IADN
Item Arrival and Departure Notification
An NCIP Application Profile

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IADN: Item Arrival and Departure Notification Application Profile

1. Introduction

The Item Arrival and Departure Notification Application Profile of the NISO Circulation Interchange Protocol is designed to alert applications interested in aspects of the receipt, the return, and the bibliographic description of interlibrary loan items. As a lightweight auxiliary protocol for use with ISO ILL Requester and Lender applications, it is designed to relieve clerical activities associated with the gathering and recording of such information by client applications.

The base standard that enables this communication is NCIP. This profile is based upon that protocol as well as the supporting NCIP Implementation Profile 1.

1.1 Profile Constraints

This profile imposes no specific requirements on the means by which the Interlibrary Loan application communicates with its peer Interlibrary Loan applications in the external environment. It adds two management components to the ILL system requirement: an IADN Subscriber List and a Unique-Item-ID-to-Transaction association, both of which are described in the appropriate areas of this document.

2. Description of Application Area

This profile is designed to support messaging between an ISO ILL application and applications interested in the items passing through that system. Its principle purpose is to provide a bibliographic description of ILL Items and signal their arrival and departure as implied by the raising of RECEIVED and RETURNED indications in the ISO ILL State Machine. Examples of such interested applications are circulation systems, statistics collecting applications, collection development applications, and other administrative-management modules.

3. Scope

In all instances, the ILL application acts as an NCIP Initiator and the interested applications as NCIP responders. The profile allows for:

- The ILL application, when a RECEIVED indication is raised, to signal an interested application of the arrival of an ILL item.
- The ILL application to provide sufficient information for the interested application to create, should it so desire, a temporary item record for its own use.
- The interested application to return to the ILL application an item identifier to be used in subsequent messages.
- For the ILL application, when a RETURNED indication is raised, to signal the interested application that the item associated with the item identifier has been returned to the lender.

4. References

- NISO Z39.83-2002, NISO Circulation Interchange Protocol
- Implementation Profile 1, a Profile of the NISO Circulation Interchange Protocol
- ISO 10160:1997, Information and Documentation – Open Systems Interconnection – Interlibrary Loan Application Service Definition

- ISO 10161-1:1997, Information and Documentation – Open Systems Interconnection – Interlibrary Loan Application Protocol Specification

5. Definitions

- Subscriber – The application interested in the arrival, departure, and/or bibliographic description of ILL items.
- Notifier – The ILL Application that provides IADN Notices to Subscribers.
- Notices – The messages from the CreateItem and CheckedIn services sent by the ILL application to the Subscribers.
- Item – An ILL item.
- Arrival Notification – An NCIP CreateItem message.
- Item Id – an Id returned by the Subscriber to the Notifier sufficient for the Subscriber to disambiguate later messages.
- Departure Notification – An NCIP ItemCheckedIn message.
- Transaction – An ILL Transaction as defined by the ISO ILL protocol.
- Subscriber List – A list of NCIP aware connection points associated with ILL Transactions managed within the ISO ILL application. Details are implementation specific.

6. Conformance

6.1.1. Initiator Role

The Notifier has the role of NCIP Initiator and must implement the NCIP CreateItem and ItemCheckedIn services

6.1.2. Responder Role

Subscribers have the role of NCIP Responder and must implement the CreateItem service. Subscribers may implement the NCIP ItemCheckedIn service; if they chose not to, they must handle the receipt of a ItemCheckedIn notification message gracefully.

6.1.3. Requirements for Conformance

An application that claims conformance to a role shall, while operating under this profile, conform to the NISO Circulation Interchange Protocol and the Implementation Profile 1.

Applications in the Subscriber or Notifier roles shall implement all required messages and data elements. Subscribers should be prepared to gracefully handle an unwanted ItemCheckedIn message. How they do so is implementation specific.

The Notifier must be able to associate Subscribers and Item Ids with their ISO ILL transactions (an Item Id/Subscriber to Transaction association, implementation specific).

6.1.4 Optional Features

The Notifier may ignore the NISO ItemCheckedInResponse. A Notifier may associate more than one Subscriber with a single Transaction.

The Subscriber, in constructing an Item Id, need only construct an ID that serves the Subscriber's needs in disambiguating IDs. That is, if the Subscriber has no interest in departure Notifications, all of its Item Ids may be identical. If the subscriber wishes to disambiguate Departure Notifications, every Item Id must be unique within the Subscriber's application environment.

