

# Getting started with 9xx/EDI in Unicorn

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## Why 9xx/EDI?

- To eliminate repetitive re-keying of born digital data
  - To streamline acquisitions workflow
  - To improve turn-around time for monograph ordering
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## Outline

- Part 1: Workflow Implications
  - Part 2: Implementation
  - Part 3: 9xx/EDI Step by Step
  - Part 4: Obstacles & Challenges
  - Part 5: Conclusions
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## **Part 1: Workflow Implications**

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## Current Workflow: Collections Librarians

- Paper slips from multiple vendors
  - Slips sorted manually
  - Slips routed to faculty through campus mail for input.
  - Selectors make final purchasing decisions, write fund numbers on paper slips, and send to acquisitions staff.
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## Current Workflow: Ordering

- Manual catalog search for duplicates
  - Manual OCLC search for cataloguing copy
  - PO's are manually created in Unicorn
  - Manual search of Blackwell's Collection Manager /YBP GOBI/ or Coutts to finally place orders
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## Current Workflow: Invoicing

- Item in hand checked against cataloguing copy.
  - Orderline is marked as received.
  - Invoice manually created in Unicorn based on paper invoice.
  - Unicorn invoices are marked as paid.
  - Paper invoices are sent to administration office for manual entry into Banner.
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## Current Workflow: Inefficiencies

- Born-digital data sent to us through snail mail.
  - Born-digital data shuttled around through inter-campus mail.
  - Results in a huge amount of redundant re-keying of born-digital data.
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## **New Workflow: 9xx/EDI**

- Selectors receive electronic notification slips.
  - Slips presorted according to desired criteria.
  - Slips distributed to multiple faculty reps through email.
  - Collections librarians make selection directly in Collection Manager.
-

## **New Workflow: 9xx/EDI**

- Acquisitions staff batch import CM records into Unicorn using 9xx reports.
  - Skeletal bib records, order, and orderline records are automatically created.
  - Order records are batch exported to Blackwell's via EDI.
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## **New Workflow: 9xx/EDI**

- Electronic invoice notification arrives through email.
  - Electronic invoices are downloaded and batch imported into Unicorn using EDI/X12 reports.
  - Invoice lines are automatically loaded & matched to order lines.
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## **New Workflow: 9xx/EDI**

- If desired, full MARC records can be delivered and imported to overlay skeletal records.
  - TOC's and other enrichment services.
  - Using Perl and API the invoices can be exported and reformatted for automatic load into Banner.
-

## Workflow Comparison: Keystrokes

Current Workflow	9xx/EDI Workflow
Dupes searched in Unicorn	Dupes identified as bibs loaded
OCLC is searched for copy	Skeletal records provided, full MARC copy available
Orders keyed into Unicorn	Orders loaded automatically
Orders searched and placed in vendor system	Orders are placed with vendor automatically
Invoices are keyed	Invoices loaded automatically
Invoice is keyed into Banner	Invoices can be automatically extracted for Banner feed

## 9xx/EDI Pilot Project: Scope

- Single vendor : Blackwell's North America
  - Monograph orders only
  - Small group of volunteer selectors and acquisitions staff
-

## **EDI Pilot Project: Objectives**

- To streamline acquisitions workflow.
  - To eliminate re-keying and redundancy.
  - To improve order turn-around time.
  - To identify EDI challenges in our environment.
  - \* Need to ensure that the EDI pilot would not impact on the regular paper-based ordering and invoicing process.
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## Part 2: Implementation

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## Implementation: Collection Manager

- Blackwell's Collection Manager Export profile.
  - Creation of separate EDI account with Blackwell's
  - Configure CM account permissions
  - Configure subject profiles for selectors
    - can stipulate grouping, sorting, frequency of slips
    - Selectors are not limited to ordering titles received via slip notification.
-

## Implementation: Unicorn Modules

- Order EDI and the 9XX loader modules (installed and configured by SirsiDynix).
    - Access to the appropriate reports
    - Perl scripts and mapping tables
    - Directory structure for file processing
-

## Implementation: Library Policy

General Configuration : Modify QEII

Name: QEII  
Description: Queen Elizabeth II  
User ID: QEII  
Loan period: UNLIMITED  
Accrue fine:  Yes  No  
Hold location: HOLDS-QEII

Closed days  
 Sunday  Monday  Tuesday  Wednesday  
 Thursday  Friday  Saturday

Closed dates: 24/12/1996-28/12/1996,31/12/1996  
Text index name: UNI  
NUC symbol:  
Acquisition display libs:  
Acquisition maintenance libs:  
Bill display libs: ALL\_LIBS  
Bill maintenance libs: ALL\_LIBS  
Circulation display libs: ALL\_LIBS  
Circulation libraries: ALL\_LIBS  
Hold permissions libraries: ALL\_LIBS  
Hold group libraries: ALL\_LIBS  
Serial display libs:  
Serial maintenance libs:  
User display libs: ALL\_LIBS  
User maintenance libs: ALL\_LIBS  
Standard address number: 3666646

Save Changes 1      Discard changes 2

- Library Standard Address Number (SAN) must be added to the acquisition library (QEII) in the library policy record.

## Implementation: Vendor Records

- Create duplicate vendor records for each vendor and currency.
    - ACQ-BNA-EDI-USD
    - ACQ-BNA-EDI-GBP
  - Be sure to include the library SAN and the vendor SAN in each record.
    - Blackwell's US SAN = **1697048**
    - Blackwell's UK SAN = **0012351**
-

# Implementation: Vendor Records

ACQ-BNA-EDI-USD      2007      Blackwell's North America - EDI

Basic Info

new ID: ACQ-BNA-EDI-USD

name: Blackwell's North America - EDI

customer number: TMUN-E      currency: USD

group1: UNITED-STA      ordering allowed:

group2: JOBBER      paying allowed:

group3: INVOICE

- Separate Vendor record for EDI
- Be sure to include your customer number in the basic information section.

