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NCIP User Documentation

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NCIP Toolkit User Documentation

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Purpose

The NCIP Toolkit is intended to be installed alongside a compatible ILS and act as an intermediary between NCIP clients and the ILS. The NCIP Toolkit will provide an NCIP interface for authentication requests, live circulation status lookups, and circulation requests. When a client sends an NCIP request to the toolkit, the request is parsed and sent to the ILS using its proprietary interface. The response is then translated back into the NCIP protocol and returned to the client. XC user interface clients will use NCIP to provide user interface functionality that requires real time interaction with the ILS database.

The purpose of this document is to provide users with the information needed to interact with the NCIP Toolkit. For users who want to run the NCIP Toolkit alongside their ILS and use an XC provided client, it explains how to install and configure the toolkit. It also describes how to send requests to the NCIP Toolkit, and gives a brief overview of each of the possible requests for users interested in developing their own NCIP client to interface with the toolkit. Users wishing to extend the NCIP Toolkit to be compatible with their own ILS should refer to the NCIP Toolkit Developer Documentation, which can be downloaded from the downloads section the Google Code at <http://code.google.com/p/xnciptoolkit/downloads/list>.

The reader is assumed to have a basic understanding of the NCIP protocol, which can be viewed at <http://www.ncip.info/documentation/standard> if they intend to develop an NCIP Client or modify the NCIP Toolkit as well as simply installing it. Throughout this document, the phrase “NCIP request” refers to an NCIP Initiation Message for a service and “NCIP response” refers to the response from that service.

Installing the NCIP Toolkit

The NCIP Toolkit was tested using Tomcat 6.0, but it may be installed onto any server which supports Servlets. Tomcat can be downloaded from <http://tomcat.apache.org/download-60.cgi>, and documentation for installing and managing Tomcat can be found at <http://tomcat.apache.org/tomcat-6.0-doc/index.html>.

The NCIP Toolkit is packaged as a .war file which may be loaded into a Web Server which supports Java Servlets. To install the NCIP Toolkit you will need NCIPToolkit_v0.5.3.war, a driver jar package file and the example configuration zip file. They can all be downloaded from: <http://code.google.com/p/xnciptoolkit/downloads/list>

There are two options to installing the NCIPToolkit the first is to create a directory called NCIPToolkit_v0.5.3 in the tomcat home directory. The second is to create a directory outside of tomcat eg. (/NCIPToolkit/) and set the NCIPCONFIGURATIONPATH environment variable to the folder that was created. The NCIPToolkit_v0.5.3 directory should be placed in this directory.

Once this is done, extract the contents of the driver file into the path chosen above. This should create a driver folder and example configuration.

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Next copy NCIPToolkit_v0.5.3.war into the directory in the Web Server which contains the server's Servlets. If Tomcat is the Web Server, this directory is %TOMCAT_HOME%. Lastly restart tomcat.

Whichever deployment method you use, if Tomcat is the Web Server and you have not modified the web.xml file, the NCIP Toolkit will be accessible at <tomcat_base_url>/NCIPToolkit_v0.5.3/, and will need to be configured as explained in the next section. If you do not use Tomcat, you should reference the documentation for your specific Web Server to determine how to upload a WAR file or which directory contains the server's servlets.

Multiple NCIP Toolkit Installations

It is possible to have more than one NCIP Toolkit installation on a single tomcat server. To do this rename the war file and create follow the instructions above with the configuration folder named the same as the war file. After deployment the toolkit needs to be configured as normal keeping in mind the path and URL changes.

Configuring the NCIP Toolkit

The NCIP Toolkit can be configured by modifying the values in the configuration file located in the <configuration folder>/NCIPToolkit_v0.5.3/ NCIPToolkit_config.xml file. The driver specific configuration parameters are located in <configuration folder>/NCIPToolkit_v0.5.3/driver/driver_config.xml. To change a parameter, change the value="<value>" attribute associated with the parameter in this file, and then restart the NCIP Toolkit. The following section outlines the configurable parameters and the effect they have on the NCIP Toolkit. The configuration file must contain all of the General NCIP Toolkit properties as well as all the properties specific to the ILS the NCIP Toolkit will run beside.

General NCIP Toolkit properties

- NCIPToolkitUrl – The URL using the http scheme where the NCIP Toolkit may be accessed, if this value is incorrect the NCIP Toolkit test form will not work correctly
- SSLNCIPToolkitUrl – The URL using the https scheme where the NCIP Toolkit may be accessed, if this value is incorrect the NCIP Toolkit test form will not work correctly
- ILSType – The type of ILS the NCIP Toolkit is running against (ex. "Voyager".) Currently Voyager is the only supported ILS.
- ILSDefaultAgency – The agency (organization) which the ILS the NCIP Toolkit is running against manages data for.
- NCIPSchemeFolderUrl – The URL where the NCIP Toolkit should access NCIP scheme files. At the time of this writing, this parameter should be set to <http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/> to use the current version of the NCIP schemes used by the NCIP Toolkit.
- LoggerConfigFileLocation – The path to the log4j.config.txt. This should be the same as the NCIP configuration folder path eg. <configuration folder>/NCIPToolkit_v0.5.3/

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- AuthenticationTimeout – The timeout (in seconds) before the NCIP Toolkit should logout an authenticated user if they have not made any NCIP requests before the timeout was reached. This value can be higher, lower, or the same as the underlying ILS's timeout, and will override the ILS's timeout. The NCIP Toolkit will load the user information page on the underlying ILS every 60 seconds to prevent the ILS's timeout from triggering if it is lower than the NCIP Toolkit's timeout.
- ExternalLDAPLocation – The URL where the LDAP server the NCIP Toolkit should use for external authentication may be accessed.
- ExternalLDAPPort – The port where the LDAP server the NCIP Toolkit should use for external authentication may be accessed.
- ExternalLDAPStart – The domain which the NCIP Toolkit should use as a starting point when authenticating a user (ex. "ou=people, dc=rochester, dc=edu")
- ExternalLDAPUsernameAttribute – The field which contains the value on the LDAP server which the NCIP Toolkit should compare with the username when authenticating a user
- ExternalLDAPUserId – The field on the LDAP server which contains the user's unique ID with respect to the ILS
- UseStrictErrors – Whether or not the NCIP Toolkit should report errors according to a strict interpretation of the NCIP standard. If true, Problem elements returned by the NCIP Toolkit will adhere to the NCIP standard. If false, Problem elements will contain an NCIP Toolkit error code and a user-friendly error message. Non-strict errors are easier to interpret but cannot be understood by NCIP clients that were not written for the NCIP Toolkit.

Voyager specific properties (ignored if ILSType is not "Voyager")

- VoyagerUrl – The URL where Voyager can be accessed
- VoyagerDatabaseUrl – The URL where the Voyager database can be accessed
- VoyagerRequestSuccessMessage – A message or block of HTML which is returned by Voyager only when a request form is successfully submitted. The NCIP Toolkit searches the page returned by Voyager after a request form is submitted for this value to determine whether or not the request was successful.
- VoyagerValidCircStatusesCallslip – A comma separated list containing all circulation statuses an item may have to be the valid target of a callslip request
- VoyagerValidCircStatusesHold – A comma separated list containing all circulation statuses an item may have to be the valid target of a hold request
- VoyagerValidCircStatusesRecall – A comma separated list containing all circulation statuses an item may have to be the valid target of a recall request
- VoyagerDatabaseName – The name of the Voyager database
- VoyagerDatabaseWriteAuthUsername – The username for a user on the Voyager database which has write access to the WOPAC_PID_PATRON_KEYS table
- VoyagerDatabaseWriteAuthPassword – The password for a user on the Voyager database which has write access to the WOPAC_PID_PATRON_KEYS table
- VoyagerDatabaseReadOnlyUsername – The username for a user on the Voyager database which has read access to all tables.

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- VoyagerDatabaseReadOnlyPassword – The password for a user on the Voyager database which has read access to all tables.

Invoking the NCIP Toolkit

NCIP requests can be sent to the NCIP Toolkit by sending an HTTP or HTTPS POST request to the server on which the NCIP Toolkit is installed. The POST data must contain a single parameter whose key is “NCIP” and whose value is the NCIP request which the NCIP Toolkit should execute. If a GET request is sent to this server, a simple form will be loaded which contains a text box labeled “NCIP Request”. When this form is submitted, the contents of the textbox will be sent as the NCIP parameter in a POST request to that same server. This form can be used to test the responses and side effects of executing NCIP requests on the NCIP Toolkit, but it is expected that a program interacting with the NCIP Toolkit will send the POST requests directly and bypass this form.

