

## NCIP (Z39.83) Version 2 Change Summary

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### ***Reasons for Changes Resulting in a New Version***

NCIP was adopted in 2002 with a version 1.0 DTD and version 1.0 schema. Most current implementers are working with the version 1.01 schema.

### ***Version 2 Changes***

The NCIP-IG decided to make radical changes to the protocol based on the fact that to date there has not been widespread implementation, due in very large part to several perceived hurdles: the standard with all its documents and profiles is too confusing, the standard is too big both in number of services and in amount of data available in messages and network traffic levels (particularly a concern in the self-service environment), the standard does not provide enough value over the easily extensible and widely implemented 3M SIP2, the standard does not deal gracefully with problems of implementers in the broker role, and the standard does not meet the particular network and data needs of self service vendors.

After about a year of discussing these hurdles and assessing what might reasonably be done to mitigate them, the group proposed version 2. It is not backward compatible with version 1, as it is based solely on an XML Schema. There are a few other changes that also break backward compatibility. The most significant are in error handling and extensibility.

The group felt strongly that the move to version 2 was required if NCIP was to be anything more than an unwieldy curiosity of the standards world. Several vendors have invested considerable effort in implementing NCIP in various applications. It still has promise. But in order to become widely adopted, several specific changes have to be made. And vendors who already have code in place will have to make some changes to move forward. Of those who have implementations already in the field, all are willing to bear some pain for awhile supporting two versions because of the benefits in version 2.

The following is a list of the changes made in version 2. The version 2 changes build on changes made since original publication of NCIP and known collectively (if inaccurately) as version 1.01, the version several implementers are already using. Those changes are summarized as a separate section. For both version 2 and version 1.01, the conceptual level of changes is listed, followed by a detailed listing of editorial changes made to the published version 1 Z39.83 (parts 1 and 2). That detailed edit list may be broken out to a supporting document once balloting is at hand. It is essential, though, for the initial editing round for formatting the completed draft.

1. XML Schema is the sole definition for the initiation and response messages which comprise the NISO Circulation Interchange Protocol. The DTD is not carried forward into version 2. This change was made in recognition of the primacy of XML schema in the current environment.
2. The <Any> element was added inside the wrapper element <Ext> within outer level messages to provide extensibility. Lack of a ready method to extend messages was seen as a major hurdle to implementation and adoption. The same method was added at other appropriate spots within some messages.
3. The InitiationHeader and ResponseHeader are now optional wherever they appear. This was done in response to the needs of the self service vendors who typically work only within a building or other confined relationship where all traffic is between known partners in a known context. The headers were unneeded baggage in their world.
4. Two new services, DeleteItem and DeleteUser, were added. This was done in response to the needs of the ILL broker scenario, where workflow demands the ability to delete items and users created for brokering needs.
5. Error handling was completely re-imagined as a Problem choice within NCIPMessage. This was done to allow for more useful error messages in a variety of situations. Problem contains ProblemType (mandatory), ProblemDetail (optional), ProblemElement (optional), and ProblemValue (optional). Problem can occur anywhere MessagingError and ProcessingError could occur, as well as being a top-level element. MessagingError and ProcessingError were removed, though the lists of existing error messages defined for them were retained in Appendix A. All this was done to enrich error reporting and to add flexibility.
6. Added new PreviousUserID element as part of UserOptionalFields within LookupUserResponse. This was done to meet the needs of a segment of self service vendors.
7. Added optional TitleType and MediumType elements within LoanedItem and RequestedItem. These were to address message streamlining issues for the self service segment.

8. Removed VisibleUserID and VisibleItemID and their associated child elements. This, coupled with change 10, was the result of extended discussions of, and revelation of, differences in practice around the definition of an ID. In order to remove the barrier that the visible/unique terminology imposed, and to streamline the definitions, these two Visible elements were removed.
9. Removed the UserTransaction element and promoted its child elements within LookupUserResponse. This was done to allow more direct access to the information in LookupUserResponse. The UserTransaction element was not seen to add value.
10. The prefix “Unique” was removed from all such named elements. This was done partly for consistency and partly to address the confusion caused by UniqueID and VisibleID in version 1. The entire subject of what one uses as an ID depends in large part on the context of the interaction. The protocol was unduly and confusingly restrictive.
11. The AuthenticateUser service was removed. It was deemed unnecessary given the new flexibility in version 2 services. Removing it was a simplification decision.
12. Added an optional NameInformation to RoutingInformation. This is in response to requests for name data in both the brokered ILL world and the self service world.
13. AgencyID becomes optional within ItemID, UserID, and RequestID. This was done because of self service situations where the agency is a consistent condition of the interaction. It was unnecessary baggage in such situations.
14. Added new optional ItemIdentifierType, RequestIdentifierType, UserIdentifierType to their associated parent elements. This was done to allow the interactions that benefit from specifying the type to do so.
15. Removed the suffix “Desired” from current empty element names (LoanedItemCount, LoanedItemDetails, RequestedItemCount, RequestedItemDetails). A wrapper element will contain the “desired” empty elements as needed and will make the intention of the initiator clearer.
16. Added ItemOptionalFields to RequestItem. It is already in AcceptItem, ItemRequested, UpdateRequestItem, and ItemRequestUpdated. This was done allow article-level requesting in the HoldingsInformation part of ItemDescription, which is part of ItemOptionalFields.
17. Added NumberOfPieces to ItemDescription (again to help with article-level requesting).
18. Added a section giving a suggestion on optional compression (5.1.1.)

19. Converted all Enumerations from Scheme/Value pairs to strings with optional scheme attribute – this was done to remove redundant uri's for the scheme, and in recognition that there is no “one true list” of values likely for any of these enumerations. The restriction on values available for use embodied in the scheme/value arrangement was a hurdle for some implementers. The group applied an optional scheme attribute to the data elements that were formerly enumerations that allows for validation from a list when the implementer needs it. Lists that implementers use will be posted as reference (suggested) lists at [www.ncip.info](http://www.ncip.info). Values currently listed in the protocol remain but are listed as examples.
20. Added a note about the need to translate AgencyIDs among partners. This addresses a confusion and hurdle that implementers, particularly in the broker role, face when configuring applications.
21. Added new data element PickupLocation. This was in response to the need to specify PickupLocation as being different from a processing, owning, or shipping location.
22. Added the new element PickupLocation everywhere PickupExpiry occurs (to enable specifying a pickup location).
23. Added PickupExpiry and (new) PickupLocation to AcceptItem. This is another facet of addressing the need to be able to specify PickupLocation, particularly in situations that do centralized processing but distributed customer service.
24. Added an XML namespace (expected to be niso.org) as an optional part of the message headers. NISO is the defacto owner of the NCIP namespace, but the ownership needs to be made explicit in order to embed NCIP messages within other web services, should there be a need to do so.

