NCIP Lending & Borrowing
With Polaris

POLARIS
LIBRARY SYSTEMS

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POLARIS
LIBRARY SYSTEMS

This document is written for Polaris 4.1R2

Contents

Polaris NCIP Integration

NCIP (NISO Circulation Interchange Protocol) is a standard suite of messages designed to allow disparate systems, such as the Polaris ILS and regional resource sharing solutions or ILL applications, to exchange data in support of lending and circulating material among members of the two systems. Without the intermediary NCIP protocol, the two systems, which rely on different platforms with different data structures, would not be able to communicate. The integration makes it possible to take steps in one system that automatically updates records in the other, eliminating the need to duplicate work in each system. The circulation activity is supported by settings that individual participants configure to reflect their local policies and workflow.

This section and those that follow cover general considerations for NCIP integration.

Preparing Your System

In your Polaris system, NCIP is considered a service, much like SIP. It must be installed on your server and requires some configuration. See "Install Polaris NCIP Service on Your Server" on page 2 for details. If NCIP has not been installed, or you are unsure of the installation, contact your Polaris Site Manager.

You will work closely with Polaris Library Systems and your regional ILL service provider or cooperative to set up NCIP communication. If you allow the initial installation on your Polaris training server, Polaris can test the network connectivity and verify the data exchange using test records, before moving into the production environment.

Important:
This NCIP integration requires Polaris 4.1 or later.

Prepare Your Network

☐ **Allow access to your server** - Allow access through your firewall for outside ports to facilitate testing. Check with your network administrator; commonly used ports are:

- 5059 (NCIP port)
- 8080 (HTTP port)
- 443 (HTTPS port)
- 8443 (Other HTTPS port)

> **Note:**
> You may need an external DNS.
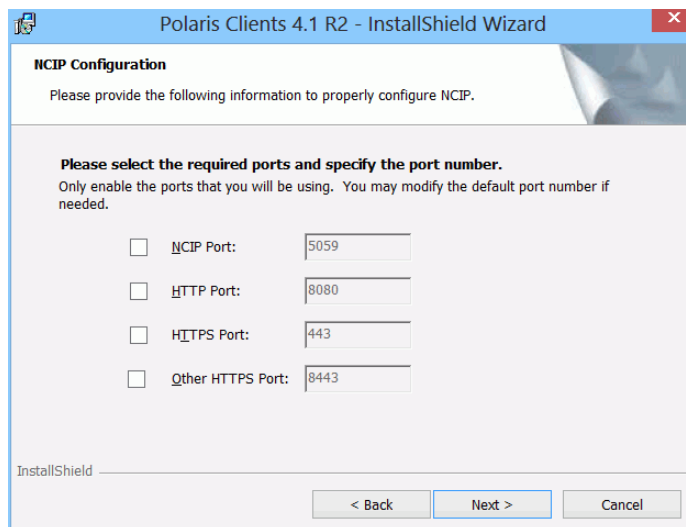
☐ **Secure Socket Layer (SSL) certificate** - You will need an SSL certificate for the domain. You may create a self-signed certificate.