## Implementation: Vendor Records

- The vendor SAN must be included in the extended information section

Blackwell's US SAN = **1697048**

Blackwell's UK SAN = **0012351**

- X12 CAPABLE must be included in COMMENT field.

Extended Info	
ALTVENDN	
SAN	1697048
TERMS	
NOTE	X12 CAPABLE
COMMENT	X12 CAPABLE

EDI ADDRESS--	
DOWNDIR	
DOWNFILE	UNIQUE
UPDIR	
UPFILE	UNIQUE
RCPT_MTH	FTP
SENDER_ID	1697048
REC_TRAN	810:bookinv.rmap
REC_TRAN	850:bookorder.map
XFER_USE	dyv960
XFER_PAS	
RCPT_SCR	ftpreceiveblackwell
FTP_PASS	NO
TRANSTYP	BOOK
X12_ISA01	00
X12_ISA02	
X12_ISA03	00
X12_ISA04	
X12_ISA05	ZZ
X12_ISA06	3666646
X12_ISA07	ZZ
X12_ISA08	1697048
X12_ISA11	U
X12_ISA12	00306
X12_ISA14	1
X12_ISA15	P
X12_ISA16	076
X12_GS02	3666646
X12_GS03	1697048
X12_GS07	X
X12_GS08	003060
X12_DESEP	052
X12_SEGTR	176
XFER_ADD	bbsftp.blackwell.com
XFER_SCR	ftpseblackwell
XFER_MOD	ASCII

- EDI address information will be supplied by vendor
- EDI reports use the EDI address fields to process x12 order and invoice records

## **Part 3: 9xx/EDI Step by Step**

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## Exporting 9xx records from vendor



Acquisitions menu Go Preferences Help Email Saveview Frames Search Sig

First Next Previous Last  
[\[ Back to Review Requests \]](#)

**Requests created from:** 01 May 2006 (from last month)  
**Number of titles:** 2 (Viewing 1 to 2)  
**Total USD list price:** USD82.94  
**Total GBP list price:** GBP0.00

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[\[ Request all \]](#) [\[ Order all \]](#) [\[ Export all \]](#) [\[ List all tagged titles \]](#) [\[ Add Title to Database \]](#)

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[1]  Gratzer, George A. **First steps in LaTeX** Birkhauser Boston Inc / Springer.. 0817641327. 9780817641320. R8-126075. **Low Stock US**. 1999. US. Paper. USD27.95  
[\[ Detail \]](#) [\[ Editions \]](#) [\[ TOC \]](#) [\[ Email \]](#) [\[ Request \]](#) [\[ Order \]](#) [\[ Export \]](#) [\[ Library notes \]](#)  
 **Request Date:** 16 June 2006 **Request By:** Igoddard **Code:** TMUN **Fund:** 72000-61 **Loc:** MAIN **Requested:** 1

[2]  Kopka, Helmut. **Guide to LATEX** (Addison-Wesley series on tools & techniques for computer typesetting) Addison Wesley Longman Ltd. 0321173856. 9780321173850. 4th ed.. R4-411460. **Low Stock US**. 2004. US. Book with media/software. USD54.99  
[\[ Detail \]](#) [\[ Editions \]](#) [\[ TOC \]](#) [\[ Email \]](#) [\[ Request \]](#) [\[ Order \]](#) [\[ Export \]](#) [\[ Library notes \]](#)  
 **Request Date:** 16 June 2006 **Request By:** Igoddard **Code:** TMUN **Fund:** 72000-61 **Loc:** MAIN **Requested:** 1

[\[ Back to Review Requests \]](#)

- Selection made directly in vendor interface.
- Electronic selection slips are enriched with TOCs, reviews, author bios.

## Exporting 9xx records from vendor

The screenshot shows a web browser window with the address bar displaying "http://cm.blackwell.com - Blackwell's Collectio...". The page content includes a search menu, a "Request" button, and a list of items. The first item is "Gratzer R8-126075" and the second is "Kopka, Addison West with media/so". The form fields are filled with: Customer Code: TMUN-E, Quantity: 1, Fund: 72000-61, Location: MAIN, Department: (empty), Internal Notes: (empty), and Notes to Blackwell: (empty). A note at the bottom states "\*only fields available for approval order".

- Selector indicates fund # and holding code for each selected title.
- Titles are marked as “requested” in vendor system.

## Exporting 9xx records from vendor

[1]  Gratzner, George A. **First steps in LaTeX** Birkhauser Boston Inc / Springer..  
0817641327. 9780817641320. R8-126075. **Low Stock US**. 1999. US. Paper.  
USD27.95  
[ [Detail](#) | [Editions](#) | [TOC](#) | [Email](#) | [Request](#) | [Order](#) | [Export](#) | [Library notes](#) ]  
 Request Date: 16 June 2006 Request By: Igoddard Code: TMUN Fund:

http://cm.blackwell.com - Blackwell's Col...  
File Edit View Favorites Tools Help

Request Date: 16 June 2006 Request By: Igoddard Code: TMUN  
Fund: 72000-61 Loc: MAIN Requested: 1

To queue a title for export, enter optional information below or click on the  
Copy button above to insert the information in the fields below. Click on the  
Queue! button to queue the title for export.

Customer Code:\*   
Quantity:   
Fund:   
Location:   
Department:   
Purchase Order Number:   
Internal Notes:\*   
Notes to Blackwell:

Internet

- Acquisitions staff select all records marked as “requested” by a given selector.
- Records are sent to the export queue.