### ***Summary Change List for Version 2***

Refer also to the Summary Change list for version 1.01, which follows in the last section of this cover letter. Most of what is listed under version 1.01 is also part of version 2. Obvious exceptions are the version number to be placed on the cover and the handling of error messages. All page numbers in this list refer to the published version 1 protocol (2002).

#### **Part 1**

1. Insert “Draft Version 2” on Cover and update date to 2008.
2. Table of contents (p.v)

- a. Remove 5.3.1 (Authenticate User) and re-number remaining five services
  - b. Insert new sections 5.4.9 Delete Item and 5.4.10 Delete User
  - c. Renumber balance of section 5.4 (from existing 5.4.9 through 5.4.20 – now 5.4.22)
  - d. Remove 6.2 and renumber balance of section
3. Table of contents (page vi)
- a. Delete Appendix B, re-letter the remaining appendices
  - b. Relabel old Appendix C to be: Lists of Values for Data Elements
4. Extensibility (page x)
- a. Remove to end of section, starting with sentence “Investigation showed...” in first paragraph at top of page.
  - b. Replace with:  
“It is a fact of life that lists of values needed vary among libraries and among implementers.  
In order to support a balance between wide-open values and authoritative lists of mandated values, the Implementers Group allows data elements to be populated with text strings (openness for values chosen) and also adds an optional Scheme attribute to allow for validating against an authoritative list (constrained values). Commonly used lists of values may be posted on the Maintenance Agency web site for reference. Agreement on particular lists is outside the scope of this protocol.”
5. page xi
- a. Add a final paragraph before Trademarks section reading:  
The Implementers Group working on version 2 started from a position of wanting to address the perceived hurdles hindering widespread adoption of NCIP. One of the major hurdles came from the self-service area, where assumptions basic to NCIP message construction were counter to the required workflow. Over the span of 2007-08, the group wrestled with both problems and solutions. It believes that the resulting version 2 meets the professed goals of simplification, streamlining, extensibility, and more attention to self-service needs.
6. pages xi-xiv
- a. Update the list of NISO voting members, Board of Directors, and current NCIP-IG members (NCIP-IG membership can be found on [ncip.info](http://ncip.info) web site)

7. 4. Agency
  - a. Remove “unique” from “unique identifiers”
8. 5.1.3 User Object (page 6)
  - a. Insert Previous User Id(s) after Name Information
  - b. Strike “Visible” from “Visible User Id”
9. List of Lookup Services (page 7)
  - a. Remove 5.3.1. Authenticate User row
  - b. Renumber remaining lookup services
10. List of Update Services (page 7)
  - a. Insert new 5.4.9 and 5.4.10 for Delete Item and Delete User
  - b. Renumber balance of list (from existing 5.4.9 through 5.4.20 – now 5.4.21)
11. 5.3 (page 8)
  - a. First paragraph, removed sentence starting “For further discussion of the Problem ...”
  - b. Added “n optional” in last sentence of first paragraph to show that headers are optional now.
12. 5.3.1 (page 8-9)
  - a. Removed Authenticate User Service
  - b. Renumbered remaining five Lookup Services
13. 5.3.2 (now 5.3.1) (page 9)
  - a. Removed “unique” from “unique Agency ID” in Usage paragraph.
  - b. Removed “Unique” from “Unique Agency Id” in both Lookup Agency and Lookup Agency Response
14. 5.3.3 (page 10)
  - a. Removed “unique” from “unique Item Id” in Usage.
  - b. Removed “Unique” from “Unique Item Id” in Lookup Item and Lookup Item Response
  - c. Removed “Unique” from “Unique Request Id” in Lookup Item and Lookup Item Response
  - d. Removed “Visible Item Id” from Lookup Item
  - e. Removed “Desired” from Current Borrower Desired in Lookup Item
  - f. Removed “Desired” from Current Requesters Desired in Lookup Item

15. (New) 5.3.3 (page 10) Lookup Request (affects both message and response)
  - a. Removed “Unique” from “Unique User Id”
  - b. Removed “Unique” from “Unique Item Id”
  - c. Removed “Unique” from “Unique Request Id”
  - d. Removed “Unique” from “Unique Request Type”
  - e. Add “Pickup Location” to response’s optional data
16. 5.3.5 (now 5.3.4)Lookup User Service (page 10)
  - a. Strike “unique” from “unique ID of the User” in Usage
  - b. Strike “Unique” from “Unique User Id” and strike “, or Visible User Id”
  - c. Strike “Desired” from Loaned Items Desired in Lookup User
  - d. Strike “Desired” from Requested Items Desired in Lookup User
  - e. Strike “Desired” from User Fiscal Account Desired in Lookup User
17. 5.3.5. (now 5.3.4) Lookup User Response (page 11)
  - a. Strike “Unique” from “Unique User Id”
  - b. Insert under If Requested:, after Loaned Items Count (R ) “Loaned Item (R )”
  - c. Insert after Requested Item Count (R) “Requested Item (R)”
  - d. Removed “User Transaction” from “if requested” fields
18. 5.4 (page 12)
  - a. Removed the sentence from first paragraph starting “For further discussion of the Problem ...”
  - b. Added “n optional” in last sentence of first paragraph to show that headers are optional.
19. 5.4.1 (page 12) Accept Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique Request Id” throughout
  - c. Removed “Unique” from “Unique User Id” throughout
  - d. Added “Pickup Expiry Date” to Optional data
  - e. Added “Pickup Location” to Optional data
20. 5.4.2 (page 13) Check In Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout

21. 5.4.3 (page 13-14) Check Out Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
22. 5.4.4 (page 14) Undo Checkout Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
23. 5.4.5 (page 15) Create Agency Service
  - a. Removed “Unique” from “Unique Agency Id” throughout
24. 5.4.6 (page 15) Create Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique Request Id” throughout
25. 5.4.7 (page 16) Create User Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Removed “Visible User Id”
26. 5.4.8 (page 16-17) Create User Fiscal Transaction Service
  - a. Removed “Unique” from “Unique User Id” throughout
27. 5.4.9 (page 17) – new section for Delete Item Service  
Delete Item Service  
Usage: This service asks that the responding application delete an item record. This may also result in deletion of the associated bibliographic record, depending on the rules of the responding application. The purpose of this service is to enable applications to remove unnecessary items in weeding and binding situations as well as cleaning up after creation of a temporary item. The initiating application provides an identifier and the responder is not required to return any data other than an acknowledgement or an error.  
Successful Result: The responding application deletes the item specified by the initiating application.  
Messages and data elements:  
Delete Item  
Required data: Item Id  
Optional data: Agency Id  
Delete Item Response  
Required data: None  
Optional data: Problem