Install Polaris NCIP Service on Your Server

Install the Polaris NCIP components on the appropriate server (typically your Polaris application server). NCIP components are part of the Polaris *client* software installation package. The illustration shows the NCIP option selected in the Polaris Clients installation wizard.
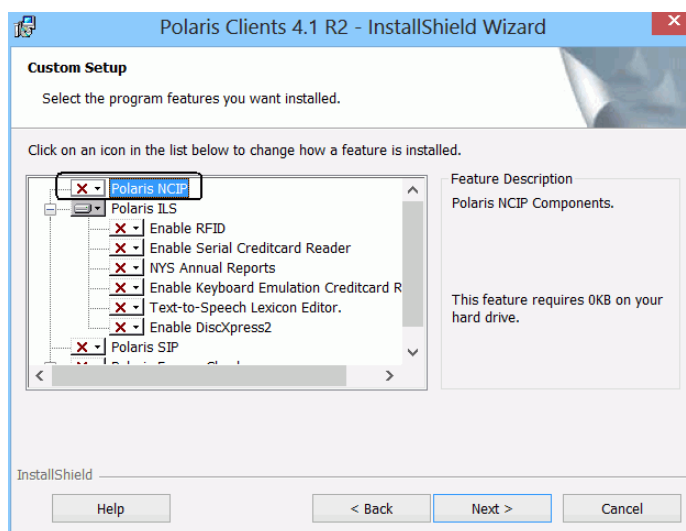
When NCIP components are selected for installation, you also enable the appropriate ports and specify the port numbers (or accept the default port numbers).
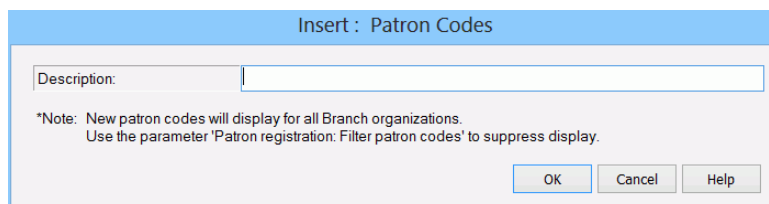
For more information about installing Polaris software, see the *Polaris Installation Guide*, or contact your Polaris Site Manager for installation assistance.

Prepare Polaris

Note:

When you add a new patron code, it displays for all branch organizations, but you can prevent it from displaying using the **Patron registration: Filter patron codes** parameter.

☐ **Define a patron code to be associated with ILL patrons** - Using the Patron Codes policy table in Polaris Administration, define a readily-identifiable patron code (such as **ILL Agency**) to be used for ILL patrons.

☐ **Give ILL patron code maximum loan limits** - Use the Patron Material Type/Loan Limit Blocks policy table in Polaris Administration to give the new ILL patron code the maximum possible for all limits.

☐ **Create a patron record** - Create a single patron record to be used for lending items to all libraries. When the request is filled in the other system, the Polaris item will be checked out automatically to this NCIP patron.

- Give the "patron" your library address or the address of your ILL processing center. You may want to use a staff member e-mail address in this record.
- This patron record must have the patron barcode **NCIPpatron001** (upper or lower case). If the barcode is changed, the request process will fail.
- The patron record should have the patron code you created for ILL patrons.

- Depending on your workflow, consider exempting the patron from all notification. Select (check) the following options in the patron record:

    - **Exclude from collection agency**
    - **Exclude from overdue notice**
    - **Exclude from hold notice**
    - **Exclude from billing**

- Select (check) **Do not delete patron record**.

□ **Create item templates** - Create two item templates for each branch.

> **Note:**
> For preliminary testing, you need only create templates for the test branch.

- Name one template **ILL Item**. Name the other template **NCIP Item**.

> **Note:**
> The NCIP Item template is for future use only; it is recommended to accommodate possible ILL service provider changes.

- Give the item templates your preferred defaults for material, fine and loan period, and stat class. Be sure to check **Holdable** and **Loanable outside system**.

Note:
Currently the **Loanable outside system** setting does not directly impact NCIP loaning; it is used to indicate loanable items retrieved via Z39.50 searches supported by the ILL application.

☐ **Map NCIP patron codes to Polaris patron codes** - NCIP has its own set of defined patron codes ("privilege types"). These codes must be associated with the Polaris patron codes that are allowed to place ILL requests. In Polaris Administration, use the system-level policy table **NCIP User Privilege Types** to map Polaris patron codes to the NCIP public use privilege types and/or academic user privilege types.

The available public user types include **Adult**, **Child**, **Senior**, **Staff**, and **Young Adult**. Available academic user types include **Faculty**, **Graduate**, **Postdoctoral**, **Staff**, and **Undergraduate**. If **None** is selected, the Polaris patron code is not mapped to any NCIP user privilege type, and will not be authenticated for ILL requests. If a new Polaris patron code is added to your system, it is automatically listed in the table with a default value of **None** (no mapping) for both public and academic user privileges. You need the System Administration permission **Modify NCIP User Privilege Types table: Allow** to modify this table.

