Getting more out of MARC for music and movies with Primo: strategies for display, search and faceting

1. MARC record

336	text ‡b txt ‡2 rdacontent
337	unmediated ‡b n ‡2 rdamedia
338	volume ‡b nc ‡2 rdacarrier
386	Americans ‡a Women ‡2 lcdgt

⭐

- Primo is a library search interface that can incorporate both MARC and non-MARC data from multiple sources

- All incoming records are transformed into a standard format: PNX (Primo normalized XML)

- PNX record has **sections**, such as search, display, facets, links

- Each section has **fields**, both out-of-the-box fields, such as title and creator, and 50-150 locally-defined fields

```
<record xmlns="http://www.exlibrisgroup.com/xsd/
primo/primo_nm_bib" xmlns:sear="http://www.exlib
risgroup.com/xsd/jaguar/search">

    <control>...</control>

<display>
    <type>pbook</type>
    <title>A fierce brightness : twenty-
        five years of women's
        poetry</title>
    ...
    <lds19>Creator Demographic Group:
        Americans; Women;</lds19>
    <lds37>Poetry; Poetry</lds37>
    ...
</display>
...
```

2. PNX record

⭐

Print Book

☆ **A fierce brightness : twenty-five years of women's poetry**
Margarita Donnelly, editor, writer of foreword.; Beverly McFarland, 1937- editor.; Micki Reaman, 1963- editor.; Hilda Raz, writer of introduction.; Carole Oles, writer of introduction.; Corvallis, Oregon : Calyx Books; 2002

🟢 Available at Knight Library 2nd-4th Floors (PS589 .F54 2002) **and other locations**

| Find in a library | **Details** |

Genre/Form: Poetry; Poetry
Additional subjects: 1900-1999; American poetry; American poetry -- Women authors; Women
Identifier: ISBN: 093497182X ;ISBN: 9780934971829 ;ISBN: 0934971838 ;ISBN: 9780934971836
OCLC Number: 50583369
Alma IZ record number: 99111879301852
Alma NZ record number: 99177940550001451
⭐ Work Information: Creator Demographic Group: Americans; Women;

3. Primo display

- Normalization rules to transform incoming records into PNX are written in Primo's web-based Back Office interface

Example Normalization Rule

Field name (local field #19 in display section)

Input for the rule (MARC 386 $a); rule processes one field at a time, but all instances of a subfield from the same field at once

Conditions that have to be met for input to be written to the PNX record (The current 386 field must include, in addition to $a, either $3 or $i)

Rule number 4 in list of rules for local display field 19; sometimes order does matter

Rule group display_lds19

	Type			Field	Ind1	Ind2	Subfield			
Source	MARC			386			Include	a	☑ Enabled	

	Conditions logic		Conditions relation	
Conditions ⊕	True		Or	

Condition 1 - Logic		True								
Condition 1 - Source	Type			Field	Ind1	Ind2	Subfield		Success If	
	MARC			386			Include	3	Match Current	⊕ −
Condition1 - Routines ⊕	General Parameter									
	Routine					Parameter				
	Input exists									⊕ −

Condition 2 - Logic		True								
Condition 2 - Source	Type			Field	Ind1	Ind2	Subfield		Success If	
	MARC			386			Include	i	Match Current	⊕ −
Condition2 - Routines ⊕	General Parameter									
	Routine					Parameter				
	Input exists									⊕ −

Transformations ⊕

Transformation		Parameter	
Define subfield delimiter		;^	⊕ −

	Behavior	First delimiter	First delimiter Space	Repeat Number	Remaining delimiters	Remaining delimiters spaces
Action	MERGE	:	After			None

e

Changes that will be made to the input before it is written to the PNX record (adds punctuation between multiple instances of $a by converting the subfield marker into a semicolon and space, where ^ represents the space); by default, subfields are separated by a space

ex. Americans Women → Americans; Women

How **output** of this rule relates to output of previous rules (merge = append to previous data, in this case content of $3 and/or $i, as part of the same instance of local display field 19)

Test ☑

2

257 (Country of Producing Entity) Display: Accounting for Variations

Two ways to record data in 257:

1. **string** (AMIM—Archival Moving Image Materials—cataloging style)

