdown menus: "(a) Language material" and "(m) Monograph/Item".
- Masked:** A checkbox labeled "Masked" which is currently unchecked.
- Navigation:** Left and right arrow buttons.
- Record Information:** "MARC 21 Bib: Book Work" and "OPAC Modified" buttons.
- OPAC1:** A button at the bottom left.

Figure 3-4. MARC Editor – Book Work Workform

On the workform, notice the existence of the 650 tag; most 6xx tags (subject added entries and index terms) are cataloged in the Work record. An exception to this would be a subject such as Talking Books, which would be a type of sound recording and so would be cataloged in an Expression record.

6. Save the record to the database.

After being saved to the database, the Work record appears in the View Bibliographic Record window in the Virtua client (*Figure 3-5*). The top of the FRBR tree displays the title from the 240 tag and the author from the 100 tag.



*Figure 3-5. View Bibliographic Record Window – Newly Created Work*

**Note:** As you cannot create an item record attached to a Work record, the Add Item button at the bottom of the View Bibliographic Record window is disabled.

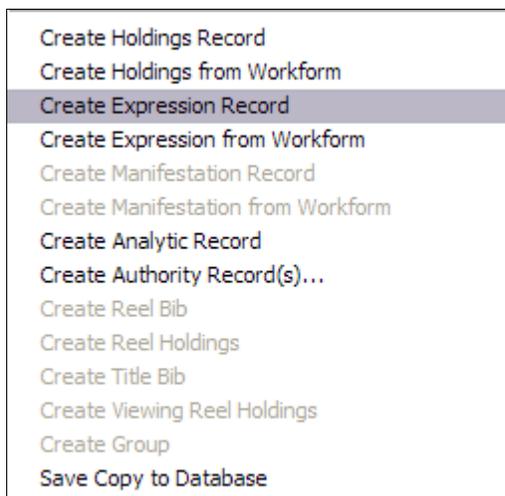
## 3.3 Creating a New Expression Record

At the Expression level, the FRBR record identifies a realization of the Work. The realization can be, for example, a translation, a performance, a critical edition, or the original version. Note that the realization refers to content, not physical form.

The Expression is linked to the Work via the 004 tag; the 004 tag of the Expression stores the value of the 001 tag (Bib-ID) of the Work. When you create a new Expression record, the Virtua software will automatically create this link for you.

**To create a new Expression record linked to the Work record,**

1. On the View (Work) Record window, right click.
2. On the pop-up menu, select Create Expression Record (*Figure 3-6*).



*Figure 3-6. Create Expression Record Option*

Virtua displays the default **frbexpr.wfm** workform in the MARC Editor. Virtua automatically populates the 004 field of the Expression record workform with the Bib-ID (001 tag) of the Work record to create the link between the two records (*Figure 3-7*).

**Note:** On the pop-up menu, if you select Create Expression from Workform instead of Create Expression Record, you will be able to select a workform other than the default one to create the Expression record. In this case, depending on the workform selected, Virtua will still automatically populate the 004 field of the workform.

The screenshot shows a window titled "MARC Editor - Virtua Library (90)". The main area contains a table of MARC fields with checkboxes and input boxes. The fields are:

<input type="checkbox"/>	004				vtls001565515
<input type="checkbox"/>	007				t
<input type="checkbox"/>	008				120510 000 eng d
<input type="checkbox"/>	240	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V
<input type="checkbox"/>	306	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	505	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	506	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	510	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	520	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	523	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	540	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

At the bottom of the window, there are two dropdown menus: "(a) Language material" and "(m) Monograph/Item", followed by a "Masked" checkbox. Below these are navigation arrows, the text "MARC 21 Bib: Book Expression", and buttons for "New Record" and "Modified". The window title bar at the very bottom says "Untitled1".

Figure 3-7. MARC Editor – Book Expression Workform

In the Fixed Field Editor, the 008 fixed field layout for the Expression record looks like [Figure 3-8](#). The first position, which is Local Lvl, contains the value E. This value will appear in the 999 VIRTUAE tag of the newly created Expression record, and the software will use it to identify the record as an Expression.

Field	Value
Local Lvl	E
Analyzed	
Rec Stat	New
Archive	No specific type
Enc Lvl	(#) Full level
Desc	AACR 2
Multipart	Not specified or not applica
Date Tp	Continuing resource cease
Date 1	
Date 2	
Pl Pub	Not specified
Illus	
Audience	Unknown or not specified
Form	None of the following
Contents	
Govt Pub	Not a govt. publication
Conf Pub	Not a conference pub.
Festschr	Not a festschrift
Index	No index
Fiction	Comic strips
Biography	No biographical material
Lang	English (eng)
Mod Rec	Not modified
Source	Other
Entered	120510
Virtua	
Used	

Figure 3-8. Fixed Field Editor – Book 008

- Catalog the FRBR Expression record, using the suggested specifications provided in [Appendix B](#) of this guide.

When you are finished, the record might look like [Figure 3-9](#).

<input type="checkbox"/>	004			vtls001565515
<input type="checkbox"/>	007			t
<input type="checkbox"/>	008			120510 000 eng d
<input type="checkbox"/>	240	<input type="checkbox"/>	<input type="checkbox"/>	English
<input type="checkbox"/>	306	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	500	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	505	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	506	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	510	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	520	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	523	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	540	<input type="checkbox"/>	<input type="checkbox"/>	

(a) Language material (m) Monograph/Item  Masked

< > MARC 21 Bib: Book Expression New Record Modified

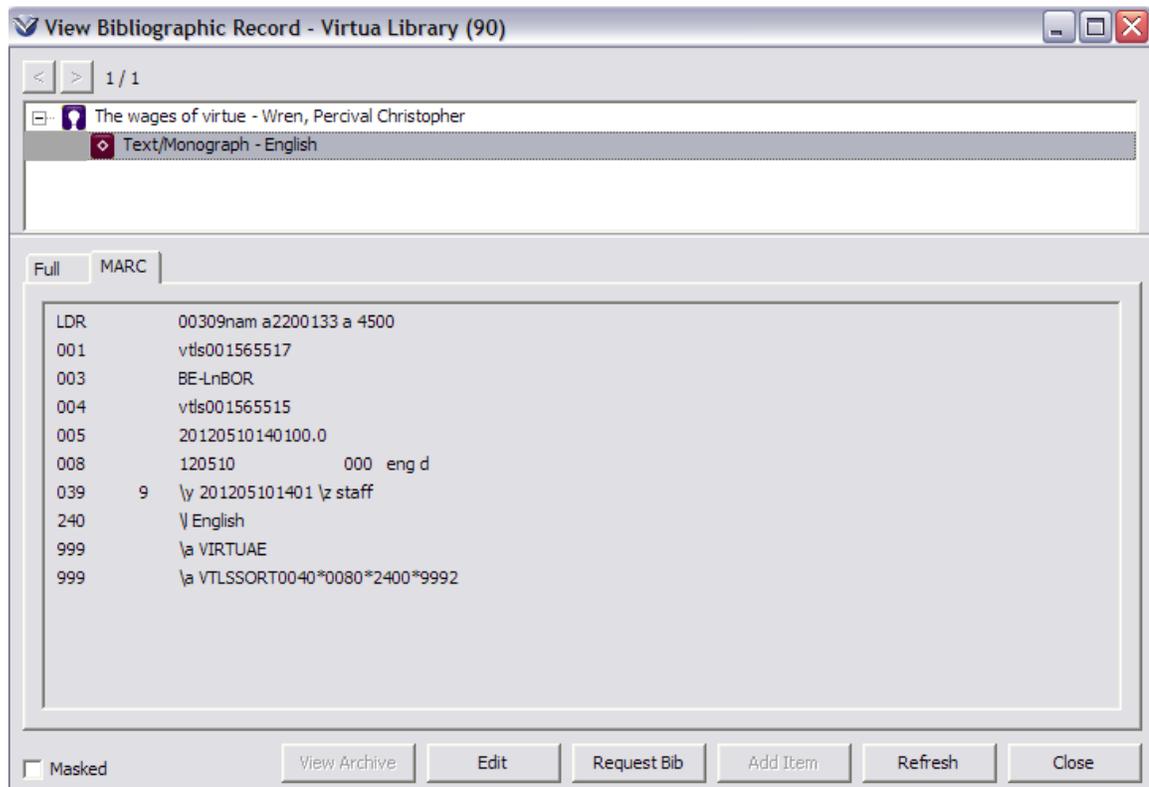
Untitled1

Figure 3-9. MARC Editor – Book Expression Workform

On the workform, notice the subfield \$l in the 240 field. Language is an important aspect of Expression records. The cataloging of subfields \$l and \$o in the 240 field are indicative of Expression records although those subfields are not required.

4. Save the record to the database.

After being saved to the database, the Expression record appears in the View Bibliographic Record window in the Virtua client (*Figure 3-10*). Note that the second tier, or Expression level, of the FRBR tree at the top of the window displays *Text/Monograph – English*. This label derives from the “[Table of Expression Labels Based on LDR 06 Values](#)” and the MARC language code in the 008 fixed field.



*Figure 3-10. View Bibliographic Record Window – Newly Created Expression*

**Note:** As you cannot create an item record attached to an Expression record, the Add Item button at the bottom of the View Bibliographic Record window is disabled.

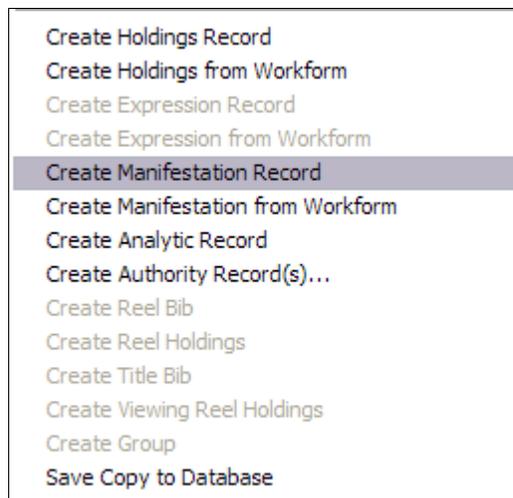
## 3.4 Creating a New Manifestation Record

At the Manifestation level, the FRBR record identifies a physical form or physical recording of the Work. The Manifestation record is equivalent to the bibliographic record in a traditional bibliographic sense.

The Manifestation record is linked to the Expression record via the 004 tag. Just as the 004 tag of the Expression stores the value of the 001 tag of the Work, so the 004 tag of the Manifestation stores the value of the 001 tag of the Expression. When you create a new Manifestation record, the Virtua software will automatically create this link for you.

**To create a new Manifestation record linked to an Expression record,**

1. On the View (Expression) Record window, right click.
2. On the pop-up menu, select Creation Manifestation Record ([Figure 3-11](#)).



*Figure 3-11. Create Manifestation Record Option*

Virtua displays the default **frbrmanifest.wfm** workform in the MARC Editor. Virtua automatically populates the 004 field of the Manifestation record workform with the Bib-ID (001 tag) of the Expression record to create the link between the two records ([Figure 3-12](#)).

<input type="checkbox"/>	004			vtls001565517
<input type="checkbox"/>	008			120510 000 eng d
<input type="checkbox"/>	020	<input type="checkbox"/>	<input type="checkbox"/>	a
<input type="checkbox"/>	245	<input type="checkbox"/>	<input type="checkbox"/>	a b c
<input type="checkbox"/>	250	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	260	<input type="checkbox"/>	<input type="checkbox"/>	a b c
<input type="checkbox"/>	300	<input type="checkbox"/>	<input type="checkbox"/>	a b c
<input type="checkbox"/>	490	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	500	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	506	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	541	<input type="checkbox"/>	<input type="checkbox"/>	

(a) Language material (m) Monograph/Item  Masked

< > MARC 21 Bib: Book Manifestation New Record Modified

Untitled1

Figure 3-12. MARC Editor – Book Manifestation Workform

**Note:** On the pop-up menu, if you select Create Manifestation from Workform instead of Create Manifestation Record, you will be able to select a workform other than the default one to create the Manifestation record. In this case, depending on the workform selected, Virtua will still automatically populate the 004 field of the workform.

In the Fixed Field Editor, the 008 fixed field layout for the Manifestation record looks like [Figure 3-13](#). The first position, which is Local Lvl, contains the value M. This value will appear in the 999 VIRTUAM tag of the newly created Manifestation record, and the software will use it to identify the record as a Manifestation.

Book 008 Fixed Fields		
Local Lvl: <input type="text" value="M"/>	Analyzed: <input type="checkbox"/>	Rec Stat: <input type="text" value="New"/>
Archive: <input type="text" value="No specific type"/>	Enc Lvl: <input type="text" value="( # ) Full level"/>	Desc: <input type="text" value="AACR 2"/>
Multipart: <input type="text" value="Not specified or not applica"/>	Date Tp: <input type="text" value="Continuing resource cease"/>	Date 1: <input type="text"/>
Date 2: <input type="text"/>	Pl Pub: <input type="text" value="Not specified"/>	Illus: <input type="text"/>
Audience: <input type="text" value="Unknown or not specified"/>	Form: <input type="text" value="None of the following"/>	Contents: <input type="text"/>
Govt Pub: <input type="text" value="Not a govt. publication"/>	Conf Pub: <input type="text" value="Not a conference pub."/>	Festschr: <input type="text" value="Not a festschrift"/>
Index: <input type="text" value="No index"/>	Fiction: <input type="text" value="Comic strips"/>	Biography: <input type="text" value="No biographical material"/>
Lang: <input type="text" value="English (eng)"/>	Mod Rec: <input type="text" value="Not modified"/>	Source: <input type="text" value="Other"/>
Entered: <input type="text" value="120510"/>	Virtua: <input type="text"/>	Used: <input type="text"/>

*Figure 3-13. Fixed Field Editor – Book 008*

- Catalog the FRBR Manifestation record, using the suggested specifications provided in [Appendix B](#) of this guide.

When you are finished, the record might look like [Figure 3-14](#).

The screenshot shows the MARC Editor interface for Virtua Library (90). The window title is "MARC Editor - Virtua Library (90)". The main area displays a MARC 21 Bib record with the following fields:

004				vtls001565517
008				120510 000 eng d
020				\a
245				\a The wages of virtue/ \c by Capt.Percival C. Wren.
250				
260				\a London : \b Murray, \c 1914
300				\a 301 b. ; \c 19 cm.
490				
500				
506				
541				

At the bottom of the window, there are two dropdown menus: "(a) Language material" and "(m) Monograph/Item". To the right of these is a "Masked" checkbox. Below the dropdowns are navigation buttons: "<" and ">". The main status bar shows "MARC 21 Bib: Book Manifestation", "New Record", and "Modified". The window title bar at the very bottom says "Untitled1".

Figure 3-14. MARC Editor – Book Manifestation Workform

On the workform, notice the existence of the 300 tag, which stores information on the extent and dimensions of the physical entity. The 300 tag is cataloged in the Manifestation record.

4. Save the record to the database.

After being saved to the database, the Manifestation record appears in the View Bibliographic Record window in the Virtua client (*Figure 3-15*). Note that the third tier, or Manifestation level, of the FRBR tree at the top of the window displays *The Wages of Virtue/-Murray, 1914*, derived from the 245 tag subfield \$a and the 260 tag subfields \$b and \$c.

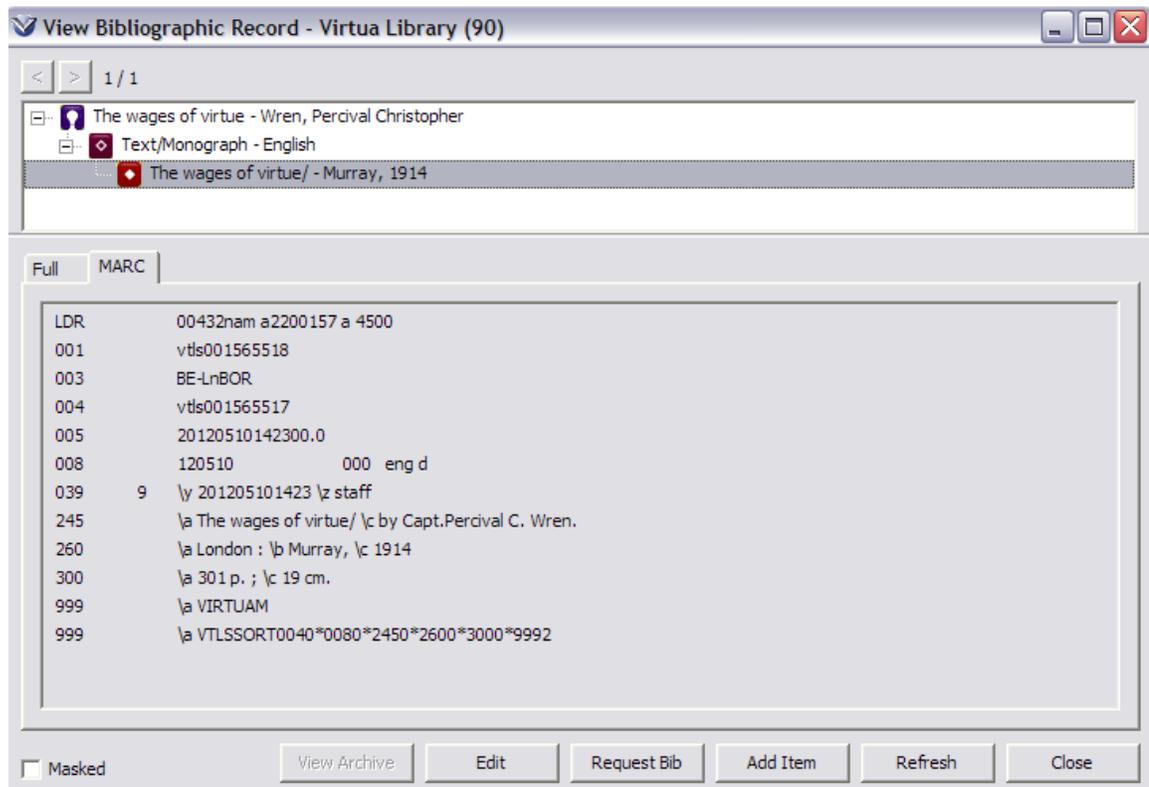


Figure 3-15. View Bibliographic Record Window – Newly Created Manifestation

## 3.5 Adding an Item Record

In FRBR databases, you can attach an item record to a Manifestation record only. To add an item record, follow the same procedure that you would to add an item record to a traditional bibliographic record.

**To add an item record to the Manifestation record,**

1. On the View Bibliographic Record window for the Manifestation, click the Add Item button.

The Item Information window appears (*Figure 3-16*).

The screenshot shows a software window titled "Item Information - Virtua Library (90)". It features several tabs: "Item Elements", "Notes", "Status", and "Acquisitions". The "Item Elements" tab is active, displaying the following sections:

- Bibliographic Information:** Title: "The wages of virtue/by Capt.Percival C. Wren.", Publisher: "London : Murray, 1914".
- Item Information:** Item ID, Barcode, Barcode Type (set to "Regular"), Item Class (set to "Books"), Reserves Item Class, Item URL, Location (set to "undefined patron location"), Shelving Location (set to "undefined patron location").
- Call Number:** Copy, Call #, 2nd Call #.
- Units:** Radio buttons for "Free Text", "Enumeration and Chronology", and "None" (selected). Includes an "Edit" button.
- Preservation and Conservation:** Code.
- Non-Parameterized Shelf Location:** Location.
- Circulation Rules:** Radio buttons for "Use Matrix" and "Use Loan Period" (selected). Checkboxes for "Allow Request" and "Floats" (both checked). A spinner box for "Use Loan Period" is set to "0".
- Number of Pieces:** Spinner set to "1", checkbox for "Circulate Pieces".
- Price:** Text box containing ".00€".
- EPN Number, Accession Number, AV Accession Number, Collection Code:** Text boxes.

At the bottom, there are checkboxes for "Create Multiple Items", "Increment Copy Number", "Increment Barcode", "Save and Repeat" (selected), and "Save Copies". A "Masked" checkbox is also present. Action buttons include "Delete", "Save", "Refresh", and "Close".

Figure 3-16. Item Information Window – Creating an Item Record

2. Complete the item information as required and click the Save button.

The Items tab now appears on the View Bibliographic Record window in association with the highlighted Manifestation (*Figure 3-17*).

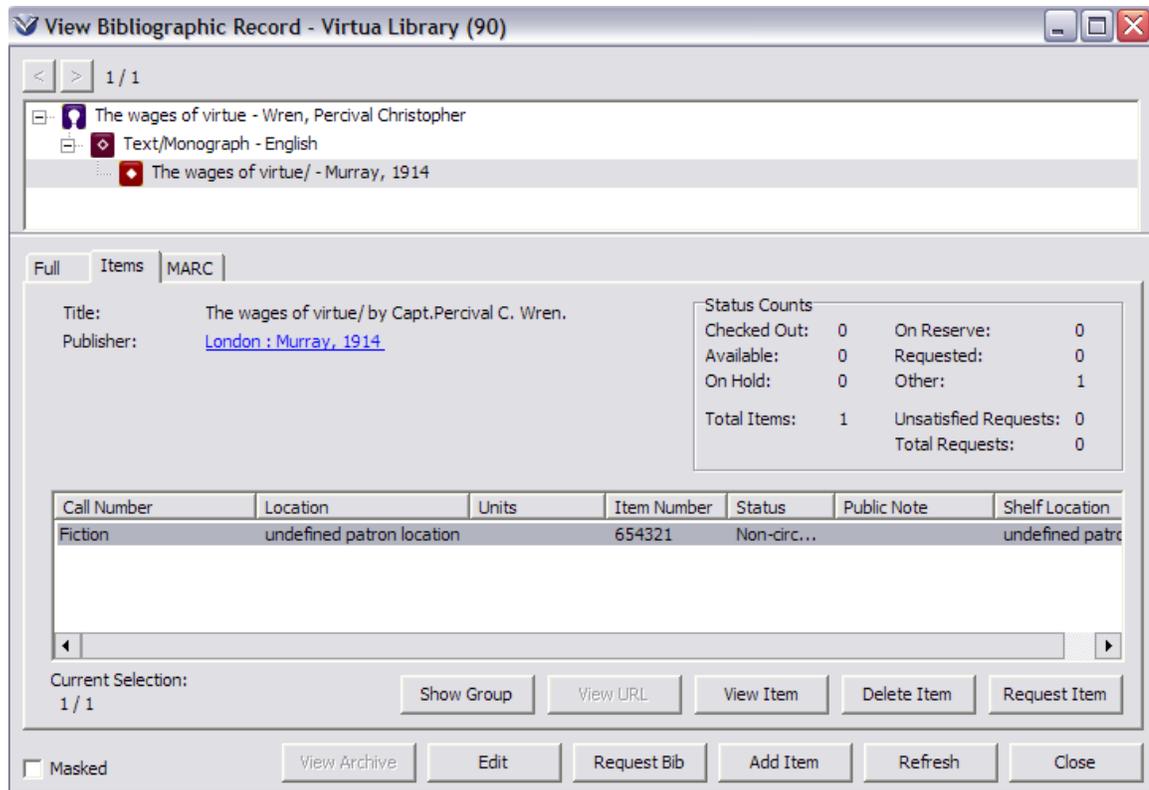


Figure 3-17. View Bibliographic Record Window – Displaying an Item Record

The Items tab on a FRBR record behaves exactly as the Items tab on a non-FRBR record.