☐ **Map NCIP medium types to Polaris item material types** - NCIP medium types, listed in the table below, must be mapped to your library's item material types for requests where the Polaris library is the lender and for requests where the Polaris library is the borrower.

NCIP Medium Type ID	Description
1	Audio tape
2	Blu-Ray
3	Book
4	Book with Audio Tape
5	Book with Compact Disc
6	Book with Diskette
7	Bound Journal
8	CD-Rom
9	Compact Disc (CD)
10	Diskette
11	DVD
12	Magazine
13	Microform
14	Video Tape

To associate Polaris item material types with NCIP medium types for outgoing and incoming ILL transactions, use the following policy tables available at the System level only:

Note:
These tables are populated with default values, but you should review both tables before implementing ILL.

- **NCIP Medium Types: Outgoing** - Maps the library's Polaris item material types to NCIP medium types for outgoing ILL requests where the Polaris library is the lender.
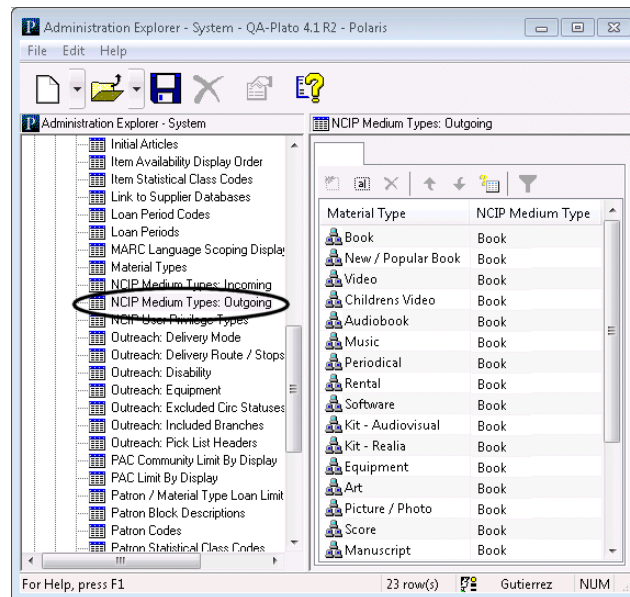
You can assign none, one, or more than one item material type to each NCIP medium type, but an item material type can be assigned to only one NCIP medium type. The default NCIP medium type is **Book**. If you select **None** for the Medium Type, an item material type cannot be assigned to that medium type. To map an item material type to an NCIP medium type, double-click the material type. The Modify dialog box appears. Select an NCIP Medium Type from the list and click **OK**.
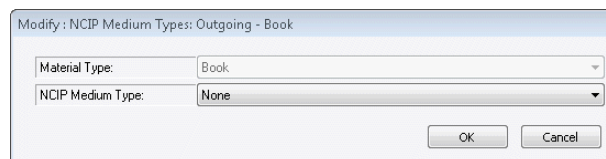
- **NCIP Medium Types: Incoming** - Maps NCIP medium types to Polaris item material types for incoming requests where the Polaris library is the borrower. This table allows the library to create ILL items with different material types. The default item material type is ID 01 (typically Book, as in the following example, but your library may assign a different material type to ID 01 in the Material Types policy table).
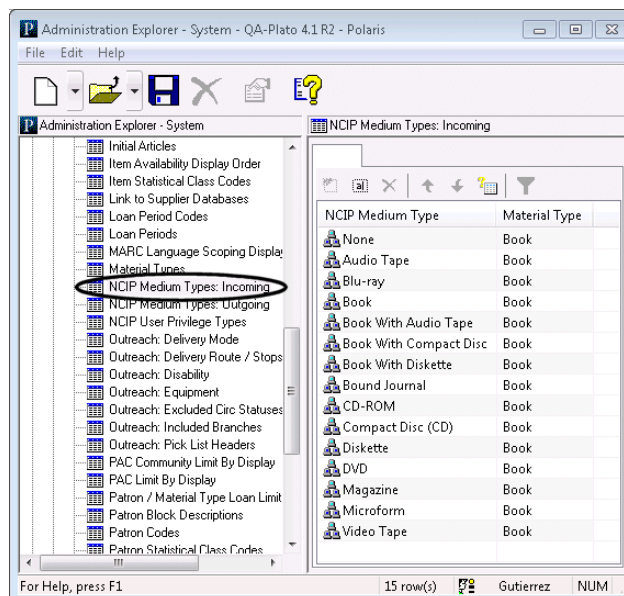
To map an NCIP medium type to an item material type, double-click the medium type. The Modify dialog box appears. Select a Polaris material type from the list and click **OK**.
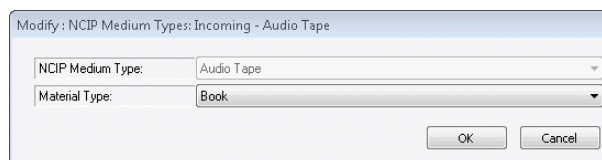
Note:

To work with these tables, you must have the following permissions:

Modify NCIP Medium Types: Outgoing - Allow

Modify NCIP Medium Types: Incoming - Allow

☐ **Log transactions for reports** - NCIP processing may create ILL bibliographic and item records. These transactions are logged as **3016 ILL bibliographic record created** and **3020 ILL item record created**, subtype 286 (created through NCIP). In Polaris Administration, open the system-level database table Transaction Logging and confirm that **ILL bibliographic record created** and **ILL item record created** are set to be logged. These settings make the transaction data available for reports. For more information about logging transactions, see the *Polaris Administration Guide* or staff client online Help.

Preparing Your Staff

Your resource sharing vendor and/or regional provider should provide training on their system. Polaris Library Systems staff typically ensure that all messaging and appropriate system responses are functional before your training is scheduled.

It is important to realize that Polaris NCIP ILL functions as an NCIP Responder and that most ILL applications function as NCIP Initiators. This means that the ILL application triggers all activity and Polaris takes the appropriate action. All ILL management takes place in the ILL application. Action taken there updates the corresponding records in Polaris. The user is thus spared the need to take action or update records in two systems.

In other words, all actions—placing a request, receiving an item, checking out, checking in — are initiated from the ILL application. Polaris records are updated via NCIP calls as the action is taken in the ILL application. No action taken on a request or an item in Polaris will update the corresponding records in the ILL application.

- **Is it a Hold or an ILL?** In traditional library terms these transactions would be considered interlibrary loans because the requests are coming in from a branch outside your local system. However, for data processing within Polaris, the requests are, at least in part, managed as Hold requests.

  - Incoming requests, where your Polaris system is receiving a request (ILL Lender) and sending out one of your items, are created in Polaris as Hold requests to take advantage of Polaris holds processing, such as RTF and other controls.

  - If your Polaris system is the requestor (ILL borrower), the item is coming in to you (it is not an item already in your system). In this case the request is treated as an ILL and you will use Polaris ILL functions (temporary ILL bib and item records) to manage the requests.

    Note:
    Polaris supports exporting requests to OCLC Direct Request. Requests may be sent automatically when an ILL request is created in PAC, or they may be exported manually from the staff client. In either case, if you use NCIP you should implement this feature with caution, since it is possible to export requests to OCLC that are being processed with NCIP to a regional supplier.

- **Commands out of sequence.** Some protections are built in. For example, a staff member may check an item in or out in Polaris before taking action in the ILL application. This will not cause an error and the data should remain in sync as long as the action is taken in both places before any other action is taken on the request or the item.

- **Displays to patron and staff in Polaris.** As hold and ILL requests are created and filled, the data will display to patrons and staff is it would for any normal request. The patron can see his requests in the PAC patron account and track their status.

