Implementation Guide

to the

Postsecondary Electronic Standards Council

XML Standard Format

for the

Functional Acknowledgment

Version 1.0.0

D R A F T

February 23, 2009

Introduction

For the secondary and higher education communities to achieve the timely, uniform, accurate, and secure exchange of academic records for current or previous secondary and postsecondary students, the Postsecondary Electronic Standards Council (PESC) Functional Acknowledgment Workgroup has developed and seeks approval for a standard format in eXtensible Markup Language (XML) for the Functional Acknowledgment.

This Draft Implementation Guide proposes a format for acknowledging the receipt (with or without error handling) of any PESC XML formatted document, and can help non-technical users to implement the message exchange process. Besides its obvious use for secondary and postsecondary educational institutions, this Guide should also be useful for software vendors and state and federal education agencies.

 It is important for the recipient of a PESC XML formatted document to know that the document was, in fact, received by the intended recipient and that it was received in an accurate and complete manner. Regardless of the document type used (transcript, standardized test score, admissions application, etc.) it is critical that the recipient of the document responds in some way to alert the sender that the document was received, received with allowed errors or discrepancies, or rejected outright. This implementation guide and referenced schemas will set the stage for a service-oriented-architecture (SOA) style approach to handling the exchange of PESC XML formatted documents. This approach emphasizes an automated vs. manual response and processing of documents and related acknowledgements. Architectures such as those used by SIF employ an SOA approach to message exchange.

This Implementation Guide is based on the PESC XML Functional Acknowledgment Schema draft version 1.0.0. For the exchange of documents to be completely automated, with positive verification of receipt, it is essential that all users adhere strictly to the requirements of this Schema, and understand and also comply with the requirements outlined in this Guide.

Purpose of the Functional Acknowledgment

The Functional Acknowledgment record is used to ensure that

a.   The original document did, in fact, come from the correct location indicated as the sender or source, and

b.   Certain key elements of the original document were received as they were sent, or if they were received incorrectly, which elements failed and with what error messages, and

c.   The recipient of a document can communicate to a sender that the document received was syntactically correct upon receipt and validates against a known schema definition and associated namespace, and

d.   The sender of the original document will have proof that the document was received by the recipient so that it can communicate the receipt and the date and time of the receipt to other third parties and

e.   If a functional acknowledgment is received, and the indicated sender of the original document has no record that a document was sent electronically, then the sender can initiate an inquiry to determine if a fraudulent or inappropriately released document was sent.

Techniques for Use of the Functional Acknowledgment

By Sender of Original Document: It is expected that each sender of an XML Document will also anticipate receiving an acknowledgment document, either for an individual document in a single transmission or a batch of documents. Therefore, when the Functional Acknowledgment is received, the referenced Document ID in the acknowledgment can automatically be compared with the Document ID of the original document to insure that the sender has verified that the document was received intact, without schema or formatting errors.

Upon receipt of the Functional Acknowledgment, the sender will verify that the Document ID referenced in the Acknowledgment matches a record that was in fact sent by the sender. Any discrepancies should be carefully rechecked and resolved. This may require personal contact with the recipient.

An important discrepancy would be in the event of receipt of a Functional Acknowledgment that does not match any document sent to the recipient. In this case an immediate investigation should be launched to determine if a simple error was made by the sender or the receiver of the document, or if a fraudulent document might have been received by the recipient. A Functional Acknowledgment may be followed by a Substantive Acknowledgment message to indicate that the content was not altered, misread and successfully processed according to business rules by the recipient of the original document.

In addition, most senders of the original document will also capture the date and time that the document was received by the recipient and make this information available in its data system so it will also be available to the requestor/approver/releaser of the original document. A follow-up system should also be developed for personal intervention if no functional acknowledgment is received after a reasonable amount of time. It is envisioned that an SOA-style approach, treating each document and its corresponding Acknowledgment as a message set, would be used. An example of a similar system is the Schools Interoperability Framework (SIF) use of Message Acknowledgment for each transmission of data through the framework and related APIs.

If a negative Acknowledgment is received, indicating an error in the formatting or syntax of the received document, the sender may want to reattempt transmission of the document upon correction of the error. It is envisioned that this correction could be accomplished programmatically, or at a minimum the error messages contained in the Acknowledgment itself could be exposed to a person to determine the appropriate remediation to correct and resend the file.

By Receiver of the Original Document: It is expected that each receiver of an XML Document will acknowledge the receipt to the original sender by use of this Functional Acknowledgment schema. This process should be automated so that the creation of the acknowledgment schema will be as immediate as possible.

The simplest plan would be to copy:

  a. All the information (data elements and data) from the "Transmission. Source" complex data element in the original document and place it in the "Transmission. Destination" area of the Functional Acknowledgment document; and

  b. All the information (data elements and data) from the "Transmission. Destination" complex data element in the original document and place it in the "Transmission. Source" area of the Functional Acknowledgment document; and

  c. The "TransmissionData.DocumentID" in the original document and place it in the "AcknowledgmentData.DocumentID" of the Functional Acknowledgment document. Similarly, if the original document referenced is a Batch document, take the "TransmissionData.BatchID" in the original document and place it in the "AcknowledgmentData.BatchID" of the Functional Acknowledgment document.

Then, parse the original document, including validation against a public namespace for the source document and schema and place any error messages in "AcknowledgmentData" of the Functional Acknowledgment document.

Finally, complete the remaining data elements in the "TransmissionData" complex data element.

Organization and Format

The schema for the Functional Acknowledgment is made up of two main parts:

1. Transmission Data
2. Acknowledgment Data

However, three of these main parts branch to form other parts, which in turn branch out further. This Guide is organized so that each level of branching is documented in the order as follows:

    Transmission Data Level I
        Sub-level IA
            Sub-level IA1
                Sub-level IA1a
                Sub-level IA1b
                Sub-level IA1c
            Sub-level IA2
                Sub-level IA2a
                Sub-level IA2b
        Sub-level IB
            Sub-level IB1
                Sub-level IB1a
    Acknowledgment Data Level I

        (Etc.)

The heading at the top of each page for each level and sub-level indicates the position of the subsequent diagram in the larger Schema. Following the heading, the diagram serves to illustrate its relationship with the preceding branch.