## 4. Creating FRBR Records from an Existing MARC 21 Record

In the previous chapter, we described how to create original FRBR records. In this chapter, we discuss how to create a set of FRBR records from an existing MARC 21 bibliographic record. Virtua gives you several options for doing this, including a “one-click” method.

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Using the Save as FRBR Record Function](#)
- ⇒ [Using the Client’s FRBR Splitting Load Option](#)
- ⇒ [Adding New Expressions and Manifestations](#)

### 4.1 Introduction

Virtua offers three ways to convert a traditional bibliographic record into three (Work, Expression, and Manifestation) FRBR records.

**Note:** Item records in FRBR are no different from item records that are linked to traditional MARC 21 records. During a FRBR conversion, the link between any traditional MARC 21 record and its item record(s) is maintained, so no "new" FRBR Item record is created. In FRBR, items are linked to the Manifestation record.

To convert a record into three FRBR entities, you can use the...

- Save as FRBR Record function available from the Virtua menu bar and toolbar;
- FRBR Splitting load option in the client; or
- FRBR Splitting load option with **vload.exe** at the UNIX command line.

The Save as FRBR Record function is the simplest and most direct method. The only requirements are that the current connection is to a FRBR database and that the user has permission to save records to that database. When a traditional bibliographic record is open in the View Bibliographic Record window or MARC Editor and you want to save it as a FRBR record, just click the Save as FRBR Record toolbar icon, or

choose the option from the File pull-down menu. The software automatically creates the FRBR records and establishes the links between them.

If you are importing traditional bibliographic records via the client and want to save them to the database as FRBR records, you will want to use the client's FRBR Splitting load option. Likewise, if you are loading traditional bibliographic records using **vload.exe**, you will want to use the command-line option **-f** (FRBR Splitting load option).

**Note:** For details about using the FRBR Splitting command-line option with **vload.exe**, see the *Virtua Record Loading User's Guide*.

## 4.2 Using the Save as FRBR Record Function

To convert a traditional bibliographic record to a set of FRBR records by using the Save as FRBR Record function,

1. Search for the bibliographic record that you want to convert (*Figure 4-1*).

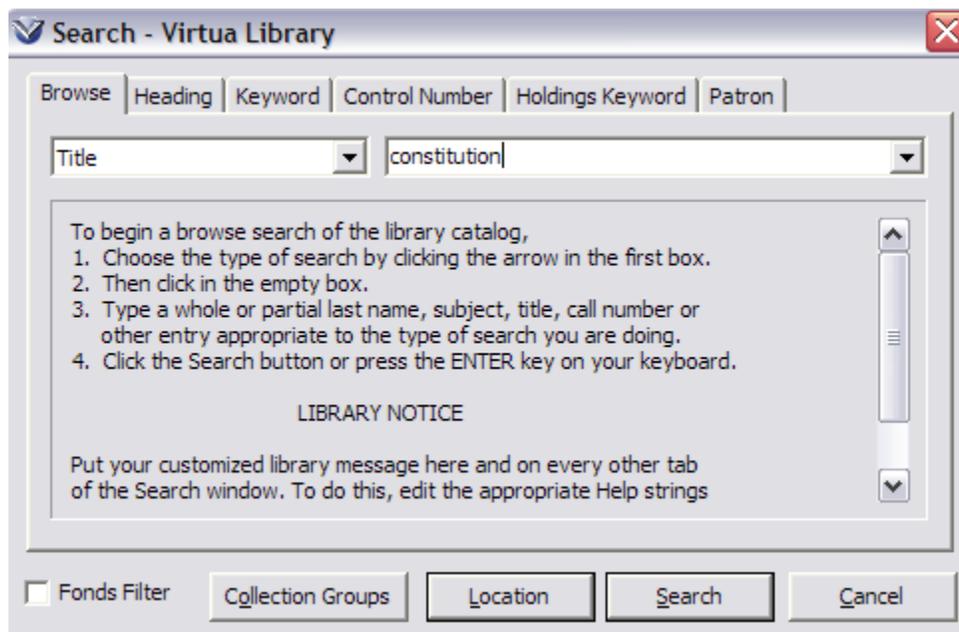


Figure 4-1. Search Window

2. After you select the desired heading from the Browse list, select the desired record from the List of Titles window (*Figure 4-2*).

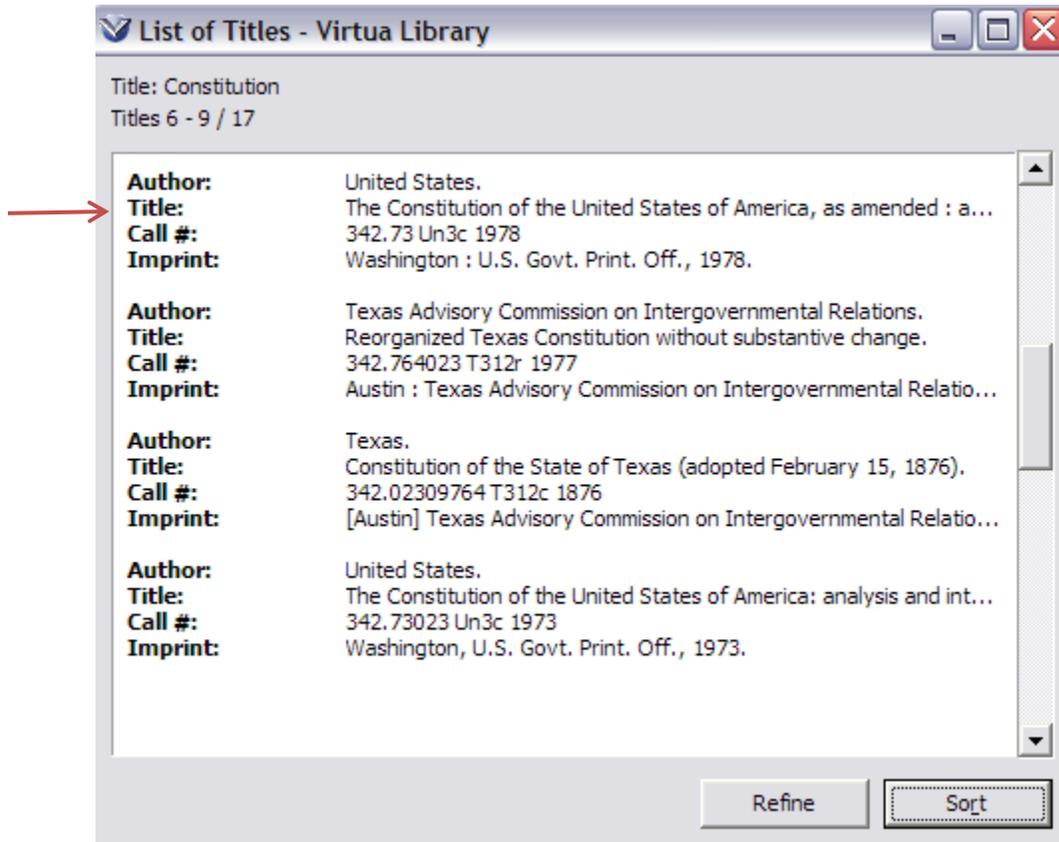


Figure 4-2. List of Titles Window

3. Display the View Bibliographic Record window (*Figure 4-3*).

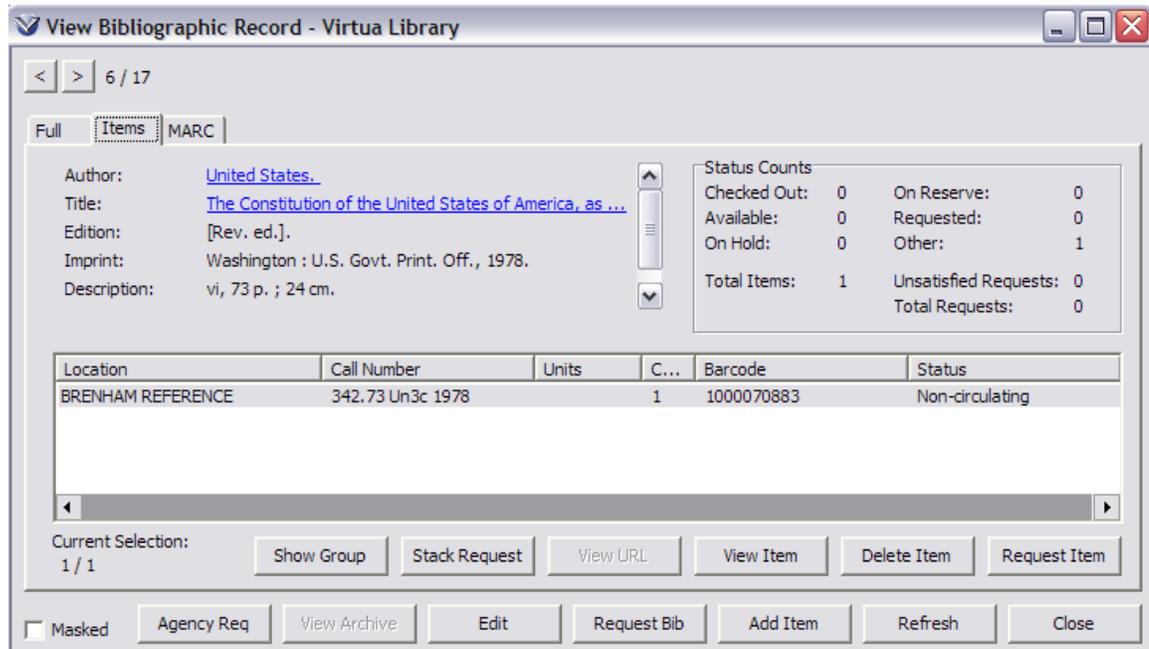


Figure 4-3. View Bibliographic Record Window

4. In the Virtua toolbar, click the Save as FRBR Record icon .
  - OR-
  - In the Virtua menu bar, click the File menu, and then choose Save as FRBR Record.

The system processes the split and displays the FRBR tree on the View Bibliographic Record window (*Figure 4-4*) where the Items tab is active. The item record listed on the Items tab is attached to the Manifestation and is the same item that was attached to the original MARC 21 record (*Figure 4-3*).

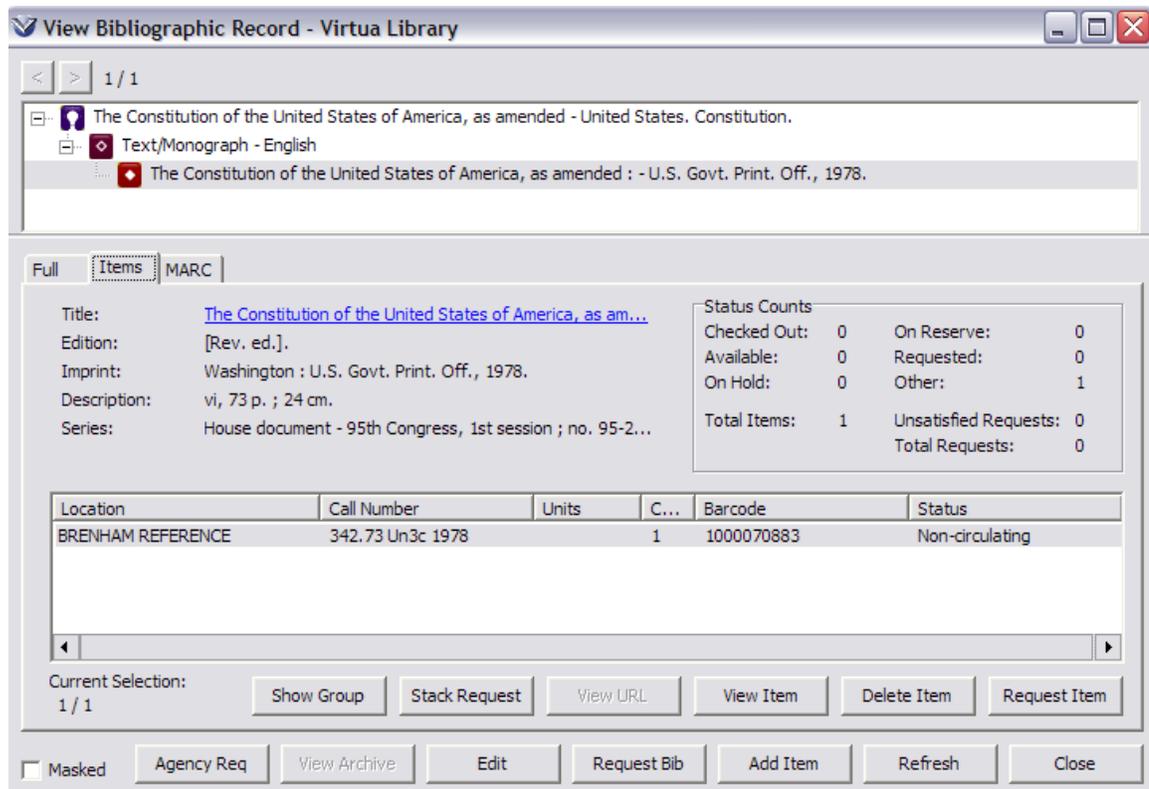


Figure 4-4. View Bibliographic Record Window – After Saving as FRBR Record

## 4.3 Using the Client’s FRBR Splitting Load Option

Another way to convert a MARC 21 record into three FRBR entities is to set the FRBR Splitting flag in the client’s Load Options window. You can set the flag any time, either before you open the traditional record in the MARC Editor or while the traditional record is open in the MARC Editor. In either case, once the flag is set, when you save the record to the database, Virtua will save it as a FRBR record.

**To convert a traditional bibliographic record to a set of FRBR records by using the FRBR Splitting load option,**

1. Display the traditional bibliographic record that you want to convert (*Figure 4-5*).

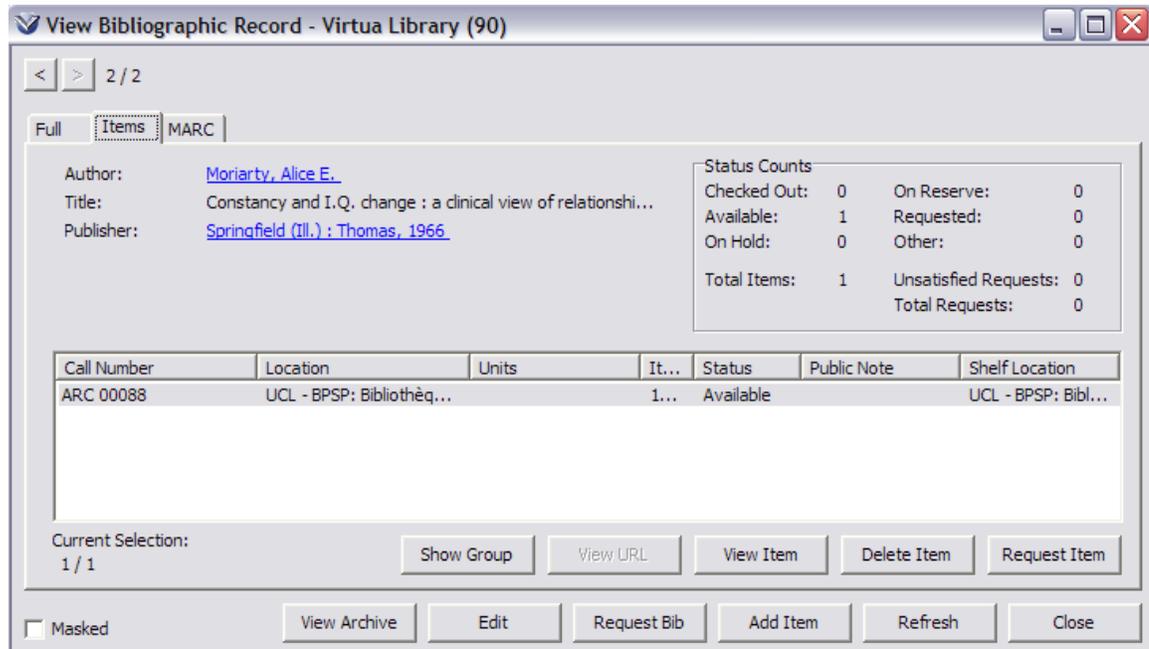


Figure 4-5. View Bibliographic Record Window

2. On the View Bibliographic Record window, click the Edit button.

The MARC bibliographic record appears in the MARC Editor (*Figure 4-6*).

<input type="checkbox"/>	008			020704s1966 -us 00 0 eng d
<input type="checkbox"/>	040	<input type="checkbox"/>	<input type="checkbox"/>	\a BelnUc
<input type="checkbox"/>	050	1	4	\a BF433.A3
<input type="checkbox"/>	100	1	<input type="checkbox"/>	\a Moriarty, Alice E.
<input type="checkbox"/>	245	1	0	\a Constancy and I.Q. change : \b a clinical view of relationships between tested intelligence and personality / \c Alice E. Moriarty
<input type="checkbox"/>	260	<input type="checkbox"/>	<input type="checkbox"/>	\a Springfield (Ill.) : \b Thomas, \c 1966
<input type="checkbox"/>	300	<input type="checkbox"/>	<input type="checkbox"/>	\a VII, 223 p.
<input type="checkbox"/>	850	<input type="checkbox"/>	<input type="checkbox"/>	\a BelnUc
<input type="checkbox"/>	852	<input type="checkbox"/>	<input type="checkbox"/>	\b 000400000 \h ARC 00088 \z 10323022
<input type="checkbox"/>	910	<input type="checkbox"/>	<input type="checkbox"/>	\S UCL \a cataretro

(a) Language material (m) Monograph/Item  Masked

< > MARC 21 Bib: Book OPAC

OPAC1

Figure 4-6. MARC Editor – Displaying Bibliographic Record

3. On the Virtua menu bar, click Options, and then choose Load Options (*Figure 4-7*).

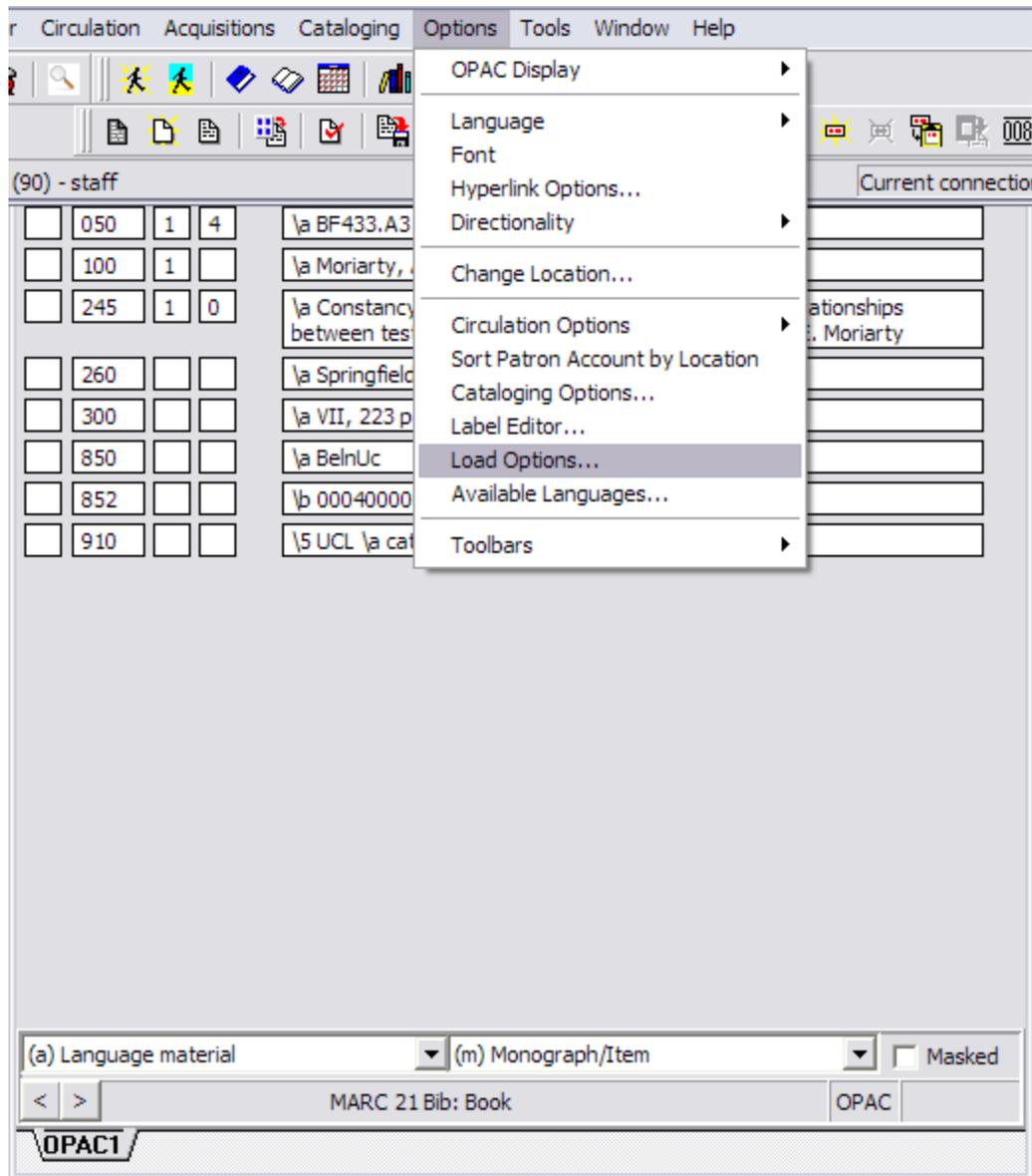


Figure 4-7. Selecting the Load Options Function

4. On the Load Options window, click the Bibliographic (and Community Info) tab, and then select the Split FRBR check box (*Figure 4-8*).