The NCIP Toolkit uses cookies to track connections to it and maintain authenticated sessions. For this reason, any client sending NCIP requests to the NCIP Toolkit must support cookies. If a client does not support cookies, the NCIP Toolkit will not be able to remember between requests whether or not a user is authenticated on that client’s connection to the NCIP Toolkit.

The NCIP Toolkit supports the following NCIP Services: Authenticate User, Lookup Item, Lookup User, Lookup Version, Request Item, Recall Item, Renew Item, Cancel Request Item, Cancel Recall Item, Accept Item, Check Out Item, Check In Item and Create Item. It also supports the XC Lookup User, XC Get Availability, XC Open URL Request Item and XC Open URL Renew Item services, which are implemented by the NCIP Toolkit to provide functionality beyond what the NCIP standard defines. Each of these requests is explained below, as well as how the parameters in the NCIP request are handled, and how the NCIP response will be formatted.

Testing the NCIP Toolkit

A simple test program is available for download from <http://code.google.com/p/xnciptoolkit/downloads/list> which verifies that an installed NCIP Toolkit is working correctly. The NCIP Toolkit being tested by this program must be configured to not use strict NCIP errors for the duration of the test (see “Configuring the NCIP Toolkit” above.) The ILS with which the NCIP Toolkit interfaces must contain the following test users and items:

- Test user 1: A patron who is able to place and cancel 20 requests in under a minute. This patron must initially have no items requested, recalled, or checked out and must not have any blocks or fines.
- Test user 2: A patron to whom test item 2 is checked out. This patron must be able to renew test item 2 five times in less than 30 seconds. This patron must initially have no items requested or recalled and must not have any blocks or fines.
- Test user 3: A patron who has a block placed on them.
- Test item 1: An item which is not checked out and is able to have callslips placed on it

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- Test item 2: An item which is checked out to test user 2 and is able to have recalls placed on it

Once appropriate test users and test items are identified or created on the ILS against which the NCIP Toolkit is running, the NCIP Toolkit may be tested by executing the following steps in order:

- 1) Download the latest version of the NcipToolkitTestProg_v0.5.zip file from <http://code.google.com/p/xcnciptoolkit/downloads/list>.
- 2) Unzip the NcipToolkitTestProg.zip file. This will create the folder "NcipToolkitTestProg."
- 3) Configure the test program by modifying the NCIPToolkitUnitTests_config.xml file in the NcipToolkitTestProg folder. See the section "Configuring the NCIP Toolkit Test Program" below for more information.
- 4) Open a command prompt on Windows or a shell on Unix and change directories to the NcipToolkitTestProg folder.
- 5) On Windows execute the command "runTestProgram.bat <error_output_file> <success_output_file>" where <error_output_file> and <success_output_file> are optional parameters. If <error_output_file> is set, the errors from running the test will be appended to the specified file instead of being printed in the terminal. Likewise, if <success_output_file> is specified the tests which were passed successfully will be appended to the specified file. If only one parameter is specified it is assumed to be the error output file.
- 6) On Unix, execute the following command: "java -classpath .;\commons-httpclient-3.1.jar;.\commons-logging-1.1.1.jar;.\commons-codec-1.3.jar;.\jconfig.jar;.\log4j-1.2.15.jar test/NCIPToolkitUnitTests". To redirect errors to a file, add "2>> <error_output_file>" to the end of this command. To redirect successful results to a file, add "1>> <success_output_file>" to the beginning of this command. Note that this command will also work on Windows, but a batch script is provided to reduce complexity.

The output will be a series of lines similar to the following:

```
9/18/08 12:56:18 PM Test XCGA1 passed: Get availability of test item 1 and test item 2, assert no error
Expected error code 0106 - Item Not Found, did not find an error code
9/18/08 12:56:19 PM Test XCGA2 failed: Get availability of test item 1 and invalid item, assert error 0106
9/18/08 12:56:24 PM Test Rql1 passed: Assert test user 1 has not requested test item 1, using Hold request
9/18/08 12:56:25 PM Test Rql2 passed: Assert test user 2 has not requested test item 1, using Hold request
```

Each line reports the time at which the test was completed, a unique identifier for the test (such as Rql1,) whether the test passed or failed, and what condition was being tested. Where appropriate, additional information is provided on the expected and observed response from the NCIP Toolkit when a test case failed.

Configuring the NCIP Toolkit Test Program

The NCIP Toolkit Test Program's configuration file (NCIPToolkitUnitTests_config.xml) is set up in the same format as the NCIP Toolkit's configuration file. To change a parameter, change the value="<value>" attribute associated with the parameter in this file. The possible parameters are shown below.

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- NCIPToolkitUrl – The URL of the NCIP Toolkit to be tested
- AuthenticationTimeout – The timeout (in seconds) before the NCIP Toolkit being tested is configured to log out an authenticated user. This is by the test program to verify that the NCIP Toolkit implemented the timeout functionality correctly.
- TestUser1Username – The username to authenticate the 1st test user against the ILS
- TestUser1Password – The password to authenticate the 1st test user against the ILS
- TestUser1LDAPUsername – The username to authenticate the 1st test user against the external LDAP server
- TestUser1LDAPPassword – The password to authenticate the 1st test user against the external LDAP server
- TestUser2Username – The username to authenticate the 2nd test user against the ILS
- TestUser2Password – The password to authenticate the 2nd test user against the ILS
- TestUser2LDAPUsername – The username to authenticate the 2nd test user against the external LDAP server
- TestUser2LDAPPassword – The password to authenticate the 2nd test user against the external LDAP server
- TestUser3Username – The username to authenticate the 3rd test user against the ILS
- TestUser3Password – The password to authenticate the 3rd test user against the ILS
- TestUser1Id – The unique user ID of the 1st test user on the ILS. This is used to verify that the user ID returned by the AuthenticateUser Service is correct when authenticating test user 1.
- TestUser2Id – The unique user ID of the 2nd test user on the ILS. This is used to verify that the user ID returned by the AuthenticateUser Service is correct when authenticating test user 2.
- TestUser3Id – The unique user ID of the 3rd test user on the ILS. This is used to verify that the user ID returned by the AuthenticateUser Service is correct when authenticating test user 3.
- InvalidUserId – A string taking the same format as the ILS's unique IDs for users which is not the unique ID of any user on the ILS
- TestUser1FullName – The full name of the 1st test user. This is used to verify that the information returned by the NCIP Toolkit for a LookupUser NCIP request is correct.
- TestUser1Address – The address of the 1st test user. This is used to verify that the information returned by the NCIP Toolkit for a LookupUser NCIP request is correct.
- TestUser1AddressType – The type of address of the 1st test user (permanent, temporary, email, etc.) This is used to verify that the information returned by the NCIP Toolkit for a LookupUser NCIP request is correct.
- TestItem1Title – The title of the 1st test item
- TestItem1Author – The author of the 1st test item
- TestItem1BibId – The 1st test item's bibliographic ID
- TestItem2BibId – The 2nd test item's bibliographic ID
- TestItem1Id – The 1st test item's item ID
- TestItem2Id – The 2nd test item's item ID
- InvalidItemId – A string taking the same format as the ILS's item IDs for which is not the item ID of any item in the ILS.

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- RequestLocation – A location known to the ILS against which the NCIP Toolkit is running. This is sent as the “pickup location” for RequestItem and RecallItem requests placed on the NCIP Toolkit.