## Exporting 9xx records from vendor



Acquisitions menu [Go] Preferences Help Email Saveview Frames Search

**Export request accepted**

[ [Back to acquisitions menu](#) ] [ [How do I?](#) ] [ [Go to Export Status](#) ]

**Export Queued Records**

Export files are delivered to the library's password-protected FTP directory at Blackwell's for retrieval via FTP. Alternatively, export files are available for download directly from the [Export File Status](#) screen in Collection Manager.

all queued  titles

titles

Format of export record: MaRC order record

Type of export: FTP

File name for FTP delivery:  
DYV960.CMO +  .DJUN16  
Format is DYV960.CMOxxxxx.DJUN16

- All queued records are batched into a single file for export.
- Staff include their own initials in file name for easy identification later.
- USD & GBP requests must be batched separately.

# Exporting 9xx records from vendor

Blackwell's Collection Manager - Microsoft Int...

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://cm.blackwell.com/cm.dll?BCM.983234:main:2474633> Go Links

Acquisitions menu Go Preferences Help Email Save view Frames Search Sign out

[ [Back to acquisitions menu](#)] [ [How do I?](#) ]

### Review Export File Status

Export files are delivered to the library's password-protected FTP directory at Blackwell's for retrieval via FTP. Alternatively, export files are available for download directly from Collection Manager. To download a completed export file from Collection Manager, click on a linked (i.e., underlined) file name below to follow the browser prompts to save the file locally or right-click on the file name to save the file.

Update report

Date	File Name	# of bytes	# of recs	Status
16 Jun 2006	DYV960.CMOLG01.DJUN16	0	0	Requested
15 Jun 2006	<a href="#">DYV960.CMOCW01.DJUN15</a>	3581	8	Completed
15 Jun 2006	<a href="#">DYV960.CMOLG01.DJUN15</a>	2459	5	Completed
14 Jun 2006	<a href="#">DYV960.CMOTEST.DJUN14</a>	1430	3	Completed
14 Jun 2006	<a href="#">DYV960.CMODUMMY.DJUN14</a>	480	1	Completed
14 Jun 2006	<a href="#">DYV960.CMO37446.DJUN14</a>	497	1	Completed

Internet

- Staff can view a list of all files available for download.
- Each file contains a batch of request records.

## Exporting 9xx records from vendor

The screenshot shows a web browser window titled 'Blackwell's Collection Manager - Microsoft Int...'. The address bar shows 'http://cm...'. A 'File Download' dialog box is open, asking 'Do you want to open or save this file?'. The file details are: Name: CMOLG01.DJUN16.mrc, Type: Unknown File Type, 1.80 KB, From: cm.blackwell.com. There are 'Open', 'Save', and 'Cancel' buttons. A checkbox 'Always ask before opening this type of file' is checked. A warning icon and text are also present: 'While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)'

Below the dialog box, a table of records is visible:

Date	File Name	bytes	recs	Status
16 Jun 2006	<a href="#">DYV960.CMOLG01.DJUN16</a>	1850	4	Completed
15 Jun 2006	<a href="#">DYV960.CMOCW01.DJUN15</a>	3581	8	Completed
15 Jun 2006	<a href="#">DYV960.CMOLG01.DJUN15</a>	2459	5	Completed
14 Jun 2006	<a href="#">DYV960.CMOTEST.DJUN14</a>	1430	3	Completed
14 Jun 2006	<a href="#">DYV960.CMODUMMY.DJUN14</a>	480	1	Completed
14 Jun 2006	<a href="#">DYV960.CMO37446.DJUN14</a>	497	1	Completed

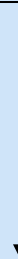
- Clicking on the name of a file initiates a download.
- Files are downloaded to local acquisitions workstation.

## Exporting 9xx records from vendor

- Downloaded files contain skeletal MARC records with order info in 9xx fields.

```
size=425 last=11 # tags=11
abs=1 num=000 start=88 len=9 amz 0n
abs=2 num=008 start=97 len=42 060421s2006 0
0 eng d
abs=3 num=010 start=139 len=15 2005036606
abs=4 num=020 start=154 len=19 1594549052|c79.00
abs=5 num=040 start=173 len=14 OrLoB|cOrLoB
abs=6 num=100 start=187 len=17 Killion, Ulric.
abs=7 num=245 start=204 len=94 12A modern Chinese journey to the
West :|beconomic globalization and dualism /|cUlric Killion.
abs=8 num=260 start=298 len=27 |bNova Science Pubs|c2006
abs=9 num=300 start=325 len=8 252 p.
abs=10 num=960 start=333 len=46 |m1|o1|q06-15-06|s79.00|tMain|u72000-65|zUSD
abs=11 num=961 start=379 len=34 |fcdoodu|hC2#VL595994 |iVL595994
```

Order  
information is  
included in tags  
960 & 961.



## 9xx Order Format

- Fund ID, Holding Code, Funded Quantity (segments info) must appear as separate subfields within same tag.

**.960. |m1|o1|q06-15-06|s79.00|tMain|u72000-65|zUSD**

- Tag can be repeated to allow for ordering multiple copies from varying funds and/or for different holding codes.
  - Unit Price and Currency are optional.
-