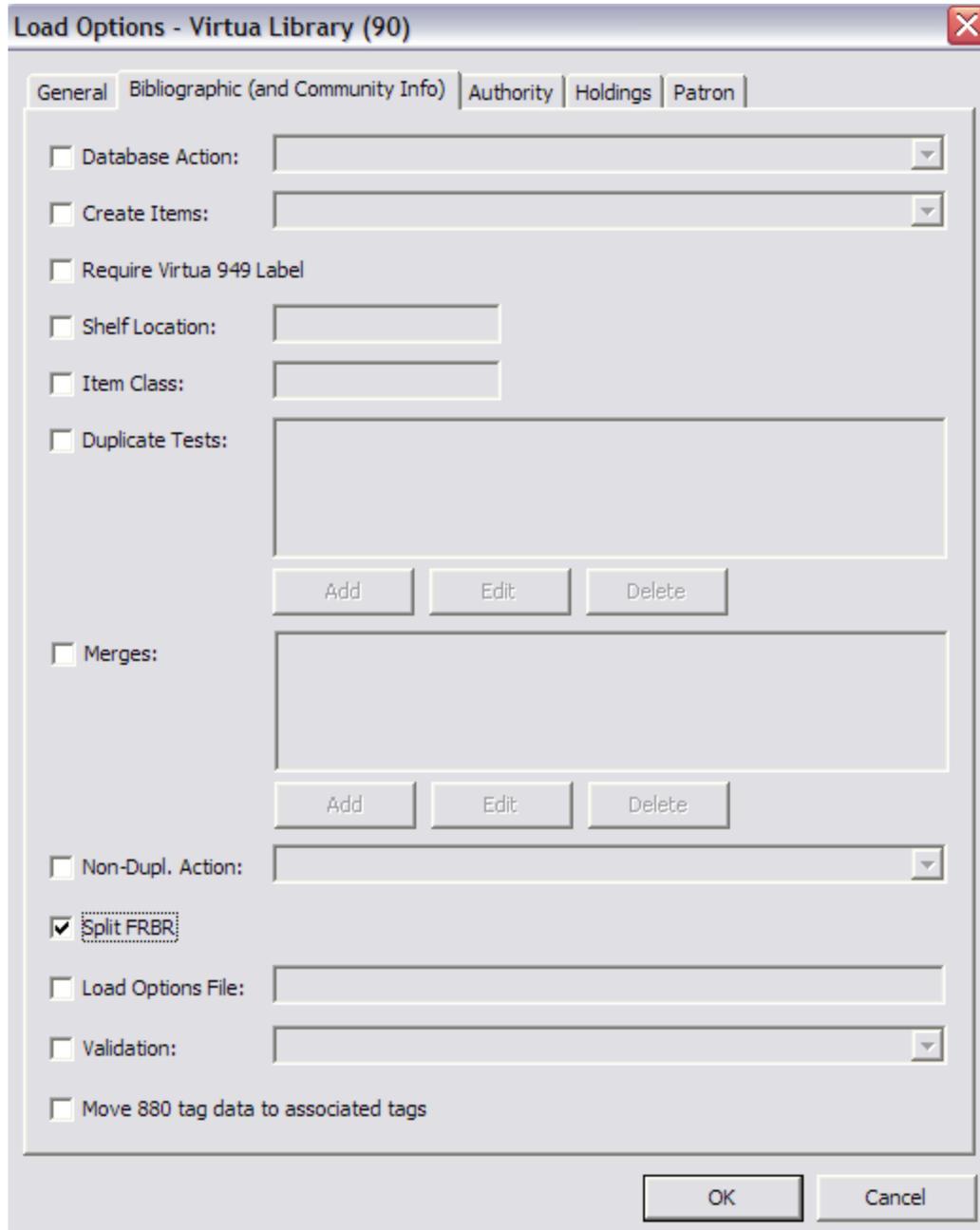
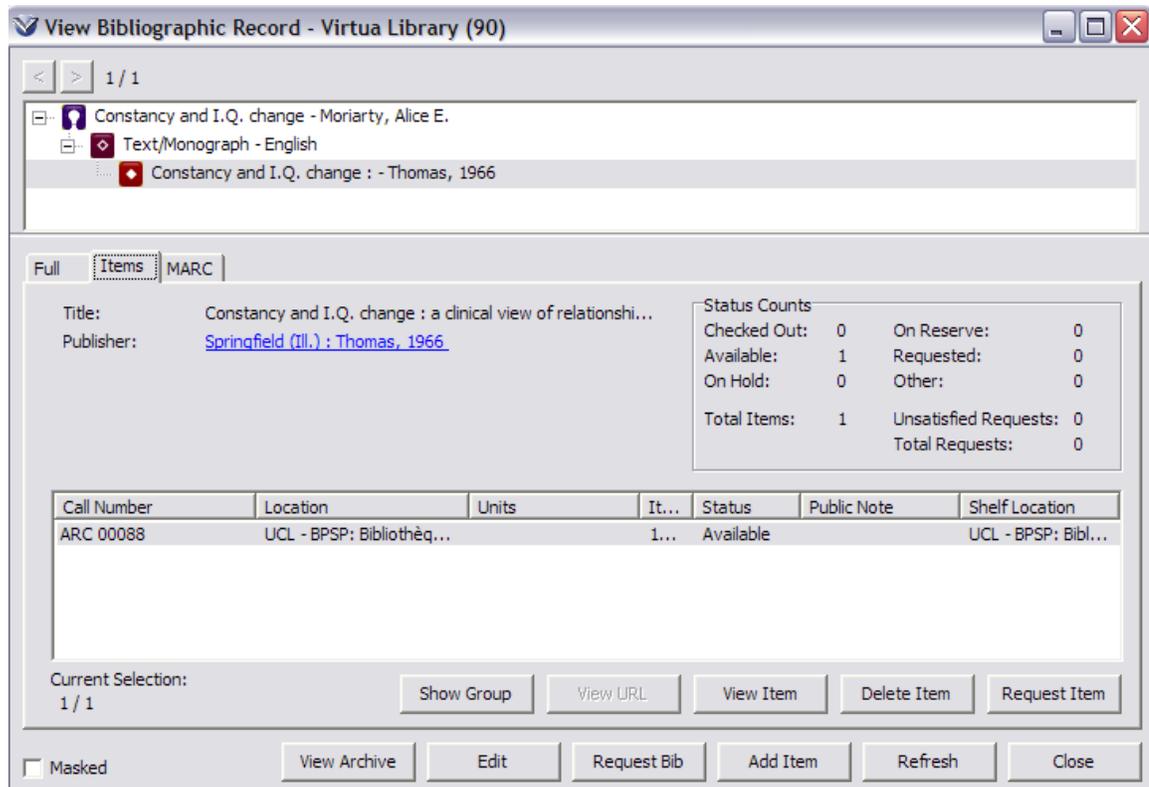


Figure 4-8. Load Options Window – Split FRBR Check Box

5. Click OK.

6. Back on the MARC Editor window, save the open record by clicking Save to Database  in the toolbar.

Virtua creates the FRBR entities and displays the FRBR tree on the View Bibliographic Record window (*Figure 4-9*).



*Figure 4-9. View Bibliographic Record Window – After FRBR Splitting Operation*

## 4.4 Adding New Expressions and Manifestations

Once you have converted the traditional MARC 21 bibliographic record to three FRBR records, you can add new, i.e. "original," Expressions and/or Manifestations to link to them. The procedure for adding a new Expression is the same as the procedure for creating the first new Expression to link to a newly created "original" Work record. Likewise, the procedure for adding a new Manifestation is the same as the procedure

for creating the first new Manifestation to link to a newly created "original" Expression record. (For details, see the chapter "[Creating New 'Original' FRBR Records.](#)")

## 5. Converting Two Traditional Bibliographic Records/Linking Them to One FRBR Record

In the previous chapter, we described the process of converting a traditional bibliographic record into a set of three FRBR records. In this chapter, we describe the process of converting not one but two traditional bibliographic records with the same title into FRBR records and linking both newly created Manifestations to the same Expression. Because Virtua offers duplicate control of FRBR Work records and Expression records, the process of linking converted bibliographic records to one FRBR entity is automatic and transparent. We discuss the duplicate control process in detail in the chapter "[Duplicate Control of FRBR Records](#)."

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Finding and Converting the "Source" Bibliographic Record](#)
- ⇒ [Converting and Linking the Second Record](#)

### 5.1 Introduction

When you FRBRize two or more traditional bibliographic records that represent different editions of the same title, you will want to process the resulting Manifestations so that each is linked to the same Expression.

In the next section, we describe the procedure for creating two Manifestations and linking them to the same Expression record. The first step is to decide which bibliographic record will be the “source” for the original FRBR record and then to convert it. The second step is to convert the second bibliographic record, creating a link to the Expression of the original FRBR record.

Keep in mind, however, that linking two Manifestations to one Expression is not the only option available with FRBR. Two Manifestations can be linked to two *different* Expressions, say, for two different languages of a Work. Furthermore, one Manifestation can be linked to multiple Expressions.

## 5.2 Finding and Converting the “Source” Bibliographic Record

To begin the procedure for converting two traditional bibliographic records and linking the Manifestations to the same Expression record,

1. Start by finding two records with the same title, such as *Frankenstein pédagogue*.

In our example (*Figure 5-1*), the List of Titles window displays one title with a publication date of 1996 and another title with a publication date of 1998.

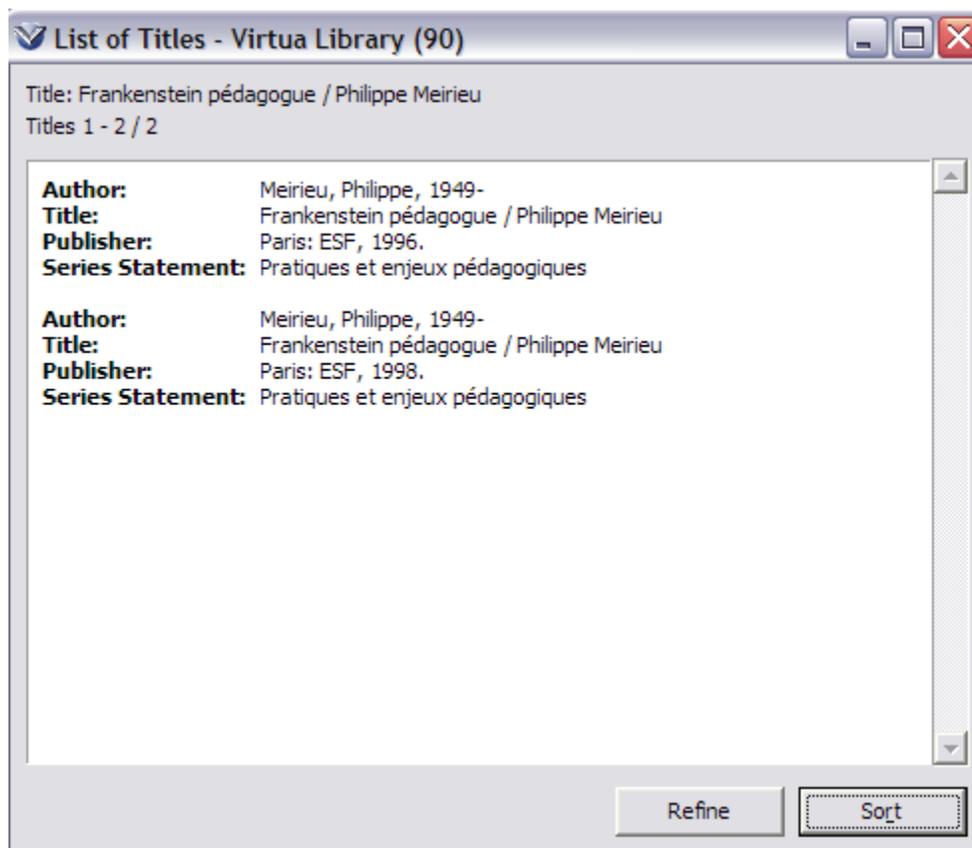


Figure 5-1. List of Titles Window – Displaying Two Records with the Same Title

- Choose one edition to be the “source” for the original FRBR record. In our example, we chose the 1996 publication. The Manifestation that you will create for the other publication will be linked automatically to this original FRBR record.

The View Bibliographic Record window appears (*Figure 5-2*), displaying on the Items tab three items associated with the traditional bibliographic record for the 1996 publication. Because the Bib-ID of the traditional record will also be the Bib-ID of the newly created Manifestation record, these same three items will also be associated with the new Manifestation record.

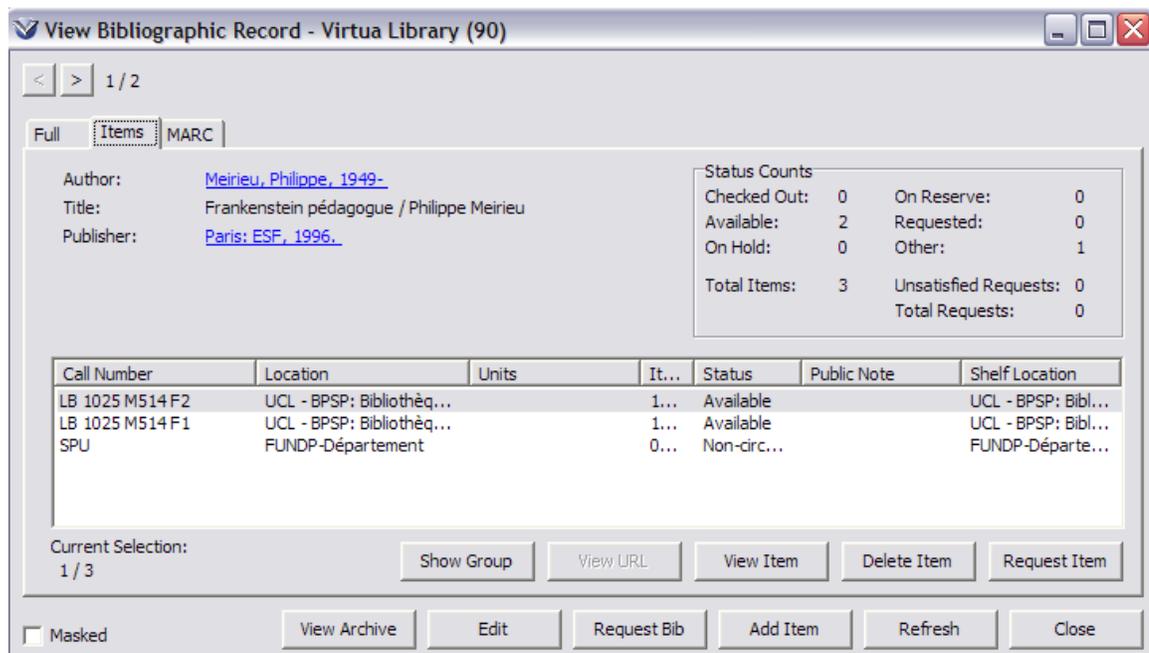


Figure 5-2. View Bibliographic Record Window – Items Tab

- Save the record to the database as a FRBR record. To do this,
  - In the Virtua toolbar, click the Save as FRBR Record icon .
  - OR-
  - In the Virtua menu bar, click File, and then choose Save as FRBR Record.

Upon saving, the software converts the traditional bibliographic record to three FRBR records:

The Work (*Figure 5-3*),

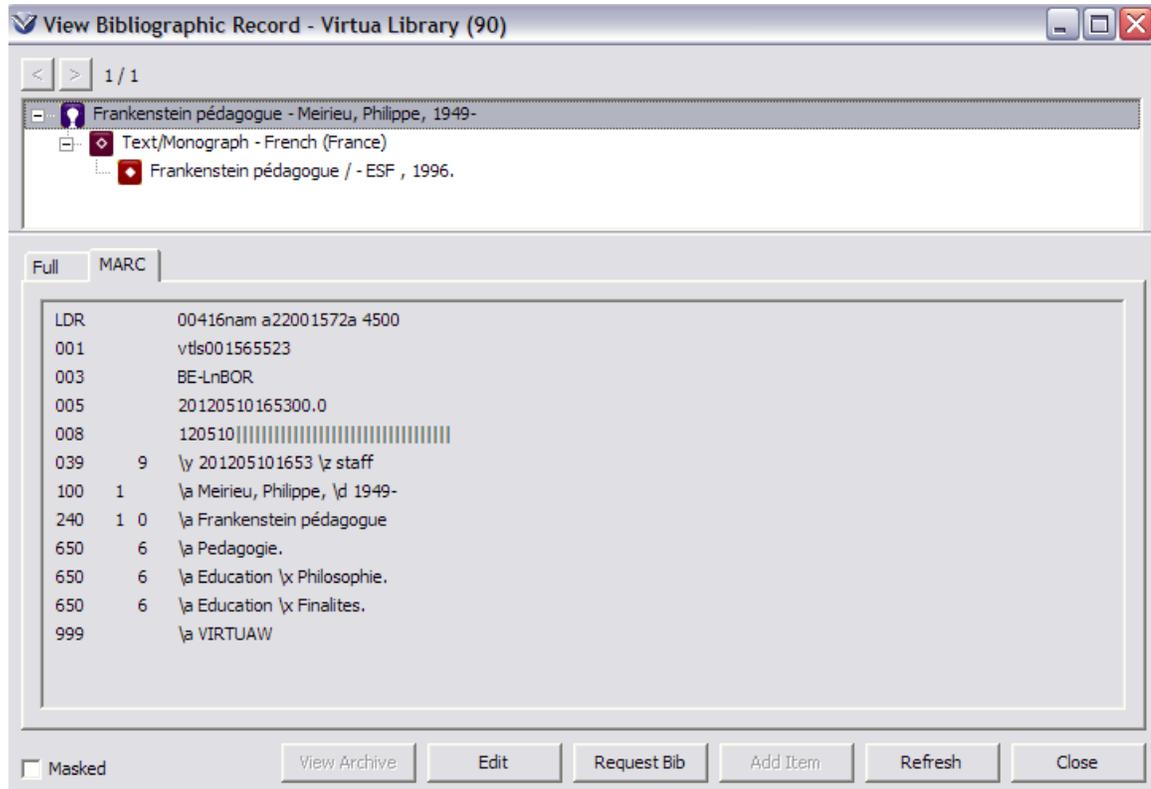


Figure 5-3. View Bibliographic Record Window – Work

Expression (*Figure 5-4*),

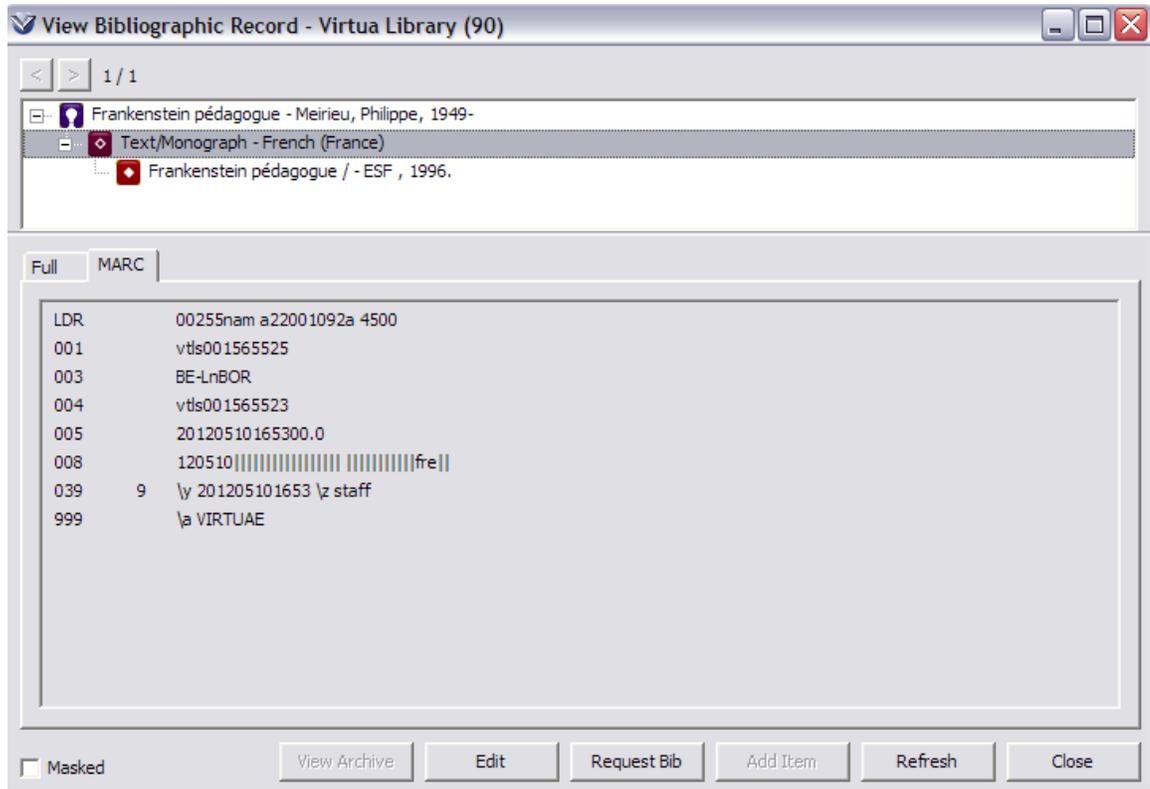
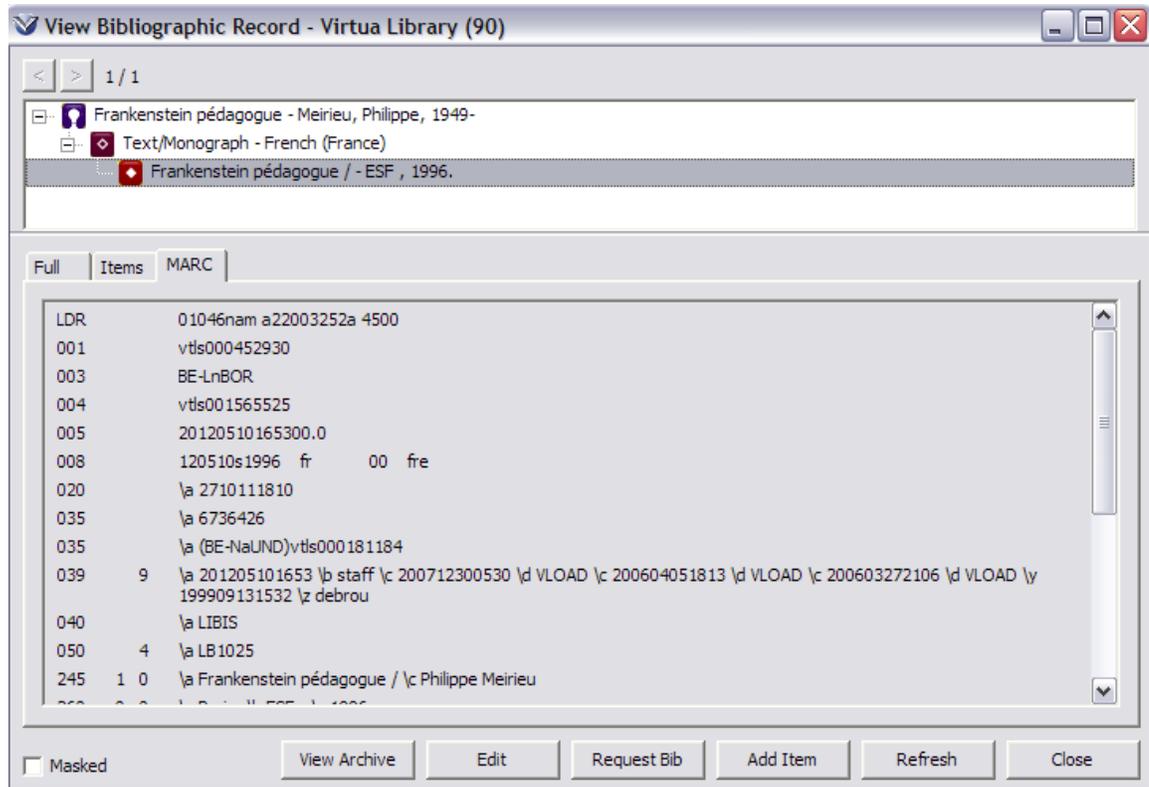


Figure 5-4. View Bibliographic Record Window – Expression

and Manifestation (*Figure 5-5*).