Example:
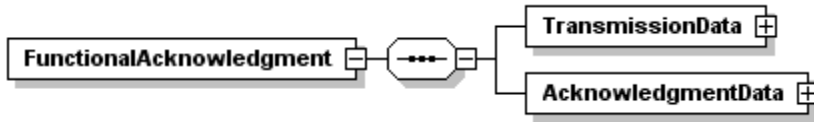
The boxes in the diagrams can illustrate two separate components of the Schema: first, certain boxes show data element groupings which branch out to form either lower-level element groupings, or the Schema's other primary component, the fields that contain actual data. A box with a solid border indicates that that particular data element or field is required. A box with a dotted line indicates an optional data element or field. Likewise, a solid line connecting two or more boxes indicates that the boxes connected to the right in the diagram are required fields and a dotted line indicates the fields connected to the boxes to the right are optional. A plus (+) sign at the right of a box indicates that the element grouping or field branches beyond the scope of a given diagram. The Schema displays such branching in subsequent diagrams.

Each diagram includes a representation of the repeatability of a field or data element. Under a given box, for example, "0...∞" would indicate an optional data element or field (with a minimum number of occurrences of zero) that can be repeated an infinite number of times. On the other hand, "1...3" would indicate a mandatory field (with at least one required instance) that can be repeated up to 3 times.

Although most data elements that could theoretically be included an infinite number of times in the instance document, would typically only be included once or perhaps a few times. Including a high number of occurrences of a field would present problems for the receiving agency or institution.

Under each diagram, a table will appear with five columns:

Tag Name: This is the name of the data element grouping or field that will appear in the Schema and in the instance document. ("Instance document" refers to Functional Acknowledgment with real data for an actual document that was received.) The format for the tag name is Upper Camel Case which takes a name such as "Transmission Data" and eliminates the space between the two words, retaining the capital letters of each word making up the tag name.

Schema Use: This column indicates whether the data element or field is "required" or "optional" in the instance document. If a required field is not included in the instance document, the document will normally be rejected by the computer program (XML Parser) of the receiving institution or agency. This column will also include a notation if a field can be sent multiple times.

Description: This is a brief description of the data included with a particular XML tag name. The description normally comes from the description in the Core Main Schema for data elements.

Recommended Use: This column reflects recommendations from the developers of the Functional Acknowledgment Schema, standards of good practice as defined by the <u>Academic Record and Transcript Guide</u> of the American Association of Collegiate Registrars and Admissions Officers (AACRAO), and generally recommended practices for exchanging electronic documents. Reaching consensus on the recommended use of data elements and fields was an additional task for the PESC Functional Acknowledgment Workgroup.

Recommendations in this column generally match the standards in Schema Use, especially if Schema Use shows an element or field as "Required." However, a component listed as "Optional" in Schema Use may be listed as "Recommended" in Recommended Use if the Workgroup regards the element or field as essential and in keeping with good practices in the AACRAO and PESC communities.

> **Required:** Indicates that a sender <u>must</u> include the data element or field in its transmission.
>
> **Recommended**: If the information for a field is available at the sender, then 'Recommended' indicates that the field should be sent.
>
> **Conditional:** This recommended use does not occur often in this Guide, but it may occur when the recommendation (recommended, optional or not recommended) is dependent on another data element being sent, or even on the value of another data element that is sent.
>
> **Optional:** Indicates that it is generally up to the sender to include the data or not.
>
> **Not Recommended:** Indicates that, in the view of the Workgroup, such a data element or field should not form part of a transmission. In general, the Workgroup recommends that institutions not send notes or comments (apart from custom error messages to negatively respond to receipt of a document), since most Student Information System programs cannot automatically process them. Sending these elements could thereby slow or impede automatic processing by the recipient. However, exceptions to this rule-of-thumb may lie in the needs of specific trading partner scenarios, as certain transmissions may require information that only a note or comment field can accommodate. In such cases, the Workgroup recommends that trading partners develop a protocol for maintaining and transmitting the element or field. In other cases, common practice may be to include data that is not recommended by the Workgroup.
>
> In many cases, because of the reusability of complex data elements in XML, there are data elements included in this schema that may not be appropriate for use in the Functional Acknowledgment. In these cases, the recommended use may be designated as "Not Recommended."

Format: This column shows the minimum and maximum number of occurrences of the data element. It also shows the minimum and maximum length allowable for a field, if that field does not have enumerated values and is not a special type of field, such a date field.

"**minOcc** 1" indicates a required field, since it must have at least one occurrence in the instance document. "minOcc 0" indicates an optional field.

"**maxOcc**" followed by a number or symbol specifies the maximum number of times that an element can recur in an instance document at a particular position. For example, "maxOcc 5" would indicate that the field may occur no more than 5 times in a given position of the instance document. "maxOcc ∞" indicates that a field may recur an unlimited number of times in the instance document. However, the use of an excessive number of occurrences puts a burden on the receiving agency or institution, so they should always be limited to the fewest number possible.

"**minLength**" indicates the minimum number of characters that a field must contain, while "**maxLength**" indicates the maximum number of characters that a field may contain.

"**Enumeration**" is used to list the allowable values that may be used in the instance document. They must be used exactly as shown in this column. When the values are enumerated in this column, "minLength" and "maxLength" will not be indicated and are not appropriate.

"**DateTime**" always uses the same format: ccyy-mm-ddThh:ii:ss(+GMT). An example would be "2005-11-20T08:15:36(+7)". Likewise, "Date" always uses the format "ccyy-mm-dd". An example would be "2005-11-20". If either DateTime or Date is used, then "minLength" and "maxLength" will not be indicated.

"**xs:decimal**" indicates a numeric field. It has a maximum length of 18 characters including a decimal if is explicitly included. Typical values would be (1) a grade point average of "3.250"; (2) credits earned of "24"; or (3) credits included in GPA of "16".

"**minInclusive**" indicates the lowest value of a decimal type field that can be included, while "**maxInclusive**" indicates the maximum value that can be included in a decimal type field. "**totalDigits**" indicates the maximum number of digits that can be used in the specified field.

Comments: The Guide may include comments beneath the rows of a given table and/or at the end of the table. The Workgroup intends for these comments to provide further explanation for the items displayed.

Code Illustration: Below each table, the Guide includes a snippet of what that portion of an instance document might look like in XML format. If the data element is a required data element for the schema, then that data element will be in bold type.

If the code is illustrating a complex data element that will be further explained on a subsequent page, then only the opening and closing tags will be included. For example:

<Course>

</Course>

If the code is illustrating a simple data element that is not recommended for inclusion, then an empty tag will be included. For example:

<NoteMessage/>

Appendix D shows an example of an XML instance document for a functional acknowledgment. This example is not intended to match the Code Illustrations throughout the Guide, since a typical Functional Acknowledgment would not include many of the optional sections of the Schema.