- **Pull list.** This is frequently a function of the ILL application. When a request comes in for one of your items, that item request will appear on the Polaris RTF list as well as the ILL application. Some libraries prefer to work from the list provided by the ILL application to more clearly identify ILL requests.

- **Cancel request.** Requests can be canceled from the ILL application up to the point the requested item is shipped or held. If cancelled, the request will be cancelled in Polaris. However, if a request is cancelled or suspended in Polaris, the action is not communicated back to the ILL application and the same action must be repeated through that interface.

- **Items in-transit.** Requested items that are received at a Polaris branch other than the pickup branch will go in-transit per normal hold/ILL receive functionality, provided the library that first receives the item (such as a central processing location) uses the Polaris ILL functions (temporary ILL bib and item records) to manage the requests.

- **Due dates.** At check-out, the item due date is set according to data sent from the ILL application.

- **Renewals.** Renewal of ILL items is supported by and initiated through the ILL application. If a Polaris item is set to not allow renewals, an attempt to renew the item will be blocked.

- **Overdues.** Overdue notices are sent from the lending library per normal notification process. When the Polaris library is the Requestor, loaning an item from a remote library, the Polaris library patron will receive an overdue notice from the Polaris library as he would for any of his items out. If the Polaris library is the Lender, the notice will be sent from the remote library that requested the item.

Technical Notes

NCIP Version 1.0: The Polaris NCIP Responder currently supports 18 of the 46 responder messages.

NCIP Version 2.0: Polaris is working on an implementation of the Version 2.1 schema. Delivery of a Version 2 Responder is not determined at this time. The messages considered for deprecation in Version 2.x are noted in the table below.

Message	Polaris Supported NCIP Version 1.0	Polaris Supported NCIP Version 2.01+
Lookup Version	Y	
Accept Item	Y	Y
Agency Created	*N*	*Planned deprecation*
Agency Updated	*N*	*Planned deprecation*
Authenticate User	Y	
Cancel Recall Item	Y	
Cancel Request Item	Y	
Check In Item	Y	
Check Out Item	Y	
Circulation Status Change Reported	*N*	*Planned deprecation*
Circulation Status Updated	*N*	*Planned deprecation*
Create Agency	*N*	*Planned deprecation*
Create Item	N	
Create User	Y	
Create User Fiscal Transaction	Y	
Item Checked In	Y	
Item Checked Out	Y	
Item Created	*N*	*Planned deprecation*
Item Recall Cancelled	*N*	*Planned deprecation*
Item Recalled	*N*	*Planned deprecation*
Item Received	N	
Item Renewed	N	
Item Request Cancelled	Y	
Item Request Updated	*N*	*Planned deprecation*
Item Requested	Y	
Item Shipped	Y	

Message	Polaris Supported NCIP Version 1.0	Polaris Supported NCIP Version 2.01+
Item Updated	N	
Lookup Agency	Y	
Lookup Item	Y	
Lookup User	Y	Y
Recall Item	N (workaround)	Planned for v2.01
Renew Item	Y	
Report Circulation Status Change	*N*	*Planned deprecation*
Request Item	Y	
Send User Notice	*N*	*Planned deprecation*
Undo Checkout Item	Y	
Update Agency	*N*	*Planned deprecation*
Update Circulation Status	*N*	*Planned deprecation*
Update Item	N	
Update Request Item	N	
Update User	N	
User Created	*N*	*Planned deprecation*
User Fiscal Transaction Created	*N*	*Planned deprecation*
User Notice Sent	*N*	*Planned deprecation*
User Updated	*N*	*Planned deprecation*

General Workflows

This section summarizes generalized NCIP ILL workflows. Not all vendors support all of the same NCIP messages in the same way or at the same point in the process, so there will be some variation in how Polaris responds depending on how and when the ILL program sends messages.

The diagrams in the following sections show general workflows for Polaris as Requestor, where the item is received in your Polaris library (see "Your Polaris Library As Requestor, Receiving the Item" on page 14); and Polaris as Sender, where you are filling a request to be sent to another library (see "Your Polaris Library as Lender, Sending the Item" on page 17). In the diagrams, "ILL" refers to the regional ILL provider application.