In addition, the following parameters can be set to choose which functionality of the NCIP Toolkit should be tested:

- TestILSAuthentication – “true” to test the NCIP Toolkit’s AuthenticateUser service directly against the ILS, “false” otherwise
- TestLDAPAuthentication – “true” to test the NCIP Toolkit’s AuthenticateUser service against an external LDAP server, “false” otherwise
- TestXCGetAvailability – “true” to test the NCIP Toolkit’s XCGetAvailability service, false otherwise.
- TestHoldRequest – “true” to test the NCIP Toolkit’s RequestItem service using hold requests, false otherwise.
- TestCallslipRequest – “true” to test the NCIP Toolkit’s RequestItem service using callslip requests, false otherwise.
- TestRecallItem – “true” to test the NCIP Toolkit’s RecallItem service, false otherwise.
- TestRenewItem – “true” to test the NCIP Toolkit’s RenewItem service, false otherwise.
- TestLookupUser – “true” to test the NCIP Toolkit’s LookupUser service, false otherwise.
- TestXCLookupUser – “true” to test the NCIP Toolkit’s XCLookupUser service, false otherwise.
- TestLookupItem – “true” to test the NCIP Toolkit’s LookupItem service, false otherwise.
- TestStressTestNCIPToolkit – “true” to test the NCIP Toolkit’s handling of 200 simultaneous requests, false otherwise.

The NCIP Toolkit’s interpretation of NCIP

The information contained in this and following sections is intended for users who plan to write an NCIP client to interface with the NCIP Toolkit. Users who are not writing an NCIP client may choose to stop reading here.

The NCIP Toolkit supports the following NCIP Services: Authenticate User, Lookup Item, Lookup User, Lookup Version, Request Item, Recall Item, Renew Item, Cancel Request Item, and Cancel Recall Item. It also supports two services which are unique to the NCIP Toolkit: XC Lookup User and XC Get Availability. Requests for any other NCIP Services will result in an Unsupported Service error being reported. For the supported NCIP Services, every effort was made to make the NCIP Toolkit perfectly NCIP compliant, but there were two areas where the NCIP Toolkit varies from the standard.

The NCIP standard states that NCIP is a sessionless protocol. However, most ILSs require a user to authenticate before permitting them to submit request, recall, or renew requests. For this reason the NCIP Toolkit does maintain a session for each connection with information on the user it most recently authenticated on that connection’s session. When a Request Item, Recall Item, Renew Item, Cancel Request Item, or Cancel Recall Item request is made which does not provide Authentication Inputs, the

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NCIP Toolkit will place the request for the user authenticated on that connection's session, except when the request specifies a Unique User Id which differs from the authenticated user in which case it returns an Authentication Required error.

Since the NCIP Request Item, Renew Item and Cancel Request Item requests allow either a Unique User Id or Authentication Inputs, the decision to maintain this session information for connections to the NCIP Toolkit does not impact a client connecting to it expecting a strict interpretation of NCIP. If such a client provides a Unique User Id with these requests, the NCIP Toolkit will respond with an Authentication Required error. The client with the strict interpretation would then know to provide Authentication Inputs for these requests. However, the Recall Item and Cancel Recall Item requests do not allow any means to specify the user who is placing the recall. If an ILS requires authentication to place or cancel recalls, the client connecting to the NCIP Toolkit must place an Authenticate User service for the user placing the request before placing a Recall Item or Cancel Recall Item request.

If the UseStrictErrors parameter in the configuration file is set to false, the NCIP Toolkit also strays from the NCIP standard in the way it reports errors in the Problem element. The NCIP Problem element defined in the NCIP protocol was not able to report the range of errors which the NCIP Toolkit might encounter, so this configuration parameter was provided to give the NCIP Toolkit administrator the option to choose between adhering to the NCIP standard and providing the most useful error reporting possible. When configured not to use strict error reporting, Problem elements returned by the NCIP Toolkit contain two child elements, ErrorCode and ErrorMessage. ErrorCode contains a String which encodes a specific type of error, and ErrorMessage contains a detailed, user friendly message explaining what caused the error. In other words, the ErrorCode is meant to be interpreted by the client connecting with the NCIP Toolkit, and the ErrorMessage is intended for a human reader. The following is a sample Problem element returned by the NCIP Toolkit:

```
<Problem>
  <ErrorCode>0101 - Request Not Found</ErrorCode>
  <ErrorMessage>HTTP POST request did not contain an "NCIP" parameter with a valid NCIP request.</ErrorMessage>
</Problem>
```

The NCIP Toolkit's Problem elements will only be included where Problem elements would normally be included in an NCIP Response that adheres perfectly to the NCIP standard. The following error codes may be reported by the NCIP Toolkit:

- "0001 – Internal Error" A serious unexpected error. If this error occurs repeatedly it should be reported to the developers of the NCIP Toolkit.
- "0002 – ILS Interface Error" An error caused because the specific ILS instance which the NCIP Toolkit was interacting with did not behave as expected.
- "0101 – Request Not Found" An error which occurred because the Request Listener could not find the NCIP request in the POST data.
- "0102 – Unsupported Service" An error caused because the incoming NCIP request tried to invoke a service which the NCIP Toolkit does not support.

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- "0103 – XML Parse Error" An error signifying that the passed NCIP request was not valid XML.
- "0104 – NCIP Parse Error" An error signifying that the passed NCIP request was not valid according to the NCIP protocol or contained information the NCIP Toolkit could not understand.
- "0105 – User Not Found" An error caused because a user specified in a UniqueUserId element did not exist on the ILS the NCIP Toolkit is interacting with.
- "0106 – Item Not Found" An error caused because an item specified in a UniqueItemId element did not exist on the ILS the NCIP Toolkit is interacting with.
- "0107 – Invalid Location" An error caused because a location referred to in an NCIP request did not exist on the ILS the NCIP Toolkit is connecting with.
- "0201 – NCIP Toolkit Configuration Error" An error caused because one or more values in the NCIP Toolkit's configuration file were incorrect.
- "0301 – Failed Login" An error generated when the user tries to authenticate with invalid parameters.
- "0302 – Login Required" An error generated when the NCIP Toolkit needs to execute functionality which requires the user to be authenticated and the user has not been authenticated.
- "0401 – Item Not Requestable" An error caused because the RequestItem service was called for an item which was an invalid target for requests
- "0402 – Request Failed" An error signifying that the NCIP Toolkit tried to place a request on an item and failed.
- "0501 – User Has Not Requested Item" An error generated when the CancelRequestItem service is called for an item which the user has not requested.
- "0502 – Cancel Request Failed" An error signifying that the NCIP Toolkit tried to cancel a request on an item and failed.
- "0601 – Item Not Recallable" An error caused because the RecallItem service was called for an item which was an invalid target for recalls
- "0602 – Recall Failed" An error signifying that the NCIP Toolkit tried to place a recall on an item and failed.
- "0701 – User Has Not Recalled Item" An error generated when the CancelRecallItem service gets called for an item which the user has not placed a recall for.
- "0702 – Cancel Recall Failed" An error signifying that the NCIP Toolkit tried to cancel a recall on an item and failed.
- "0801 – Item Not Checked Out" An error generated when the RenewItem service is called for an item which is not checked out to the user.
- "0802 – Renew Failed" An error signifying that the NCIP Toolkit tried to renew an item and failed.

Supported NCIP Services

This section describes the NCIP services supported by the NCIP Toolkit, explains how the NCIP Toolkit handles NCIP requests for each service, and provides sample requests and their responses.

Authenticate User

This service is called to authenticate a user to invoke other services which require authentication. It can either authenticate directly against the underlying ILS or authenticate against an external LDAP server defined in the NCIP Toolkit configuration file depending on the parameters in the NCIP request. To authenticate directly against the ILS, the NCIP request must contain an AuthenticationInput of type "Username" and one of type "Password" which contain the credentials the user would use to log into the ILS. When the ILS is Voyager, the username is either the patron's institution ID or their barcode, and the password is their last name. To authenticate against an LDAP Server, the AuthenticationInput parameters must be of types "LDAPUsername" and "LDAPPassword" instead.

The following sample Authenticate User request will authenticate the user against the LDAP server defined in the NCIP Toolkit configuration file using the username "jonDoe" and the password "jonDoe'sPassword". If the authentication was successful the response will contain a UniqueUserId which should be passed as parameters in other NCIP requests to refer to the user who was authenticated.