NoteMessage: You will find "NoteMessage" appearing throughout the Schema. This Guide almost always recommends against the routine use of note messages. Unless there is an agreed upon format for a note message between the sender and the receiver, notes cannot be interpreted and automatically processed by the receiver's computer.

Development History and Acknowledgments

The American Association of Collegiate Registrars and Admissions Officers (AACRAO) Committee on the Standardization of Postsecondary Education Electronic Data Exchange (SPEEDE) began working on a national standard format for the electronic exchange of postsecondary student records in 1989. Initially the work of the committee was funded by AACRAO. At about the same time, the US Department of Education's National Center for Education Statistics (NCES) began developing a national standard format for the electronic exchange of student records for kindergarten through high school students. The K12 community was primarily represented by the Council of Chief State School Officers (CCSSO). To gain more credibility in the creation and widespread adoption of the standards, the two groups (AACRAO and NCES) approached the American National Standards Institute's (ANSI) Accredited Standards Committee (ASC) X12 for assistance in developing and approving the two standard formats.

ASC X12 reviewed the two proposals and insisted that only one standard be developed and approved. That standard would be the Pre-Kindergarten through Postsecondary Education Student Record. At that time, NCES decided to fund the travel of the AACRAO SPEEDE Committee as well as those working on the K-12 standard. The ASC X12 Standard in the Electronic Data Interchange (EDI) format was approved in the early 1990's as ANSI ASC X12 Transaction Set 130 for the Student Educational Record (Transcript).

Once the EDI format for the Student Transcript was approved by ANSI ASC X12, work began to develop the Student Educational Record (Transcript) Acknowledgment. This standard was later approved as EDI Transaction Set 131 (TS131).

During this time period (before the Internet was widely available), the format stressed the transmission of as much data as possible using the fewest characters. This emphasis emerged because transmission costs were based on the number of characters or bytes being sent over the Value Added Electronic Networks (VANs).

The ANSI ASC X12 EDI Standard is now in use by a significant number of postsecondary institutions in the United States and Canada. Approximately 850,000 postsecondary transcripts are exchanged electronically in the EDI format through the University of Texas at Austin Internet Server in the ASC X12 EDI format each year. At the secondary level, Florida schools exchange a significant number of electronic high school transcripts, because the state mandates the exchange in its proprietary format. Iowa and Maryland also have significant volumes of electronic exchange.

The number of transcripts exchanged electronically in the ASC X12 EDI format grows significantly each year. However, the education community felt that an alternative format should be explored. In the view of many, the perceived complexity of implementing the EDI standards was one of the reasons that more schools did not use the EDI format.

The Postsecondary Electronic Standards Council (PESC) commissioned this exploration by creating the XML Forum (now known as the Standards Forum). The Forum sought to determine if an XML format might result in significantly increased electronic exchange of high school student educational records. The wide and relatively inexpensive availability of XML software tools and the already existing and pervasive use of XML by many schools' information technology staffs made the XML process appear to have a much better chance of rapid acceptance and implementation by both secondary and postsecondary educational institutions.

The early efforts of the XML Forum emphasized the creation of standard reusable core components. Once the Forum made significant progress with this work, PESC agreed to develop an XML Standard Format for the College Transcript to demonstrate that this could be done.

Bruce Marton from the University of Texas at Austin led this effort and received the bulk of his support from the AACRAO SPEEDE Committee that had developed the earlier EDI standard. PESC approved the XML standard for the College Transcript in May 2004.
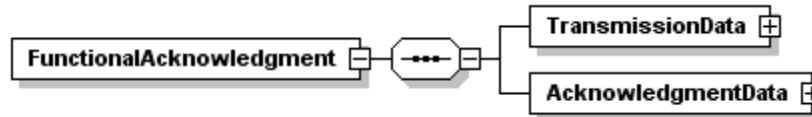
The approval of the XML College Transcript generated considerable interest in the creation of an XML High School Transcript. Bruce Marton reviewed the ANSI ASC X12 EDI version of the transcript, which included both the College Transcript and the High School Transcript and noted many similarities.

Under Bruce's leadership, the AACRAO SPEEDE Committee created a very rough draft of a proposed instance document for an XML High School Transcript in late summer of 2004. A Workgroup was appointed to discuss and develop the proposed schema and this Workgroup completed its work on a proposed schema in late 2005. This proposal was submitted to the PESC Change Control Board (CCB) in early April 2006 and the CCB approved it later that month. It was approved as a PESC Standard in June 2006.

As adoption of the PESC XML transcript formats increased, institutions and transcript exchange vendors expressed interest in creating a process to automate the acknowledgment of the various PESC standards-formatted XML documents. A Functional Acknowledgment would be needed to further automate the transmission and notification of receipt of various types of student records in PESC XML formats. The PESC Functional Acknowledgment Workgroup began developing a draft XML schema for a Functional Acknowledgment in October 2008. The need for, and uses of, this schema were pointed out above.   A sample of a Functional Acknowledgment instance document is outlined in Appendix D.

To assist in the review for approval by the PESC Change Control Board, the Workgroup has prepared this draft of an Implementation   Guide.
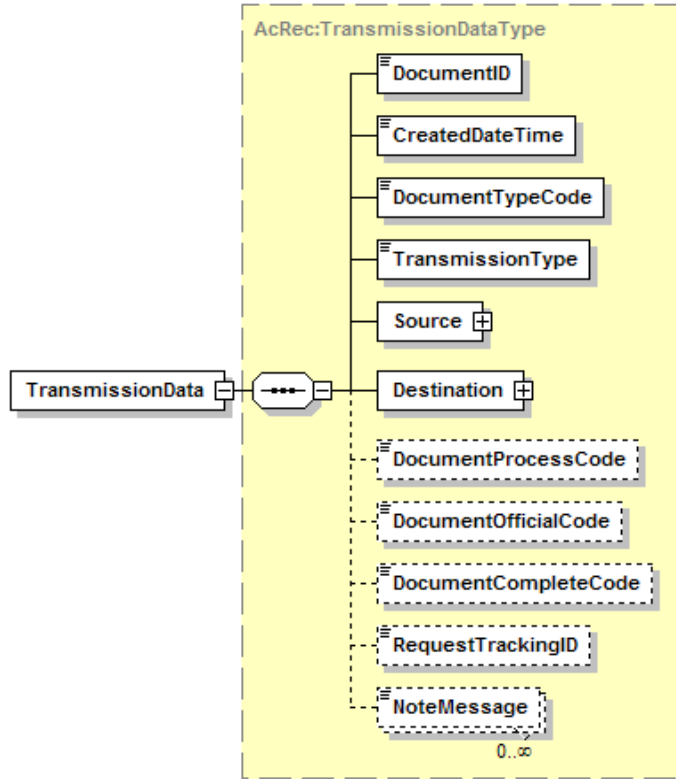
Functional Acknowledgment