*Figure 5-5. View Bibliographic Record Window – First Manifestation Linked to One Expression*

Notice the two linking elements in the Manifestation record:

- The 004 tag of the Manifestation contains the Bib-ID of the Expression record.
- The Bib-ID of the Manifestation record is the same as the Bib-ID of the “source” bibliographic record. The Bib-ID remains the same so that the items can continue to be attached to the Manifestation (*Figure 5-6*).

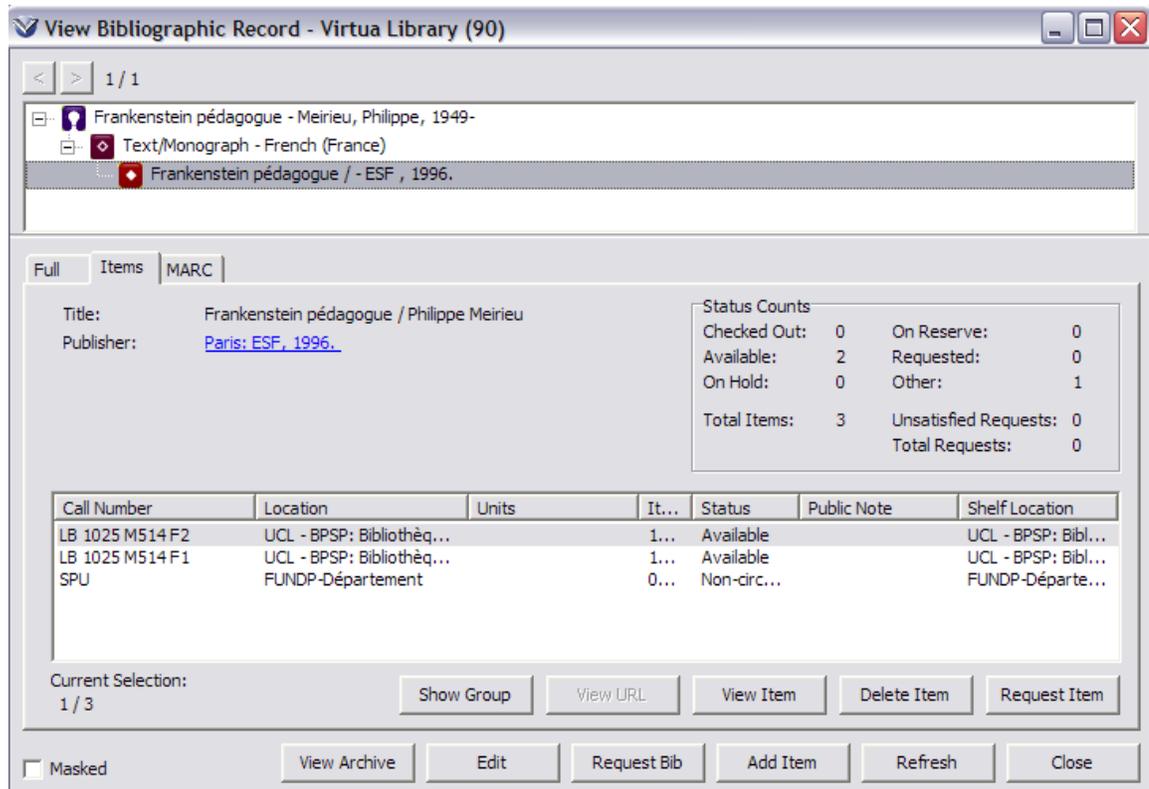


Figure 5-6. View Bibliographic Record Window – First Manifestation/ Items Tab

The Items tab for the newly created Manifestation (*Figure 5-6*) shows the same three items that were attached to the traditional “source” bibliographic record for the 1996 publication.

## 5.3 Converting and Linking the *Second* Record

In the previous section, starting with a 1996 publication and a 1998 publication of *Frankenstein pédagogue* as examples, we created a FRBR record using the 1996 publication as the “source” record. The next step in the procedure for converting two traditional bibliographic records and linking the two Manifestations to the same Expression record is to create a Manifestation record for the 1998 publication.

Upon creating the second Manifestation, Virtua will automatically link it to the Expression of that first FRBR record. In this way, the 004 tag of both Manifestations (1996 publication and 1998 publication) will store the same Bib-ID—that of the Expression of the original FRBR record.

**To complete the procedure for converting two traditional bibliographic records and linking the Manifestations to the same Expression record,**

1. Display the View Bibliographic Record window for the second traditional record, in our example, the 1998 publication (*Figure 5-7*).

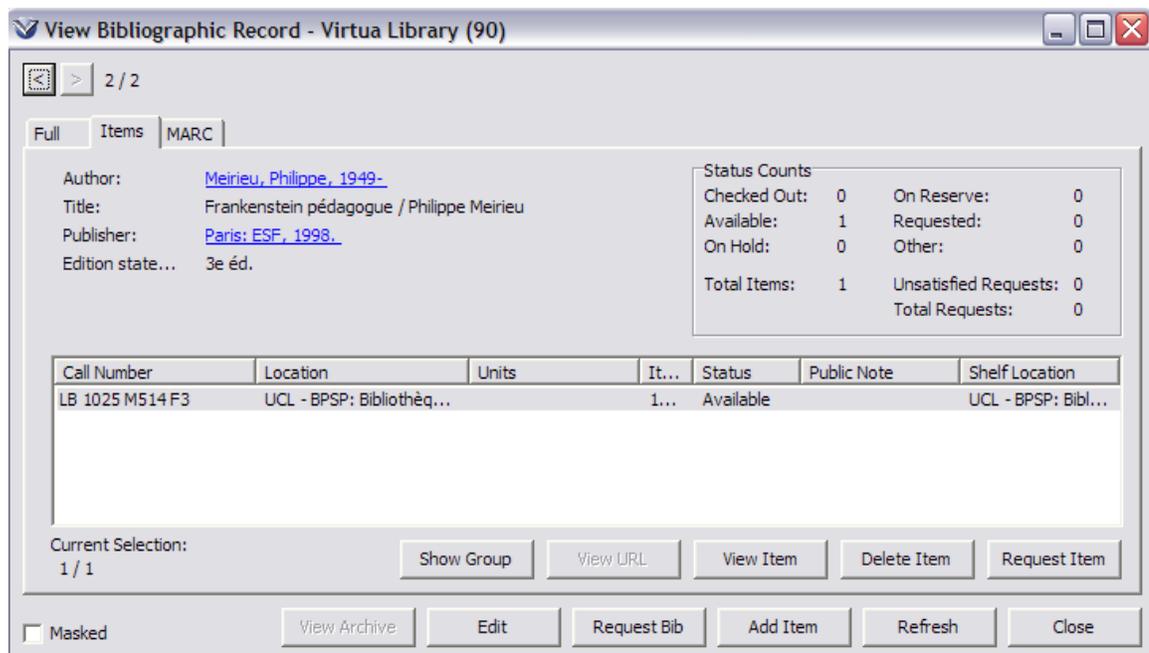


Figure 5-7. View Bibliographic Record Window

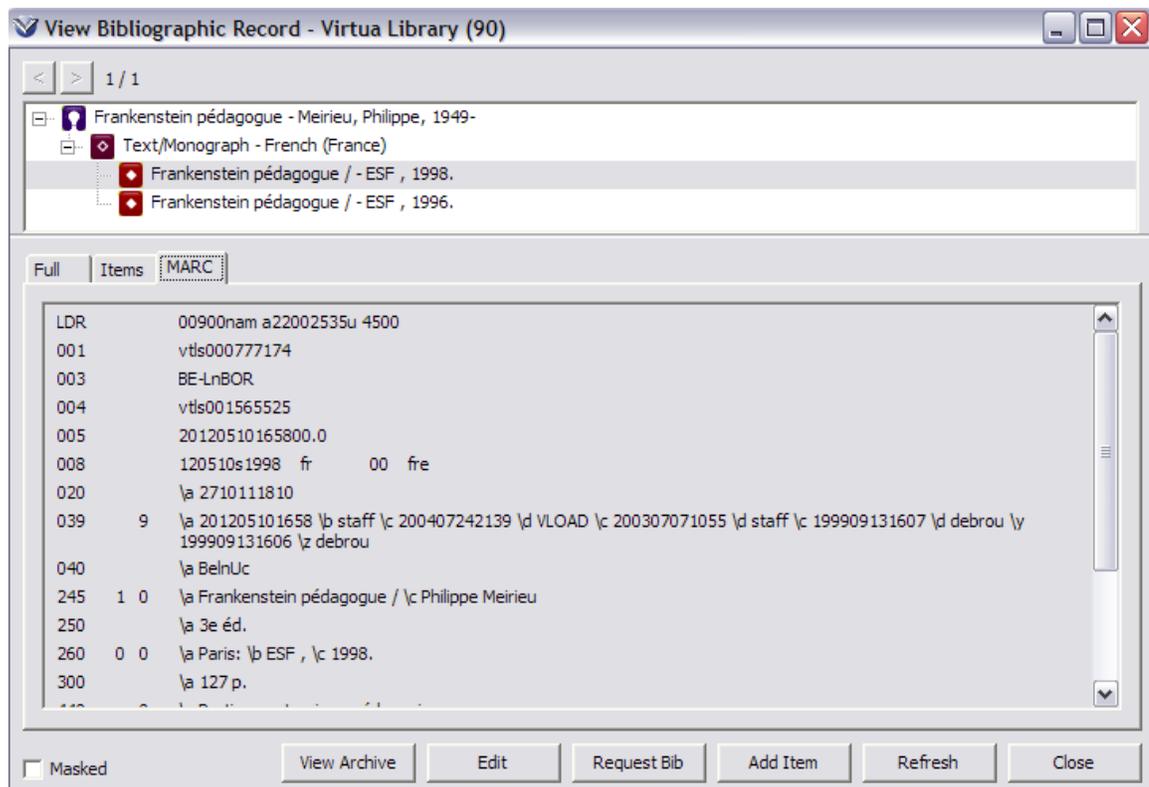
2. Save the record to the database as a FRBR record. To do this,

In the Virtua toolbar, click Save as FRBR Record icon .

-OR-

In the Virtua menu bar, click File, and then choose Save as FRBR Record.

The View Bibliographic Record appears. The expanded FRBR tree displays the newly created Manifestation record for the 1998 publication (*Figure 5-8*).



*Figure 5-8. View Bibliographic Record Window – Second Manifestation Linked to One Expression*

Upon saving the FRBRized record for the 1998 publication, Virtua performs duplicate checking and automatically links the newly created Manifestation for the 1998 publication to the original FRBR Expression.

Note that the 004 tag of this Manifestation (vtls001565525), like the 004 tag of the Manifestation of the 1996 publication, contains the Bib-ID of the original Expression record as shown in *Figure 5-9*.

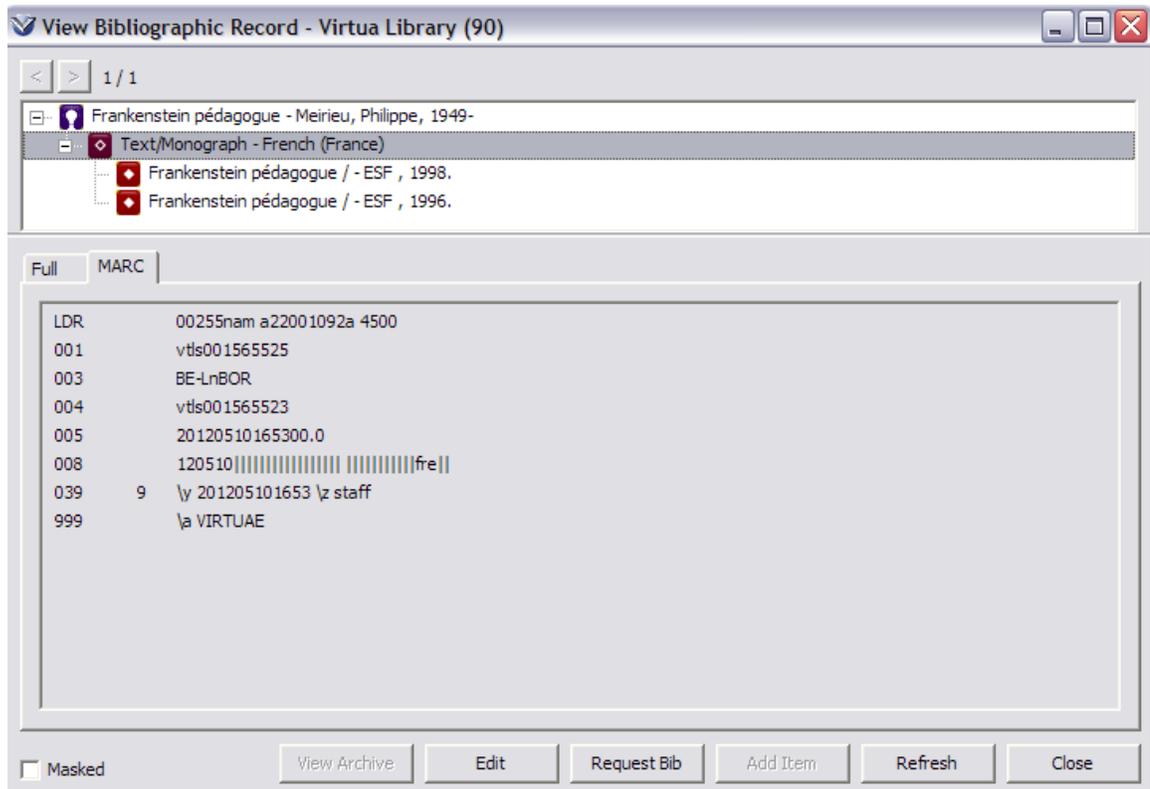


Figure 5-9. View Bibliographic Record Window – One Expression Linked to Two Manifestations

## 6. Recombining FRBR Entities into a MARC Record

**Y**our library may need to export FRBR records to a non-Innovative/non-FRBR database. Or your library may find that some MARC 21 records in your catalog were converted to FRBR records by mistake and the library wants to unFRBRize them and load them back into the database. To accommodate these situations, Virtua offers different options for recombining a set of FRBR entities into a traditional MARC 21 bibliographic record.

There are three methods to do this:

1. Run a UNIX command-line tool called [CombineFRBR.exe](#), which generates MARC 21 records for export to a file.
2. Run the [CombineFRBRRecords.sh](#) script to generate MARC 21 records and reload them into the database.
3. Use the Save as Combined toolbar icon in the client, which sends the current record to the server where the FRBR entities are combined and saved as a single MARC record.

**Note:** Recombining of FRBR records takes place automatically during copy cataloging. When you copy catalog a FRBR Manifestation (from a source FRBR database), the record that is copied will be a traditional MARC 21 bibliographic record, i.e., a combination of the Manifestation, Expression and Work. If you need the “copied” record to be a FRBR record, you will need to convert it to FRBR in a separate step. (For details about copy cataloging, see the *Cataloging User’s Guide*. For details about importing a FRBR record and *maintaining* the FRBR links, see the *Virtua Record Loading User’s Guide*.)

This chapter covers the following topics:

- ⇒ [Recombining FRBR Entities in the Client](#)
- ⇒ [Recombining FRBR Entities in Batch and Exporting to a File](#)
- ⇒ [Recombining FRBR Entities in Batch and Reloading the Records](#)

## 6.1 Recombining FRBR Entities in the Client

To recombine a set of FRBR records into one traditional MARC 21 record,

1. Search for and open the FRBR Manifestation record in the View Bibliographic Record window (*Figure 6-1*) or the MARC Editor.

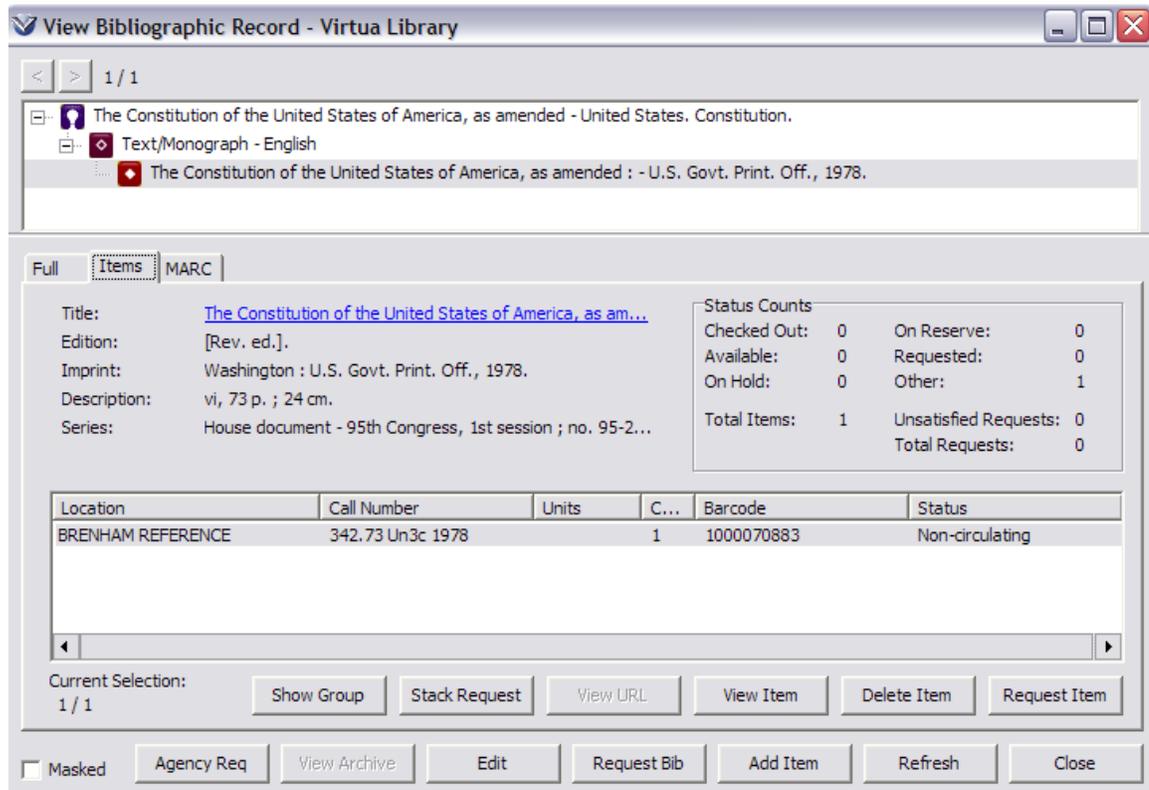


Figure 6-1. View Bibliographic Record Window – Manifestation to Be Saved as Combined

2. Combine the FRBR records in one traditional bibliographic record. To do this,
  - In the Virtua toolbar, click the Save as Combined icon .
  - OR-
  - In the Virtua menu bar, click File, and then choose Save as Combined.

The record is sent to the server where the FRBR entities are combined and saved as a single bibliographic record (*Figure 6-2*).