Sample Authenticate User Request

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
    "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <AuthenticateUser>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>

<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </FromAgencyId>
  <ToAgencyId>
    <UniqueAgencyId>

<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </ToAgencyId>
</InitiationHeader>
  <AuthenticationInput>
    <AuthenticationInputData>jonDoe</AuthenticationInputData>
    <AuthenticationDataFormatType>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/FormatType.scm</Scheme>
      <Value>Text</Value>
```

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```
</AuthenticationDataFormatType>
<AuthenticationInputType>

<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AuthenticationType.scm</Scheme>
  <Value>LDAPUsername</Value>
</AuthenticationInputType>
</AuthenticationInput>
<AuthenticationInput>
  <AuthenticationInputData>jonDoe'sPassword</AuthenticationInputData>
  <AuthenticationDataFormatType>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/FormatType.scm</Scheme>
    <Value>Text</Value>
  </AuthenticationDataFormatType>
  <AuthenticationInputType>

<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AuthenticationType.scm</Scheme>
  <Value>LDAPPassword</Value>
</AuthenticationInputType>
</AuthenticationInput>
</AuthenticateUser>
</NCIPMessage>
```

Sample Authenticate User Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <AuthenticateUserResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
```

```
<Value>University of Rochester</Value>
</UniqueAgencyId>
<UserIdentifierValue>12345678</UserIdentifierValue>
</UniqueUserId>
</AuthenticateUserResponse>
</NCIPMessage>
```

Lookup Item

This service is used to look up information for an item. The only required parameter is an ID for the item. This may be the item's item ID, which can be specified using NCIP's `UniqueItemId` element. It could also be the item's holdings ID or bibliographic ID, which are specified using NCIP's `VisibleItemId` element with the `VisibleItemIdentifierType` child element set to "holdings ID" or "bibliographic ID" respectively. The NCIP request may query for specific types of data about the item by including `ItemElementTypes` with values "Bibliographic Description", "Circulation Status", "Electronic Resource", "Hold Queue Length", "Item Description" and "Location" to get information in each of these areas. If the location is requested, the returned location is where the item could be found when it is not checked out or missing.

In addition to the above fields, the request may include an empty `CurrentBorrowerDesired` element to get the user who currently has the item checked out or an empty `CurrentRequestersDesired` element to get the users who have placed requests for the item.

The following sample Lookup Item request gets the circulation status, location, and current borrower of the item with the item ID "13579". The response indicates that the system applied the "lost" status to the item, that it would be in the stacks if it were not lost and that the user with the unique ID 12345678 has the item checked out to them (and the system considers it lost.)

Sample Lookup Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <LookupItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
```

```
<Value>University of Rochester</Value>
</UniqueAgencyId>
</ToAgencyId>
</InitiationHeader>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>13579</ItemIdentifierValue>
</UniqueItemId>
<ItemElementType>
<Scheme>http://www.niso.org/ncip/v1_0/schemes/itemelementtype/itemelementtype.scm</Scheme>
  <Value>Circulation Status</Value>
</ItemElementType>
<ItemElementType>
<Scheme>http://www.niso.org/ncip/v1_0/schemes/itemelementtype/itemelementtype.scm</Scheme>
  <Value>Location</Value>
</ItemElementType>
<CurrentBorrowerDesired />
</LookupItem>
</NCIPMessage>
```

Sample Lookup Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <LookupItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueItemId>
      <UniqueAgencyId>
```

```
<Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
<Value>Multimedia Stacks</Value>
</UniqueAgencyId>
<ItemIdentifierValue>13579</ItemIdentifierValue>
</UniqueItemId>
<ItemOptionalFields>
  <CirculationStatus>Lost--System Applied</CirculationStatus>
  <Location>Stacks</Location>
</ItemOptionalFields>
<CurrentBorrower>
  <UniqueAgencyId>
    <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>12345678</UserIdentifierValue>
</CurrentBorrower>
</LookupItemResponse>
</NCIPMessage>
```

Lookup User

This service is used to look up information about a user. The only required parameter is the user's unique identifier. Optionally, `UserElementType` parameters of type "Block or Trap", "User Address Information", or "Visible User Id" may be added to get information on blocks applied to the user, the user's address, or the user's name information.

Additionally, empty `LoanedItemsDesired`, `RequestedItemsDesired`, and `UserFiscalAccountDesired` elements may be included in the request to get the items the user has checked out, the items the user has requested or the fines and fees the user owes or has paid.

The sample Lookup User request below gets the user's name and address as well as any fines or fees they owe for the user with unique ID 23456789. The results indicate that the user's full name is "Big Bird", their permanent address is "123 Sesame Street Sunnyday, CA 98765", their temporary address is "PO Box 112358", and their email address is "bbird@mail.rochester.edu". In addition, they owe \$4.00 in fines for the item entitled "Green Eggs and Spam" which has an item ID of 24681632.

In any NCIP messages which communicate financial data, the amount of a transaction is communicated with a currency code and a monetary value. The currency code is a code signifying the type of currency the fine is in, and is taken from ISO 4217. The monetary value is the amount of the fine written in the currency's "minor value" (for example, cents when the currency type is US Dollars.) The sample Lookup User response below reports a currency code of "USD" and a monetary value of "400", which translates into \$4.00.

For privacy reasons, loaned items, requested items, fiscal account information, block or trap information and address information will not be returned for a user who is not authenticated.

Sample Lookup User Request

```
<?xml version='1.0' encoding='UTF-8' ?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/impl/xsd/ncip_version.dtd">
  <LookupUser>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>23456789</UserIdentifierValue>
    </UniqueUserId>
    <UserElementType>
      <Scheme>http://www.niso.org/ncip/v1_0/schemes/userelementtype/userelementtype.scm</Scheme>
      <Value>Visible User Id</Value>
    </UserElementType>
    <UserElementType>
      <Scheme>http://www.niso.org/ncip/v1_0/schemes/userelementtype/userelementtype.scm</Scheme>
      <Value>User Address Information</Value>
    </UserElementType>
    <UserFiscalAccountDesired />
  </LookupUser>
</NCIPMessage>
```

Sample Lookup User Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
```

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```
<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
<LookupUserResponse>
  <ResponseHeader>
    <FromAgencyId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
    </FromAgencyId>
    <ToAgencyId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
    </ToAgencyId>
  </ResponseHeader>
  <UniqueUserId>
    <UniqueAgencyId>
      <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
    <UserIdentifierValue>23456789</UserIdentifierValue>
  </UniqueUserId>
  <UserFiscalAccount>
    <AccountBalance>
      <CurrencyCode>USD</CurrencyCode>
      <MonetaryValue>400</MonetaryValue>
    </AccountBalance>
    <AccountDetails>
      <AccrualDate>May 7, 2007</AccrualDate>
      <FiscalTransactionInformation>
        <Amount>
          <CurrencyCode>USD</CurrencyCode>
          <MonetaryValue>400</MonetaryValue>
        </Amount>
      <FiscalTransactionType>Fee</FiscalTransactionType>
    <ItemDetails>
      <BibliographicDescription>
        <Title>Green Eggs and Spam</Title>
        <UniqueItemId>
          <UniqueAgencyId>
            <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
            <Value>University of Rochester</Value>
          </UniqueAgencyId>
          <ItemIdentifierValue>2481632</ItemIdentifierValue>
        </UniqueItemId>
      </BibliographicDescription>
```

```
</ItemDetails>
</FiscalTransactionInformation>
</AccountDetails>
</UserFiscalAccount>
<UserOptionalFields>
  <VisibleUserId>
    <UniqueAgencyId>
      <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
    <VisibleUserIdIdentifier>Big Bird</VisibleUserIdIdentifier>
    <VisibleUserIdIdentifierType>Full Name</VisibleUserIdIdentifierType>
  </VisibleUserId>
  <UserAddressInformation>
    <PhysicalAddress>123 Sesame Street Sunnyday, CA 98765</PhysicalAddress>
    <UserAddressRoleType>Permanent</UserAddressRoleType>
  </UserAddressInformation>
  <UserAddressInformation>
    <PhysicalAddress>PO Box 112358</PhysicalAddress>
    <UserAddressRoleType>Temporary</UserAddressRoleType>
  </UserAddressInformation>
  <UserAddressInformation>
    <ElectronicAddress>bbird@mail.rochester.edu</ElectronicAddress>
    <UserAddressRoleType>Email</UserAddressRoleType>
  </UserAddressInformation>
</UserOptionalFields>
</LookupUserResponse>
</NCIPMessage>
```

Lookup Version

This service is used to get the version of NCIP which the NCIP Toolkit supports. It takes no parameters, and returns a reference to the .dtd file for the supported NCIP version.

In the sample Lookup Version response below, the NCIP Toolkit is reporting that it supports NCIP messages as defined in http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd.

Sample Lookup Version Request