7. Profile Specification and Participating Applications

This profile assumes all Subscribers have an interest in Arrival Notifications for ILL Items, but only some Subscribers may have an interest in Departure Notifications or in bibliographic descriptions. Subscribers that happen to be Collection Development modules, for instance, may only have an interest in the fact that an ILL Item arrived, or may have an additional interest in the bibliographic description of that item, but no interest at all in its departure. Statistical generating applications may have in interest in the fact of an Item's arrival and the duration of its stay, but no interest in its description. Circulation systems may wish to create temporary records from the bibliographic description data element in the Arrival Notification. They also may choose to destroy such temporary records upon receipt of a Departure Notification, or simply mark the record as no longer in use, or ignore Departure Notifications altogether.

Note that while a Notifier must properly emit an Arrival Notification to a Subscriber, upon that message's failure or error, all further activities are implementation specific. Only the receipt of the Item Id within the CreateItemResponse message commits the Notifier to further action. Note also that a Notifier is free to ignore either a ItemCheckedInResponse or the failure of the original Departure Notification.

7.1 Business Rules

The Notifier application shall signal Subscribers appropriately (see Services) whenever a RECEIVE indication is raised and conditionally whenever RETURNED indication is raised. Upon issuing a CreateItem NCIP message when a RECEIVE indication is raised, the Notifier shall preserve the Item Id returned by the Subscriber in its CreateItemResponse message until it is used by the Notifier in the ItemCheckedInNotification message sent to the Subscriber when a RETURNED indication is raised. How the Item Id and the Subscriber are associated with an ILL transaction within the ILL application is an implementation detail and not treated here.

The Notifier shall not issue a Notification when a RETURNED indication is raised following a time-out in the CreateItem service or should a Problem be received in its response.

In response to the NCIP CreateItem message, the Subscriber application shall return a Item Id that the ILL application shall consider unique (it need not be in truth unique if the Subscriber application has no need for disambiguating Item Ids). The Subscriber may respond to the ItemCheckedInNotification message; failure to do so and the subsequent time-out of the message in the Initiator's State machine is an implementation specific reaction detail and not treated here.

7.2 Required and Optional Services

Only the two services listed below are used in this profile.

Service	Required (R) Optional (O) Conditional (C)	
	Role	
	Notifier	Subscriber
CreateItem	R	R
ItemCheckedIn	C	O

7.3 Required and Optional Data Elements

No optional data elements in the two NCIP messages have been made required in this profile. It is understood that the Bibliographic Description Data Element in the NCIP CreateItem message relies upon data elements optional in the ISO ILL Request message; thus the Notifier is required to perform a "best effort" in constructing that data element.

7.4 Event Table

Triggering Event	Issuing Application	Service	Receiving Application	Message Constraints
RECEIVED Indication raised	Notifier	CreateItem	Subscriber	Notifier creates a "best effort" bibliographic description in the CreateItemRequest
(1)CreateItemResponse received	Subscriber	CreateItem	Notifier	Notifier associates Item Id from the CreateItemResponse with Subscriber and ILL Transaction
(2) Time-out or Problem returned	Network, Subscriber	CreateItem	Notifier	Notifier's obligations are implementation specific
RETURNED Indication Raised (P)	Notifier	ItemCheckedIn	Subscriber	Notifier returns Item Id to Subscriber in a ItemCheckedIn
RETURNED Indication (~P)				Notifier does nothing
(1) ItemCheckedInResponse received	Subscriber	ItemCheckedIn	Notifier	Notifier's actions are implementation specific
(2) Time out or Problem returned	Network, Subscriber	ItemCheckedIn	Notifier	

Predicate:

P – Notifier has an Item Id Associated with the ILL transaction.

8. Other Aspects of the Profile

All other aspects of this protocol are governed by NCIP Implementation Profile 1.

9. Implementation Scenarios (non-normative)

IADN implementation scenarios should contemplate Subscribers from both the item lending and the item borrowing ends of the transaction, or from interested agencies not party to the transactions. One may imagine, for instance, statistical gathering applications employed by lenders, borrowers, and even management agencies not involved in the transaction at all, that gather quantity, type, and duration of ILL transactions using IADN. How Subscribers who are not part of the ILL transaction are associated with a specific transaction is an implementation detail not covered here.