28. 5.4.10 (page 17) new section for Delete User Service  
Usage: This service asks that the responding application delete a User. This service is intended to enable resource sharing systems and similar applications to remove temporary users created during request processes. The initiating application provides an identifier and the responder is not required to return any data other than an acknowledgement or an error.  
Successful Result: The responding application deletes the user record specified by the initiating application.  
Messages and Data Elements:  
Delete User  
Required data: User Id  
Optional data: Agency Id  
Delete User Response  
Required data: None  
Optional data: Problem
29. Renumber balance of section 5.4 (pages 17-24)
30. Newly renumbered 5.4.11 (page 17) Recall Item Service
  - a. Removed "Unique" from "Unique Item Id" throughout
  - b. Removed "Unique" from "Unique User Id" throughout
31. Newly renumbered 5.4.12 (page 17) Cancel Recall Item Service
  - a. Removed "Unique" from "Unique Item Id" throughout
  - b. Removed "Unique" from "Unique User Id" throughout
32. Newly renumbered 5.4.13 (page 18) Renew Item Service
  - a. Removed "Unique" from "Unique Item Id" throughout
  - b. Removed "Unique" from "Unique User Id" throughout
33. Newly renumbered 5.4.13 (page 19) Report Circulation Status Change Service
  - a. Removed "Unique" from "Unique Item Id" throughout
  - b. Removed "Unique" from "Unique User Id" throughout
34. Newly renumbered 5.4.14 (page 19-20) Request Item Service
  - a. Removed "Unique" from "Unique Item Id" throughout
  - b. Removed "Unique" from "Unique User Id" throughout
  - c. Removed "Unique" from "Unique Bibliographic Id" throughout
  - d. Removed "Unique" from "Unique Request Id" throughout
  - e. Added "Item Optional Fields"
  - f. Added "Pickup Location"

35. Newly renumbered 5.4.16 (page 20-21) Cancel Request Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
36. Newly renumbered 5.4.17 (page 21) Send User Notice Service
  - a. Removed “Unique” from “Unique User Id” throughout
37. Newly renumbered 5.4.18 (page 22) Update Agency Service
  - a. Removed “Unique” from “Unique Agency Id” throughout
38. Newly renumbered 5.4.19 (page 22) Update Circulation Status Service
  - a. Removed “Unique” from “Unique Item Id” throughout
39. Newly renumbered 5.4.20 (page 22-23) Update Item Service
  - a. Removed “Unique” from “Unique Item Id” throughout
40. Newly renumbered 5.4.21 (page 23) Update Request Item Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Removed “Unique” from “Unique Request Id” throughout
  - c. Removed “Unique” from “Unique Item Id” throughout
41. Newly renumbered 5.4.22 (page 24) Update User Service
  - a. Removed “Unique” from “Unique User Id” throughout
42. 5.5 (page 25)
  - a. Added “n optional” in first sentence of second paragraph to show that headers are optional.
  - b. Added “n optional” in second sentence of second paragraph to show that headers are optional.
  - c. Replaced “Messaging Error” with “Problem”
43. 5.5.1 (page 25) Agency Created Service
  - a. Removed “Unique” from “Unique Agency Id” throughout
  - b. Replace “Messaging Error” with “Problem”
44. 5.5.2 (page 25) Agency Updated Service
  - a. Removed “Unique” from “Unique Agency Id” throughout
  - b. Replace “Messaging Error” with “Problem”
45. 5.5.3 (page 26) Circulation Status Change Reported Service

- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Replace “Messaging Error” with “Problem”
46. 5.5.4 (page 26) Circulation Status Updated Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Replace “Messaging Error” with “Problem”
47. 5.5.5 (page 27) Item Checked In Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Replace “Messaging Error” with “Problem”
48. 5.5.6 (page 27) Item Checked Out Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
  - d. Replace “Messaging Error” with “Problem”
49. 5.5.7 (page 28) Item Created Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique Request Id” throughout
  - c. Replace “Messaging Error” with “Problem”
50. 5.5.8 (page 28-29) Item Recall Cancelled Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Replace “Messaging Error” with “Problem”
51. 5.5.9 (page 29) Item Recalled Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Replace “Messaging Error” with “Problem”
52. 5.5.10 (page 29) Item Received Service
- a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
  - d. Replace “Messaging Error” with “Problem”

- 53. 5.5.11 (page 30) Item Renewed Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Replace “Messaging Error” with “Problem”
- 54. 5.5.12 (page 30) Item Request Cancelled Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
  - d. Replace “Messaging Error” with “Problem”
- 55. 5.5.13 (page 31) Item Request Updated Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
  - d. Replace “Messaging Error” with “Problem”
- 56. 5.5.14 (page 31-32) Item Requested Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Bibliographic Id” throughout
  - d. Removed “Unique” from “Unique Request Id” throughout
  - e. Added “Pickup Location”
  - f. Replace “Messaging Error” with “Problem”
- 57. 5.5.15 (page 32) Item Shipped Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Removed “Unique” from “Unique User Id” throughout
  - c. Removed “Unique” from “Unique Request Id” throughout
  - d. Replace “Messaging Error” with “Problem”
- 58. 5.5.16 (page 33) Item Updated Service
  - a. Removed “Unique” from “Unique Item Id” throughout
  - b. Replace “Messaging Error” with “Problem”
- 59. 5.5.17 (page 33) User Created Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Removed “Visible User Id”

- c. Replace “Messaging Error” with “Problem”
- 60. 5.5.18 (page 34) User Fiscal Transaction Created Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Replace “Messaging Error” with “Problem”
- 61. 5.5.19 (page 34) User Notice Sent Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Replace “Messaging Error” with “Problem”
- 62. 5.5.20 (page 34-35) User Updated Service
  - a. Removed “Unique” from “Unique User Id” throughout
  - b. Replace “Messaging Error” with “Problem”
- 63. 6.1 (page 35), last paragraph
  - a. Replaced in its entirety with:  
“Implementers will use values selected from lists for many of the data elements following. Rather than using closed lists, enumerations, or scheme/value pairs, as was done in version 1, the current version encourages implementers to agree on lists of values to use for those elements as part of a configuration agreement outside of the protocol. Commonly used lists are posted at the Maintenance Agency web site for reference. Implementers who wish to reference an authority for a particular value can use the optional Scheme attribute to include the uri for that scheme. This allows optional validation of the value for those desiring to do validation.”
- 64. 6.2 (page 36) Enumerated Types
  - a. Removed in its entirety
  - b. Remove 6.2 from Table of Contents and renumber balance of section 6
  - c. In Bibliographic Description table, change “open enumerated type” to “Text string”
  - d. In Bibliographic Description table, add row for sub-element “Scheme” with second column (description) containing:  
“Text String; gives URI referring to an authoritative list of values to support validation of the value given above.  
Occurs 0 or 1 time”
- 65. (page 38) Acknowledged Item Use Restriction Type
  - a. Changed “open enumerated type” to “Text string”