```
<?xml version="1.0" encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_version.dtd">
  <LookupVersion>
    <FromAgencyId>
    <UniqueAgencyId>
```

```
<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
<Value>University of Rochester</Value>
</UniqueAgencyId>
</FromAgencyId>
<ToAgencyId>
<UniqueAgencyId>
<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
<Value>University of Rochester</Value>
</UniqueAgencyId>
</ToAgencyId>
</LookupVersion>
</NCIPMessage>
```

Sample Lookup Version Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
<LookupVersionResponse>
<ResponseHeader>
<FromAgencyId>
<UniqueAgencyId>
<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
<Value>University of Rochester</Value>
</UniqueAgencyId>
</FromAgencyId>
<ToAgencyId>
<UniqueAgencyId>
<Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
<Value>University of Rochester</Value>
</UniqueAgencyId>
</ToAgencyId>
</ResponseHeader>
<VersionSupported>http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd</VersionSupported>
</LookupVersionResponse>
</NCIPMessage>
```

Request Item

This service is used to place a request for an item on behalf of a user. The user who is requesting the item must have authenticated before invoking this service, otherwise an error will be generated. The NCIP request calling this service must provide either a UniqueUserId element or AuthenticationInput elements in the format described for the Authenticate User Service for the user placing the request. It must also provide either a UniqueItemId element with the item ID of the item being requested or a UniqueBibliographicId with the bibliographic ID of the item being requested. The

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request must also contain a RequestType element with a Value of either “Callslip” or “Hold”. If the Value is “Callslip”, the NCIP Toolkit will place a callslip request on the underlying ILS, which is generally used to request an item be moved to a location other than its normal location to be picked up by the user. If the Value is “Hold”, the NCIP Toolkit will place a hold request on the underlying ILS, which is generally used to request an item be held for the user at its normal location.

In addition, the NCIP request for this service may also contain a PickupExpiryDate element, which contains the date after which the request should be cancelled if the item is not picked up by then. The request may also contain a ShippingInformation element containing a PhysicalAddress element and a ShippingInstructions element containing information on where the item will be picked up and any user entered comments regarding the request. This PhysicalAddress need not be the full address of the pickup location, but it must be a String the underlying ILS can use to determine the exact location to which the item should be sent.

The sample Request Item request below is submitting a callslip request for the item with item ID 2481632 on behalf of the user with ID 12345678. It specifies the item be sent to the “Main Desk” for pickup, and that the request should expire on 12/23/08. The sample Request Item response indicates that the item will be available for pickup on 12/15/08

Sample Request Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RequestItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
```

```
<UserIdentifierValue>12345678</UserIdentifierValue>
</UniqueUserId>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>24681632</ItemIdentifierValue>
</UniqueItemId>
<RequestType>
  <Scheme>http://www.niso.org/ncip/v1_0/imp1/schemes/requesttype/requesttype.scm</Scheme>
  <Value>Callslip</Value>
</RequestType>
<RequestScopeType>
  <Scheme>http://www.niso.org/ncip/v1_0/imp1/schemes/requestscopetype/requestscopetype.scm
</Scheme>
  <Value>Item</Value>
</RequestScopeType>
<PickupExpiryDate>12/23/08</PickupExpiryDate>
<ShippingInformation>
  <PhysicalAddress>Main Desk</PhysicalAddress>
</ShippingInformation>
</RequestItem>
</NCIPMessage>
```

Sample Request Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RequestItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
```

```
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>2481632</ItemIdentifierValue>
</UniqueItemId>
<UniqueUserId>
  <UniqueAgencyId>
    <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>12345678</UserIdentifierValue>
</UniqueUserId>
<DateAvailable>Dec 15, 2008</DateAvailable>
</RequestItemResponse>
</NCIPMessage>
```

Recall Item

This service is used to recall an item which another user has checked out. A user must have authenticated before invoking this service, otherwise an error will be generated. The user who was authenticated will be the user on behalf of whom the recall is placed. The request must contain a UniqueItemId element with the item ID of the item to be recalled.

In addition, the NCIP request for this service may also contain a DesiredDueDate element, which contains the date when the user would like the recalled item to be returned so they may pick it up. The request may also contain a ShippingInformation element containing a PhysicalAddress element and a ShippingInstructions element containing information on where the item will be picked up and any user entered comments regarding the recall. This PhysicalAddress need not be the full address of the pickup location, but it must be a String the underlying ILS can use to determine the exact location to which the item should be sent.

The sample Recall Item request below is placing a recall on the item with a item ID of 392781. It is requesting that the item be returned by 12/23/08 and delivered to the "Main Desk" for pickup. The sample Recall Item response contains no Problem element, showing that the recall was placed successfully.

Sample Recall Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RecallItem>
```

```
<InitiationHeader>
  <FromAgencyId>
    <UniqueAgencyId>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </FromAgencyId>
  <ToAgencyId>
    <UniqueAgencyId>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </ToAgencyId>
</InitiationHeader>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>392781</ItemIdentifierValue>
</UniqueItemId>
<DesiredDueDate>12/23/08</DesiredDueDate>
<ShippingInformation>
  <PhysicalAddress>Main Desk</PhysicalAddress>
</ShippingInformation>
</RecallItem>
</NCIPMessage>
```

Sample Recall Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RecallItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
```



```
</UniqueAgencyId>
</ToAgencyId>
</ResponseHeader>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdIdentifierValue>392781</ItemIdIdentifierValue>
</UniqueItemId>
</RecallItemResponse>
</NCIPMessage>
```

Renew Item

This service is used to renew an item which has already been checked out to the requesting user. The NCIP request calling this service must provide either a UniqueUserId element or AuthenticationInput elements in the format described for the Authenticate User Service for the user placing the request. It must also provide a UniqueItemId element with the item ID of the item being requested. It may also contain a DesiredDueDate element containing the new date when the user would like the item to be due.

The sample Renew Item request below is asking that the item with item ID 2481632 be renewed to the user with ID 23456789 with a new due date of 12/23/08. The response indicates that the operation was successful (since there was no Problem element,) but that 06/01/08 is the new due date (rather than 12/23/08 like the user requested.)

Sample Renew Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RenewItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
```

```
</UniqueAgencyId>
</ToAgencyId>
</InitiationHeader>
<UniqueUserId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>23456789</UserIdentifierValue>
</UniqueUserId>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>2481632</ItemIdentifierValue>
</UniqueItemId>
<DesiredDateForReturn>12/23/08</DesiredDateForReturn>
</RenewItem>
</NCIPMessage>
```

Sample Renew Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RenewItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
```

```
</UniqueAgencyId>
<ItemIdentifierValue>2481632</ItemIdentifierValue>
</UniqueItemId>
<DateDue>Jun 1, 2008</DateDue>
</RenewItemResponse>
</NCIPMessage>
```

Cancel Request Item

This service may be called to cancel a callslip or a hold request which was previously placed on an item and has not yet been filled. The request to cancel may have been placed through the NCIP Toolkit's Request Item service or through some other interface. The NCIP request calling this service must provide either a UniqueUserId element or AuthenticationInput elements in the format described for the Authenticate User Service for the user canceling the request. It must also provide a UniqueItemId element with the item ID of the item for which the request is being cancelled.

The sample Cancel Request Item request below will cancel the request placed by the sample Request Item request above. Since the sample Cancel Request Item response does not contain a problem element, we know the operation was successful.

Sample Cancel Request Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CancelRequestItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
```

```
<UserIdentifierValue>12345678</UserIdentifierValue>
</UniqueUserId>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>24681632</ItemIdentifierValue>
</UniqueItemId>
</CancelRequestItem>
</NCIPMessage>
```

Sample Cancel Request Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CancelRequestItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>24681632</ItemIdentifierValue>
    </UniqueItemId>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>12345678</UserIdentifierValue>
```

```
</UniqueUserId>
</CancelRequestItemResponse>
</NCIPMessage>
```

Cancel Recall Item

This service may be called to cancel a recall which was previously placed on an item and has not yet been filled. A user must have authenticated before invoking this service, otherwise an error will be generated. The user who was authenticated will be the user on behalf of whom the recall is cancelled. The request must contain a UniqueItemId element with the item ID of the item whose recall is to be recalled.

The sample Cancel Recall Item request below will cancel the recall placed by the sample Recall Item request above. Since the sample Cancel Recall Item response does not contain a problem element, we know the operation was successful.