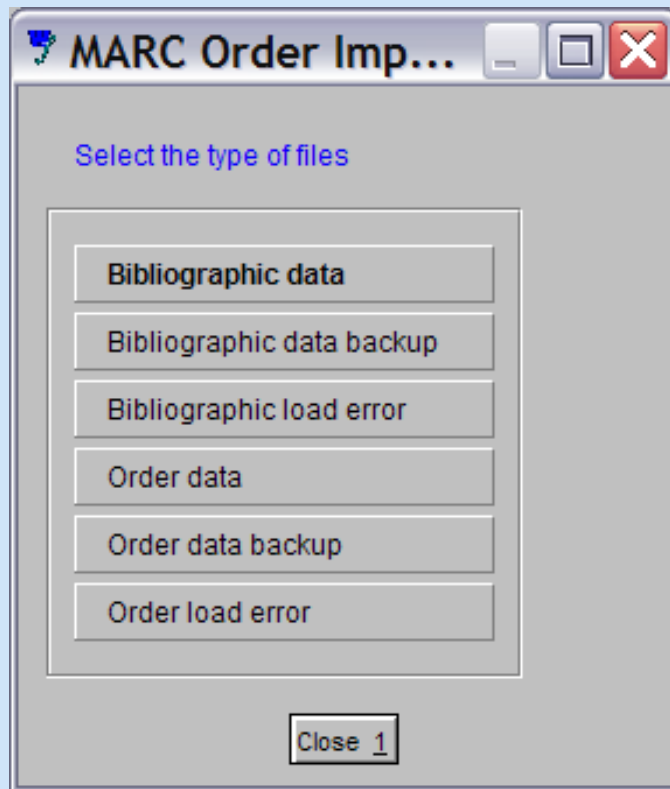
## 9xx/EDI Ordering: Unicorn Reports

- 1) Marc Order Import Utility Wizard
- 2) Load Bibs with Order Info (biborderload)
- 3) Load Flat Order Records (orderload)
- 4) Book X12 Orders (bookx12order)
- 5) EDI File Transmission

Step by step look at 9xx/EDI ordering in Unicorn...

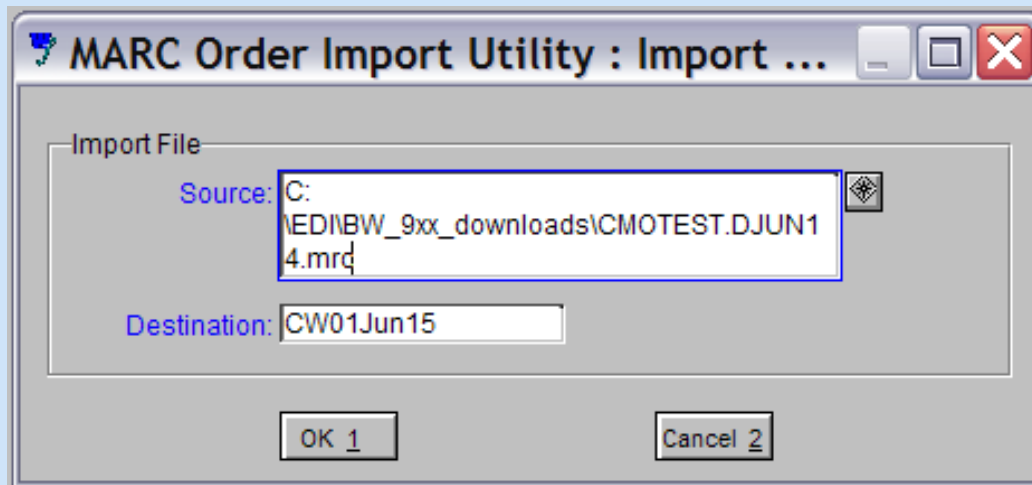
---

## MARC Order Import Utility wizard



- Imports vendors' MARC records to server
- Order information included in 9xx fields

## MARC Order Import Utility wizard



- Source = location of vendor record on C:
- Destination = name of file to be created on server

## Load Bibs with Order Info (Biborderload)

**Schedule New Reports : Load Bibs with Order Info**

Basic Information    Selection Criteria    Output Options

Input file  
File to load: CW01Jun15

Title control processing  
Title control number source for incoming items: ijl  
 Compare multiple occurrences of a title control number field (not recommended)  
Default record format: MARC  
Update title control information from title information entry: 245

Bibliographic record processing  
 Remove medical subject headings (MeSH)

Call number and copy processing  
Copy processing:  Create copies  
Class scheme: ONORDER

- Loads skeletal MARC records
- Extracts flat order records from 9xx fields

## Load Bibs with Order Info (Biborderload)

- Bibliographic records will be matched according to report criteria: TCN source (e.g. ijl)
  - Call number will always be created.
  - Can use only AUTO class scheme (e.g. ONORDER)
  - If desired, item can be created based on SIRSI holdings entry 999.
-

## Load Bibs with Order Info (Biborderload)

Duplicate Titles in Single File:

- Input file is checked for duplicate titles.
  - Only one record will be loaded for a given title.
  - Duplicate Title messages will appear in report output.
-

## Load Bibs with Order Info (Biborderload)

### Matched Records:

- No “Title control number matching rule” to control whether duplicate bibliographic records are loaded.
  - Matched records will be merged & existing 9xx fields overwritten.
-

## Load Bibs with Order Info (Biborderload)

MUN Work-around for Matched Titles:

- Bib records which were matched are noted by staff based on report output.
  - Order lines for unintentional duplicates are manually removed after orders are loaded.
-



## Load Bibs with Order Info (Biborderload)

- 999 entry added to each bib record from 9xx fields

LOADED BIB RECORDS

Produced Thursday, 15 June, 2006 at 12:19 PM

000: : |aamz 0n

008: : |a060404s2006 0 0 eng d

010: : |a2005934182

020: : |a0761833552|c42.00

040: : |aOrLoB|cOrLoB

100: : |aScruggs-Leftwich, Yvonne.

245: 10 : |aConsensus and compromise :|bcr  
National Urban

Policy under President Carter

260: : |bUniv Press of America|c2006

300: : |a269 p.

999: : |h**MAIN**

Holding code  
from 960 |t

Gadget: Segments...  
Segments tag number: 960  
Fund ID subfield: u  
Quantity funded subfield: 0  
Holding code subfield: t  
OK 1 Cancel 2

## Load Bibs with Order Info (Biborderload)

Order options

Maintenance library:

Order ID:  Auto-generated order ID, one orderline per bib record  
 Auto-generated order ID, one order per bib record  
 Order ID read from bib record

MARC tag number:  Subfield:

Vendor ID:

Order type:

Fiscal cycle:

Unit price tag number:  Subfield:

Currency:

Requisition number:

Additional orderline information

MARC tag number:  Subfield:

Entry ID:

Segments information:

Set date mailed, date to claim, date to cancel:  
 Yes  No

- Order records are extracted from 9xx fields of the skeletal MARC record, and flat order records are created.