- b. Added row for Scheme attribute with description text same as that given in 60d above.
- 66. (page 38) Add Request Fields
  - a. Removed “Unique” from “Unique Item Id”
  - b. Removed “Unique” from “Unique User Id”
  - c. Added “Pickup Location; occurs 0 or 1 time”
- 67. Data Elements list (page 39) Add user Fields
  - a. Removed “Visible User Id” row
- 68. Data Elements List (page 39) Agency Address Role Type
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as in 60d.
- 69. Data Elements List (page 39) Agency Element Type
  - a. Changed “Closed enumerated type” to “Text string”
  - b. Deleted reference to scheme and relabeled the list of values “Examples”
  - c. Added row for Scheme attribute same as in 60d.
- 70. Data Elements List (page 39) Agency ID (new)
  - a. Changed to “Text string”
  - b. Added row for Scheme attribute same as in 60d.
- 71. Agency User Privilege Type (page 39)
  - a. Changed “open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as in 60d
- 72. Currency code (page 40)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as in 60d
- 73. Any (page 40) – new
  - a. Inserted row to hold new “Any” element with description: Text string; identifies a new data element or value or message depending on where in the schema it is used. Provides extensibility. Occurs 0 or more times.”
- 74. Application Profile Supported Type (page 40)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as in 60d
- 75. Application Profile Type (page 40)

- a. Changed Open enumerated type to Text string
- b. Added row for Scheme attribute same as in 60d
- 76. Authentication Data Format Type (page 40)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as 60d
- 77. Authentication Input Type (page 40)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as 60d
- 78. Authentication Prompt Type (page 41)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute same as 60d
- 79. Bibliographic Item Identifier Code (page 41)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute as in 60d
- 80. Bibliographic Level (page 41)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute as in 60d
- 81. Data Elements List (page 41) Bibliographic Description, Bibliographic Record Id
  - a. Removed “Unique” from “Unique Agency Id”
- 82. Data Elements List (page 41-42) Bibliographic Record Identifier Code
  - a. Removed “Unique” from “Unique Agency Id”
  - b. Changed “Open enumerated type” to “Text string”
  - c. Added row for Scheme attribute as in 60d
- 83. Data Elements List (page 42) Unique Agency Id
  - a. Removed “Unique” from “Unique Agency Id”
- 84. Component Identifier Type (page 42)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 85. Electronic Data Format Type (page 42)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute

86. Medium Type (page 42)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
87. Block or Trap Type (page 43)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
88. Data Elements List (page 43), Block or Trap, Unique Agency Id
  - a. Removed “Unique” from “Unique Agency Id”
89. Circulation Status (page 43)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
90. Consortium Agreement (page 43)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
91. Data Elements List (page 44) Current Borrower Desired
  - a. Strike “Desired” from “Current Borrower Desired”
92. Data Elements List (page 44) Current Requesters Desired
  - a. Strike “Desired” from “Current Requesters Desired”
93. Data Elements List (page 45) Delete Request Fields
  - a. Removed “Unique” from “Unique Item Id”
  - b. Removed “Unique” from “Unique User Id”
  - c. Added “Pickup Location; occurs 0 or 1 time”
94. Data Elements list (page 45) Delete User Fields
  - a. Removed “Visible User Id” row
95. Electronic Address Type (page 46)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
96. Electronic Data Format Type (page 46)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
97. Data Elements List (page 46) Fiscal Transaction Information
  - a. Removed “Unique” from “Unique Request Id”

98. Fiscal Action Type (page 46)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
99. Data Elements List (page 46) Fiscal Transaction Reference Id
  - a. Removed “Unique” from “Unique Agency Id”
100. Fiscal Transaction Type (page 46)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
101. Data Elements List (page 47) From Agency Id
  - a. Removed “Unique” from “Unique Agency Id”
102. From System ID (page 47)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
103. Item Description Level (page 47)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
104. Data Elements List (page 48) Item Description
  - a. Removed the three rows representing Visible Item Id and its two subelements
  - b. Added Number of Pieces
105. Data Elements List (page 48) Item Details
  - a. Removed “Unique” from “Unique Item Id” throughout
106. Item Element Type (page 48)
  - a. Changed “Closed enumerated type” to “Text string”
  - b. Removed reference to scheme and common name
  - c. Replaced “Values:” with “Examples:”
  - d. Added row for Scheme attribute
107. Data Elements List (page 49) Item Transaction
  - a. Removed “Unique” from “Unique User Id” in both Current Borrower and Current Requester
108. Item Use Restriction Type (page 49)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute

- 109. Language (page 49)
  - a. Changed “Closed enumerated type” to “Text string”
  - b. Removed reference to scheme
  - c. Added row for Scheme attribute
- 110. Data Elements List (page 50) Loaned Item
  - a. Strike “Unique” from “Unique Item Id” throughout
  - b. Insert “Title Occurs 0 or 1 time”
  - c. Insert “Medium Type Occurs 0 or 1 time”
- 111. Data Elements List (page 50) Loaned Items Desired
  - a. Strike “Desired” from Loaned Items Desired
- 112. Location Type (page 51)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 113. Messaging Error (page 51)
  - a. Deleted in its entirety
- 114. Notice Type (page 52)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 115. Data Elements List (page 52) Number Of Pieces
  - a. Insert new element:  
Number of Pieces  
Positive integer; Gives the number of pieces comprising an item
- 116. Data Elements List (page 52) On Behalf Of Agency
  - a. Removed “Unique” from “Unique Agency Id”
- 117. Organization Name Type (page 52)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 118. Physical Address Type (page 53)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 119. Physical Condition Type
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute

- 120. Pickup Location (page 54) (new)
  - a. Inserted row for Pickup Location with description:  
Text string; identifies the location where an item can be picked up.  
Occurs 0 or 1 time.
- 121. Problem (page 54)
  - a. Edit description of Problem as follows:  
Complex element; provides an indication either that an application cannot perform the service requested by the initiating application or that an application does not understand the initiation message. See Appendix A for existing sample lists of error messages and where they can be used.
  - b. Remove rows for Messaging Error and Processing error
  - c. Insert rows for Problem Type (mandatory), Problem Detail (optional), Problem Element (optional), Problem Value (optional)
- 122. Processing Error (pages 54-55)
  - a. Deleted in its entirety
- 123. Data Elements list (page 55) Related Fiscal Transaction Reference Id
  - a. Removed “Unique” from “Unique Agency Id”
- 124. Request Element Type (new) (page 55)
  - a. Changed “Scheme/value pair” to “Text string”
  - b. Added row for Scheme attribute
- 125. Data Elements list (page 55) Request Scope Type
  - a. Removed “Unique” from “unique bibliographic id
  - b. Changed “Open enumerated type” to “Text string”
  - c. Added row for Scheme attribute
- 126. Request Status Type (page 55)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 127. Request Type (page 55)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 128. Requested Action Type (page 55)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute

- 129. Data Elements list (page 56) Requested Item
  - a. Strike “Unique” from “Unique Item Id” throughout
  - b. Strike “Unique” from “Unique Request Id” throughout
  - c. Insert “Title Occurs 0 or 1 time”
  - d. Insert “Medium Type Occurs 0 or 1 time”
  - e. Insert “Pickup Location; Occurs 0 or 1 time”
- 130. Data Elements List (page 56) Requested Items Desired
  - a. Strike “Desired” from “Requested Items Desired”
- 131. Required Item Use Restriction Type
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 132. Routing Information (page 57)
  - a. Strike “Unique” from “Unique User Id”
  - b. Insert “Name Information Occurs 0 or 1 time”
- 133. Scheme (page 57) – new
  - a. Added:  
Scheme  
Text string; gives optional URI reference to an authoritative list of values to support validation of the value given in the element for which Scheme is added as an attribute.  
Occurs 0 or 1 time.
- 134. Security Marker (page 57)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 135. Data Elements list (page 62) To Agency Id
  - a. Remove “Unique” from “Unique Agency Id”
- 136. Data Elements list (page 62) Unique Agency Id
  - a. Remove “Unique” from “Unique Agency Id”
  - b. Re-place the table rows under “A” for Agency
- 137. Data Elements list (page 62) Unique Bibliographic Id
  - a. Remove “Unique” from “Unique Bibliographic Id”
  - b. Re-place the three rows representing Bibliographic Id and its two subelements under “B” for Bibliographic Id
- 138. Data Elements list (page 63) Unique Item Id

- a. Remove “Unique” from “Unique Item Id”
  - b. Re-place the three rows representing Item Id and its two subelements under “I” for Item Id
139. Data Elements list (page 63) Unique User Id
- a. Remove “Unique” from “Unique User Id”
  - b. Re-place three rows representing User Id alphabetically within the U’s
140. Unstructured Address Type (page 63)
- a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
141. User Address Role Type (page 63)
- a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
142. User Element Type (page 63)
- a. Changed “Closed enumerated type” to “Text string”
  - b. Removed reference to scheme
  - c. Changed “Values:” to “Examples:”
  - d. Added row for Scheme attribute
143. User Element Type (page 64)
- a. Strike “Visible” from “Visible User Id”
  - b. Insert “Previous User Id”
144. User Fiscal Account Desired (page 64)
- a. Strike “Desired” from “User Fiscal Account Desired”
145. User Language (page 64)
- a. Changed “Closed enumeration type” to “Text string”
  - b. Removed reference to scheme
  - c. Added row for Scheme attribute
146. User Optional Fields (page 64)
- a. Strike “Visible” from “Visible User Id”
  - b. Insert “Previous User Id Occurs 0 or more times”
147. User Privilege Fee/Payment Method Type (page 65)
- a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute

- 148. Data Elements List (page 65) User privilege
  - a. Remove “Unique” from “Unique Agency Id”
- 149. User Privilege Status Type (page 65)
  - a. Changed “Open enumerated type” to “Text string”
  - b. Added row for Scheme attribute
- 150. Data Elements List (page 65) “User Transaction”
  - a. Removed “User Transaction” and its two subelements
- 151. Data Elements List (pages 65-66) Visible User Id
  - a. Remove the four rows representing Visible User ID and its three subelements.
- 152. 6.4 (now 6.3) Closed Enumerated Types (page 66)
  - a. Changed heading to “Sample Lists of Values”

Edited this section in its entirety to indicate that the notion of Closed Enumerated Types has been abandoned. Deleted all lists of services and error messages so that the following new paragraph is all that remains in this section:  
“Version 1 of the Protocol included Closed and Open Enumerated Types. This notion was not adequate for the needs of implementers. There are no enumerated types in version 2 of the protocol. Instead, there are text strings for values. Those values are likely to be drawn from lists of values. An optional scheme attribute on the data element can be used to reference an authoritative list of values. The lists of values formerly embedded within the protocol as closed enumerations have been retained in the protocol as examples and may be included in lists posted on the Maintenance Agency website as non-normative lists of example values. Appendix A contains a list of error message values indicating which message responses they are used in.”

- 153. 8. (page 76) Standard Messages
  - a. Added “optional” before “Initiation Header” and added “n optional” before “Response Header” to show headers are optional.
- 154. 9.2 (page 77)
  - a. Removed “Enumerated Data Types” from list
  - b. Edited “Scheme registration (for enumerated data types) to be “Optional scheme registration”
- 155. Appendix A (page 78)
  - a. Edited first two paragraphs to remove references to messaging error and processing error (which are now obsolete) as follows: “This appendix provides definitions for the values formerly defined

for use in both the Messaging Error and Processing Error child elements (both obsolete in version 2) of Problem. Included in the definition is an indication of the now-optional scheme(s) in which the value is used.

These values are used in response messages in situations where the responding application encounters a problem upon receipt of a message.”