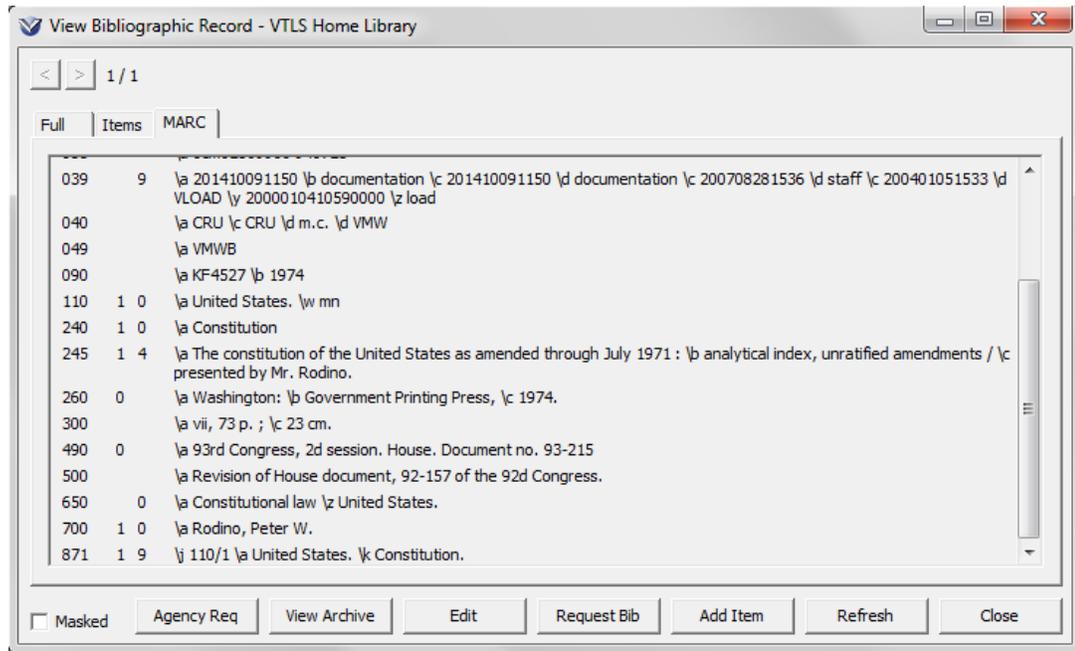


Figure 6-2. View Bibliographic Record Window – Result of Recombined FRBR Entities

A *recombined* FRBR record will have the 240 tag removed when the original MARC 21 record contains a 245 tag with the same information.

**Note:** The process of recombining FRBR records begins with the Manifestation record where the Work and Expression tags are added back to create the “unFRBRized” record. The normal process works with the first 004 tag. But in the case of aggregates, when the Manifestation record has multiple 004 tags, the additional 004 tags require that the resulting unFRBRized record have 700, 710, 711 or 730 fields based on the linked Work and Expression records. In other words, the process is the reverse of the process to create Work/Expression records from the 7xx tags (for details, see “[Appendix A - Rules for FRBR Splitting](#)”).

## 6.2 Recombining FRBR Entities in Batch and Exporting to a File

Via a UNIX command-line tool called **CombineFRBR.exe**, Virtua provides a way to combine sets of FRBR entities into MARC 21 records and export the combined records to a file. To begin the process, you must start by creating a file of Manifestation Bib-IDs, either manually or by using another appropriate script.

Virtua begins generating the combined record with the Manifestation, from which the software follows links to each parent entity (Expression, Work, or any other Works), one at a time, and then merges them into a combined record.

By using a command-line option, you can have the combined record include the 949 VIRTUAITEM tag for every item attached to the Manifestation.

### 6.2.1 Running **CombineFRBR.exe**

The program **CombineFRBR.exe** reads Manifestation Bib-IDs from standard input and sends the recombined FRBR records to standard output. Errors and warnings are written to standard error. Generally, you will direct the output to a text file, which you can use for input for a record loading program.

Below, we display the basic format for running **CombineFRBR.exe**:

```
CombineFRBR.exe < [file of Bib-IDs] > [output file]
```

where . . .

- **[file of Bib-IDs]** is the name of the file which lists, line-by-line, the Bib-IDs of the Manifestation records.
- **[output file]** is the file to which you want **CombineFRBR.exe** to export combined records.

**Note:** Records in any special state such as ERROR state or a library-defined state cannot be combined by **CombineFRBR.exe**.

For example, the command below will read a list of Manifestation Bib-IDs from the file **biblist** and write combined FRBR records, *without* 949 VIRTUAITEM tags, to the file **combined.rec**.

```
CombineFRBR.exe < biblist > combined.rec
```

### 6.2.1.1 Exporting Combined FRBR Records that Include 949 Tags

You can have **CombineFRBR.exe** export combined FRBR records that include 949 tag data in each MARC 21 bibliographic record. If you use command option **-A**, combined records will have a 949 VIRTUAITEM tag for each item attached to the Manifestation. Each 949 tag will contain the following subfields (assuming the related information exists in the item record):

- **\$6** - Item barcode.
- **\$9** - Unit information.
- **\$a** - First item-level call number.
- **\$b** - Second item-level call number.
- **\$o** - Staff note.
- **\$p** - Public note.
- **\$q** - Check-in note.
- **\$r** - Check-out note.
- **\$D** - Location code.
- **\$F** - Copy number.
- **\$X** - Item class.

To export combined FRBR records that include 949 VIRTUAITEM tags,

- Add the option **-A** (or **--add-item-tags**) to the command to run **CombineFRBR.exe**.

For example, the command below will read a list of Manifestation Bib-IDs from the file **biblist** and write combined FRBR records, *with* 949 VIRTUAITEM tags, to the file **combined.rec**.

```
CombineFRBR.exe -A < biblist > combined.rec
```

## 6.3 Recombining FRBR Entities in Batch and Reloading the Records

The **CombineFRBRRecords.sh** script reads a file of Manifestation Bib-IDs to unFRBRize a batch of records and load the resulting records back into the database. The script also deletes any links to orphaned Expressions and Works.

**To recombine FRBR entities and load the resulting records back into your database,**

1. Log in to your server as **dbadmin**.
2. At the prompt, type: **CombineFRBRRecords.sh [file of Bib-IDs]**

Where **[file of Bib-IDs]** is the name of the file containing the Bib-IDs of the Manifestation entities you want to process.

3. Press Enter.

Virtua processes the records.

**Note:** In cases where the links to orphaned Expressions and Works are not deleted as desired, run the script **DeleteOrphanFRBRLinksAndBibs.sh**, which analyzes the FRBR database, finds any orphaned FRBR links, deletes them, and then deletes any orphaned FRBR bibliographic records from the database.

## 7. Preparing FRBR Records to Load into Another FRBR Database

In order to load FRBR records to other FRBR databases, you may need to extract the records in MARC 2709 format. This can be accomplished using the script **Extract\_FRBR\_Records.sh**. This script will create a file of all FRBR Bib-IDs in the database, and then extract those records to a file. The Bib-IDs are written so that they can be properly loaded into a FRBR database. The default behavior of the script is to create 949 tags from items attached to the Manifestation records, unless the option is chosen to not create 949 tags.

To run **Extract\_FRBR\_Records.sh**,

1. Log in to your server as **dbadmin**.
2. At the prompt, type:

```
Extract_FRBR_Records.sh
```

to create records with 949 tags.

-OR-

```
Extract_FRBR_Records.sh 0
```

to create a file without 949 tags.

The script will output the record file with the format **FRBR\_[date/timestamp].dat.**, which can be loaded to another FRBR database. The script also outputs the file **FRBR\_[date/timestamp].ids**.

**Note:** For instructions on exporting data to another database, see the *Virtua Record Loading User's Guide*.

## 8. Working with Validation

Just as the Virtua client can validate the MARC “content designation” of traditional bibliographic records, so it can validate the “content designation” of Work, Expression, and Manifestation records. The validation process can be automatic or manual.

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Validating FRBR Record Manually](#)

### 8.1 Introduction to Validation

Default validation rules for Work, Expression, and Manifestation entities are contained in three text files that we ship with the Virtua client. The files are **validexpr.val**, **validmanifes.val**, and **validwork.val**. If you install Virtua in the default directory, the files will reside on your PC in the directory *Program Files\Vtls\Virtua\Catalog\Validate*. Your library can copy and edit the files as needed.

You can set an option in the Cataloging Options window so that the Virtua client validates FRBR records automatically at the time of saving, or you can validate records manually instead. Manual validation can take place any time after cataloging a record. You just need to bring each FRBR record into the MARC Editor, and then choose the Validate Record function. You will need to validate each of the three FRBR entities separately. We discuss manual validation below.

**Important:** Using the appropriate **\*.val** file and the **Vericat** utility, the Virtua client will validate existing Work, Expression, and Manifestation records when they are edited in the MARC Editor and saved to the database. However, when you FRBRize a traditional MARC record, the Virtua *server*, not the client, does the processing and validating—whether the original MARC record was imported from OCLC or existed in the database. If you need Vericat to validate the FRBRized records, you will need to bring each one into the MARC Editor and then save each back to the database.

**Note:** For details about the validation process in general, see the *Virtua Cataloging User's Guide*.

## 8.2 Validating FRBR Records Manually

To validate a FRBR Work record that is already in the database,

1. Open the Work record in the MARC Editor (*Figure 8-1*).

The screenshot shows the MARC Editor interface for Virtua Library (90). The window title is "MARC Editor - Virtua Library (90)". The main area displays a MARC record with the following fields:

001			vtls001565515
003			BE-LnBOR
005			20120510142400.0
008			120510d g 000 f eng d
039		9	\a 201205101424 \b staff \y 201205101350 \z staff
100	1		\a Wren, Percival Christopher
245	1	4	\a The wages of virtue\ f 1912
650		0	\a India \x History \y British occupation, 1764-1947 \v Fiction.
999			\a VIRTUAW

At the bottom of the window, there are several controls:

- Language material (a) dropdown menu
- Monograph/Item (m) dropdown menu
- Masked checkbox
- Navigation buttons: < >
- Text: MARC 21 Bib: Book Work
- Buttons: OPAC, Modified
- OPACT button

*Figure 8-1. MARC Editor – Displaying a Work Record*

2. Validate the record. To do this,

On the Virtua toolbar, click the Validate Record icon .

-OR-

On the Virtua menu bar, click Edit, and then choose Validate Record (*Figure 8-2*).

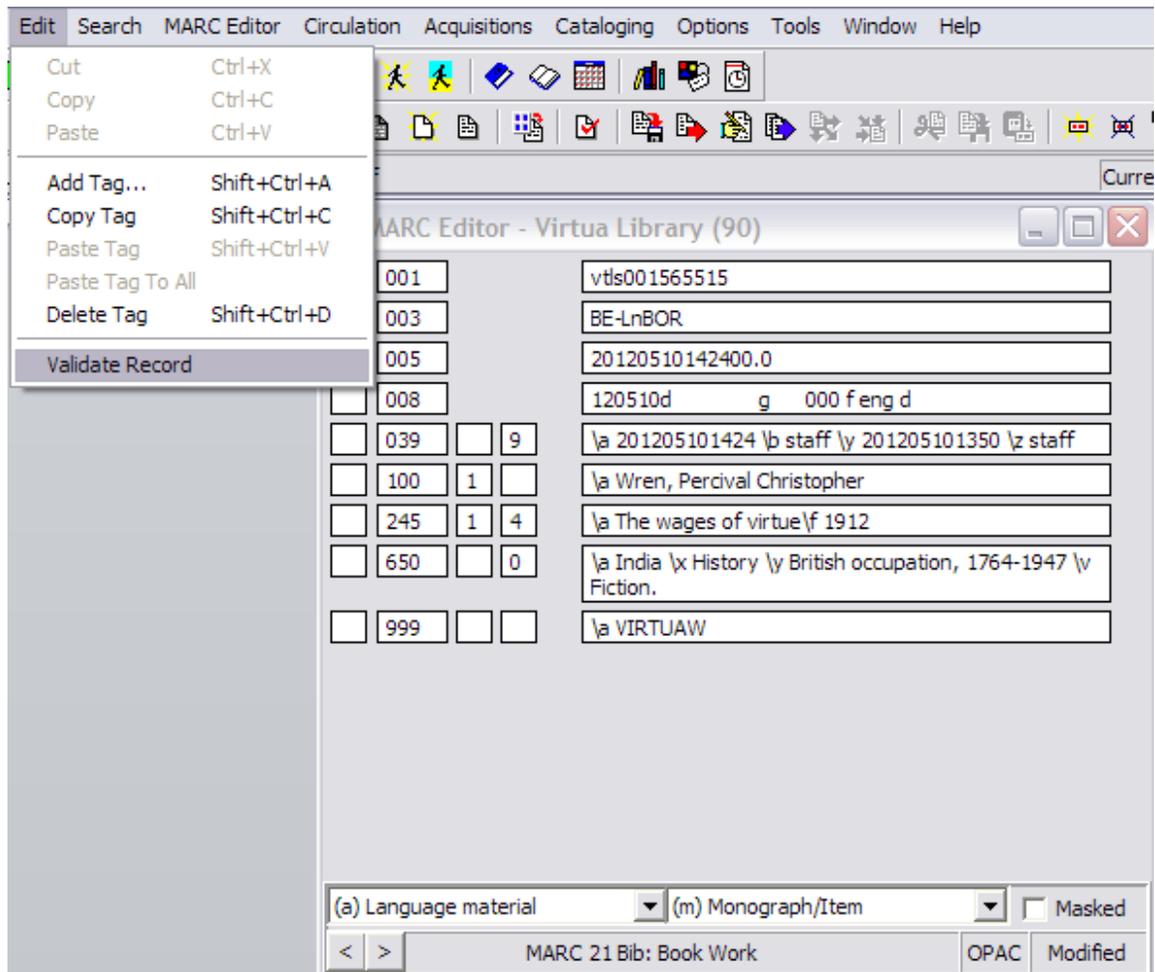


Figure 8-2. Validate Record [Work] Pull-down Menu Option

The Record Validation Errors message box appears (Figure 8-3), displaying a typical example of a cataloging error for a Work record.

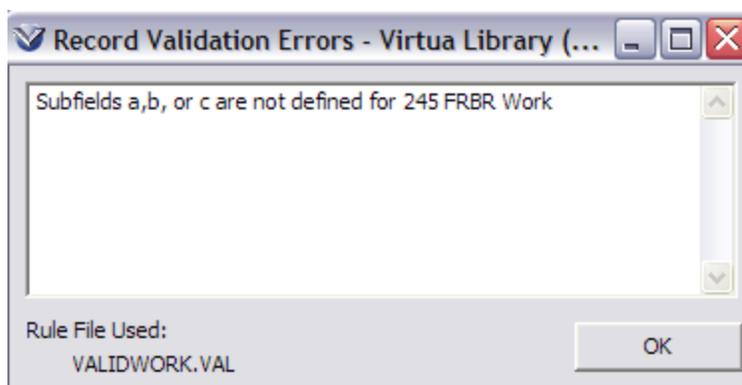


Figure 8-3. Record Validation Errors Dialog Box

3. Next, open the Expression record in the MARC Editor.
4. On the Virtua menu bar, click Edit, and then choose Validate Record (*Figure 8-4*).

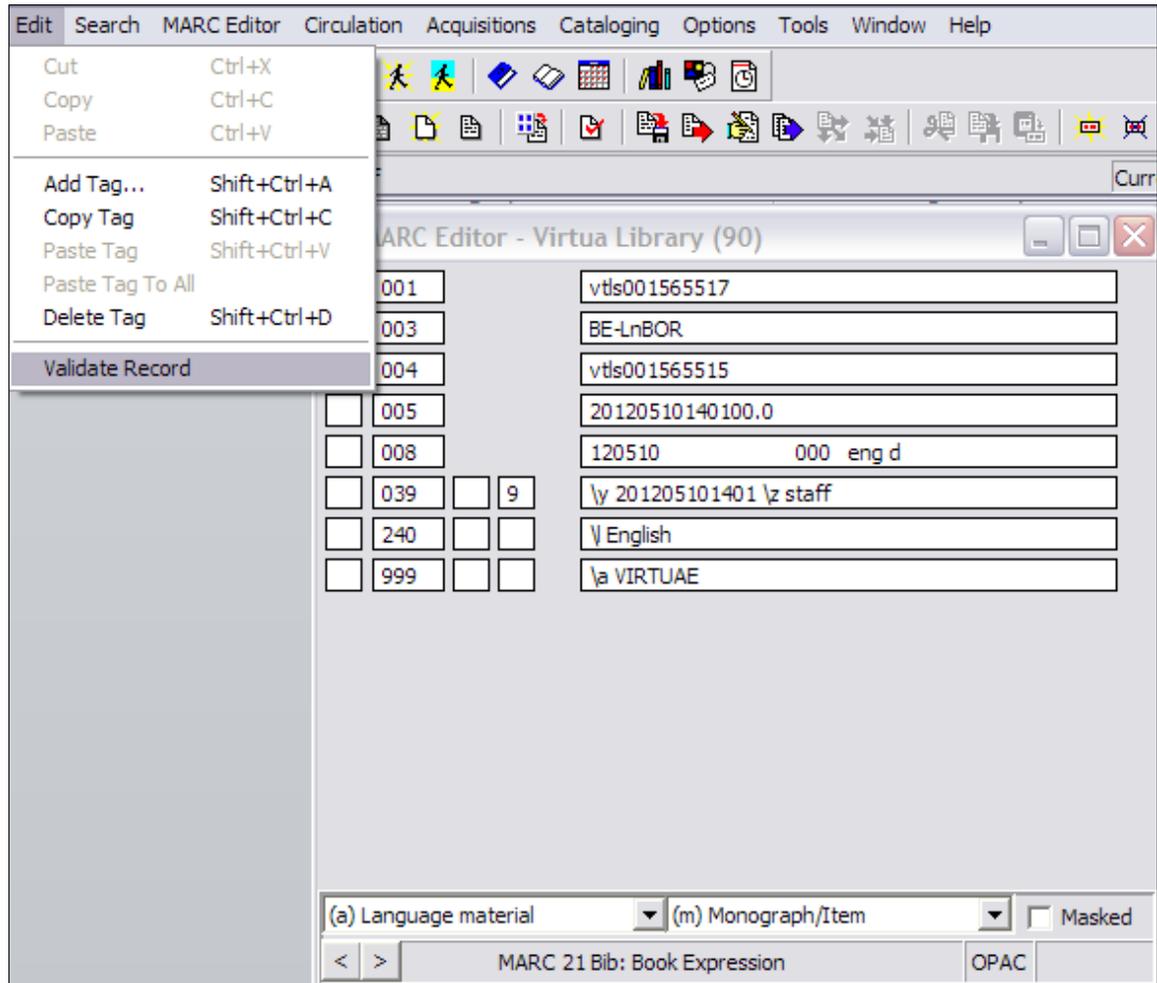
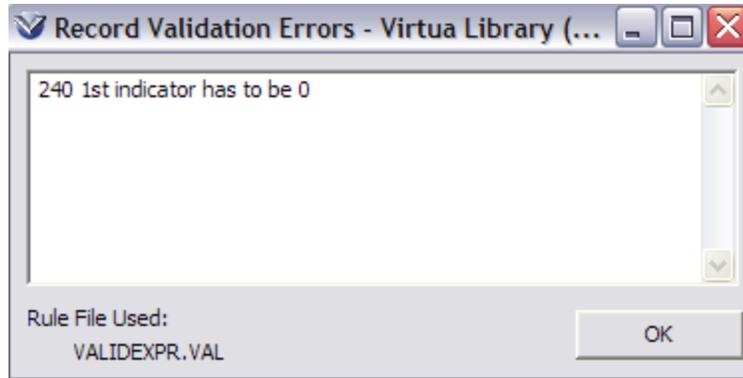


Figure 8-4. Validate Record [Expression] Pull-down Menu Option

The Record Validation Errors message box appears (*Figure 8-5*), displaying a typical example of a cataloging error for an Expression record.



*Figure 8-5. Record Validation Errors Dialog Box*

5. Finally, open the Manifestation record in the MARC Editor.

6. On the Virtua menu bar, click Edit, and then choose Validate Record (*Figure 8-6*).

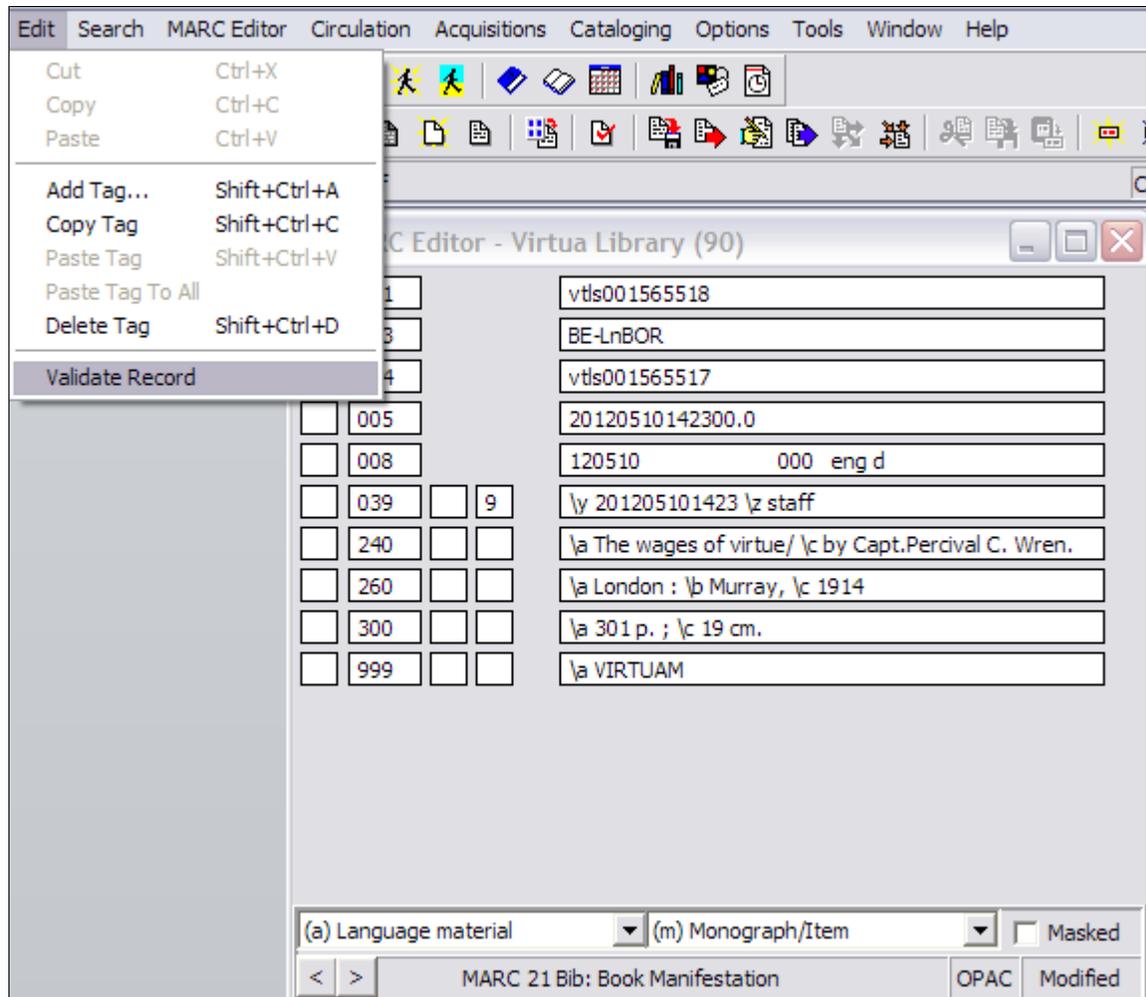
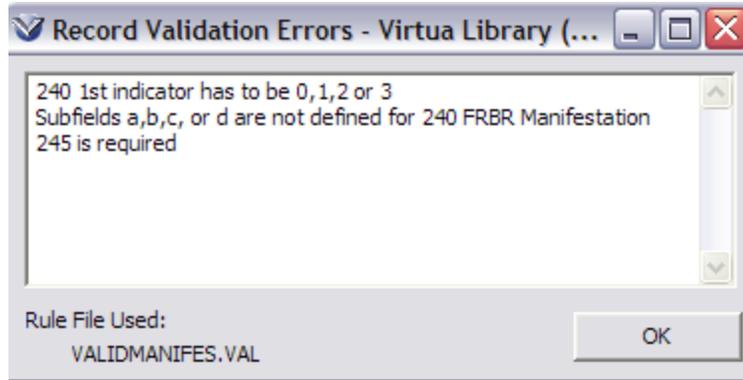


Figure 8-6. Validate Record [Manifestation] Pull-down Menu Option

The Record Validation Errors message box appears (*Figure 8-7*), displaying a typical example of cataloging errors for a Manifestation record.