Gadget: Segments...

Segments tag number:

Fund ID subfield:

Quantity funded subfield:

Holding code subfield:

OK 1 Cancel 2

## Load Bibs with Order Info (Biborderload)

- Report tests order load & identifies order records that are not going to load correctly.
  - One orderline per bib record or one order per bib record.
  - PO can be auto-generated by Unicorn, or loaded from 9xx fields from vendor.
-

## Load Bibs with Order Info (Biborderload)

- Extracted order records are placed in the Marcordimp/Orders directory with a unique file name.

\*\*\* DOCUMENT BOUNDARY \*\*\*

FORM=LDORDER

**.VEND\_ID.** |a**ACQ-BNA-EDI-USD**

.ORDR\_LIBR. |aQEII

.FISCAL\_CYCLE. |a2007

**.ORDR\_ID.** |a**PO-37457**

.ORDR\_TYPE. |aFIRM

.ORDR\_DATE\_READY. |a20060615

.ORDR\_DATE\_MAILED. |a20060615

.LINE\_ITEM\_BEGIN.

.LINE\_ITEM\_ID. |a1944190-1001

.LINE\_TITLEID. |a0761833552

.LINE\_VEND\_CURR. |aUSD

**.LINE\_UNIT\_PRICE.** |a**42.00**

**.LINE\_COPIES.** |a**1**

.LINE\_DATE\_MAILED. |a20060615

.LINE\_XINFO\_BEGIN.

.COMMENT. |aLG

.LINE\_XINFO\_END.

.LINE\_ITEM\_END.

.FUND\_SEGMENT\_BEGIN.

**.LINE\_FUND\_ID.** |a**72000-26**

.LINE\_FUND\_COPIES. |a1

.FUND\_SEGMENT\_END.

.DIST\_SEGMENT\_BEGIN.

.HOLDING\_CODE. |aMAIN

.DIST\_SEGMENT\_END.

## Load Flat Order Records (orderload)

Schedule New Reports : Load Flat Order Records

Basic Information Selection Criteria Output Options

Order File Selection

File to Load: [dropdown]

maintenance library: QEII [dropdown]

Test only:  Yes  No

Run Now 1 Schedule 2 Save As Template 3 Cancel 4

- Loads orders & orderlines created by biborderload report.

## Load Flat Order Records (orderload)

**Schedule New Reports : Load Flat Order ...**

Basic Information    Selection Criteria    **Output Options**

Print Order

Order information

Amount     Dates     Extended     Numbers

Order line information

Amounts     Bibliographic     Dates  
 Extended     Miscellaneous     Numbers

Segments information

Cancellation     Claiming     Distribution     Funding

Subtotals:  Yes     No  
Summary:  Yes     No  
Order/Order Line record per page:  Yes     No

Schedule 1    Run Now 2    Save As Template 3    Cancel 4

Output options allow acq staff to indicate which fields should be included in order & orderline records.

## Load Flat Order Records (orderload)

- Funds & vendors are automatically encumbered when orders are loaded
  - Encumbered amount includes orders placed from a particular fiscal cycle that have not yet been invoiced, paid, canceled, or removed.
-

## Load Flat Order Records (orderload)

### Overencumbered/Spent Funds

- If Block Over Encumbrance is not selected, the order, orderline, and all fundings and distributions load.
  - If Block Over Encumbrance is selected, the order and orderline load, but the funding and associated distributions do not.
  - “Test Only” option available in Load Flat Order Records.
-



## Load Flat Order Records (orderload)

**Modify Order:Displaying PO-37457**

<b>Order ID/Line</b>	<b>Vendor ID</b>	<b>FISCAL</b>
PO-37457/ALL	ACQ-BNA-EDI-USD	2007
<b>Total Line Items</b>	<b>Library</b>	<b>Total Copies Ordered</b>
5	QEII	5

Order    **Orderlines**

Line	Title
1	Consensus and compromise : creating the first national urban policy under President Carter / Yvonne
2	In the shadow of Wounded Knee : the untold final chapter of the Indian Wars / Roger L. Di Silvestro.
3	Japan's security strategy in the post-9/11 world : embracing a new realpolitik / Daniel M. Kliman ; fore
4	The Jewish divide over Israel : accusers and defenders / Edward Alexander, Paul Bogdanor, editors.
5	Sophie Scholl and the White Rose / Annette Dumbach, Jud Newborn.

Modify Orderline 1    Add Orderline 2    New Search 3    Close 4

## Book X12 Orders (BOOKX12ORDER)

Schedule New Reports : Book X12 Orders

Basic Information | Selection Criteria | Output Options

Report name: Book X12 Orders

Description: X12 Electronic Book Orders.

Title: X12 Electronic Book Orders

Footer:

Run Now 1 | Schedule 2 | Save As Template 3 | Cancel 4

- Prepares the Unicorn PO in an X12 formatted file for the vendor.

## Book X12 Orders (BOOKX12ORDER)

Schedule New Reports : Book X12 Orders

Basic Information Selection Criteria Output Options

Order Selection

Library: GEII  
Fiscal cycle:  
Type: FIRM  
DATE CREATED: -15/6/2006  
Date modified:  
Date ready:  
Date mailed:  
Date to claim:  
Date to cancel:  
Number of line items:  
Number of copies on order:  
Number of copies received:  
Number of copies claimed:  
Number of copies cancelled:  
Number of copies paid:  
Number of copies invoiced:  
Amount ordered:  
Amount funded:  
Amount invoiced:  
Total amount paid:  
Extended info:

Vendor Selection

Library: GEII  
Name: ACQ-BNA-EDI-USD  
Address 1 entry:  
Address 2 entry:  
Address 3 entry:  
EDI info:  
Extended info: \*COMMENT\*0\*@\*X12  
Accounting address indicator:  Address 1  Address 2  Address 3  
Service address indicator:  Address 1  Address 2  Address 3  
Order address indicator:  Address 1  Address 2  Address 3  
Customer number:  
Group 1:  
Group 2:  
Group 3:

- Selects orders based on date created, vendor, and the string “X12 capable” in the vendor COMMENT field.