156. Appendix A (page 83) Unknown User
  - a. Remove “NCIP Authenticate User Processing Error Scheme” from list of “Used in:”
157. Appendix A (page 84) User Authentication failed
  - a. Remove “NCIP Authenticate User Processing Error Scheme” from “used in:”
158. Appendix B
  - a. Remove this appendix and renumber the following ones because the structure of Processing Error and Messaging Error are obsolete and the structure of Problem has changed in version 2. Appendix B was non-normative.
159. Appendix C
  - a. Change heading to : “Lists of Values for Data Elements”
  - b. Remove existing text after introductory parenthetical phrase “(This appendix ...” and replace with:  
“This Standard provides a data structure that permits the formalizing of lists of values through an optional Scheme attribute on the affected data element. Sample lists of values are included in the data element lists. Many of these were formerly embedded within the protocol as closed enumeration types. More sample lists may be posted on the Maintenance Agency website.”
160. Appendix E, 7.6 (page 96)
  - a. Removed sentence headed “Enumerated Types”
161. Appendix E.7.7, page 98
  - a. Removed “unique” from “Unique Item Id”
162. Appendix E.10
  - a. Remove, renumber following section.
163. Appendix H (index), page 103
  - a. Add entry for “Any”
  - b. Strike “Desired” from “Current Borrower Desired”

- c. Strike “Desired” from “Current Requesters Desired”
- 164. Appendix H (index), page 105
  - a. Added new entry for “Item Identifier Type”
  - b. Removed entries for Messaging Error, Messaging Error Element, Messaging Error Type, and Messaging Error Value.
  - c. Added entry for Pickup Location
  - d. Removed entries for Processing Error, Processing Error Element, Processing Error Type, and Processing Error Value.
  - e. Added new entry for “Request Identifier Type”
  - f. Strike “Desired” from Loaned Items Desired
- 165. Appendix H (index), page 106
  - a. Removed “Desired” from Requested Items Desired
  - b. Removed “Unique” from “Unique Agency Id” – re-alphabetize the result
  - c. Removed “Unique” from “Unique Bibliographic Id” – re-alphabetize the result
  - d. Removed “Unique” from “Unique Item Id” – re-alphabetize the result
    - i. Made Agency Id optional: “Occurs 0 or 1 time”
    - ii. Added optional “Item Identifier Type: Text string. Specifies type of identifier being used. Occurs 0 or 1 time.”
  - e. Removed “Unique” from “Unique Request Id” – re-alphabetize the result
    - i. Made Agency Id optional: “Occurs 0 or 1 time”
    - ii. Added optional “Request Identifier Type: Text string. Specifies type of identifier being used. Occurs 0 or 1 time.”
  - f. Removed “Unique” from “Unique User Id” – re-alphabetize the result
    - i. Made Agency Id optional: “Occurs 0 or 1 time”
    - ii. Added optional “User Identifier Type: Text string. Specifies type of identifier being used. Occurs 0 or 1 time.”
  - g. Added entry for “User Identifier Type”
  - h. Removed entry for “User Transaction”
  - i. Deleted entries for “Visible Item Id”, “Visible Item Identifier”, “Visible Item Identifier Type”, “Visible User Id”, “Visible User Identifier”, “Visible User Identifier Type”

## Part 2

- 1) Cover
  - a) Insert “Draft: Version 2”, update date to 2008
- 2) Table of contents (page vi)
  - a) Remove sections 6.4.2 and 6.4.3
  - b) Remove 6.5.9, renumber following section
  - c) Remove entry for Appendix A
  - d) Re-label remaining three appendices
- 3) Page viii
  - a) Remove section “Document Type Definitions (DTD) vs XML Schemas
  - b) Remove reference to DTD in Extensibility section, first paragraph, last sentence.
  - c) Remove second paragraph in Extensibility section and replace with:  
“The committee has adopted a data structure that allows for an optional Scheme attribute on data elements that tend to be values drawn from lists of values (authoritative or local) while leaving implementers free to use values without the mandated constraint of pre-defined lists.”
- 4) 5.1 (page 3) Message Encoding section –
  - a) Remove third sentence (about DTD)
  - b) Remove “non-normative” before XML Schema.
  - c) Rename Appendix B to Appendix A.
  - d) Remove first url
  - e) Replace last word (DTD) with “XML Schema”
- 5) (New) 5.1.1 (page 3) add the following:
  - a) 5.1.1. Compression  
This Implementation Profile does not define compression mechanisms, however implementations should consider supporting optional mechanisms that, by agreement with peer implementations, can be enabled. Examples of compression mechanisms are:
    - Using an XML Stylesheet to substitute shorter element names, such as “AI” for “AgencyId”
    - Using HTTP content-encoding (i.e. gzip compression)
- 6) 5.2 (page 4) Character Representation
  - a) Last paragraph, second sentence, remove “DTD and”
- 7) 5.3 (page 4) Representation of Data Types

- a) Second paragraph – remove DTD reference, replace with XML Schema
- 8) 6.2 (page 8)
  - a) Update the code snippet for version 2 and url for schema, not DTD
- 9) Add new 6.2.1 (page 8) as follows:  
XML Namespace  
In some cases, it may be desirable to specify that the NCIP messages come from an NCIP namespace. This can be done by the optional inclusion of a declaration such as `xmlns:ncip="http://www.niso.org/2008/ncip"`
- 10) 6.3.1 (page 8) Message headers
  - a) Headers are optional.
  - b) Initiation headers are optional in initiation messages.
  - c) Response headers are optional in response messages
- 11) 6.3.2 (page 9) Version attribute
  - a) Remove references to DTD throughout
  - b) Update version to “2\_0” throughout
- 12) 6.4 (page 9)
  - a) Change heading of section from “Requirements and Restrictions on Enumerated Types” to “Requirements and Restrictions on Data Elements”
- 13) 6.4.1 (page 9)
  - a) Delete this section
- 14) 6.4.2 (page 10)
  - a) Delete this section
- 15) 6.4.3 (now 6.4.1) (page 10)
  - a) Changed heading to “Lists of Values for Certain Data Elements”  
Replaced text with:  
“Implementers are free to draw values from whatever lists of values they choose, or from no list at all, in agreement with their partners. The protocol allows an optional Scheme value on the data element for specifying a scheme should one wish to do so for validation purposes or purposes of defining agreed-upon values. The following list of data elements are those that have the optional Scheme attribute. See Appendix C for suggested schemes and values lists that could be used.”
- 16) 6.4.3.1 (now 6.4.2.1) through 6.4.3.37 (now 6.4.2.37)