Your Polaris Library As Requestor, Receiving the Item

```
┌──────────────┐
│ Patron       │
│ Places a     │
│ request in   │
│ the ILL      │
│ system       │
└──────────────┘
       │
       ▼
┌──────────────────┐
│ The ILL system   │
│ routes the       │
│ request to a     │
│ potential lender.│
└──────────────────┘
       │
       ▼
┌──────────────────────┐
│ Lending library fil  │
│ request.             │
│ Sends item to        │
│ Polaris branch.      │
└──────────────────────┘
       │
       ▼
    ◇ Centralized ◇────Yes────┐
    ◇ processing? ◇           ▼
       │              ┌──────────────────┐
       │              │ Items received at│
       │              │ Central are sent │
       │              │ to their pickup- │
       │              │ branch           │
       │              └──────────────────┘
       ▼
┌──────────────────┐      NCIP processing creates bib and item record
│ Item received at │      using the item barcode, Hold and notify the
│ pick-up location.│      patron. Item due date per the ILL application.
└──────────────────┘
       │
       ▼
┌──────────────────┐
│ Polaris library  │
│ staff check the  │
│ item out in the  │
│ ILL application  │
└──────────────────┘
       │
       ▼
┌──────────────────┐      In a centralized system the item will be
│ Item circulates  │      returned to the central location
│ and returns to   │
│ lending branch   │
└──────────────────┘
       │
       ▼
┌──────────────────┐      NCIP processing deletes
│ Check in item in │      the temporary bib and item
│ the ILL          │      record.
│ application.     │
│ Send back to     │
│ lender.          │
└──────────────────┘
```

NCIP Borrower Workflow

Polaris is Requestor/
Item is received at a Polaris library

1. The patron logs in to request an item in the ILL system.

   NCIP message initiated by ILL: LookUpUser

   Polaris: Acknowledge valid patron and continue.

   The patron record must exist in your library's database. Some systems maintain a separate database of patron records; others will query your records directly.

2. The patron (or staff member at your library) places a request for an item from another library that will be picked up at your library.

   The request is entered into the ILL system. Your library is the requestor.

   NCIP message: ItemRequested

   Polaris: Create an unlocked hold request with a status of Not Supplied. If created, this hold request is visible to staff and patrons. It is short-lived, as it is soon converted to an ILL.

   > **Note:**
   > Some ILL systems do not send this message, so no request is created at this point in Polaris. The request in Polaris will be created at a later step. See the note under step 4 (AcceptItem).
   >
   > If the pick-up branch cannot be determined, which can happen in some implementations, Polaris will use the pick-up branch selected by the patron as a default. If the patron has not selected a default branch, the pick-up branch will be set to the patron's registered branch.

3. Staff at the remote lending library ship the item. They will update the request in the ILL system at their end.

   NCIP message initiated by ILL: ItemShipped

   Polaris: No action is taken in Polaris. At this point the requested item is checked out from the remote library system.

4. Your library receives the requested item. Your staff issue the appropriate command in the ILL system to indicate the item is received.

   NCIP message initiated by ILL: AcceptItem

   Polaris: Converts the Hold request to an ILL. Polaris automatically executes the ILL Receive command which creates a temporary bib and item record for the received title and notifies the patron. If the request pickup branch is not your receiving branch, the item will go in-transit to the pickup location. The patron will be notified when the item is received there.

   > **Note:**
   > Some ILL systems do not send a message to create a request prior to AcceptItem. In this case, when the item is received, Polaris will create a short-lived Hold request, convert it to an ILL, "Receive" the requested item (creating the bib and item records) and notify the patron in one series of steps when you indicate the item is received in the ILL system.

5. Using the ILL application, check the item out to the patron. The message is issued when the step is taken in the ILL system to indicate that the item has been checked out.