## Book X12 Orders (BOOKX12ORDER)

- REC\_TRANS 850:bookorder.map
  - /Unicorn/Edi/Data/bookorder.map
  - Encodes Sirsi PO elements into x12 standard formatting.
-

## Book X12 Orders (BOOKX12ORDER)

- /Unicorn/Edi/Outgoing/15425/1002.x12
- PO & orderline information is included to enable invoice matching.

ISA\*00\*        \*00\*        \*ZZ\*3666646        \*ZZ\*1697048        \*060615\*172  
 7\*U\*00306\*000001002\*1\*P\*>~GS\*PO\*3666646\*1697048\*060615\*1727\*1002\*X\*003060  
 ~ST\*850\*100200001~BEG\*00\*NE\***2007-PO-37457**\*\* 060615~REF \*IT\*3666646~N1\*BS\*  
 Queen Elizabeth II Library\*91\*3666646~N4\*St. John's, NL\*\*A1B 3Y1

~**PO1\*1\*1**\*EA\*46.16\*PE\*IB\*0761833552~PID\*F\*08\*ZZ\*A1\*Scruggs-Leftwich,  
 Yvonne.~PID\*F\*08\*ZZ\*T1\*Consensus and compromise : creating the first National Urban  
 Policy under Presid~PID\*F\*08 \*ZZ\*T2\*ent Carter~REF\*CR\*1

~**PO1\*2\*1**\*EA\*27.48\*PE\*IB\*0802714617~PID\*F\*08\*ZZ\*A1\*DiSilvestro, Rog  
 er L.~PID\*F\*08\*ZZ\*T1\*In the shadow of Wounded Knee : the untold final chapter of the  
 Indian Wars / Ro~PID\*F\*08\*ZZ\*...

## Book X12 Orders (BOOKX12ORDER)

X12 records are written to /Unicorn/Edi/Outgoing/*vendorkey*

/s/sirsi/Unicorn/Edi/Outgoing/15425

= all orders for Blackwell's (USD)

/s/sirsi/Unicorn/Edi/Outgoing/15426

= All orders for Blackwell's (GBP)

---

## Book X12 Orders (BOOKX12ORDER)

Adds record of x12 file creation to /Unicorn/Edi/Data/translist:

```
1051|15425|7|O|200607201200|000000000000|N|
```

1051 = x12 file name 1051.x12

15425 = /s/sirsi/Unicorn/Edi/Outgoing/15425 (Blackwell's USD)

O = Outgoing

200607201200 = date x12 file created

000000000000 = date file sent (never)

## EDI File Transmission

**Schedule New Reports : EDI File Transmission**

Basic Information    Selection Criteria

Vendor Selection

Library: QEII

Name:

Address1 entry:

Address2 entry:

Address3 entry:

EDI info:

Extended info: \*SAN\*0\*@\*1697048:

Accounting address indicator:  Address 1     Address 2     Address 3

Service address indicator:  Address 1     Address 2     Address 3

Order address indicator:  Address 1     Address 2     Address 3

Customer number:

Group 1:

Group 2:

Group 3:

Currency:

Ordering allowed:  Yes     No

Paying allowed:  Yes     No

Number of cycles:

Number of copies unfunded/invoiced:

Amount unfunded/invoiced:

Number of invoices:

- Sends X12 order records to vendor's ftp server.
- Selects all records for vendor with SAN 1697048 (Blackwell's USD).



## EDI File Transmission

- Selects vendor key for vendor with SAN 1697048 (Blackwell's USD) = 15425
- Reads translist for all files from 15425, of type order (O), with a date sent of 000000000000

```
1051|15425|7|O|200701031334|000000000000|N|
```

- Locates appropriate X12 order files for upload:  
/Unicorn/Edi/Outgoing/1051.x12

## EDI File Transmission

- Uses receive script from vendor EDI address  
XFER\_SCR field (/Unicorn/Edi/Scripts/ftpsendblackwell.pl)
- Script creates connection with vendor FTP server  
based on variables in EDI address

.XFER\_ADDR. = vendor ftp server address

.XFER\_USER. = ftp username

.XFER\_PASS. = ftp password

.XFER\_MODE. = ASCII or BIN

.FTP\_PASS. = use passive ftp?

## EDI File Transmission

- Updates EDI translist entry with date file was sent .

1051|15425|7|O|200701031334|200701031334|N|

## Vendor Acks Receipt of Orders

TO: TMUN-E - MEMORIAL UNIVERSITY OF NEWFOUNDLAND - ACQUISITIONS

We have received and are processing the following order(s) for you.

QTY	ISBN	ISBN13	TITLE	CUST	PO#
1	9780819567741		Glamour addiction : inside the	2007-PO-39329	
1	9780742542679		Science of God : truth in the	2007-PO-39329	
1	9780802094247		A history of Canadian legal th	2007-PO-39329	
1	9780802039026		International law and indigeno	2007-PO-39329	
1	9781933146294		Reading America : text as a cu	2007-PO-39329	
1	9780802094568		Hunting the 1918 Flu : One Sci	2007-PO-39329	
1	9780807830369		The American Civil Liberties U	2007-PO-39329	
1	9780226238043		Sloan rules : Alfred P. Sloan	2007-PO-39330	
1	9780415348058		Managing modernity : politics	2007-PO-39330	
1	9780335212576		Understanding drugs, alcohol a	2007-PO-39330	
1	9780415333856		Restructuring the Chinese city	2007-PO-39330	

## EDI Invoicing: Unicorn Reprts

- 1) EDI File Retrieval Via FTP (ediretrieveftp)
- 2) EDI File Receiving (edireceive)
- 3) Book X12 Invoices (BOOKX12INVOICE )

Step by step look at EDI invoicing in Unicorn...