*Figure 8-7. Record Validation Errors Dialog Box*

For each record, correct any errors and have the software validate it again.

## 9. Duplicate Control of FRBR Records

Virtua offers duplicate control of FRBR Work records and Expression records. This means that when you catalog or load a Work record or an Expression record, the software will check for possible duplicate records already in the database and proceed according to established rules. This section describes the duplicate checking that the system performs by default on FRBR records.

If the system puts a FRBR record into Error state, the Error label will appear on the display of the Work, Expression, and Manifestation.

This chapter covers the following topics:

- ⇒ [Rules for Work Records](#)
- ⇒ [Rules for Expression Records](#)

**Hint:** If, despite these checks, there is a circular loop of Work or Expression references, you can run the script **CheckAllFRBRLinks.sh** to identify these records so you can correct them. See the *System Management: Cataloging User's Guide* for information on running this script.

### 9.1 Rules for Work Records

Each time a Work record is processed, Virtua uses the following rules to search the database for duplicate FRBR Work records.

1. Virtua checks the Work record being processed for matches against all records in the system with matching uniform titles (bib level “u”) found in either the 130 or the 240 tag of the incoming record.
2. Virtua normalizes the data in the incoming record and checks all indexed data in the 130 tag against normalized 130 tag data in existing records
  - If no matches are found, Virtua continues to check for duplicates by looking at the 240 tag (see step 3).
  - If a match is found:

- Virtua performs the check again using the actual (i.e., not normalized) tag data this time.
  - If the data matches, a duplicate FRBR work record has been found, and no additional duplicate checking is required. Virtua handles the duplicate record as described in step 5.
  - If the data does not match, the system continues to check for duplicates by looking at the 240 tag.
3. Virtua checks to see if an existing record has a 240 tag with the same data contents as the 240 tag of the new record. Since the database structure maintains an index on normalized data from 240 tags, the number of records that need to be checked is kept to a manageable size.
    - If no matches are found, then the incoming FRBR work record has no duplicate records. Duplicate checking is complete, and Virtua will continue processing the record.
    - If a match is found, Virtua must also verify that there is agreement between the 1xx tags of the two records.
  4. Virtua checks the 1xx tag data of the incoming record against the 1xx tag data in the group of existing records that were found to have a 240 tag match in step 3. Note that a match of data can be found between 1xx tag numbers that are different, say, a 100 tag and a 110 tag. Also note that this step excludes duplicate checking on the 130 tag, which was completed in step 2.
    - If no matches are found, then the incoming FRBR Work record has no duplicate records, and duplicate checking is complete.
    - If a 1xx match is found, then a duplicate FRBR Work has been found and no additional duplicate checking is required. Virtua handles the duplicate record as described in step 5.
  5. Once Virtua determines that the incoming FRBR Work record has a duplicate record that already exists in the system, the software merges the two records so that all unique data are retained. Here are the merge rules:
    - The fixed fields from the existing record are retained.
    - If the incoming record and existing record each contain a specific tag and the data in the two tags are NOT identical, Virtua will keep both tags in the final merged record. The old tag will be listed first, and the new tag will be listed second.

For instance, if both records contain a 600 tag and the data in the tags are not identical, the final merged record will contain the following:

```
600 [old data]
600 [new data]
```

- If the incoming record and existing record each contain a certain tag number and the data in the two tags are identical, Virtua will keep only one tag in the merged record.
- If there are matching 1xx tags in the incoming record and existing record (as defined in step 4), Virtua will keep only the tag from the existing record. Note that a 1xx tag match could exist between two tags with different tag numbers.

## 9.2 Rules for Expression Records

The system searches for duplicate FRBR Expression records each time it processes a FRBR Expression record. The following conditions must be met for two FRBR expressions to be considered duplicates.

1. Both records must have the same FRBR Work record as the FRBR parent.
2. The characters in leader positions 06 and 07 of both records must match.
3. The characters in the 008 tag of both records must match.
4. All variable fields must match after normalization.

## 10. Working with Requests

**V**irtua lets you place requests against all four FRBR entities and view either the bibliographic or item request queue, as appropriate, from a FRBR record. The requests module works essentially the same for FRBR records as it does for traditional bibliographic records. The biggest change is in the View Requests window, where the queue, as displayed from any FRBR entity, will include requests placed against all parent entities and all subordinate entities of the viewed entity.

This chapter covers the following topics:

- ⇒ [Introduction](#)
- ⇒ [Placing Requests](#)
- ⇒ [Viewing Requests](#)

### 10.1 Introduction

The types of requests allowed at each FRBR level are shown below:

<u>Record</u>	<u>Type of Request Allowed</u>
Work	Bibliographic level
Expression	Bibliographic level
Manifestation	Bibliographic level
Manifestation/Items tab	Item level
Item	Bibliographic or Item level

You place a bibliographic-level or item-level request against a FRBR record in the same way that you place a request against a non-FRBR record. For details about placing requests, see *Virtua Circulation Control/Requests User's Guide*.

A bibliographic-level request against a FRBR entity can be satisfied by any item attached to any Manifestation record that is subordinate to the FRBR entity. For example, if you place a bibliographic request against an Expression record, the request can be satisfied by items attached to any Manifestation record linked to the Expression.

## 10.2 Placing Requests

The parameter settings that affect placing requests in the traditional bibliographic database will also affect placing requests in the FRBR database. The maximum number of requests that a patron can place on a title is set in the Patron Types parameter. All requests linked to related FRBR entities will be considered in this count. This means that if the maximum number of requests is set to 1, the patron will be limited to placing ONE request on a Work and all its subordinate entities.

### 10.2.1 Bibliographic-level Requests

**To place a bibliographic-level request against a Work, an Expression, or a Manifestation,**

1. Display the FRBR entity in the View Bibliographic Record window. [Figure 10-1](#) shows a Work record and [Figure 10-2](#) shows a Manifestation record. Both records show the same totals for the Unsatisfied Requests count and Total Requests count, which are displayed on the bottom of the Full tab.

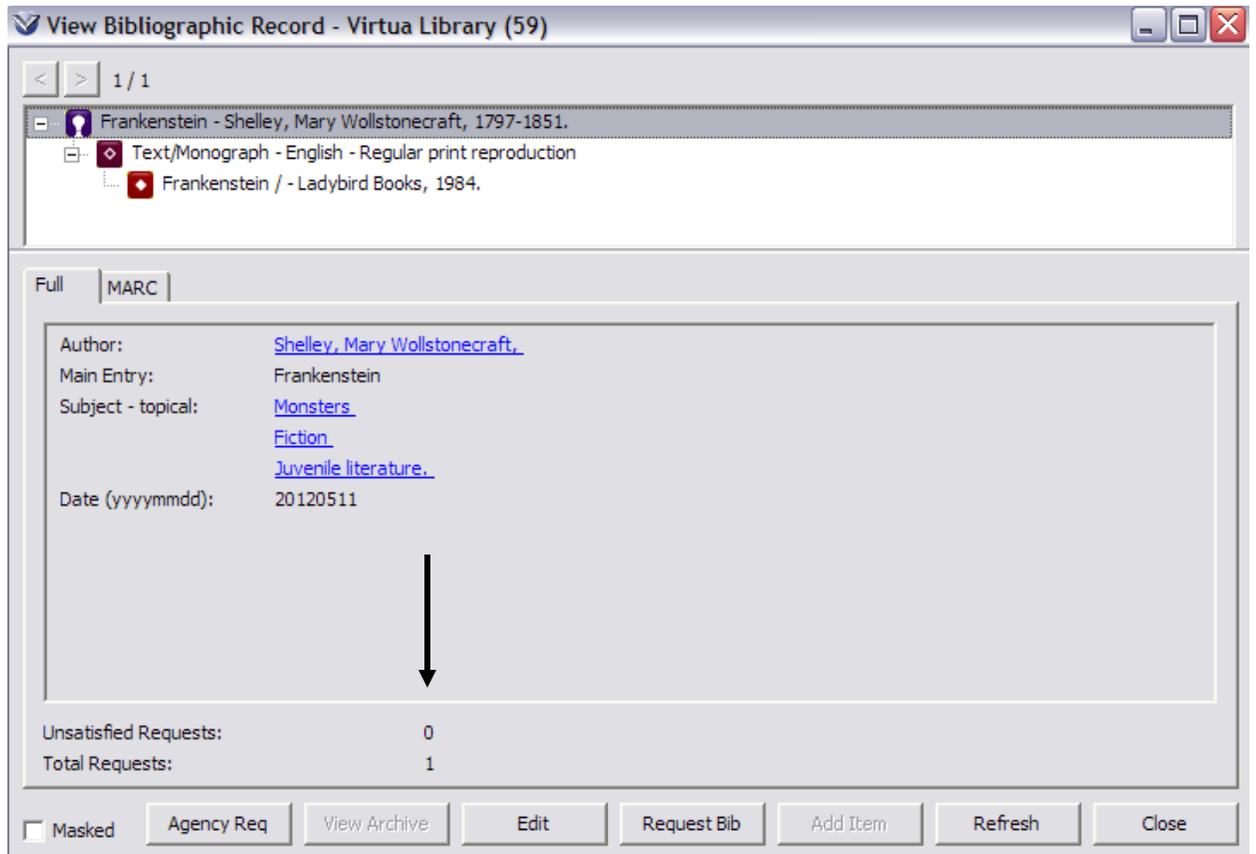


Figure 10-1. View Bibliographic Record Window – Bib-level Request Counts (Work)

As shown on the Full tab of the Work, the Unsatisfied Requests count is 0, and the Total Requests count is 1.

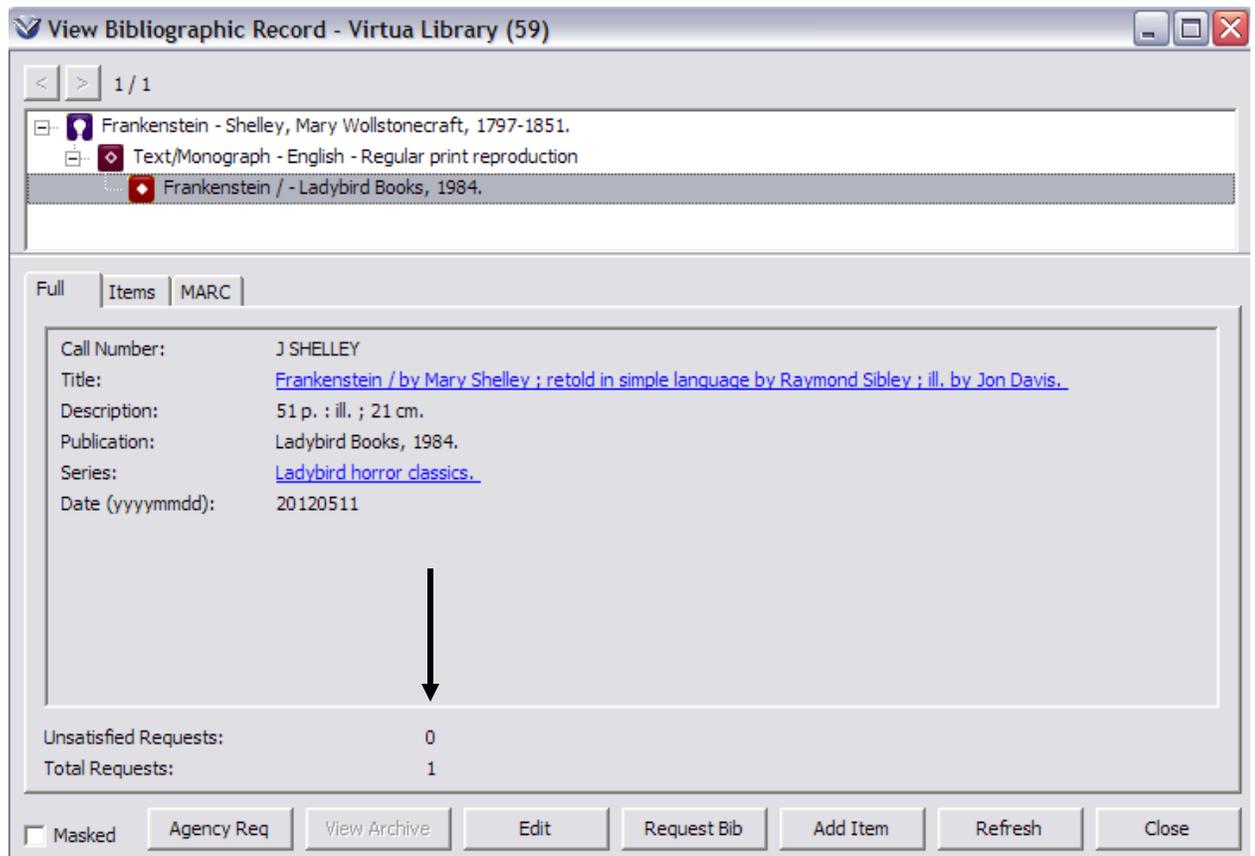
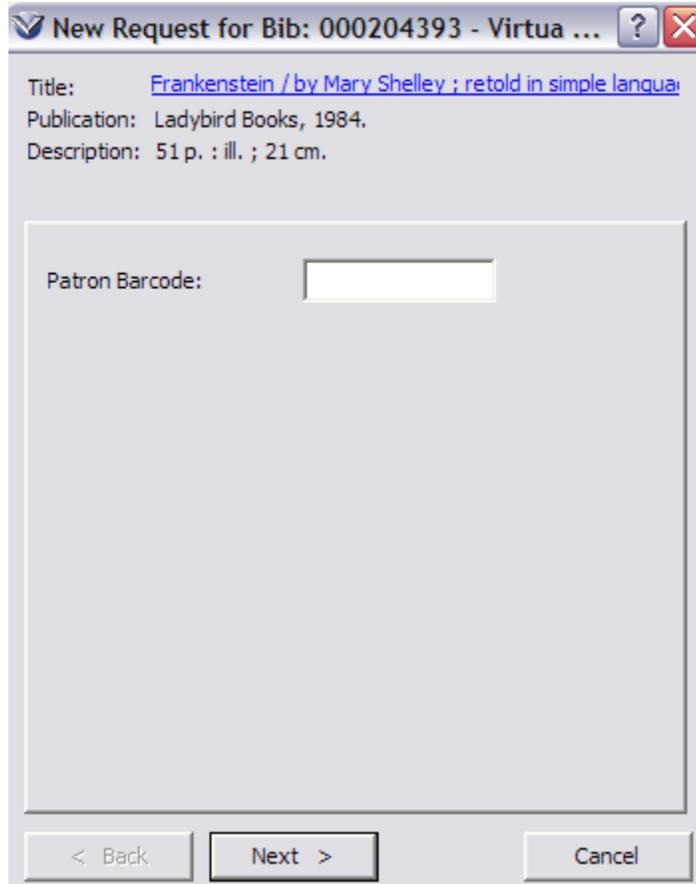


Figure 10-2. View Bibliographic Record Window – Bib-level Request Counts (Manifestation)

As shown on the Full tab of the Manifestation, the Unsatisfied Requests count is 0, and the Total Requests count is 1.

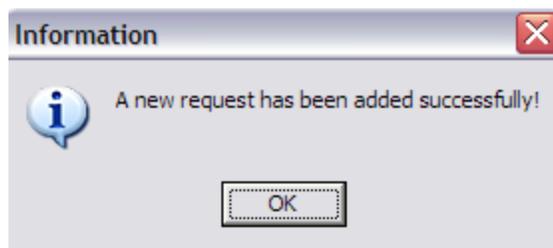
2. On the View Bibliographic Record window, with any FRBR entity highlighted, click the Request Bib button.

The New Request for Bib: window appears (*Figure 10-3*), where you must type the Patron Barcode to begin the process of placing a request.



*Figure 10-3. New Request for Bib: nnnn Window*

After your bibliographic-level request has been placed, Virtua displays the following message:



*Figure 10-4. Request Confirmation Dialog Box*

3. Back on the View Bibliographic Record window, click the Refresh button. Do this for each FRBR entity.
4. No matter which entity you view, the Full tab displays the same values for the Unsatisfied Requests and Total Requests counts. The Unsatisfied Requests count has incremented to 1 and the Total Requests count has incremented to 2 (*Figure 10-5*), reflecting the request you just made.

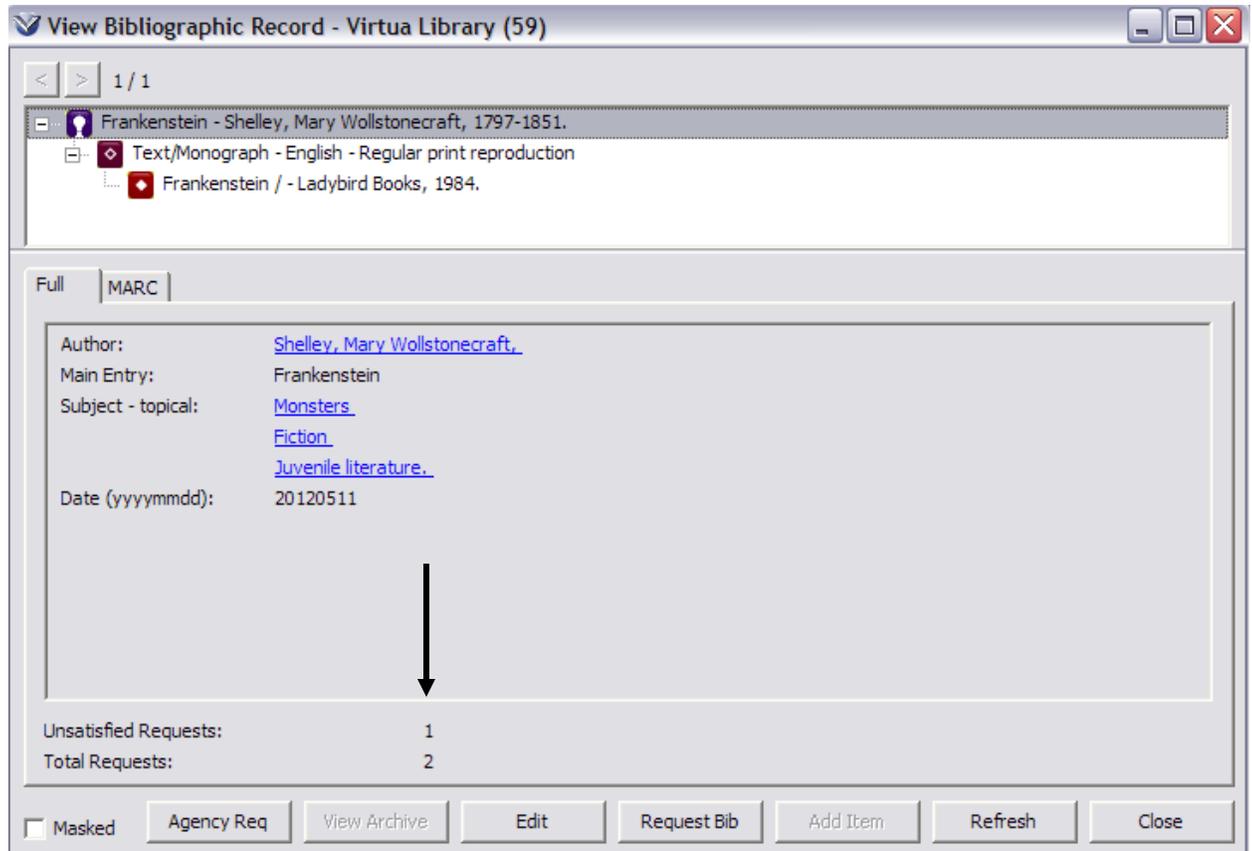


Figure 10-5. View Bibliographic Record Window – Bib-level Request Counts (Work)

## 10.2.2 Item-level Requests

For FRBR records, you can place item-level requests from the Items tab of the Manifestation record or from the Item Information window.