Tag Name	Schema Use	Description	Recommended Use	Format
TransmissionData	Required	Routing and header information	Required	minOcc 1 maxOcc 1
		Comment: *This complex data element will be expanded and explained more fully on page 1 of this document.*		
AcknowledgmentData	Required	Body of document which identifies the error messages (if any) for the original document, and provides negative or positive receipt information of that source document.	Required	minOcc 1 maxOcc 1
		Comment: *This complex data element will be expanded and explained more fully on page 32 of this document.*		

Code illustration:

```
<FuncAck:FunctionalAcknowledgment
        xmlns:FuncAck="urn:org:pesc:message:FunctionalAcknowledgment:v0.0.1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="urn:org:pesc:message:FunctionalAcknowledgment:v0.0.1
        FunctionalAcknowledgment_v0.0.1.xsd">
   <TransmissionData>
   </TransmissionData>
   <AcknowledgmentData>
   </AcknowledgmentData>
</FuncAck: FunctionalAcknowledgment>
```

TransmissionData

Tag Name	Schema Use	Description	Recommended Use	Format
DocumentID	Required	The File Transmission Date and Time stamp with additional unique qualifying characters	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 35
		Comment: *All this information is for the acknowledgment document being returned as a result of the receipt of an original PESC XML document.*		
CreatedDateTime	Required	The Date and Time stamp when this acknowledgment document was created	Required	minOcc 1 maxOcc 1 xs:datetime ccyy-mm-ddThh:ii:ss{+-GMT]
		Comment: *All this information is for the acknowledgment document being returned as a result of the receipt of an original PESC XML document.*		
DocumentTypeCode	Required	Type and purpose of document being transmitted	Required	minOcc1 maxOcc1 **Enumeration:** Change TermEnroll TermGrade StudentRequest RequestedRecord InstitutionRequest ThirdPartyRequest FunctionalAcknowledg ment

Tag Name	Schema Use	Description	Recommended Use	Format
		Comment: The appropriate value here would be "FunctionalAcknowledgment".		

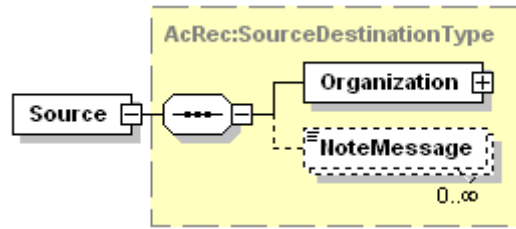| Tag Name	Schema Use	Description	Recommended Use	Format
TransmissionType	Required	The nature of the Transmission	Required	minOcc 1 maxOcc 1 **Enumeration:** Original Replace Duplicate Resubmission Reissue MutuallyDefined
		Comment: The value to be used when a document was received and is now being acknowledged is "Original".		
Source	Required	This field is required and it is essential to indicate the source of the Functional Acknowledgment being sent. It is college or agency that received the original document and is typically a copy of the "Destination" in the document being acknowledged.	Required	minOcc 1 maxOcc 1
		Comment: This complex data element will be expanded and explained more fully on page 6 of this document.		
Destination	Required	This field is required and it is essential to indicate the destination of the Functional Acknowledgment which should be a copy of the source complex data element of the document being acknowledged.	Required	minOcc 1 maxOcc 1
		Comment: This complex data element will be expanded and explained more fully on page 19 of this document.		
DocumentProcessCode	Optional	This element indicates a TEST or PRODUCTION document	Required if "TEST"; "PRODUCTION" implied, not recommended	minOcc 0 maxOcc 1 **Enumeration:** TEST PRODUCTION
DocumentOfficialCode	Optional	This element indicates if the document is unofficial. Unofficial documents may be produced for reference or testing purposes but may not be binding.	Required if Unofficial; "Official" implied, not recommended	minOcc 0 maxOcc 1 **Enumeration:** Official Unofficial
		Comment: It is always assumed that the electronic Functional Acknowledgment is Official. If for whatever reason, the Acknowledgment is not official (which would be very unusual), then the value "Unofficial" would be sent. Otherwise, this data element would not normally be included in the Acknowledgment document.		
DocumentCompleteCode	Optional	This element indicates whether the document conveys a complete record.	Required if not complete; "Complete" is implied, not recommended	minOcc 0 maxOcc 1 **Enumeration:** Partial Complete
		*Comment: It would be **very** unusual to send a partial acknowledgment. Therefore, this transmission is assumed to be complete, and this data element would not be included in the instance document.*		
RequestTrackingID	Optional	The unique ID associated with a request action that is returned to the requestor for document matching and tracking.	Optional	minOcc 0 maxOcc 1 minLength 1 maxLength 35

Tag Name	Schema Use	Description	Recommended Use	Format	
		Comment: The value to be included in this data element is the DocumentID received with the document whose receipt is being acknowledged.			
NoteMessage	Optional Repeatable	Additional information about transmission	Not recommended	minOcc	0
				maxOcc	∞
				minLength	1
				maxLength	80
Comment:					