---

## Vendor notification: EDI invoices

From: techserv@blackwell.com  
Sent: Tuesday, September 05, 2006 3:20 PM  
To: Goddard, Lisa  
Subject: XIO File Is Ready

Your data is now available to be retrieved via ftp from [bnaftp.blackwell.com](ftp://bnaftp.blackwell.com).  
Details for the file follow:

### EDI X12 Invoices

Segment count:           33  
byte count:               2,640  
File name:   DYV960.XIO01.TMUN-E.D03SEP06

Remember to exclude the UserID (i.e., the first six characters of the file name) when using the file name with the GET command.

---

## EDI FILE RETRIEVAL Via FTP (ediretrieveftp)

**Schedule New Reports : EDI File Retrieval Via FTP**

Basic Information | **Selection Criteria**

Vendor Selection

Library:    
Name:   
Address1 entry:    
Address2 entry:    
Address3 entry:    
EDI info:    
Extended info:    
Accounting address indicator:  Address 1  Address 2  Address 3  
Service address indicator:  Address 1  Address 2  Address 3  
Order address indicator:  Address 1  Address 2  Address 3  
Customer number:   
Group 1:    
Group 2:    
Group 3:    
Currency:    
Ordering allowed:  Yes  No  
Paying allowed:  Yes  No  
Number of cycles:    
Number of copies unfunded/invoiced:    
Amount unfunded/invoiced:    
Number of invoices:

- Selects vendors according to report criteria
- Connects to vendor server and downloads X12 invoice files

## **EDI FILE RETRIEVAL Via FTP (ediretrieveftp)**

- Uses receive script from vendor EDI address RCPT\_SCR field (/Unicorn/Edi/Scripts/ftpreceiveblackwell.pl)
  - Script creates connection with vendor FTP server based on variables in EDI address
-



## EDI FILE RETRIEVAL Via FTP (ediretrieveftp)

Checking for EDI files at ACQ-BNA-EDI-USD.

...

Connecting to host bbsftp.blackwell.com

Receiving file(s) into the INBOX...

File XIO01.TMUN-E.D03SEP06:

Downloaded to ftp\_PfYhya.x12.

Deleted from remote server.

1 file(s) retrieved.

File XIO01.TMUN-E.D10SEP06:

Downloaded to ftp\_RZabEa.x12.

Deleted from remote server.

2 file(s) retrieved.

## EDI FILE RETRIEVAL Via FTP (ediretrieveftp)

Vendor X12 files are written to /Unicorn/Edi/Incoming

ISA\*00\*            \*00\*            \*ZZ\*1697048            \*ZZ\*3666646  
\*061210\*203

0\*U\*00306\*000000031\*0\*P\*~^GS\*IN\*1697048\*3666646\*061210\*203  
0\*20\*X\*003060^ST\*810\*0 00000026^BIG\*061204\*10765360^N1\*BY  
\*\*91\*TMUN-E^N1\*SE\*\*ZZ\*1697048^ITD\*01\*3\*\*\*\*070118\*45^ IT1\*  
1\*1\*EA\*79\*\*IB\*141292555X\*EN\*9781412925556\*VN\*23144431\*PO\*  
2007-PO-38853^PID\*F\*\*ZZ\*A1\*Coman, Mihai.^PID\*F\*\*ZZ\*T1\*Media  
anthropology^PID\*F\*\*ZZ\*B4\*HBK^REF\*CR\*1^IT1\*2\*1\*EA\*50.44\*\*IB\*  
1558609016\*EN\*9781558609013\*VN\*25727008\*PO\*2007-PO-38  
856^PID\*F

## EDI File Receiving (edireceive)

Screenshot of the "Schedule New Reports : EDI File Receipt" dialog box. The dialog has two tabs: "Basic Information" and "Selection Criteria". Under "Basic Information", there are four text input fields: "Report name" (EDI File Receipt), "Description" (EDI file receiving.), "Title" (EDI File Receiving), and "Footer" (empty). At the bottom, there are four buttons: "Schedule 1", "Run Now 2", "Save As Template 3", and "Cancel 4".

- Reformats X12 invoice for load into Unicorn.
- Must include vendor fiscal cycle in selection criteria

## EDI File Receiving (edireceive)

- REC\_TRANS field (810:bookinv.rmap)
  - /Unicorn/Edi/Data/bookinv.rmap
  - Decodes X12 invoice file into flat file formatted for load into Unicorn.
-

## EDI File Receiving (edireceive)

- Formatted invoice is written to /Unicorn/Edi/Receive/

.INVOICE\_DATE. 061204  
**.INVOICE\_ID. 10765360**  
.INVLINE\_COPIES. 1  
.UNIT\_PRICE. 79.00  
**.ORDERLN\_NUM. 1**  
.ISBN. 141292555X  
.ISBN. 9781412925556  
.ORDER\_FC\_ID. **2007-PO-38853**  
.INVLINE\_COPIES. 1  
.UNIT\_PRICE. 50.44  
**.ORDERLN\_NUM. 2**  
.ISBN. 1558609016  
.ISBN. 9781558609013  
**.ORDER\_FC\_ID. 2007-PO-38856**

Invoice contains PO  
information for matching  
invoice lines against  
order lines

## Book X12 Invoices (BOOKX12INVOICE )

- Updates translist, one line per invoice received

```
1046|15425|10|||200611291338|00000000000000|N|
```