**Note:** Even though you are placing a request for an item, if you choose Auto as the request type and if the parent record is a monograph, the completed request will be at the bibliographic level; if the parent record is a serial, however, the completed request will be at the item level. All other request types will result in an item-level request.

**To place an item-level request from the Manifestation record,**

- On the Items tab of the Manifestation record (*Figure 10-6*), select an item in the list box, and then click the Request Item button.

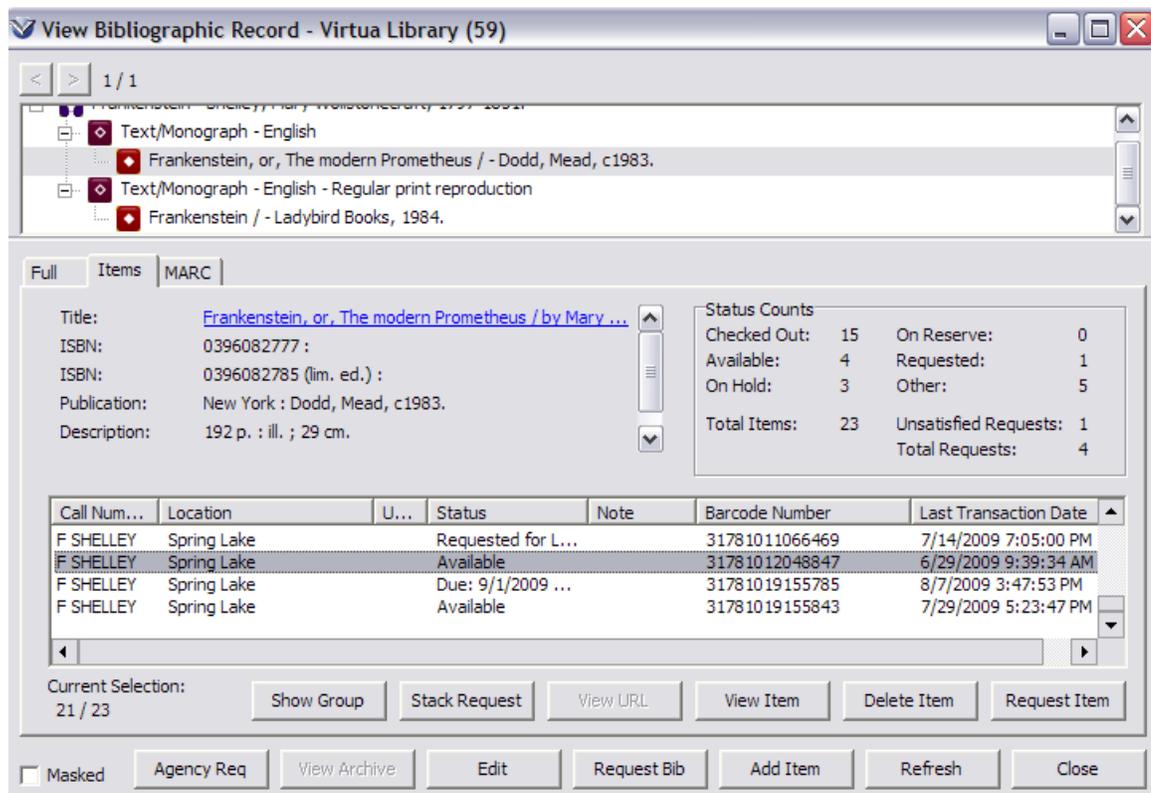


Figure 10-6. View Bibliographic Record Window – Items Tab – Request Item Button

The New Request for Item window appears (*Figure 10-7*), from which you can complete your request.

New Request for Item: 31781012048847 - ...

Title: [Frankenstein, or, The modern Prometheus / by Mary W](#)  
ISBN: 0396082777 :  
ISBN: 0396082785 (lim. ed.) :  
Publication: New York : Dodd, Mead, c1983.

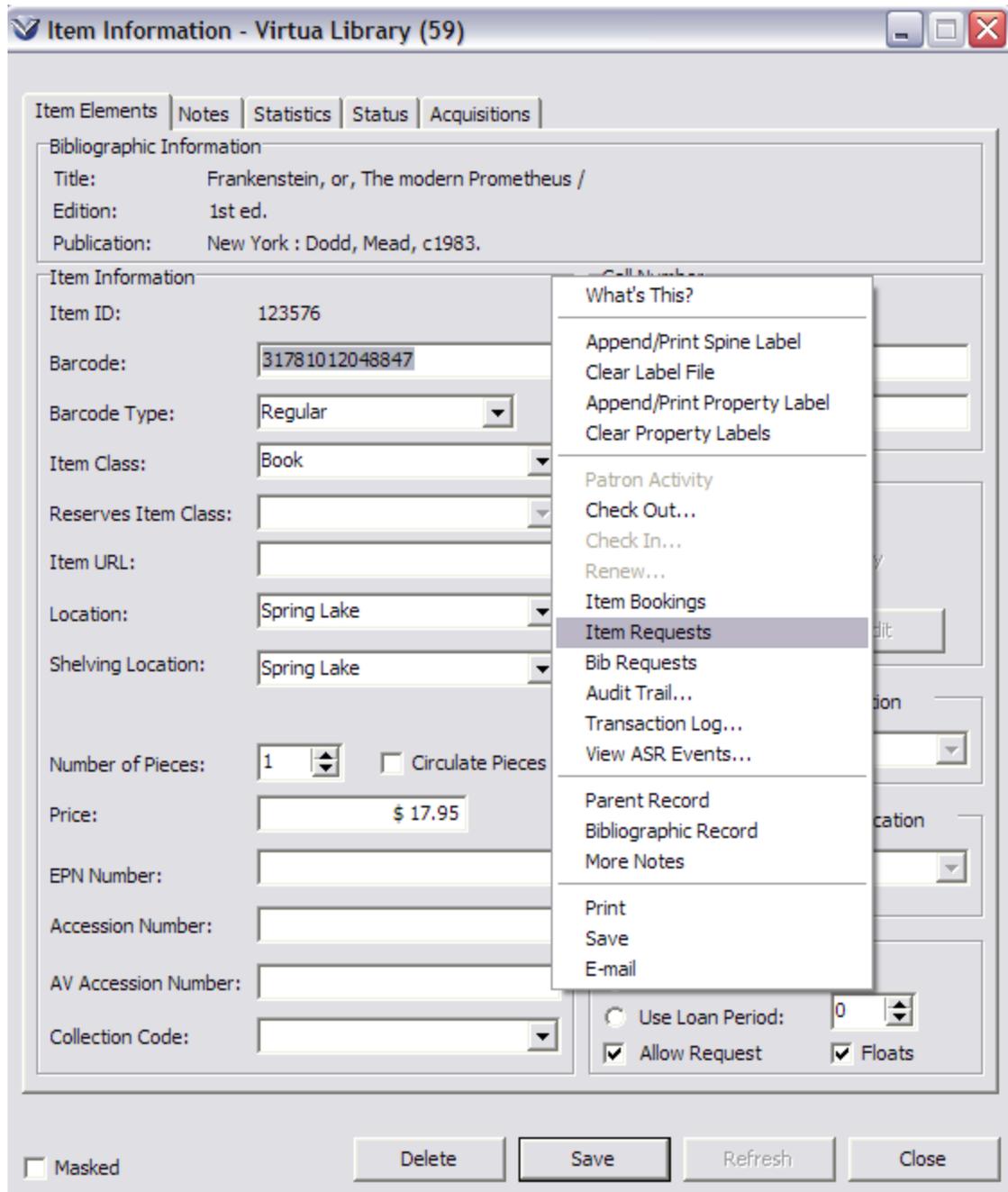
Patron Barcode:

< Back    Next >    Cancel

*Figure 10-7. New Request for Item: nnnn Window*

**To place an item-level request from the Item record,**

1. On the Item Information window, display the pop-up menu and then choose Item Requests (*Figure 10-8*).



*Figure 10-8. Item Information Window – Item Requests Right-click Option*

The View Requests for Item: window appears (*Figure 10-9*), displaying all item-level requests associated with the FRBR Manifestation.

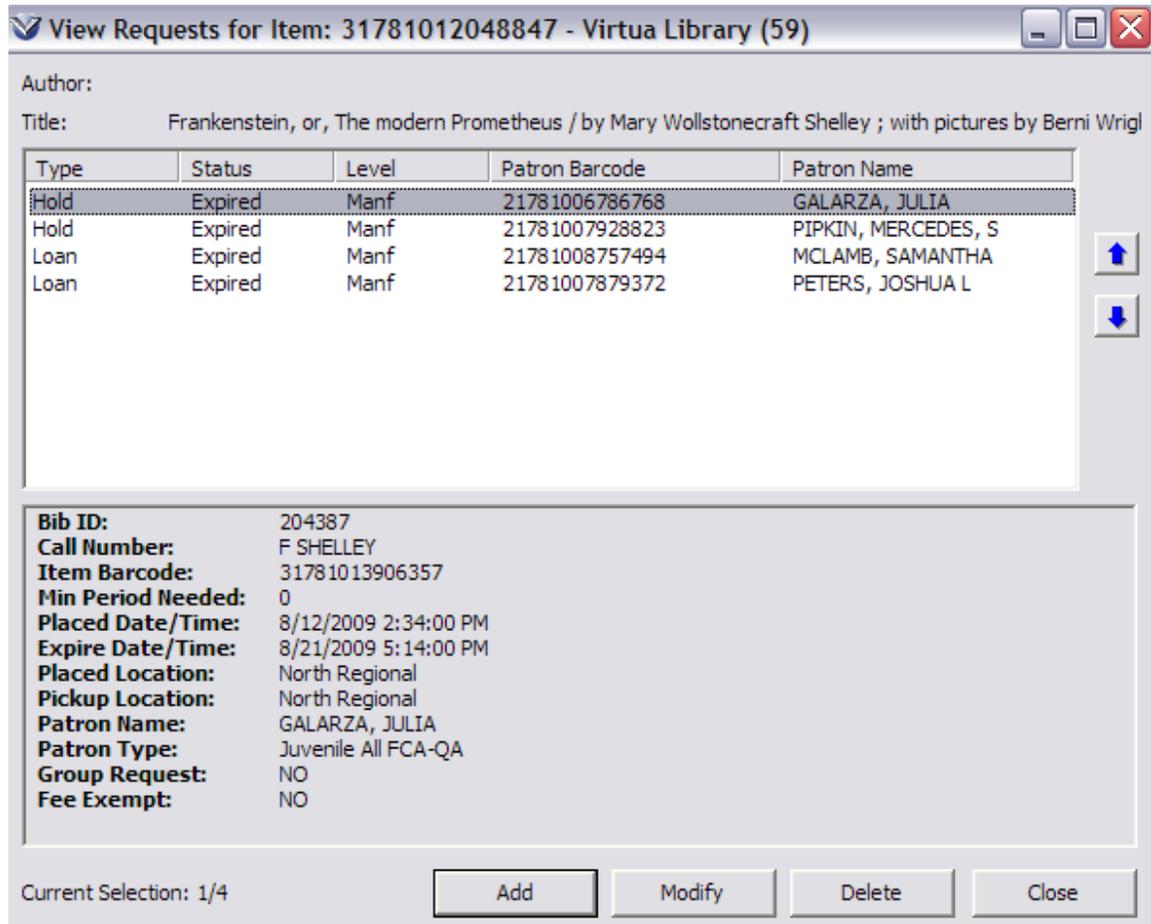


Figure 10-9. View Requests for Item: nnnn Window

2. Click the Add button to see the New Request for Item: window (*Figure 10-7*), where you can begin the request process.

## 10.3 Viewing Requests

Just as you can view bibliographic-level and item-level requests from non-FRBR records, so you can view both types of requests from FRBR records.

The View Requests for Bib window associated with a FRBR entity differs from the View Requests for Bib window associated with a traditional record as follows:

- The column labeled Level contains *Work*, *Expr*, or *Manf*—depending on the entity from which you accessed the View Requests window—instead of *Bib* or *Item*.
- The header of the View Requests for Bib window accessed from a Work or an Expression will display the uniform, or filing, title from the 240 tag in the Work and the author from the 1xx in the Work.
- The header of the View Requests for Bib window accessed from a Manifestation will display the title from the 245 tag in the Manifestation. No author will be displayed.

The Total Requests count on the View Bibliographic Record of an entity will equal the number of requests that appear on the View Requests window for the FRBR record.

### To view the request queue for bibliographic-level requests,

1. Display the View Bibliographic Record window for the FRBR Work, Expression, or Manifestation.
2. Right click and choose Bib Requests on the pop-up menu (*Figure 10-10*).

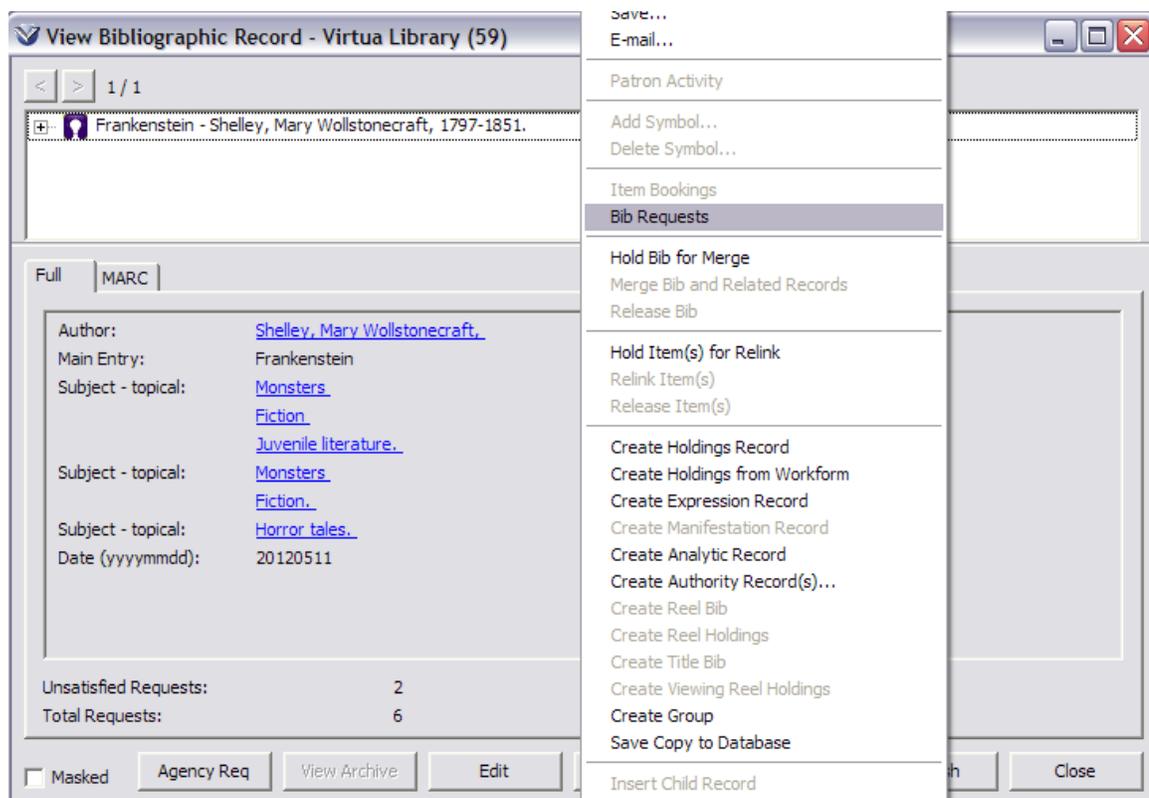


Figure 10-10. View Bibliographic Record Window – Bib Requests Right-click Option

The View Request for Bib: window appears (*Figure 10-11*), displaying all of the requests associated with the FRBR record. Notice that the Level column displays *Work* because that is the active entity from which you are viewing the request queue. If you were viewing the queue from the Expression record, the value in the Level column would be *Expr*.

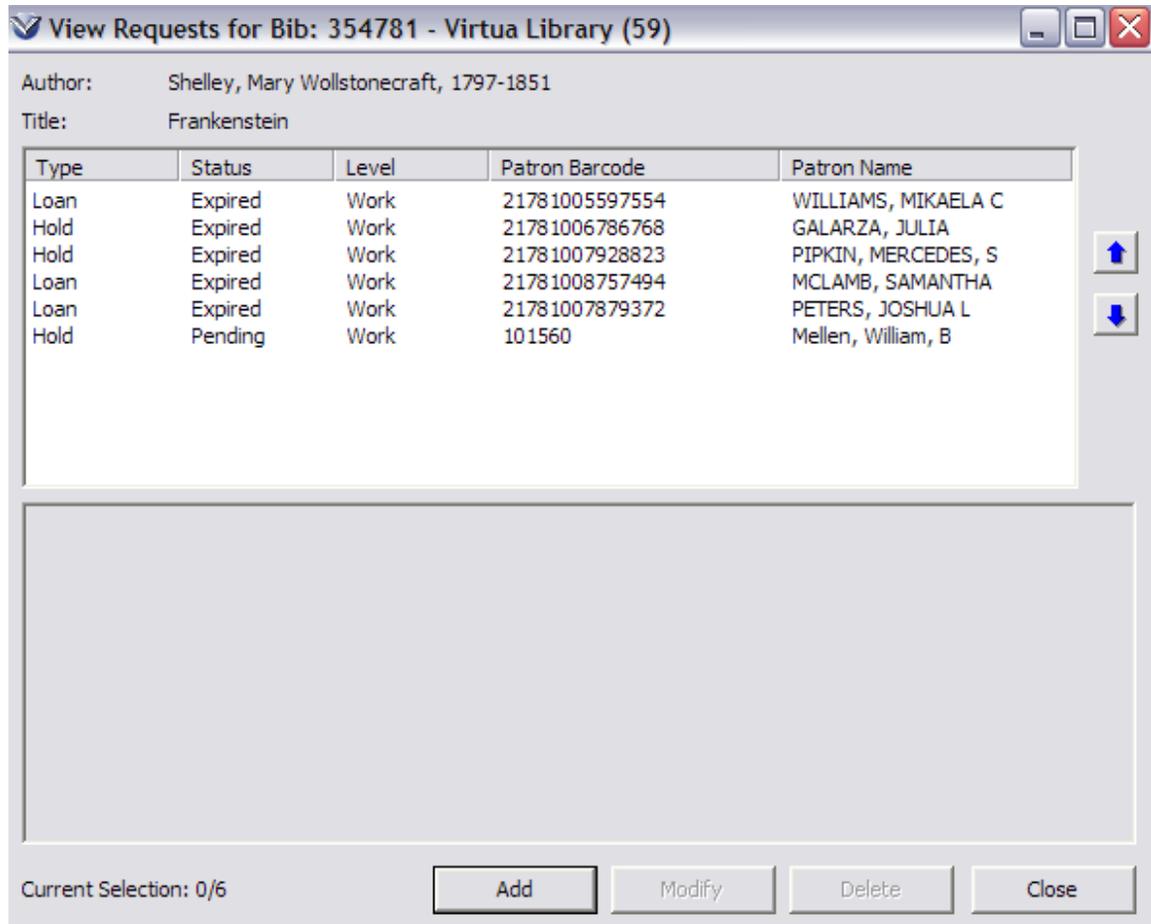


Figure 10-11. View Requests for Bib: *nmnn* Window

### To view the request queue for item-level requests,

1. Display the FRBR Manifestation/Items tab.
2. For a selected item, right click and choose Item Requests on the pop-up menu (*Figure 10-12*).

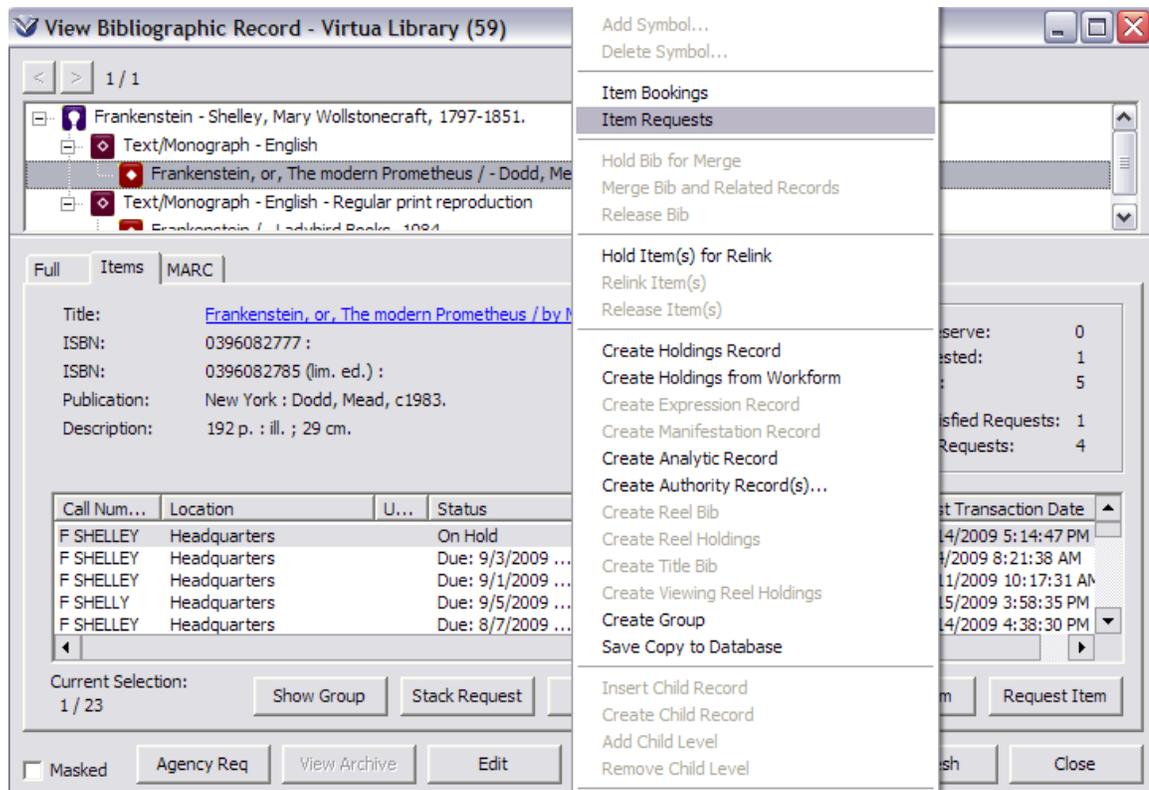


Figure 10-12. View Bibliographic Record Window – Item Requests Right-click Option

The View Requests for Item: window appears (*Figure 10-13*), displaying all of the item-level requests associated with the FRBR record.