- a) Removed numbering of elements and all references to scheme and to common name and the lists of values. These are now just a list of data elements for which the optional Scheme attribute can be used.
- 17) 6.4.3.37 (page 18) Visible Item Identifier Type
  - a) Remove the section
- 18) 6.4.3.38 (page 19) Visible User Identifier Type
  - a) Remove the section
- 19) 6.5.2. (page 20) Omission of Requested Elements
  - a) Strike “Desired” from Loaned Items Desired, Requested Items Desired, Current Borrower Desired, Current Requesters Desired
- 20) 6.5.3 (page 20)
  - a) Replace the last half of the first sentence (starting with “or”) of the first paragraph with:  
“or the presence of any of the empty elements Loaned Items, Requested Items, Current Borrower, or Current Requesters.”
- 21) 6.5.8 (page 21) Error Identification
  - a) Remove reference to DTD throughout
  - b) Add an introductory paragraph as follows:  
Responders shall use the Problem element as a top-level message choice when responding to errors that occur before the specific message can be identified. Errors that occur within any particular message shall be reported within the Problem element in that message response.
- 22) 6.5.9. Distinguishing Messaging Errors... (page 21)
  - a) Remove this section entirely and renumber following section.
- 23) 6.5.10 (page 21-22) Persistent IDs
  - a) Add as the first paragraph:  
AgencyId: The protocol does not address the fact that a borrowing or a lending entity may be known by different AgencyIds among the partners exchanging NCIP messages. It is expected that implementers will utilize a local mechanism, such as mapping, for linking the disparate identifiers by which an entity is known. This is particularly likely to occur among consortia, in brokered DCB or brokered ILL transactions, or among libraries who are members of several consortia, each with its own AgencyId.
  - b) Remove “unique” from Unique User Id and Unique Item Id throughout
- 24) 9. Scheme/Profile Registration
  - a) Insert new first paragraph as follows:  
“Scheme/value pairs were removed from the protocol in version 2. It is

recognized, however, that schemes may be used in the optional Scheme element as authoritative reference for certain data elements and that it will continue to be important to register schemes, as well as Profiles, when these are developed.”

- 25) 10. Extension (page 24)
  - a) Remove existing paragraph and replace with:  
“Extension is managed at the top level (as a message choice) with the XML tag <Any> within a wrapper element <Ext>. This gives the potential for defining a new message type as needed by private agreement among parties. A similar mechanism has been placed at appropriate spots within some messages, allowing, for instance, the ability to specify type of address desired in a response. The intention is to allow implementers to extend existing messages readily as needed, with agreement of their partners. Extensions can be brought to the Maintenance Agency with a request to incorporate them into the protocol when a new version is created.”
- 26) Appendix A, page 25
  - a) Delete
- 27) Appendix B, page 26
  - a) Rename to Appendix A
  - b) Remove initial parenthetical “non-normative” sentences and replace with “(Normative)”
  - c) Remove third paragraph (discussion of schema vs dtd)
- 28) Appendix C (page 27)
  - a) Rename to Appendix B
  - b) Change heading to “Definitions of Values for Use in Some Sample Lists of Values”
  - c) Edit second paragraph to:  
This appendix includes definitions of values from sample lists for data elements listed in section 6.4.3 of this IMP1. This table is arranged alphabetically by data element name
  - d) Remove reference to closed enumeration types (third paragraph).
  - e) Remove list header (NCIP Scheme, values, value description)
  - f) Remove “NCIP” and “Scheme” from each data element listing. Otherwise leave them alone
- 29) Appendix D (page 36)
  - a) Rename to Appendix C
  - b) Add “Optional” before “Use” in header and in first paragraph.

- c) Remove all references to enumerations, open or closed.
- d) Change all entries to remove the parenthetical open or closed designation
- 30) Appendix C (page 39)
  - a) Add section for ItemIdentifierType
- 31) Appendix C (page 40) Processing error type
  - a) Remove in its entirety
- 32) Appendix C (page 41)
  - a) Add section for RequestIdentifierType
- 33) Appendix C (page 42)
  - a) Remove “Unique” from “UniqueAgencyId”
  - b) Add section for UserIdentifierType
  - c) Remove Visible Item Identifier Type section
  - d) Remove Visible User Identifier Type section

### ***Version 2 builds on Version 1.01***

Version 2 also includes changes that were made for a [never-balloted but implemented] version 1.01. Those earlier changes are detailed below. Changes between the released version’s schema (and DTD) and the 1.01 versions thereof include:

1. Making a new LookupRequest service (LookupRequest and LookupRequestResponse). This was done as implementations uncovered the need for this service in a stateless protocol.
2. Adding RequestElementType scheme/value pair element to be used by the new LookupRequest service. Same reasons as the first-listed change.
3. Adding new optional PaidFeeAmount element to CheckoutItem, RenewItem, RequestItem, AddRequestFields, DeleteRequestFields, CancelRequestItem and LookupRequestResponse. The need for this element was uncovered in both Self Service and ILL implementations.
4. Adding optional AcknowledgedFeeAmount to CancelRequestItem. The ILL implementations uncovered this need.
5. Making ItemElementType optional within LookupItem. This was a simplification measure for implementations that use only one item element type.
6. Making UserElementType optional within LookupUser. This was a simplification measure for implementations that use only one user element type.

There are several changes in the protocol document (parts 1 and 2) related to the above listed schema changes. They are detailed in the summary change list in the next section of this cover document.

The following reported defects to the protocol are also corrected in version 1.01.

1. Remove Unknown Service. It lacked a Response message and recommended to be removed from 6.4.4 Data Elements – Message Error Type under values.
2. The listing of the Value "Cannot Guarantee Restrictions on Use" in Appendix A ("Definitions of Values for Use within the 'Problem' Data Element") has a lower-case letter "o" in the word "on", but the declaration of that Value in Section 6.4.5 on page 67 has an upper-case letter "O". Case-sensitive comparisons of those two Value strings will not match them and could result in false reports of "Unknown Value From Known Scheme". Because all other Values in Section 6.4 and Appendix A appear to capitalize every word, I believe the lower-case "o" in the listing in Appendix A should be changed to an upper-case "O".
3. The description of Agency Address Information on page 39 in part 1 makes it impossible to include an electronic address or a physical address:  
The electronic address "Occurs 1 and only 1 time, but only if Electronic Address is not present."  
The physical address "Occurs 1 and only 1 time, but only if Physical Address is not present."  
The obvious flipping of address name to provide the intended meaning was done.
4. Part 1 page 46 in the data dictionary, the Electronic Resource Provided Flag says that it "has been provided as part of the Check Out Item Service". Change to say that is part of the Item Checked Out Service and also be listed in the Part 1 index on page 27 as well as its definition on page 46. Version Supported is defined on page 65 and the missing index reference to its usage in Lookup Version is on page 12.
5. Appendix A: add "Non-Unique Request: More than one request matches lookup criteria" (used in NCIP Lookup request processing Error Scheme)

Several defects have been reported in application profiles and in non-normative appendices. The application profiles are not being included in the version 1.01 ballot. The application profiles are available (corrected as time and defect reporting permits) on the NCIP website ([www.ncip.info](http://www.ncip.info)).