Code illustration:

```
<TransmissionData>
        <DocumentID>20061234567</DocumentID>
        <CreatedDateTime>2006-02-04T09:30:47-05:00</CreatedDateTime>
        <DocumentTypeCode>FunctionalAcknowledgment</DocumentTypeCode>
        <TransmissionType>Original</TransmissionType>
        <Source>
        </Source>
        <Destination>
        </Destination>
</TransmissionData>
```
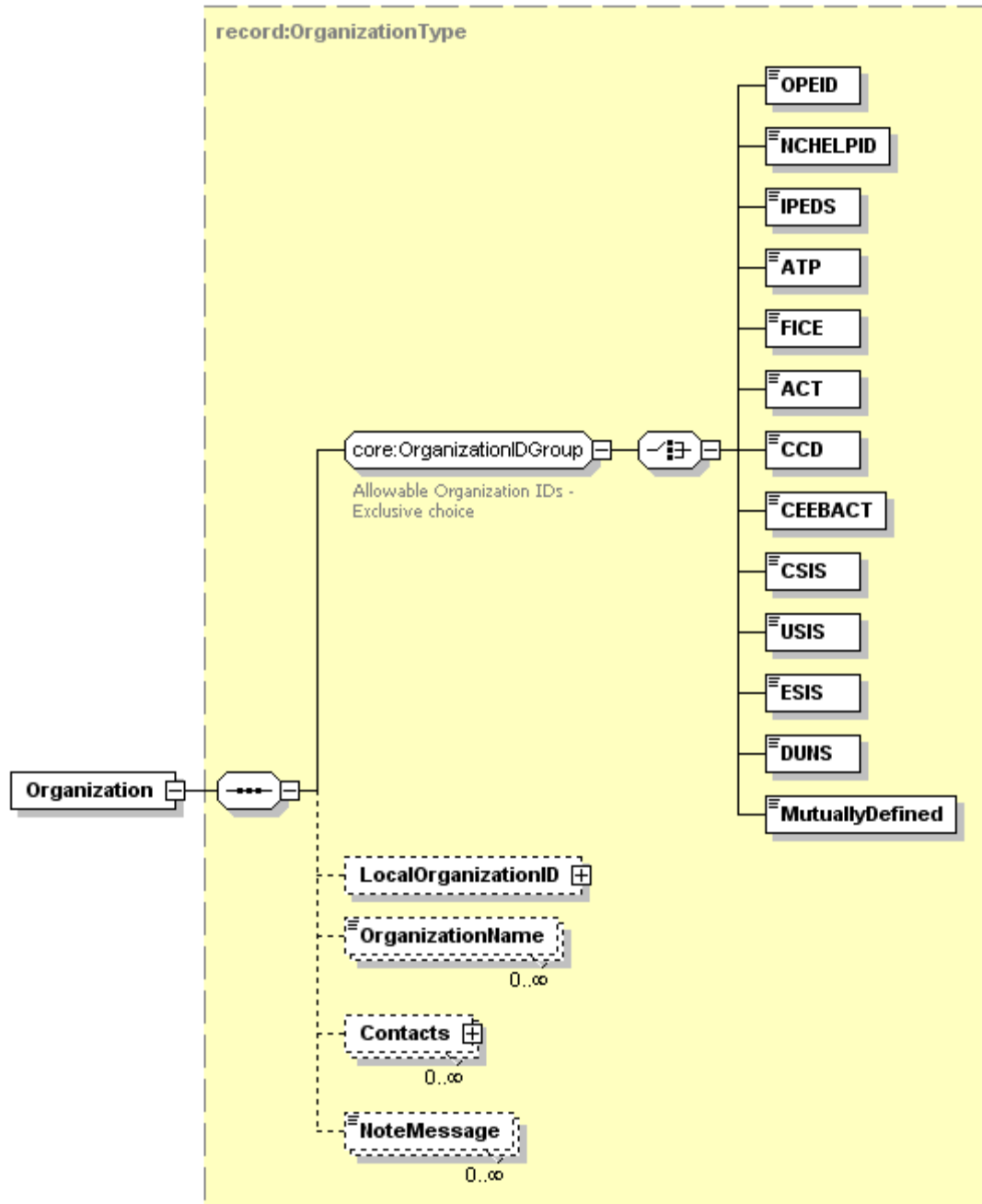
TransmissionData.Source

Tag Name	Schema Use	Description	Recommended Use	Format	
Organization	Required	Non-person entity such as Organization, Institution, Agency or Business.	Required	minOcc maxOcc	1 1
	Comment: This is the information about the postsecondary institution or agency that is acknowledging the receipt of a document. This complex data element will be expanded and explained more fully on page 6 of this document.				
NoteMessage	Optional Repeatable	Additional information about Organization	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
Comment: This gives information about the institution or agency that is acknowledging the receipt of a document.					

Code illustration:

```
<Source>
        <Organization>
        </Organization>
        <NoteMessage/>
</Source>
```

TransmissionData.Source.Organization

Tag Name	Schema Use	Description	Recommended Use	Format	
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc	1
				maxOcc	1
	Comment: [OrganizationIDGroup] is not an XML tag and does not appear in an instance document. It requires the choice of one and only one of the following code set tags to identify the institution/organization that is acknowledging the receipt of a document. This would be the same as the destination OrganizationIDGroup in the original XML document that was received and is being acknowledged.				

Tag Name	Schema Use	Description	Recommended Use	Format
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc 1 maxOcc 1
	Comment: [OrganizationIDGroup] is not an XML tag and does not appear in an instance document. It requires the choice of one and only one of the following code set tags to identify the institution/organization that is acknowledging the receipt of a document. This would be the same as the destination OrganizationIDGroup in the original XML document that was received and is being acknowledged.			
OPEID	Required choice	The unique identifier assigned by the Office of Postsecondary Education for each data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 3 maxLength 8
NCHELPID	Required choice	The unique identifier assigned by National Council on Higher Education Loan Programs for each data exchange partner.	Not Recommended	minOcc 0 maxOcc 1 minLength 3 maxLength 8
IPEDS	Required choice	The unique identifier for Integrated Postsecondary Education Data System assigned by the National Center for Education Statistics for each postsecondary data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
ATP	Required choice	The unique identifier for the Admissions Testing Program assigned by the College Board for each data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
FICE	Required choice	The unique identifier once maintained for the Federal Interagency Committee on Education by the National Center for Education Statistics for each postsecondary data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
	Comment: Although the FICE code set is still widely used by many postsecondary institutions, it has not been maintained by NCES or anyone else since late in the last century. Therefore, codes for new institutions created since then, have been locally assigned and cannot be relied upon.			
ACT	Required choice	The unique identifier for postsecondary educational institutions assigned by American College Testing available at www.act.org	Recommended	minOcc 0 maxOcc 1 minLength 4 maxLength 4
CCD	Required choice	The unique identifier assigned by National Center for Education Statistics as the Common Core of Data for each data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 12 maxLength 12
CEEBACT	Required choice	The unique identifier assigned by the College Entrance Examining Board and ACT for each K-12 data exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
CSIS	Required choice	The unique identifier assigned by the Statistics Canada Canadian College Student Information System for each postsecondary data exchange partner.	Not Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
USIS	Required choice	The unique identifier assigned by the Statistics Canada University Student Information System for each data postsecondary exchange partner.	Not Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
ESIS	Required choice	The unique identifier assigned by the Statistics Canada Enhanced Student Information System for each data postsecondary exchange partner.	Recommended	minOcc 0 maxOcc 1 minLength 8 maxLength 8