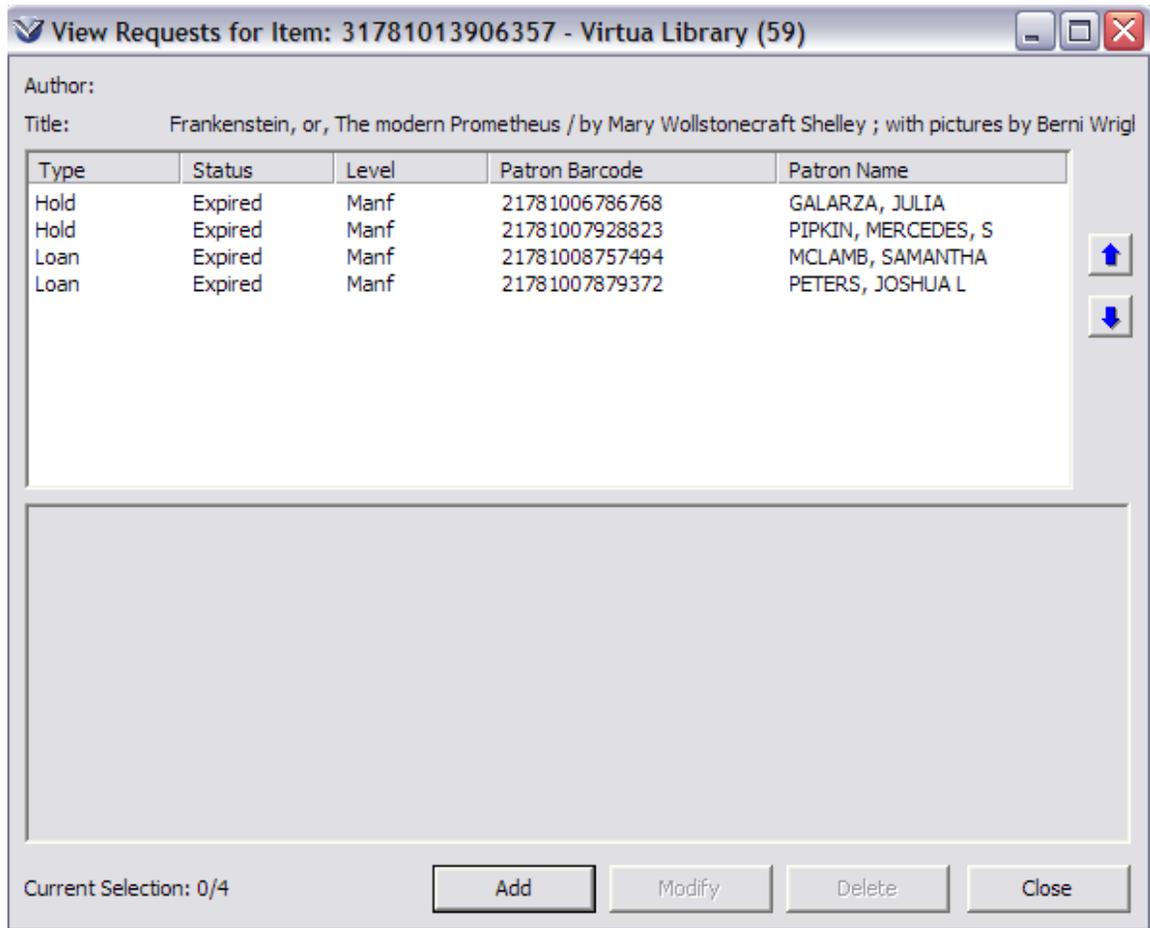


Figure 10-13. View Requests for Item: nnnn Window

# 11. Appendix A - Rules for FRBR Splitting

## 11.1 Standard Process

In the standard cataloging record process, Virtua splits a traditional bibliographic record into a set of FRBR records using the following rules:

1. The traditional bibliographic record should have a uniform title (130, 240, or 243) to serve as the title for the Work. If it does not have one, the system will create a uniform title using subfield \$a of the record's 245 tag and the second (non-filing) indicator of the 245 tag. The system adds the new title and non-filing indicator according to the following rules:
  - a. If the record already has a main entry (100, 110, or 111), the system adds the new title in tag 240 \$a and preserves the second (non-filing) indicator as the second (non-filing) indicator of the 240 tag.
  - b. If the record does not have a main entry, the system adds the new title in tag 130 \$a and preserves the second (non-filing) indicator as the *first* (non-filing) indicator of the 130 tag.
2. The system copies the following leader positions from the traditional bibliographic record into all three FRBR records:
  - 5 – record status
  - 6 – record type
  - 7 – record bib level
  - 8 – type of control
  - 9 – character coding scheme
  - 17 – encoding level
  - 18 – descriptive cataloging form
  - 19 – linked record requirement

The remaining leader positions will contain the same default values as any other MARC bibliographic record.

3. The system modifies the Local Level field to match the FRBR type (W, E, or M) and then copies the 999 VIRTUA tag to each FRBR record. If there is no 999 VIRTUA tag to copy, the system will create one with blank fields—except for the Local Level—for each record.

4. The system copies appropriate tags and subfields (as indicated in the tables in [Appendix B](#)) into each FRBR record. If a particular subfield is not copied by any of the rules in the tables, it is automatically added to the Manifestation. Note that some tags/subfields are copied to more than one record.

## 11.2 Process for Aggregates

When the record being split into FRBR entities is an aggregate, Virtua does some processing on top of the normal procedure of creating a Work, an Expression, and a Manifestation. This is because with an aggregate, Virtua must not only split the traditional bibliographic record into three entities, but also link the Manifestation to multiple Expressions/Works via additional 004 tags.

A record qualifies as an aggregate and thus for the creation of a Work and an Expression to which the Manifestation will be linked if the record has...

Tag 700, 710, 711, or 730, where the tag has a second indicator value of 2

-OR-

Tag 700, 710, or 711, where the tag has a second indicator value that is blank AND the tag has subfield \$t (title).

For a qualifying record, Virtua will follow the standard FRBR splitting procedure and, in addition, use the following rules:

1. The system always creates the *first* 004 tag in the Manifestation to link to the “original” Expression. The system places the additional 004 tags after the “original” 004 tag.
2. If the 700, 710, or 711 tag has a second indicator value of 2 and does not have any of the “title subfields” (t m n p r k s) and thus does not qualify for the creation of a Work or an Expression record, the 7xx tag just remains in the Manifestation.
3. If the 730 tag does not qualify as an aggregate, it just remains in the Manifestation and the splitting rules for the 730 tag apply, i.e., subfields \$k, s, and f are copied to the Expression record.
4. Virtua places the subfields contained in the 700, 710, or 711 tag in the following FRBR entities:

Subfields in the 700, 710, or 711 tag	Target FRBR Entity
a b c d e j q 4	Work tags 100, 110, 111
t m n p r k s (\$t becomes \$a)	Work tag 240
l o k s f h	Expression tag 240

In other words,

- In the Work record, tags 100, 110, and 111 derive from tags 700, 710, or 711, subfields \$a, b, c, d, e, j, q, and 4.
  - In the Work record, tag 240 derives from tags 700, 710, or 711 subfields \$t, m, n, p, r, k, s (\$t becomes \$a).
  - The Leader and tag 008 stay the same as the original Work record.
  - The Expression record is a copy of the original Expression after tags 240 and 505 are removed and a new tag 240 is derived from tag 7xx subfields \$l, o, k, s, f, and h.
5. Any ending punctuation of colon (:) or semi-colon (;) is discarded from the resulting 240 tags (Work or Expression)
  6. The 730 tag with indicator 2 is changed to a 130 tag, which will be split into a new Work and Expression based on the splitting rules for the 130 tag (i.e., subfields \$l, o, k, s, and f go into the Expression record and all of the others into the Work record).
    - The Expression record is a copy of the original Expression after all tags except 006, 008 and 999 VIRTUA tags have been removed and a new tag 130 is derived from tag 730 subfields \$l, o, k, s, f.
  7. The resulting Work and Expression are processed following the normal duplication routine.

## 12. Appendix B - Tags/Subfields Copied to FRBR Records

This appendix lists the tags and subfields that the software copies to the Work, Expression, and Manifestation records when a traditional bibliographic record is split into three FRBR records. An asterisk next to a listed tag indicates that the software copies ALL subfields of the tag.

In the lists below, if you find a tag/subfield that is not specifically designated for the Work or Expression, then you can assume that it is automatically retained in the Manifestation.

Note that every Work has a title, which in a traditional bibliographic sense is a uniform title. Also, each FRBR record has a leader and its own 008 field.

### 12.1 WORK Record

This table lists the tags/subfields that are copied from the traditional bibliographic record to the Work record upon FRBR splitting.

Tag	Subfields/Position	Notes
008	00-05	No other values are copied.
034	defgjkmpst68	
043	*	
045	*	
046	kl	If 883 \$a Work or \$b W is present.
047	*	
048	*	
052	*	
072	*	
080	2ax	Copied only if \$b does not exist.
082	2a	
100	*	Copied only if \$b does not exist.
110	*	
111	*	
130	adgmnpr68	
240	adgmnpr68	
243	adgmnpr68	

245	fgk	( <b>Note:</b> If no 245 tag exists in the MARC 21 bibliographic record, the FRBR record will display ERROR – NO TITLE.)
255	cdefg68	
300	e	Copied only if \$e contains the text <i>atlas</i> .
380		
504	*	
510	abc368	
521	*	
522	*	
545	*	
567	*	
600	*	
610	*	
611	*	
630	*	
650	*	
651	*	
653	*	
654	*	
655	*	
656	*	
657	*	
658	*	
700	*	Copied only if \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .
710	*	Copied only if \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .
711	*	Copied only if \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .

### Fixed Fields - 006

The software copies positions in the 006 tag based on the 00 position value, which is always copied. Positions not listed in the table below are left blank.

006 Type	00 position values	Positions to copy
books	a, t	01-04, 05, 07-10, 12, 13, 14, 16, 17
computer files	m	05
maps	e, f	08, 14, 16-17
music	c, d, i, j	01-02, 05, 07-12, 13-14
serials	s	04, 07, 08-10, 12, 17
visual materials	g, k, o, r	05, 16
mixed materials	p	

## 12.2 EXPRESSION Record

This table lists the tags/subfields that are copied from the traditional bibliographic record to the Expression Record upon FRBR splitting.

<b>Tag</b>	<b>Subfields/Position</b>	<b>Notes</b>
008	00-05, 23, 35-37	Position 23 (Form) is copied only if Leader position 06 = 'a'. No other values are copied.
033	*	
034	abch	
039		
041	*	
046	kl	If 883 \$a Work or \$b W is NOT present.
130	loksf	
240	loksf; h	Subfield h added only if 240 was created from a 7xx tag; the first indicator should be set to 0.
243	loksf	
245	s	(If no 245 tag exists in the MARC 21 bibliographic record, the FRBR record will display ERROR – NO TITLE.)
254	*	
255	ab	
256	*	
306	*	
310	*	
321	*	
336	*	
342	*	
343	*	
352	*	
381	*	
382	*	
383	*	
384	*	
505	agrt68	
507	*	
511	*	
514	abcdefghijklmnopz68	
516	*	
518	*	
520	abz368	
546	az368	

586	*	
700		Copied only if subfield \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .
710		Copied only if subfield \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .
711		Copied only if subfield \$e or \$4 is present and the values match the list in the <a href="#">table below</a> .
720		Copied only if subfield \$e or \$4 is present.
730	ksf	Copied only if the 730 does not qualify as an aggregate.
765	*	
767	*	
776	*	
780	*	
785	*	

### Fixed Fields - 006

The software copies positions in the 006 tag based on the 00 position value, which is always copied. Positions not listed in the table below are left blank.

006 Type	00 position values	Positions to copy
books	a, t	11
computer files	m	09, 11
maps	e, f	01-04, 05-06
music	c, d, i, j	03
serials	s	01, 02, 03, 11, 16, 17
visual materials	g, k, o, r	05, 16
mixed materials	p	

## 12.3 Mapping Tag 700, 710, 711 Relator Subfields into FRBR Work or Expression

During the splitting of FRBR records into its three entities, the relator subfields (\$e and \$4) of the 700, 710, and 711 tags get mapped either into a Work, a Manifestation or an Expression record. The table below shows the mapping of a heading into a Work (W) or an Expression (E). If a relator term or code is not in the table, then the heading goes to a Manifestation.

**Note:** These rules do not apply if the 7xx tag qualifies as an aggregate.

Relator term \$e	Code \$4	FRBR
Actor	act	E
Adapter	adp	E
Analyst	anl	E
Animator	anm	E
Annotator	ann	E
Arranger	arr	E
Art copyist	acp	E
Artistic director	ard	E
Author of afterword, colophon, etc.	aft	E
Author of dialog	aud	E
Author of introduction, etc.	aui	E
Author of screenplay, etc.	aus	E
Censor	cns	E
Choreographer	chr	E
Cinematographer	cng	E
Colorist	clr	E
Commentator	cmm	E
Commentator for written text	cwt	E
Conductor	cnd	E
Costume designer	cst	E
Dancer	dnc	E
Director	drt	E
Electrician	elg	E

Film editor	flm	E
Funder	fnd	E
Host	hst	E
Instrumentalist	itr	E
Librettist	lbt	E
Lighting designer	lgd	E
Lyricist	lyr	E
Moderator	mod	E
Music copyist	mcp	E
Musical director	msd	E
Musician	mus	E
Narrator	nrt	E
Performer	prf	E
Photographer	pht	E
Producer	pro	E
Production manager	pmn	E
Production personnel	prd	E
Production place	prp	E
Recording engineer	rce	E
Restager	rsg	E
Scenarist	sce	E
Set designer	std	E
Singer	sng	E
Sound designer	sds	E
Speaker	spk	E
Stage manager	stm	E
Storyteller	stl	E
Technical director	tcd	E
Translator	trl	E
Videographer	vdg	E
Vocalist	voc	E
Architect	arc	W
Artist	art	W
Attributed name	att	W
Author	aut	W
Cartographer	ctg	W
Compiler	com	W

Composer	cmp	W
Conceptor	ccp	W
Creator	cre	W
Dubious author	dub	W
Honoree	hnr	W
Inventor	inv	W
Originator	org	W
Sculptor	scl	W

## 12.4 MANIFESTATION Record

This table lists the tags/subfields that are retained from the traditional bibliographic record for the Manifestation upon FRBR splitting. Note that the following tags are also copied to other entities (as indicated in the previous tables): 008, 040, 130, 240, 243, 245, 700, 710. Any subfield not copied to the Work or Expression is retained in the Manifestation.

<b>Tag</b>	<b>Subfields/Position</b>	<b>Notes</b>
008	All types and positions	
010	*	
011	*	
013	*	
015	*	
016	*	
017	*	
018	*	
020	*	
022	*	
024	*	
025	*	
027	*	
028	*	
030	*	
032	*	
035	*	
036	*	
037	*	
039		
040	*	
042	*	
044	*	
046	*	
050	*	
051	*	
055	*	
060	*	
061	*	
066	*	
070	*	
071	*	
080	*	

082	*	
084	*	
086	*	
088	*	
09x	*	
130	f	For Sound Recordings
210	*	
222	*	
240	f	For Sound Recordings
242	*	
243	f	For Sound Recordings
245	*	( <b>Note:</b> If no 245 tag exists in the MARC 21 bibliographic record, the FRBR record will display ERROR – NO TITLE.)
246	*	
247	*	
250	*	
257	*	
260	*	
263	*	
264	*	
270	*	
300	*	
307	*	
340	*	
351	*	
355	*	
357	*	
362	*	
400	*	
410	*	
411	*	
440	*	
490	*	
500	*	
501	*	
502	*	
504	*	
505	u	
506	*	
508	*	
510	u	
513	*	
514	u	

515 \*  
520 u  
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538 \*  
540 \*  
541 \*  
544 \*  
546 b  
547 \*  
550 \*  
552 \*  
555 \*  
556 \*  
561 \*  
562 \*  
565 \*  
580 \*  
581 \*  
583 \*  
584 \*  
585 \*  
700 \*  
  
710 \*  
752 \*  
753 \*  
760 \*  
762 \*  
770 \*  
772 \*  
773 \*  
774 \*  
775 \*  
777 \*  
786 \*  
787 \*

**Fixed Fields - 006**

The software copies positions in the 006 tag based on the 00 position value, which is always copied. Positions not listed in the table below are left blank.

<b>006 Type</b>	<b>00 position values</b>	<b>Positions to copy</b>
books	a, t	06
maps	e, f	12
serials	s	05, 06, 17
visual materials	g, k, o, r	12
mixed materials	p	06

## **13. Appendix C - FRBR and Changes to the Database Structure**

In implementing FRBR, we created a new `Bibliographic_Parent_Child` table, which stores parent-child relationships between bibliographic records, including FRBR relationships between Manifestations, Expressions, and Works. This table is generic and is not intended to describe what type of link exists between the parent and child, which must be determined by other information about the bibliographic records pulled from other tables. In addition, we modified the `Bibliographic_Record` table, which now stores the `FRBR_TYPE` identifier.

## 14. Appendix D - Identifying Potential FRBR Records

Before you convert your Virtua database to a FRBR database, you will want to determine which records in the database are potential candidates for becoming FRBR records. Virtua provides a script that identifies these records for you. The script, called **FRBRQualifyFromVTLS.sh**, provides a file of MARC bibliographic records that qualify for a FRBR conversion.

To run **FRBRQualifyFromVTLS.sh**,

1. Log in to your server as **dbadmin**.
2. At the database prompt, type: **FRBRQualifyFromVTLS.sh**
3. Press ENTER.

The script runs and does the following:

1. Creates a file of all Bib-IDs in the database (except those belonging to archive or FRBR records).
2. Runs **write2709.exe** to extract the Bib-IDs to ISO-2709 format MARC records.
3. Reads the file of MARC records and creates a temporary table called **Temp\_FRBR\_Analyze**, which will contain for each record...
  - A record ID (based on the record number in the file).
  - Tag 001 data from the 001 tag.
  - Author data from the 1xx subfield \$a and/or the 7xx subfield \$a (if there exists a \$t).
  - Title data from the 240 subfield \$a, or, if not available from the 240, then from the 245 subfield \$a and/or the 7xx subfield \$t (if there exists \$a).
  - Title data from the 130 subfield \$a.
4. Creates a file of record IDs for those records that qualify based on duplicate 130 fields and duplicate 240/1xx or 245/1xx combinations.

5. Runs a perl script that creates a new file of MARC bibliographic records that qualify for a FRBR conversion. These MARC records contain no duplicates. The script also reports a listing of the following displayed fields (i.e., all the subfields) for each record:

001  
1xx  
240  
245  
260  
264

**Note:** At the end of the process, you can produce a print version of the file of MARC bibliographic records by typing: **more <filename>.print**

**To convert the qualifying records to FRBR records and load them into your Virtua database,**

- Run **vload.exe**, specifying the FRBR splitting load option (for details, see the *Virtua Record Loading User's Guide*).

## 15. Appendix E - Enabling Location Filtering in Pre-49.6 Records

The Virtua client supports location filtering for items attached to Manifestations. To enable this functionality for FRBR records that existed in your database *prior to the 49.6 upgrade*, you must run the script **PopulateFRBRLocationFilters.sh** on your database.

To run **PopulateFRBRLocationFilters.sh**,

1. Log in to your server as the **dbadmin** user.
2. At the prompt, type: **PopulateFRBRLocationFilters.sh**

The script populates certain tables in your database to enable location filtering for items attached to Manifestations. It reports any errors or problems in a file named **PopulateFRBRLocation.log**.

Now when you use location filtering in a search or when you search in a consortium environment, filtering will be applied to items attached to Manifestation records. In this way, only Manifestations (and the associated Expression and Work) that have attached items from the specified location(s) will be displayed in the FRBR tree.

## 16. Appendix F - FRBR-related Scripts and Executables

Filename	Purpose	Location
<b>CombineFRBR.exe</b>	Recombines a set of FRBR entities into a traditional MARC 21 bib record.	<a href="#">Recombining FRBR Entities in Batch and Exporting to a File</a>
<b>CombineFRBRRecords.sh</b>	Recombines a set of FRBR entities into a traditional MARC 21 bibliographic record and reloads it into the database.	<a href="#">Recombining FRBR Entities in Batch and Reloading the Records</a>
<b>DeleteExtraCombinedFRBR.sh</b>	Removes extra FRBR combined records created when a subject tag was removed from a work previous to Virtua 2014.2.1.2 or 2014.3.	N/A
<b>Extract_FRBR_Records.sh</b>	Extracts all FRBR records in a database to a file that can be used to load FRBR records to another database.	<a href="#">Preparing FRBR Records to Load to Another FRBR Database</a>
<b>FRBRQualifyFromVTLS.sh</b>	Identifies records in a database that qualify for becoming FRBR records.	<a href="#">Appendix D - Identifying Potential FRBR Records</a>
<b>PopulateFRBRLocationFilters.sh</b>	To enable support for location filtering for items attached to Manifestations.	<a href="#">Appendix E - Enabling Location Filtering in Pre-49.6 Records</a>
<b>ReProcessFRBRWorksForSubjects.sh</b>	Indexes the subject headings of FRBR Work records.	<i>System Management: Cataloging User's Guide</i>
<b>FindMissingFRBRLinks.sh</b>	Identifies FRBR records with missing parent links.	<i>System Management: Cataloging User's Guide</i>
<b>CheckAllFRBRLinks.sh</b>	Checks all parent-child FRBR entities and verifies that they are linked correctly.	<i>System Management: Cataloging User's Guide</i>

## **17. Appendix G - Changes in this User's Guide**

### **17.1 Changes for Version 16.1**

No changes were made.

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