    257 **$a**France **;** Italy**.**

2. **subfielded values from controlled vocabulary with no punctuation**:

    257 **$a**France**$a**Italy*$2naf*

Additional variants are not uncommon:

    257 **$a**France ;**$a**Italy.*$2naf*

    257 **$a**France ; Italy*$2naf*
        ($a is same as 1st example in 1st
        column except it lacks final period)

Goal: Display all variants in a standard, readable form

1. Change any subfield delimiters to "; " (^ indicates space)

Transformation	Parameter
Define subfield delimiter	;^

2. Replace double semicolons with a single semicolon (@@ separates term to find and term to replace with)

| Replace string by string | ;;@@; |

3. Replace spaces with "++" Need this intermediate step because "replace string by string" won't take space as input (either " " or "^")

| Replace Spaces by String | ++ |

4. Remove any spaces in front of a semicolon by replacing "++;" with ";"

| Replace string by string | ++;@@; |

5. Change "++" back to space

| Replace string by string | ++@@^ |

6. Remove periods from the end of the string | Remove characters from the end | . |

	Start ($a)	$aFrance ; Italy.	$aFrance$aItaly	$aFrance ;$aItaly.
1	$a → "; "	France ; Italy.	France; Italy	France ;; Italy.
2	";;" → ";"	France ; Italy.	France; Italy	France ; Italy.
3	" " → "++"	France++;++Italy.	France;++Italy	France++;++Italy.
4	"++;" → ";"	France;++Italy.	France;++Italy	France;++Italy.
5	"++" → " "	France; Italy.	France; Italy	France; Italy.
6	Remove "."	France; Italy	France; Italy	France; Italy

382 (Medium of Performance): Making Data Display Intelligibly

1. First rule forces the start of a new PNX field

Source MARC ▾   382 [ ] [ ] Include ▾ *

Transformation
Write constant ▾   ^   **Parameter**

Behavior

Action ADD ▾

2. 382 $s [total number of performers] = 4

Source MARC ▾   382 [ ] [ ] Include ▾ s

Transformation
Use mapping table ▾   no_musical_parts   **Parameter**

Behavior   **First delimiter**   **First delimiter Space**   **Repeat Number**   Remai

Action MERGE ▾ [ ] None ▾ [ ]

> Mapping tables are used to transform lists of values; currently only goes to 9, but could be expanded

no_musical_parts mapping table

sourceCode1*	targetCode
2	Duet
3	Trio
4	Quartet
5	Quintet
6	Sextet
7	Septet
8	Octet
9	Nonet
1	Solo

Quartet: violin (2); viola (1); cello (1)

3. 382 $t [total number of ensembles] = 1

Transformations ⊕

Transformation   **Parameter**
Copy As Is ▾ [ ]
Add to end of string ▾ ^ensembles
Replace string by string ▾ 1 ensembles@@1^ensemble

Behavior   **First delimiter**   **First delimiter Space**   **Repeat Number**   **Remaining delimi**
Action MERGE ▾ [ ] None ▾ [ ] [ ]

1 ensemble, 1 solo: clarinet (1); big band (1) (solos for: clarinet)

4. 382 $r [total number of individuals performing alongside ensembles] = 1

Transformations ⊕

Transformation   **Parameter**
Copy As Is ▾ [ ]
Add to end of string ▾ ^solos
Replace string by string ▾ 1 solos@@1^solo

Behavior   **First delimiter**   **First delimiter Space**   **Repeat Number**   **Remaini**
Action MERGE ▾ , After ▾ [ ] [ ]

1 ensemble, 2 solos: trumpet (1); trombone (1); band (1) (solos for: trumpet; trombone)

> Comma in first delimiter box for merge action changes the **initial $r** into a comma before merging it with any preceding text in the same instance of this PNX field. If there is no preceding text, it does nothing. "After" in the first delimiter space box puts a space after that comma.