Tag Name	Schema Use	Description	Recommended Use	Format	
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc maxOcc	1 1
	Comment: *[OrganizationIDGroup] is not an XML tag and does not appear in an instance document. It requires the choice of one and only one of the following code set tags to identify the institution/organization that is acknowledging the receipt of a document. This would be the same as the destination OrganizationIDGroup in the original XML document that was received and is being acknowledged.*				
PSIS	Required choice	The unique identifier assigned by the Statistics Canada Enhanced Student Information System for each data postsecondary exchange partner.	Recommended	minOcc maxOcc minLength maxLength	0 1 8 8
DUNS	Required choice	Data Universal Numbering System (DUNS), unique nine character company identification number issued by Dun and Bradstreet Corporation.	Recommended	minOcc maxOcc minLength maxLength	0 1 9 9
MutuallyDefined	Required choice	A special code set agreed upon in advance by trading partners in the exchange to identify selected trading partners	Recommended	minOcc maxOcc minLength maxLength	0 1 1 60
	Comment: *End of OrganizationIDGroup choice set tags. One of the above values must be included and it should be the one that was received in the TransmissionData.Destination portion of the original docment.*				
LocalOrganizationID	Optional	A code set typically used by a state, province or region to further identify the sending school.	Optional	minOcc maxOcc	0 1
	Comment: *This complex data element will be expanded and explained more fully on page 10 of this document.*				
OrganizationName	Optional Repeatable	Name of Non-person entity such as Organization, Institution, Agency or Business.	Recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 60
	Comment: *This is the name of the college or agency sending the document acknowledgment.*				
Contacts	Optional Repeatable	To identify a person or an office at the sending school to which administrative communications should be directed	Recommended	minOcc maxOcc	0 ∞
	Comment: *This complex data element will be expanded and explained more fully on page 11 of this document.*				
NoteMessage	Optional Repeatable	Additional information about the organization	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
	Comment: *This entire section for the source organization of the Functional Acknowledgment should just be copied completely from the destination organization of the original document being acknowledged.*				

Code illustration:

```
<Organization>
        <ATP>006882</ATP>
        <LocalOrganizationID>
        </LocalOrganizationID>
        <OrganizationName>THE UNIVERSITY OF TEXAS AT AUSTIN</OrganizationName>
        <Contacts>
        </Contacts>
        <NoteMessage/>
</Organization>
```
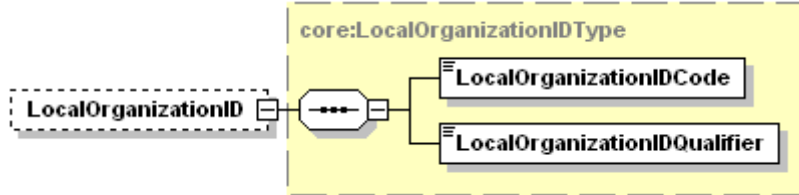
TransmissionData.Source.Organization.LocalOrganizationID

Note: Although the complex data element LocalOrganizationID is an optional data element, if you choose to send LocalOrganizationID, then you must send both LocalOrganizationIDCode and LocalOrganizationIDQualifier.
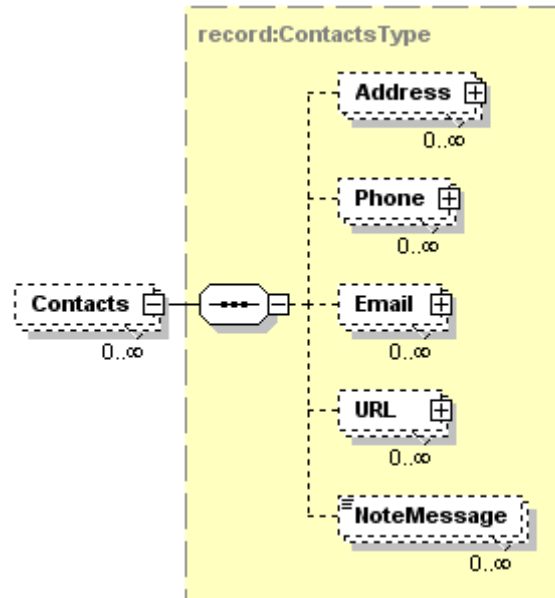

Tag Name	Schema Use	Description	Recommended Use	Format
LocalOrganizationIDCode	Required	The code assigned for the sending school or agency by the state, province or other mutually defined agency specified in the LocalIDQualifier that follows.	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 35
		Comment: *This is a required data element only if the Local Organization ID complex data element is sent. This is typically the administrative school code assigned by a state or province to specifically identify the sending school in that state. If it is not assigned by a state or province, then code ZZ should be used in the Local ID Qualifier that follows.*		
LocalOrganizationIDQualifier	Required	This is the state, province or other mutually definded agency that assigned the Local ID Code above.	Required	minOcc 1 maxOcc 1 **Enumeration:** See Code Set in Appendix A
		Comment: *This is a required data element only if the Local Organization ID data element is sent. This is typically the state or province that assigned the code to specifically identify the sending school in that state. If it is not assigned by a state or province, then code ZZ should be used in this data element.*		
Comment: *This entire section pertains to the college or agency that received the original document. It should mirror the same section, if any, that was received with the original document being acknowledged. If it was not included in the original document for the destination of the document, it should not be included here.*				