---

## Book X12 Invoices (BOOKX12INVOICE )

**Schedule New Reports : Book X12 Invoices**

Basic Information    Selection Criteria    Output Options

Fiscal cycle: 2007

Handling fund ID: HAND-EDI

Tax fund ID: HAND-EDI

Schedule 1    Run Now 2    Save As Template 3    Cancel 4

- Loads X12 invoices
- Must include fund ID to which shipping/handling and tax lines will be written

## Book X12 Invoices (BOOKX12INVOICE )

**Schedule New Reports : Book X12 Invoices**

Basic Information   Selection Criteria   **Output Options**

Print Invoice

Invoice information

Amount    Dates    Extended    Numbers

Invoice line information

Amount    Check    Extended  
 Funding    Miscellaneous

Totals:  Yes    No  
Record per page:  Yes    No

Schedule 1   Run Now 2   Save As Template 3   Cancel 4

- Output options determine what information is included in invoice & invoice lines



## Book X12 Invoices (BOOKX12INVOICE )

- Checks translist for any invoices (fourth field = I) with a date loaded of 000000000000 (never)

```
1046|15425|10|I|200611291338|000000000000|N|
```

---

## **Book X12 Invoices (BOOKX12INVOICE )**

- Loads invoices and invoice lines.
  - Updates translist entry with date loaded.
  - Output details all invoices created, and the orderlines with which they are associated.
-

## Book X12 Invoices (BOOKX12INVOICE )

**DISPLAY1 INVOICE**

10748700      ACQ-BNA-EDI-USD      ALL

Summary

**SUMMARY (15 LINES)**

DATE CREATED: 8/1/2007      date modified: 8/1/2007  
date invoiced: 13/11/2006

# inv lines: 15      # copies: 14  
currency: USD

total amt invcd:	\$547.53	total amt paid:	\$0.00
native total invcd:	\$640.54	native total paid:	\$0.00

Extended Info

**EXTENDED INFO:NONE**

Invoice Line Info

line: 1	copies: 1	amt: \$50.09	exch: TABL	link: ORDER
order ID: PO-38856			line item#: 6	fiscal: 2007
		date paid: NEVER		check#:
line: 10	copies: 1	amt: \$15.05	exch: TABL	link: ORDER
order ID: PO-38876			line item#: 5	fiscal: 2007
		date paid: NEVER		check#:

Invoice is now ready  
for processing in  
Unicorn.

## Data Feed: Unicorn to Banner

- Sel script to select all invoice records from ACQ-BNA-EDI-USD.
  - Invoice selection according to invoice date.
  - Invoices output to flat ASCII file.
-

## Data Feed: Unicorn to Banner

Invoice ID:10765361

Vendor ID:ACQ-BNA-EDI-USD

currency:USD

invoiced:\$61.81

total paid:\$0.00

(invoiced:\$71.36

total paid:\$0.00 )

dates--

DATE CREATED:19/12/2006 date modified:19/12/2006 date

invoiced:4/12/2006

---

1) Order Line

.block

exchange:.8660

invoiced:\$21.10

total paid:\$0.00

(invoiced:\$24.36

total paid:\$0.00 )

Fund:72000-99

copies:1 amt:\$24.36

## Data Feed: Unicorn to Banner

Perl script to parse pertinent data elements out of invoice:

Vendor ID	Vendor Inv. #
Invoice Date	Vendor Name
Seq #	Tax Type
Payment Due	Inv .Total Before Taxes
Currency	Fund

## Data Feed: Unicorn to Banner

Perl script combines these fields with other data elements necessary for Banner feed.

- Document Code (Assigned by Financial Services)
  - Record Type Indicator (Constant)
  - Invoice Type (Constant)
  - Organization Number (Constant)
  - Program Code (Constant)
  - PO Liquidation Indicator (Constant)
-

## Data Feed: Unicorn to Banner

- Outputs delimited file with all necessary elements.
- Each line represents a single invoice.

```
I71370011,1,INNI,Blackwells,0001697048,10272006,  
000000006181,100001,41730,72000,3100,10765361,11272006,N,  
HH
```

Document Code, Record Type Indicator, Invoice Type, Commodity Description, Vendor ID, Invoice Date, Transaction Amount, Fund Code, Org. Code, Account Code, Program Code, Vendor Invoice Number, Due Date, PO Liquidation Indicator, Tax Group

---



## Data Feed: Unicorn to Banner

- Banner AP Header added to each feed file:

UNICFEED,0,UNIP01,10282006,000000006181,Unicorn Feed  
BNA,06

System Identification, Record Type Indicator, Batch Identifier, Batch  
Date, Batch Amount, Batch Description, Bank Code

- Feed FTP'd to Banner Server at Financial Services.
-

## **Part 4: Identified Obstacles & Challenges**

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## Implementation Challenges

- Acquisitions Workflow
    - Cannot easily recreate paper-based workflow in electronic environment
    - Substantially changes work processes of acquisitions staff
-

## Implementation Challenges

- Systems support
    - Implementation requires substantial planning and coordination by Systems division
  - Training needs
    - For selectors to place requests in vendor interfaces
    - For acquisitions staff to learn new processes
-

## Implementation Challenges

- De-duping of orders
    - No easy way to test for duplicate bibliographic record before loading orders.
    - Ideally the vendor interface would provide an ISBN search link to catalogue.
-

## Implementation Challenges

- Multiple vendors
    - MUN currently divides monograph orders among three major vendors: Blackwell's, YBP, Coutts
    - Acq staff usually select vendor to meet quotas
    - 9xx orders are made from the vendor native interface by selector
    - Slip de-duping between vendors
-

## Part 5: Conclusions

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## Conclusions

- Potential for streamlining business processes.
  - Need to revisit processes and policies which were developed in paper-based environment.
  - Need to consider cost/benefit of purchasing full MARC records & TOC enrichment from vendor.
  - Implementation requires significant investment of time and interdepartmental co-operation.
-