4

5. 382 $a [medium of performance], $b [soloist],
$e [number of ensembles of the same type],
$n [number of performers of the same medium] =

$b violin $n 1 $a singing bowl $n 1
$p crotales $n 1 $a string orchestra $e 1

When combining different types of MARC subfields from the same field in one PNX field, there are two options:

A. **Write separate rules for each subfield and then merge them** (rules 2-4, 6-9):
   - Can treat subfields differently
   - Cannot retain order of subfields; each type of subfield is processed sequentially

B. **Write one rule that takes multiple subfields as input** (rule 5):
   - Must treat all subfields the same way
   - Retains order of subfields

Transformation | **Parameter**

Define subfield delimiter | ;^

Violin; 1; singing bowl; 1; **1;** string orchestra; 1

Replace string by string | ; 1@@^(1)
Replace string by string | ; 2@@^(2)
...
Replace string by string | ; 9@@^(9)

Violin (1); singing bowl (1) (1); string orchestra (1)

Replace string by string |) (1)@@)
Replace string by string |) (1)@@)
...
Replace string by string |) (7)@@)
Replace string by string |) (8)@@)

violin (1); singing bowl (1); string orchestra (1)
(alternate instrumentation: crotales) (solos for: violin) [alternative for singing bowl]

All subfield delimiters have to be changed to the same string

Notice extra 1 from $n that goes with $p (alternate instrumentation); $p not included in this rule because it can't be distinguished (see rule 7 for $p)

Uses the fact that $n and $e are always numbers to remove extra semicolons and add parentheses around numbers; currently only works for numbers 1-9; need to look at data to see how high to go

Removes extra numbers; same problem with how high to go as above

Behavior | **First delimiter** | **First delimiter Space**
Action | MERGE | : | After

Adds colon space to beginning of string if merging with data from $s, $t or $r (rules 2-4); does nothing if none of these subfields are present

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6. 382 $d [doubling instrument] = bass drum

Transformation | **Parameter**
Define subfield delimiter | ;^
Add to beginning of string | (doubling:^
Add to end of string |)

	Behavior	First delimiter	First delimiter Space	Repeat Number	Rer
Action	MERGE		Before		

Quartet: violin (2); viola (1); cello (1) (doubling: bass drum)

7. 382 $p [alternative medium of performance] = cornet

Transformation | **Parameter**
Define subfield delimiter | ;^
Add to beginning of string | (alternate instrumentation:^
Add to end of string |)

	Behavior	First delimiter	First delimiter Space	Repeat Number	Remaining d
Action	MERGE		Before		

Solo: trumpet (1) (alternate instrumentation: cornet)

Extra words that are added to the display, such as doubling, alternate instrumentation, solo, and duet, are also added to the general search index (not shown)

8. 382 $b [soloist] = cello

Transformation | **Parameter**
Define subfield delimiter | ;^
Add to beginning of string | (solos for:^
Add to end of string |)

	Behavior	First delimiter	First delimiter Space	Repeat Number	Rer
Action	MERGE		Before		

Duet: cello (1); piano (1) (solos for: cello)

9. 382 $v [note] = boy's chorus

Transformation | **Parameter**
Add to beginning of string | [
Remove characters from the end | ^
Add to end of string |]

	Behavior	First delimiter	First delimiter Space	Repeat Numb
Action	MERGE		Before	

bass voice (1); male voice (7); children's chorus; chorus; orchestra (solos for: bass voice) [boy's chorus]

Experimenting with Facets

Genre

Drama (898)
Feature films (804)
Fantasy films (490)
Fiction films (426)
Film adaptations (245)
More options ⌄

Country of Production

United States (510)
Great Britain (131)
Japan (91)
France (84)
Canada (25)

Original Date

2010s (252)
2000s (180)
1990s (93)
1980s (74)
1970s (53)

Music: Musical Key

C major (51)
A minor (31)
C minor (27)

Music: Numeric Designation

op. 17 (9)
op. 33 (7)
K. 454 (1)
op. 23 op. 87 (1)
K. 386 (1)

Language

English (2,914)
Spanish (870)
French (865)
Japanese (308)
Chinese (128)

Original Language

English (828)
Japanese (177)
French (56)
Spanish (36)
Chinese (31)

Creator Demographic Group

Americans (1,226)
African Americans (704)
Men (701)
Gay men (78)
Oregonians (44)