Code illustration:

```
<LocalOrganizationID>
        <LocalOrganizationIDCode>012587</LocalOrganizationIDCode>
        <LocalOrganizationIDQualifier>TX</LocalOrganizationIDQualifier>
</LocalOrganizationID>
```
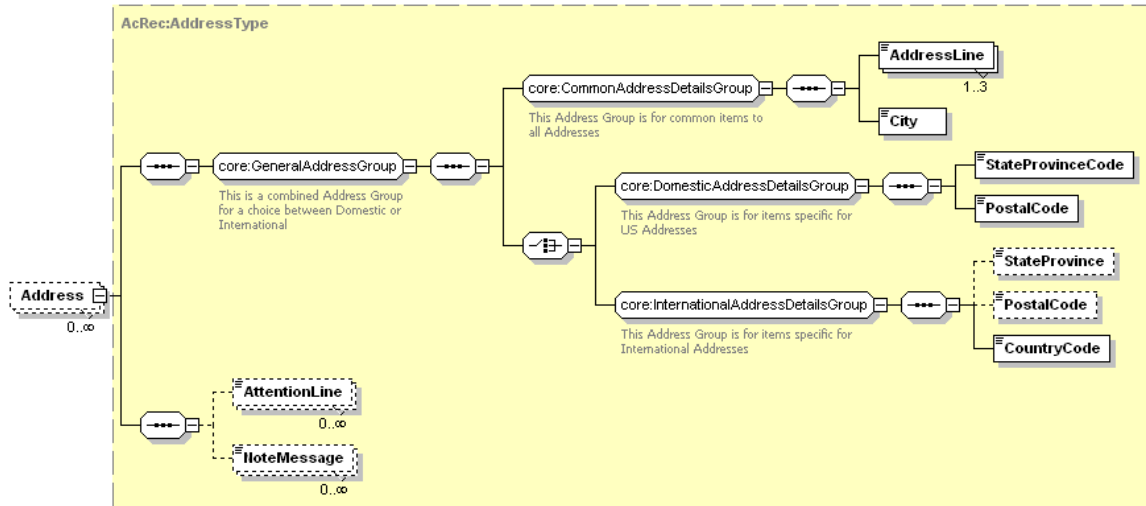
TransmissionData.Source.Organization.Contacts

Tag Name	Schema Use	Description	Recommended Use	Format	
Address	Optional Repeatable	This is a combined Address Group for a choice between Domestic or International	Recommended	minOcc maxOcc	o ∞
	Comment:	*This complex data element will be expanded and explained more fully on page 13 of this document.*			
Phone	Optional Repeatable	Phone number of source institution contact	Recommended	minOcc maxOcc	o ∞
	Comment:	*This complex data element will be expanded and explained more fully on page 16 of this document.*			
Email	Optional Repeatable	Email address of source institution contact	Optional	minOcc maxOcc	o ∞
	Comment:	*This complex data element will be expanded and explained more fully on page 17 of this document.*			
URL	Optional Repeatable	The Uniform Resource Locator of source institution	Optional	minOcc maxOcc	o ∞
	Comment:	*This complex data element will be expanded and explained more fully on page 18 of this document.*			
NoteMessage	Optional Repeatable	Additional information about the contacts at the source institution	Not recommended	minOcc maxOcc minLength maxLength	o ∞ 1 80
Comment: This should be a copy of the contact information that was received in the original document for the transmission data destination. Although it is possible for the sender of the Functional Acknowledgment document to include more up to date info in this area, it is recommended that no changes be made to this contact information that was received with the original document.					

Code illustration:

```
<Contacts>
        <Address>

        </Address>
        <Phone>

        </Phone>
        <Email>

        </Email>
        <URL>

        </URL>
        <NoteMessage/>
</Contacts>
```

TransmissionData.Source.Organization.Contacts.Address

Note: Although the complex data element Address is an optional data element, if you choose to send the Address of Contacts at the Source Institution, then you must send AddressLine and City and also StateProvinceCode, and PostalCode OR CountryCode.

Tag Name	Schema Use	Description	Recommended Use	Format	
GeneralAddressGroup	Required	This Address Group is for items common to all Addresses	Required	minOcc maxOcc	1 1
		Comment: *[GeneralAddressGroup] does not appear in the instance document. It requires the use of CommonAddressDetailsGroup <u>and</u> the choice of one of either DomesticAddressDetailsGroup or InternationalAddressDetailsGroup. This group is required in the schema only if you choose to send the address of the contact.*			
CommonAddressDetailsGroup	Required	This Address Group is for items common to all Addresses	Required	minOcc maxOcc	1 1
		Comment: *[CommonAddressDetailsGroup] does not appear in the instance document. If the address of a contact is included In the document, then this must be sent. It is required and must be paired with one of either DomesticAddressDetailsGroup or InternationalAddressDetailsGroup.*			
AddressLine	Required Repeatable	Local delivery information such as street, building number, PO box, or apartment portion of a postal address of a Contact at the college or agency that is acknowledging the receipt of the document.	Required	minOcc maxOcc minLength maxLength	1 3 1 40
City	Required	The city portion of the Address of a Contact at the college or agency that is acknowledging the receipt of the document.	Required	minOcc maxOcc minLength maxLength	1 1 2 30
DomesticAddressDetailsGroup	Required choice	This Address Group is for items specific for US and Canadian Addresses	Required for domestic addresses	minOcc maxOcc	1 1
		Comment: *[DomesticAddressDetailsGroup] does not appear in the instance document. If the complex data element address has a United States or Canadian Postal Code and a US State or Canadian Province Code, then this should be the required choice.*			

Tag Name	Schema Use	Description	Recommended Use	Format
StateProvinceCode	Required	Code for US states, etc., and Canadian provinces.	Required	minOcc 1 maxOcc 1 **Enumeration:** See Appendix A
PostalCode	Required	The postal code portion of the Address.	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 17
InternationalAddressDetailsGroup	Required choice	This Address Group is for items specific for International Addresses	Required for international addresses	minOcc 1 maxOcc 1
		Comment: *[InternationalAddressDetailsGroup] does not appear in the instance document. This choice is for addresses that do not have a US or Canadian postal code.*		
StateProvince	Optional	The literal name of the state, province or territory of a postal address of the source of this document. Use for addresses outside US or Canada.	Recommended Refer to common postal practices of the source country	minOcc 0 maxOcc 1 minLength 2 maxLength 30
		Comment: *For an internet resource of states or other geographical subdivisions in countries other than the US and Canada, you might choose to refer to the website of the Universal Postal Union at http://www.upu.int*		
PostalCode	Optional	The postal code portion of the Address.	Recommended Refer to common postal practices of the source country	minOcc 0 maxOcc 1 minLength 1 maxLength 17
		Comment: *For an internet resource of states or other geographical subdivisions in countries other than the US and Canada, you might choose to refer to the website of the Universal Postal Union at http://www.upu.int*		
CountryCode	Required	Code indicating Country. Use ISO 3166-1 alpha-2 standard.	Required	minOcc 1 maxOcc 1 **Enumerations:** See Appendix B
AttentionLine	Optional	The individual or office name within the postal address where inquiries should be directed.	Optional	minOcc 1 maxOcc ∞ minLength 1 maxLength 45
		Comment: *This might be used to indicate where questions about the record should be sent. For example, Registrar, Dirctor of Admissions, or Agency Head,*		
NoteMessage	Optional Repeatable	Additional information about the addresses of the contacts at the source school	Not recommended	minOcc 0 maxOcc ∞ minLength 1 maxLength 80
Comment: *This entire section would normally be created by the sender of this acknowledgment by copying the corresponding complex data element in the TransmissionData.Destination.Organization.Contacts.Address portion of the original document being acknowledged.*				