Defects reported in the non-normative appendices of Z39.83 are part of the balloted version 1.01 package. Those changes include:

1. The examples of error messaging noted in Appendix B are not in conformance with the Standard. NOTE: Version 2 completely re-works how error messaging is handled. The reported Appendix B problem will

be corrected only if we do not ballot version 2. If we do ballot version 2, appendix B will be completely removed.

2. On Page 40 of the standard, the Sensitive Data Flag is defined as an empty element. It is not referenced in Appendix H.
3. Part 2 Appendix D. - ADD two more elements: FromAgencyID and ToAgencyID and declare that "No scheme is defined".
4. Part 2, pages 38 and 42, need to add RequestElementType, FromAgencyID and ToAgencyID as open elements with no scheme defined.
5. Part 2, need to add Processing Error for Lookup Request service.

### **Summary Change List for version 1.01**

The following list walks through the published (version 1) Z39.83 protocol (part 1) and lists the editorial changes required by the above-described intellectual changes and defect corrections.

#### **Part 1**

- Insert "Draft Version 1.01" on Cover
- Table of contents, p. v (printed version)
  - Insertion of 5.3.4 (Lookup Request Service) and renumbering of Lookup User Service (now 5.3.5) and Lookup Version Service (now 5.3.6)
  - Insertion of 6.4.6 (Request Element Type) and renumbering of User Element Type (now 6.4.7) and User Language (now 6.4.8)
- 5.2 (page 7) – table of service types
  - Insertion of new 5.3.4 (Lookup Request and Lookup Request Response) and renumbering of Lookup User Service (now 5.3.5) and Lookup Version Service (now 5.3.6.)
- 5.3.3. Lookup Item Service, Lookup Item (page 10)
  - Remove Item Element Type from Required data and put it instead in Optional data
- New section 5.3.4. (Lookup Request Service) (inserted on page 10) and renumbering of Lookup User Service (now 5.3.5) and Lookup Version Service (now 5.3.6.)
  - 5.3.4. Lookup Request Service

Usage: This service requests data about a particular Request known to the responding application. The initiator provides the unique ID of the Request and a list of elements for which data is requested.

Successful Result: The responding application returns the requested data to the initiating application.

Messages and Data Elements

Lookup Request

Required data: {{Unique User ID or Authentication Input} or Uniques Item ID or Unique Request Type or Unique Request ID}

Optional data: Request Element Type, Item Element Type, User Element Type

Lookup Request Response

Required data: {Unique Item ID or Unique Request ID}

Optional data: Problem, Unique User ID, Request Type, Request Scope Type, Request Status Type, Hold Queue position, Shipping Information, Earliest Date Needed, Need Before Date, Pickup Date, Pickup Expiry Date, Date of User Request, Date Available, Acknowledged Fee Amount, Paid Fee Amount, Item Optional Fields, User Optional Fields

- 5.35 (Lookup User Service), Lookup User (page 10-11)
  - Remove User Element Type from Required data and place it instead in Optional data
- 5.4.3 Check Out Item Service, Check Out Item (page 13)
  - Add Paid Fee Amount to Optional data
- 5.4.11 Renew Item Service, Renew Item (page 18)
  - Add Paid Fee Amount to Optional data
- 5.4.13 Request Item Service, Request Item (page 20)
  - Add Paid Fee Amount to Optional data
- 5.4.14 Cancel Request Item Service, Cancel Request Item (page 21)
  - Add Paid Fee Amount to Optional data
  - Add Acknowledged Fee Amount to Optional data
- 6.3.2 (page 38) table of data elements
  - Add to Add Request Fields: Paid Fee Amount – Occurs 0 or 1 time.
- 6.3.2 (page 39)
  - Electronic Address (within Agency Address Information) – change to read: “Occurs 1 and only 1 time, but only if Physical Address is not present.”

- Physical Address (within Agency Address Information) – change to read: “Occurs 1 and only 1 time, but only if Electronic Address is not present.”
- 6.3.2 (page 45)
  - Add to Delete Request Fields: Paid Fee Amount– Occurs 0 or 1 time
- 6.3.2 (page 46)
  - Electronic Resource Provided Flag – change to read: “has been provided as part of the Item Checked Out Service”
- 6.3.2 (page 51) Messaging Error Type
  - Remove Unknown Service
- 6.3.2 (page 53)
  - Insert new row for Paid Fee Amount, Monetary value in a specified currency (Amount), paid by a User as the fee charged for a requested Item. See Amount.
- 6.3.2 (page 55)
  - Insert new row for Request Element Type, Scheme/Value pair that indicates the type of request. This is used in new Lookup Request Service
- 6.4.4 (page 67) Data Element: Messaging Error Type
  - Remove Unknown Service
- 6.4.5 (page 70)
  - Add new section for new Lookup Request Service Scheme:  
Common Name: NCIP Lookup Request Processing Error Scheme  
Values: Element Rule, Access Denied, Non-Unique Request, Unknown Request
- Appendix A (page 78)
  - Uppercase the “o” in “on” in “Cannot Guarantee Restrictions On Use”
- Appendix A (page 79)
  - Element Rule Violated  
Insert “NCIP Lookup Request Processing Error Scheme” into list of “Used in:”
- Appendix A (page 80)

- Insert “Non-Unique Request  
More than one request matches lookup criteria  
Used in: NCIP Lookup request processing Error Scheme”
- Appendix A (page 82)
  - Unknown Request  
insert “NCIP Lookup Request Processing Error Scheme” into list of  
“Used in:”.
- Appendix A (page 83)
  - Remove “Unknown Service”
- Appendix H (page 104)
  - Add page 27 to Electronic Resource Provided Flag
- Appendix H (page 105)
  - Add entry for Paid Fee Amount
  - Add entry for Request Element Type
- Appendix H (page 106)
  - Insert “Sensitive Data Flag” and reference page 40
  - Add page 12 for Version Supported

## **Part 2**

- Part 2, 6.5.4.27 (page 16)
  - Insert new section for Data Element: Request Element Type.  
Scheme:  
Common Name: NCIP Request Element Type  
Values:
  - Renumber the existing 6.4.3.27 through 6.4.3.37 to be 6.4.3.28  
through 6.4.3.38
- Part 2, Appendix C (page 33)
  - Insert NCIP Request Element Type Scheme
- Part 2, Appendix D (page 38)
  - Insert FromAgencyId (Open)  
No scheme defined
- Part 2, Appendix D (page 40)
  - Insert NCIP LookupRequest Processing Error Scheme into list of  
ProcessingErrorType (Closed)
- Part 2, Appendix D (page 41)

- Insert RequestElementType (Open)  
NCIP Request Element Type Scheme
- Part 2, Appendix D (page 42)
  - Insert ToAgencyId (Open)  
No scheme defined