Composer

Beethoven, Ludwig van, 1770-1827 (939)
Mozart, Wolfgang Amadeus, 1756-1791 (817)
Schubert, Franz, 1797-1828 (654)
Chopin, Frédéric, 1810-1849 (528)
Liszt, Franz, 1811-1886 (381)

Director

Yates, David, 1963- (30)
Miyazaki, Hayao, 1941- (16)
Charney, Nicolas H (16)
Tatge, Catherine (
Jackson, Peter, 196

Performer

Radcliffe, Daniel, 1989- (4
Watson, Emma, 1990- (44
Grint, Rupert, 1988- (44)
Smith, Maggie, 1934- (40)
Rickman, Alan (39)

Audience ⌃

Children (28,508)
Adults (4,887)
General audience (3,195)
School children (1,768)
Specialized audience (1,134)

Performer

London Symphony Orchestra (522)
Philharmonia Orchestra (London, England) (369)
Royal Philharmonic Orchestra (283)
London Philharmonic Orchestra (261)
Jandó, Jenő, 1952- (229)

382: Faceting on Medium of Performance

Facets shown after keyword search on "piano"

Refine Search

Include	Exclude	Music: Number of Parts
☐		2 parts (4,769)
☐		1 part (3,728)
☐		Ensemble (1,350)
☐		3 parts (1,060)
☐		4 parts (583)
☐		5 parts (437)
☐		9 parts (51)

$s total number or performers; followed by part(s)

$e number of ensembles→ "ensemble"

Music: Medium of Performance

- piano (11,406)
- violin (2,182)
- cello (1,724)
- orchestra (990)
- flute (890)
- viola (860)
- clarinet (845)
- piano (solo) (664)
- percussion (408)

$a medium of performance

$b soloist

List $b a second time followed by (solo)

Music: Medium of Performance Statement

- piano (1) (3,748)
- violin (1); piano (1) (801)
- piano (2) (413)
- piano (1); orchestra (1) (349)
- clarinet (1); piano (1) (207)
- piano (1); violin (1); cello (1) (163)
- violin (1); cello (1); piano (1) (161)
- piano (1); orchestra (128)
- piano (100)
- oboe (1); piano (1) (90)
- piano (1); violin (2); viola (1); cello (1) (68)
- piano (1); violin (1); viola (1); cello (1) (50)
- violin (2); viola (1); cello (1); piano (1) (43)
- violin (1); viola (1); cello (1); piano (1) (36)

$a medium of performance

$b soloist

$e number of ensembles of same type

$n number of performers of same medium

Challenges for collocation:

Numbering ($n) matters:

- piano (1)
- piano

Order matters:

- piano (1); violin (2); viola (1); cello (1)
- violin (2); viola (1); cello (1); piano (1)

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Refined by: Music: Medium of Performance: **violin** x   Music: Medium of Performance: **harpsichord** x

1   Score   ☆ **A miscellaneous collection of instrumental music for the organ, orchestra, chamber, and harpsichord**
George Frideric Handel, 1685-1759, composer.; Friedrich Chrysander, 1826-1901, editor.; William Babell, approximately 1690-1723, arranger of music.; Deutsche Händel-Gesellschaft, issuing body.; Ridgewood, New Jersey, U.S.A. : Gregg Press Incorported; 1965

● **Check holdings**

| Find in a library | **Details** |

Music Info: organ (1); orchestra (1) (solos for: organ)
organ (2); orchestra (1) (solos for: organ)
organ (1); string orchestra (1) (solos for: organ)
Duet: viola da gamba (1); harpsichord (1)
violin (2); continuo
flute (1); continuo
instrument (1); continuo
orchestra (1)
string orchestra (1)
Solo: harpsichord (1)
Duet: harpsichord (2)
singer (1); instrumental ensemble (1)

Aggregates can be misleading:

Limiting results to medium of performance of harpsichord and violin will retrieve resources that include both those instruments, *even if they are not from the same piece*

The medium of performance statement facet tries to compensate for this specific situation, but can't connect medium of performance with other facets, such as composer or musical key

Try it out:

http://alliance-primo-sb.hosted.exlibrisgroup.com/primo_library/libweb/action/search.do?vid=UO_NRWG

(https://tinyurl.com/ydea3veq)

Send feedback and suggestions to:

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