> **NCIP message initiated by ILL**: ItemCheckedOut
>
> **Polaris**: Check out the item. Polaris patron and item records are updated.
>
> > **Note:**
> > In ILL systems that use this message, you actually check the item out in the ILL system, not in Polaris. When this happens, the ILL system updates Polaris, the item is checked out to the patron, and the due date is determined by the ILL system.
> >
> > If your ILL system does not check the item out, that is, does not send the ItemCheckedOut command, you will check the item out as usual in Polaris and update the ILL system in a separate step.

6. Using the ILL application, check the item in at your library. The item has circulated and returned.

> **NCIP message**: ItemCheckedIn
>
> **Polaris**: Check the item in and update the ILL request status to Returned.
>
> > **Note:**
> > As with checkout, this check-in command is issued from the ILL system and the item is automatically checked in in Polaris.
>
> Depending on your ILL application, the Polaris temporary bib and item may be deleted when the item is checked in.
>
> When you return the requested item to the lending library, your ILL system may have a separate step to indicate that the item has been sent. There is no NCIP message exchange at this point.

7. The item is received back at the remote, lending branch.

> **NCIP message**: ItemReceived or CheckInItem
>
> **Polaris**: The Polaris ILL request, and the temporary bib and item records created to track the ILL, are automatically deleted at this time if not deleted previously.

Your Polaris Library as Lender, Sending the Item

```
┌─────────────┐
│   Patron    │
│  Places a   │
│  request in │
│   the ILL   │
│   system    │
└─────────────┘
       │
       ▼
┌─────────────┐
│The ILL system routes│ ─── NCIP processing
│the request to a Polaris│     creates a Hold request
│   library.  │              in Polaris for NCIP
└─────────────┘              Patron
       │
       ▼
┌─────────────┐
│Staff at branch pull│ ─── In a centralized system, Central is the
│items to fill holds.│     pickup location, the item routes to
└─────────────┘            Central.
       │
       ▼
┌─────────────┐
│Staff check item│ ─── NCIP processing checks
│ out in the ILL │     item out in Polaris
│  application.  │
└─────────────┘
       │
       ▼
┌─────────────┐
│Staff ship item to│
│ the requesting  │
│    library.     │
└─────────────┘
       │
       ▼
┌─────────────┐
│Requesting lib   │
│notifies patron. │
│Item circulates, │
│    returns      │
└─────────────┘
       │
       ▼
┌─────────────┐
│Item sent back  │
│to Polaris library│
└─────────────┘
       │
       ▼
┌─────────────┐
│Polaris library │ ─── NCIP processing check
│staff check the │     item In in Polaris
│item In in the ILL│
│  application   │
└─────────────┘
```

NCIP Lender Workflow
Polaris is Lender
Item is sent from Polaris library

When the patron has been authenticated and the request placed, the ILL system will identify an item in your library to fill the request.

1.   An item is requested from your library; the request is created in the ILL system.

>   **NCIP message**: RequestItem or ItemRequested
>
>   **Polaris**: Create an item-level hold request for patron **NCIPpatron001**
>
>   Some ILL systems create a bib-level request. The request is treated like any other request in Polaris. It will appear on your Polaris RTF list. When the item is scanned it will trap for the NCIP patron.

2.   Check the item out and send it to the requesting library. The appropriate command is issued from the ILL system.

>   **NCIP message**: CheckItemOut or ItemCheckedOut
>
>   **Polaris**: The item is checked out to the NCIP patron representing the requesting library.

3.   The item circulates at the requesting library, returns and is sent back to your Polaris library. The item is received at your library. The appropriate command is issued from the ILL system.

>   **NCIP message**: CheckInItem
>
>   **Polaris**: The item is checked in. Note that the library may need to scan the item a second time in order to trap it for any local hold requests.

Other Options

Renewing items - If the ILL system allows the user to renew items, items may be renewed by issuing the appropriate command in the ILL system.

Canceling requests - If the ILL system allows the user to cancel requests, the requests will be canceled in Polaris when the appropriate command is issued in the ILL system.