Sample Cancel Recall Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CancelRecallItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>392781</ItemIdentifierValue>
    </UniqueItemId>
  </CancelRecallItem>
</NCIPMessage>
```

Sample Cancel Recall Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CancelRecallItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>392781</ItemIdentifierValue>
    </UniqueItemId>
  </CancelRecallItemResponse>
</NCIPMessage>
```

Create Item

This service is used to create a new item on an ILS's. The requester can specify the bibliographic, item, and holdings information, any restrictions on its use, temporary and permanent locations where it is held, its sensitization information, and its physical condition using the appropriate NCIP elements. A suggested item ID for the ILS to use to refer to the item may also be provided. If the client has updated its records to include the item before placing the Create Item request it may include a MandatedAction element specifying the date when it created the item locally.

The sample Create Item Request below will create an item for a book entitled Green Eggs and Spam written by Joe Shmoe. The book is in English, has 200 pages, and the requester updated its own records to include the item on 3/24/09. The request proposes that the server use 45678 as the item ID of the item it's creating. The sample response indicates that the item was created and assigned the item

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ID 45678. Although in this example the item ID proposed in the request was used, the server may choose to assign a different item ID instead.

Create Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CreateItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <BibliographicDescription>
      <Author>Joe Shmoe</Author>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <Language>eng</Language>
      <MediumType>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/MediumType.scm</Scheme>
        <Value>Book</Value>
      </MediumType>
      <Pagination>200 pages</Pagination>
      <Title>Green Eggs and Spam</Title>
    </BibliographicDescription>
    <MandatedAction>
      <DateEventOccurred>3/24/09</DateEventOccurred>
    </MandatedAction>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
```

```
<ItemIdentifierValue>45678</ItemIdentifierValue>
</UniqueItemId>
</CreateItem>
</NCIPMessage>
```

Create Item Response

```
<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CreateItemResponse>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>45678</ItemIdentifierValue>
    </UniqueItemId>
  </CreateItemResponse>
</NCIPMessage>
```

Check Out Item

This service is used to check out an item on behalf of a user. The requester can also acknowledge fees and use restrictions on the item being checked out. Optionally, `UserElementType` parameters of type "Block or Trap", "User Address Information", or "Visible User Id" may be added to get information on blocks applied to the user, the user's address, or the user's name information. Furthermore, the NCIP request may query for specific types of data about the item by including `ItemElementTypes` with values "Bibliographic Description", "Circulation Status", "Electronic Resource", "Hold Queue Length", "Item Description" and "Location" to get information in each of these areas. If the location is requested, the returned location is where the item could be found when it is not checked out or missing. The client can also supply shipping instructions for the item. If the client has updated its

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records to mark the item as checked out before placing the Check Out Item request it may include a MandatedAction element specifying the date when it updated its local records.

The sample request below will check out the item with item ID 85321 to the user with user ID 12358. The request is acknowledging that the user owes \$20.00 in fines and that the item is not renewable. It is also asking for information on the item's electronic address and the user's visible ID. The request asks that the item be shipped to 123 Main Street, Nowhere NY 55555 and asks that the due date be 4/9/16.

The response indicates that the item with item ID 85321 was checked out to the user with user ID 12358 and is due on 1/4/09. It also reports that www.library.com/resource is a URL to the item's electronic resource and that the user's full name is John Doe.

Check Out Item Request

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CheckOutItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>12358</UserIdentifierValue>
    </UniqueUserId>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
```

```
<ItemIdentifierValue>85321</ItemIdentifierValue>
</UniqueItemId>
<AcknowledgedFeeAmount>
  <CurrencyCode>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/CurrencyCode.scm</Scheme>
    <Value>USD</Value>
  </CurrencyCode>
  <MonetaryValue>2000</MonetaryValue>
</AcknowledgedFeeAmount>
<AcknowledgedItemUseRestrictionType>
  <Scheme> 128.151.244.137:8080/NCIPToolkit/NCIPschemes/ItemUseType.scm</Scheme>
  <Value>Not renewable</Value>
</AcknowledgedItemUseRestrictionType>
<DesiredDateDue>4/9/16</DesiredDateDue>
<ItemElementType>
  <Scheme> www.niso.org/ncip/v1_0/schemes/itemelementtype/itemelementtype.scm</Scheme>
  <Value>Electronic Resource</Value>
</ItemElementType>
<ShippingInformation>
  <PhysicalAddress>
    <PhysicalAddressType>
      <Scheme> www.niso.org/ncip/v1_0/schemes/itemelementtype/itemelementtype.scm</Scheme>
      <Value>Perminant</Value>
    </PhysicalAddressType>
    <StructuredAddress>
      <Country>USA</Country>
      <Line1>123 Main Street</Line1>
      <Line2>Nowhere, NY, 55555</Line2>
    </StructuredAddress>
  </PhysicalAddress>
</ShippingInformation>
<UserElementType>
  <Scheme>www.niso.org/ncip/v1_0/schemes/userelementtype/userelementtype.scm</Scheme>
  <Value>Visible User Id</Value>
</UserElementType>
</CheckoutItem>
</NCIPMessage>
```

Check Out Item Response

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CheckoutItemResponse>
    <InitiationHeader>
```

```
<FromAgencyId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
</FromAgencyId>
<ToAgencyId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
</ToAgencyId>
</InitiationHeader>
<UniqueUserId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>12358</UserIdentifierValue>
</UniqueUserId>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>85321</ItemIdentifierValue>
</UniqueItemId>
<DateDue>1/4/09</DateDue>
<ItemOptionalFields>
  <ElectronicResource>
    <ActualResource>www.library.com/resource</ActualResource>
    <ElectronicDataFormatType>URL</ElectronicDataFormatType>
  </ElectronicResource>
</ItemOptionalFields>
<UserOptionalFields>
  <VisibleUserId>
    <VisibleUserIdentifier>John Doe</VisibleUserIdentifier>
    <VisibleUserIdentifierType>Full Name</VisibleUserIdentifierType>
  </VisibleUserId>
</UserOptionalFields>
</CheckOutItemResponse>
</NCIPMessage>
```

Check In Item

This service is used to check in an item. Optionally, `UserElementType` parameters may be added to get information on the user who had the item checked out. Furthermore, the NCIP request may query for specific types of data about the item by including `ItemElementType` elements to get

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information about the item. If the location is requested, the returned location is where the item could be found when it is not checked out or missing. If the client has updated its records to mark the item as checked in before placing the Check In Item request it may include a MandataedAction element specifying the date when it updated its local records.

The sample request below will check in the item with item ID 85321. The request is also asking for information on the length of the item's hold queue and the date of birth for the user who has the item checked out.

The response indicates that the item with item ID 85321 is no longer checked out to the user with user ID 12358. It also reports that there are 3 requests in the item's hold queue and that the user's date of birth is 6/27/76.

Check In Item Request

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CheckInItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>85321</ItemIdentifierValue>
    </UniqueItemId>
    <ItemElementType>
      <Scheme> www.niso.org/ncip/v1_0/schemes/itemelementtype/itemelementtype.scm</Scheme>
      <Value>Hold Queue Length</Value>
    </ItemElementType>
    <UserElementType>
```

```
<Scheme>www.niso.org/ncip/v1_0/schemes/userelementtype/userelementtype.scm</Scheme>
<Value>Date Of Birth</Value>
</UserElementType>
</CheckInItem>
</NCIPMessage>
```

Check In Item Response

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <CheckInItemResponse>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>12358</UserIdentifierValue>
    </UniqueUserId>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>85321</ItemIdentifierValue>
    </UniqueItemId>
    <ItemOptionalFields>
      <HoldQueueLength>3</HoldQueueLength>
    </ItemOptionalFields>
    <UserOptionalFields>
      <DateOfBirth>6/27/76</DateOfBirth>
```

```
</UserOptionalFields>
</CheckInItemResponse>
</NCIPMessage>
```

Accept Item

This service asks that an item be accepted for a request on behalf of a user. The item and the user might not be known to the underlying ILS when this request is placed. The requester only needs to supply a unique request ID of the request to be accepted, but it can supply as much information as it likes about the user or the item using in the NCIP elements `ItemOptionalFields`, `UserOptionalFields`, `UniqueItemId`, and `UniqueUserId`. It may also provide information about the request with the `RequestedActionType` and `FiscalTransactionInformation` elements. If the client has updated its records to mark the request as accepted before placing the Accept Item request it may include a `MandatedAction` element specifying the date when it updated its local records.

The sample request below asks the ILS to accept the request with the request ID 332211. It explains that the request is to check out the item with bibliographic ID 777 which has the author Joe Shmoe, the title Green Eggs and Spam, the item ID is 12358 and the call number 23456. The item should be checked out to the user with user ID 85321 whose email address is foo@gmail.com. The response indicates that the request with ID 332211 was accepted for the item with item ID 12358.

Accept Item Request

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <AcceptItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueRequestId>
      <RequestIdentifierValue>332211</RequestIdentifierValue>
    </UniqueRequestId>
    <UniqueAgencyId>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
```

```
<Value>University of Rochester</Value>
</UniqueAgencyId>
</UniqueRequestId>
<RequestedActionType>
  <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/ActionType.scm</Scheme>
  <Value>Check Out</Value>
</RequestedActionType>
<ItemOptionalFields>
  <BibliographicDescription>
    <Author>Joe Shmoe</Author>
    <Title>Green Eggs and Spam</Title>
  </BibliographicDescription>
  <ItemDescription>
    <CallNumber>23456</CallNumber>
  </ItemDescription>
  <VisibleItemId>
    <VisibleItemIdentifier>777</VisibleItemIdentifier>
    <VisibleItemIdentifierType>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/ItemIdType.scm</Scheme>
      <Value>Bibliographic ID</Value>
    </VisibleItemIdentifierType>
  </VisibleItemId>
</ItemOptionalFields>
<UniqueItemId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <ItemIdentifierValue>12358</ItemIdentifierValue>
</UniqueItemId>
<UniqueUserId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>85321</UserIdentifierValue>
</UniqueUserId>
<UserOptionalFields>
  <UserAddressInformation>
    <ElectronicAddress>
      <ElectronicAddressType>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/schemes/ElectronicAddress.scm</Scheme>
        <Value>email</Value>
      </ElectronicAddressType>
      <ElectronicAddressData>foo@gmail.com</ElectronicAddressData>
    </ElectronicAddress>
  </UserAddressInformation>
```

```
</UserOptionalFields>
</AcceptItem>
</NCIPMessage>
```

Accept Item Response

```
<?xml version="1.0"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <AcceptItemResponse>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueRequestId>
      <RequestIdentifierValue>332211</RequestIdentifierValue>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
    </UniqueRequestId>
    <UniqueItemId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <ItemIdentifierValue>12358</ItemIdentifierValue>
    </UniqueItemId>
  </AcceptItemResponse>
</NCIPMessage>
```


Other supported Services

XC Lookup User

This service is used to look up information about a user. It is almost identical to the Lookup User Service, but allows additional information to be queried which is not exposed by the NCIP standard. The only required parameter is the user's unique identifier. Optionally, UserElementType parameters of type "Block or Trap", "User Address Information", or "Visible User Id" may be added to get information on blocks applied to the user, the user's address, or the user's name information.

Additionally, empty LoanedItemsDesired, RequestedItemsDesired, RecalledItemsDesired, UserFiscalAccountDesired, and MessagesDesired elements may be included in the request to get the items the user has checked out, the items the user has requested or recalled, the fines and fees the user owes or has paid, and the messages that apply to the user.

The sample Lookup User request below gets the user's name and recalls they have placed for the user with unique ID 45678912. The results indicate that the user's full name is "Cookie Monster" and they have placed a recall on the item with ID 345543 on June 1st 2008, and that item will be available on June 15th 2008.

For privacy reasons, loaned items, requested items, recalled items, fiscal account information, block or trap information and address information will not be returned for a user who is not authenticated.

Sample XC Lookup User Request

```
<?xml version='1.0' encoding='UTF-8' ?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/impl/xsd/ncip_version.dtd">
  <XCLookupUser>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
```

```
<UniqueUserId>
  <UniqueAgencyId>
    <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
    <Value>University of Rochester</Value>
  </UniqueAgencyId>
  <UserIdentifierValue>45678912</UserIdentifierValue>
  <RecalledItemsDesired />
</XCLookupUser>
</NCIPMessage>
```

Sample XC Lookup User Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCLookupUserResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/ncip/schemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>45678912</UserIdentifierValue>
    </UniqueUserId>
    <RecalledItem>
      <DatePlaced> Jun 1, 2008</DatePlaced>
      <PickupDate> Jun 15, 2008</PickupDate>
      <UniqueItemId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/ncip/schemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
```

```
<ItemIdentifierValue>345543</ItemIdentifierValue>
</UniqueItemId
</RecalledItem>
</XCLookupUserResponse>
</NCIPMessage>
```

XC Get Availability

This service is used to check the availability of a list of items. The XC Get Availability request must contain one or more UniqueItemId elements which contain the item IDs of the items whose availability is being queried. Also, you could use the VisibleItemId element here, where by you could pass the Bib/Holdings ID and we could get the availability and information of each of the items in the response.

Suppose, the XCGetAvailability request has an UniqueItemId element which contains the ItemId of the item. Then the XCGetAvailability response would contain the corresponding holdings ID, and the Bib Id of that particular item, and the respective information would be displayed in the response.

Suppose, the XCGetAvailability request has a VisibleItemId element which contains the Holding Id of the item. Then the XCGetAvailability response would find all possible Bib ID's for that holding ID, and same time, it would find all possible Item ID's for that holding ID. So, in the result, you have (holdings, bib, item) as a unique pair, and all possible pairs having the passed Holdings ID.

Suppose, the XCGetAvailability request has a VisibleItemId element which contains the Bibliographic Id of the item. Then the XCGetAvailability response would find all possible Holding ID's for that Bib ID. For that Holdings Id, it would find all the possible Item Id's. So, in the result, you have (holdings, bib, item) as a unique pair, and all possible pairs which contain the Bibliographic ID which was in the NCIP XCGetAvailability request.

The sample XC Get Availability Request is querying the availability of holding ID 3650879. The response indicates that the item with 2 (item, holdings, bib) pairs for that holdings ID.

Sample XC Get Availability Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN" "http://xml.coverpages.org/NCIP-
v10a-DTD.txt">
<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCGetAvailability>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.189.131:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.189.131:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
```

```
</UniqueAgencyId>
</ToAgencyId>
</InitiationHeader>
<VisibleItemId>
  <VisibleItemIdentifierType>
    <Scheme>http://128.151.189.131:8080/NCIPToolkit/NCIPschemes/BibIdCode.scm</Scheme>
    <Value>holdings ID</Value>
  </VisibleItemIdentifierType>
  <VisibleItemIdentifier>3650879</VisibleItemIdentifier>
</VisibleItemId>
</XCGetAvailability>
</NCIPMessage>
```

Sample XC Get Availability Response

```
<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCGetAvailabilityResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme> http://128.151.189.131:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm </Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme> http://128.151.189.131:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm </Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <XCItemAvailability>
      <ItemId>3455128</ItemId>
      <BibId>3454199</BibId>
      <HoldingsId>3650879</HoldingsId>
      <ItemOptionalFields>
        <BibliographicDescription>
          <BibliographicItemId>
            <BibliographicItemIdentifierCode>
              <Scheme>
http://www.niso.org/ncip/v1_0/imp1/schemes/bibliographicitemidentifiercode/bibliographicitemidentifiercod
e.scm </Scheme>
              <Value>ISBN</Value>
            </BibliographicItemIdentifierCode>
            <BibliographicItemIdentifier>1845640012 (hbk.) </BibliographicItemIdentifier>
          </BibliographicItemId>

```

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```
<BibliographicRecordId>
  <BibliographicRecordIdentifier>3454199</BibliographicRecordIdentifier>
  <BibliographicRecordIdentifierCode>
    <Scheme>
      http://www.niso.org/ncip/v1_0/imp1/schemes/bibliographicrecordidentifiercode/bibliographicrecordidentifie
rcode.scm </Scheme>
    <Value>Bibliographic ID</Value>
  </BibliographicRecordIdentifierCode>
</BibliographicRecordId>
<MediumType>Book</MediumType>
<Publisher>WIT, </Publisher>
<SeriesTitleNumber>Design and nature ; v. 7-8 </SeriesTitleNumber>
<Title>Flow phenomena in nature / editor, R. Liebe. </Title>
</BibliographicDescription>
<CirculationStatus>
  <Scheme> http://www.niso.org/ncip/v1_0/imp1/schemes/circulationstatus/circulationstatus.scm
</Scheme>
  <Value>Not Charged</Value>
</CirculationStatus>
<HoldQueueLength>0</HoldQueueLength>
<ItemDescription>
  <CallNumber>TA357 .F5428 2007</CallNumber>
  <VisibleItemId>
    <VisibleItemIdentifier>Flow phenomena in nature / editor, R. Liebe. </VisibleItemIdentifier>
    <VisibleItemIdentifierType>
      <Scheme>
        http://www.niso.org/ncip/v1_0/imp1/schemes/visibleitemidentifiertype/visibleitemidentifiertype.scm
      </Scheme>
      <Value>Title</Value>
    </VisibleItemIdentifierType>
  </VisibleItemId>
</ItemDescription>
<Location>Carlson Circulating Books</Location>
</ItemOptionalFields>
<XCItemAvailability>
  <XCItemAvailability>
    <ItemId>3451955</ItemId>
    <BibId>3454199</BibId>
    <HoldingsId>3650879</HoldingsId>
  </ItemOptionalFields>
  <BibliographicDescription>
    <BibliographicItemId>
      <BibliographicItemIdentifierCode>
        <Scheme>
          http://www.niso.org/ncip/v1_0/imp1/schemes/bibliographicitemidentifiercode/bibliographicitemidentifiercod
e.scm </Scheme>
        <Value>ISBN</Value>
      </BibliographicItemIdentifierCode>
      <BibliographicItemIdentifier>1845640012 (hbk.) </BibliographicItemIdentifier>
    </BibliographicItemId>
  </BibliographicRecordId>
  <BibliographicRecordIdentifier>3454199</BibliographicRecordIdentifier>
  <BibliographicRecordIdentifierCode>
```

```
<Scheme>
http://www.niso.org/ncip/v1_0/imp1/schemes/bibliographicrecordidentifiercode/bibliographicrecordidentifie
rcode.scm </Scheme>
<Value>Bibliographic ID</Value>
</BibliographicRecordIdentifierCode>
</BibliographicRecordId>
<MediumType>Book</MediumType>
<Publisher>WIT, </Publisher>
<SeriesTitleNumber>Design and nature ; v. 7-8 </SeriesTitleNumber>
<Title>Flow phenomena in nature / editor, R. Liebe. </Title>
</BibliographicDescription>
<CirculationStatus>
<Scheme> http://www.niso.org/ncip/v1_0/imp1/schemes/circulationstatus/circulationstatus.scm
</Scheme>
<Value>Not Charged</Value>
</CirculationStatus>
<HoldQueueLength>0</HoldQueueLength>
<ItemDescription>
<CallNumber>TA357 .F5428 2007</CallNumber>
<VisibleItemId>
<VisibleItemIdentifier>Flow phenomena in nature / editor, R. Liebe. </VisibleItemIdentifier>
<VisibleItemIdentifierType>
<Scheme>
http://www.niso.org/ncip/v1_0/imp1/schemes/visibleitemidentifiertype/visibleitemidentifiertype.scm
</Scheme>
<Value>Title</Value>
</VisibleItemIdentifierType>
</VisibleItemId>
</ItemDescription>
<Location>Carlson Circulating Books</Location>
</ItemOptionalFields>
</XCItemAvailability>
</XCGetAvailabilityResponse>
</NCIPMessage>
```

XC Open URL Request Item

This service is used to place a request for an item on behalf of a user. The user who is requesting the item must have authenticated before invoking this service, otherwise an error will be generated. The NCIP request calling this service must provide either a UniqueUserId element or AuthenticationInput elements in the format described for the Authenticate User Service for the user placing the request. It must also provide an open URL query string identifying the item being requested.

In addition, the NCIP request for this service may also contain a PickupExpiryDate element, which contains the date after which the request should be cancelled if the item is not picked up by then. The request may also contain a ShippingInformation element containing a PhysicalAddress element and a ShippingInstructions element containing information on where the item will be picked up and any user entered comments regarding the request. This PhysicalAddress need not be the full address of the pickup location, but it must be a String the underlying ILS can use to determine the exact location to which the item should be sent.

The sample Request Item request below is submitting a request for the item with item described by the query string genre=book&isbn=0836218310&title=The+Far+Side+Gallery+3 on behalf of the user

with ID 12345678. It specifies the item be sent to the “Main Desk” for pickup, and that the request should expire on 12/23/08. The sample Request Item response indicates that the request was successful and its request ID is 54321.

Sample Open URL Request Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
  "http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCOpenUrlRequestItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://library.rochester.edu/ncip/scheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>12345678</UserIdentifierValue>
    </UniqueUserId>
    <OpenUrlQueryString>
      genre=book&isbn=0836218310&title=The+Far+Side+Gallery+3
    </OpenUrlQueryString>
    <RequestScopeType>
      <Scheme>http://www.niso.org/ncip/v1_0/imp1/schemes/requestscopetype/requestscopetype.scm
    </Scheme>
      <Value>Item</Value>
    </RequestScopeType>
    <PickupExpiryDate>12/23/08</PickupExpiryDate>
    <ShippingInformation>
      <PhysicalAddress>Main Desk</PhysicalAddress>
    </ShippingInformation>
  </XCOpenUrlRequestItem>
</NCIPMessage>
```

Sample Open URL Request Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCOpenUrlRequestItemResponse>
    <ResponseHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </ResponseHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.180.156:8080/ncip/schemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>12345678</UserIdentifierValue>
    </UniqueUserId>
    <UniqueRequestId>54321</UniqueRequestId>
  </XCOpenUrlRequestItemResponse>
</NCIPMessage>
```

XC Open URL Renew Item

This service is used to renew an item which has already been checked out to the requesting user. The NCIP request calling this service must provide either a UniqueUserId element or AuthenticationInput elements in the format described for the Authenticate User Service for the user placing the request. It must also provide a UniqueItemId element with the item ID of the item being requested. It may also contain a DesiredDueDate element containing the new date when the user would like the item to be due.

The sample Renew Item request below is asking that item with item described by the query string genre=book&isbn=0836218310&title=The+Far+Side+Gallery+3 be renewed to the user with ID 23456789 with a new due date of 12/23/08. The response indicates that the operation was successful

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(since there was no Problem element,) but that 06/01/08 is the new due date (rather than 12/23/08 like the user requested.)

Sample XC Open URL Renew Item Request

```
<?xml version='1.0' encoding='UTF-8'?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://xml.coverpages.org/NCIP-v10a-DTD.txt">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <XCOpenUrlRenewItem>
    <InitiationHeader>
      <FromAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </FromAgencyId>
      <ToAgencyId>
        <UniqueAgencyId>
          <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
          <Value>University of Rochester</Value>
        </UniqueAgencyId>
      </ToAgencyId>
    </InitiationHeader>
    <UniqueUserId>
      <UniqueAgencyId>
        <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
        <Value>University of Rochester</Value>
      </UniqueAgencyId>
      <UserIdentifierValue>23456789</UserIdentifierValue>
    </UniqueUserId>
    <OpenUrlQueryString>
      genre=book&isbn=0836218310&title=The+Far+Side+Gallery+3
    </OpenUrlQueryString>
    <DesiredDateForReturn>12/23/08</DesiredDateForReturn>
  </XCOpenUrlRenewItem>
</NCIPMessage>
```

Sample XC Open URL Renew Item Response

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCIPMessage PUBLIC "-//NISO//NCIP DTD Version 1//EN"
"http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">

<NCIPMessage version="http://www.niso.org/ncip/v1_0/imp1/dtd/ncip_v1_0.dtd">
  <RenewItemResponse>
```

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```
<ResponseHeader>
  <FromAgencyId>
    <UniqueAgencyId>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </FromAgencyId>
  <ToAgencyId>
    <UniqueAgencyId>
      <Scheme>http://128.151.244.137:8080/NCIPToolkit/NCIPschemes/AgencyScheme.scm</Scheme>
      <Value>University of Rochester</Value>
    </UniqueAgencyId>
  </ToAgencyId>
</ResponseHeader>
<DateDue>Jun 1, 2008</DateDue>
</XCOpenUrlRenewItemResponse>
</NCIPMessage>
```