Code illustration 1 (Domestic Address):

```
<Address>
        <AddressLine> 1 University Station Stop</AddressLine>
        <City>Austin</City>
        <StateProvinceCode>TX</StateProvinceCode>
        <PostalCode>78712</PostalCode>
        <AttentionLine>Janet Doe</AttentionLine>
        <AttentionLine>Admissions Officer</AttentionLine>
        <NoteMessage/>
</Address>
```
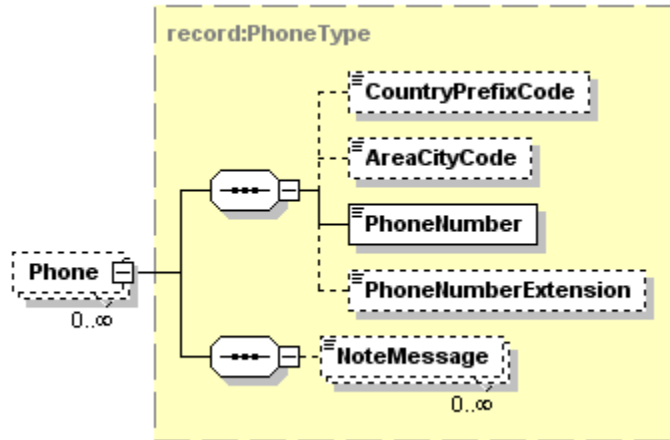
Code illustration 2 (International Address):

```
<Address>
        <AddressLine>Altova Corporation</AddressLine>
        <AddressLine>Rudolfsplatz 13a/9</AddressLine>
        <City>Wien</City>
        <StateProvince/>
        <PostalCode>A-1010</PostalCode>
        <CountryCode>AT</CountryCode>
</Address>
```

TransmissionData.Source.Organization.Contacts.Phone

Note: Although the complex data element Phone is an optional data element, if you choose to send the Phone of a Contact at the Sending Institution, then you must send a phone number.

Tag Name	Schema Use	Description	Recommended Use	Format	
CountryPrefixCode	Optional	International dialing code	Recommended	minOcc maxOcc minLength maxLength	0 1 1 3
AreaCityCode	Optional	Regional dialing code	Recommended	minOcc maxOcc minLength maxLength	0 1 1 5
PhoneNumber	Required	Telephone number	Required	minOcc maxOcc minLength maxLength	1 1 1 11
	Comment: The phone number will typically be sent as a string of numbers with no spaces, periods or dashes.				
PhoneNumberExtension	Optional	The extended telephone addressing information used in addition to phone number such as a PBX extension, a pager PIN, or FAX sub-address	Optional	minOcc maxOcc minLength maxLength	0 1 1 5
NoteMessage	Optional Repeatable	Additional information about the phone number of the contact at the source institution	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
Comment: *This entire section need not be included if it was not included in the destination portion of the original document being acknowledged as received by the institution or agency sending this acknowledgment.*					

Code illustration:
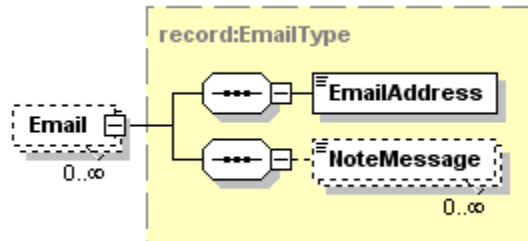
```
<Phone>
        <CountryPrefixCode/>
        <AreaCityCode>512</AreaCityCode>
        <PhoneNumber>4142505</PhoneNumber>
        <PhoneNumberExtension/>
</Phone>
<Phone>
        <CountryPrefixCode/>
        <AreaCityCode>512</AreaCityCode>
        <PhoneNumber>4747935</PhoneNumber>
        <PhoneNumberExtension/>
        <NoteMessage>Fax</NoteMessage>
</Phone>
```

TransmissionData.Source.Organization.Contacts.Email

Note: Although the complex data element Email is an optional data element, if you choose to send the Email of a Contact at the Sending Institution, then you must send the data element EmailAddress.

Tag Name	Schema Use	Description	Recommended Use	Format	
EmailAddress	Required	The numbers, letters, and symbols used to identify an electronic mail (Email) user within a network.	Required	minOcc maxOc minLength maxLength	1 1 1 128
NoteMessage	Optional Repeatable	Additional information about the email address of the contact at the sending high school	Not recommended	minOcc maxOc minLength maxLength	0 ∞ 1 80

Comment: This entire section need not be included if it was not included in the destination portion of the original document being acknowledged as received by the institution or agency sending this acknowledgment.

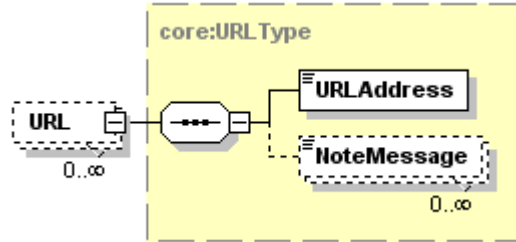Code illustration:

```
<Email>
        <EmailAddress>registrar@austin.utexas.edu</EmailAddress>
        <NoteMessage/>
</Email>
```

TransmissionData.Source.Organization.Contacts.URL

Note: Although the complex data element URL is an optional data element, if you choose to send the URL of the Sending Institution, then you must send the URLAddress.
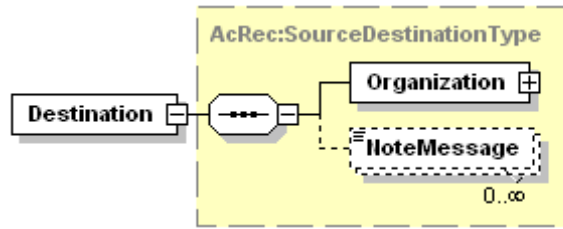

Tag Name	Schema Use	Description	Recommended Use	Format
URLAddress	Required	The Uniform Resource Locator (URL) address of the sending high school or of a contact at the sending high school	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 512
NoteMessage	Optional Repeatable	Additional information about the URL address of the source institution	Not recommended	minOcc 0 maxOcc ∞ minLength1 maxLength80
Comment: This entire section need not be included if it was not included in the destination portion of the original document being acknowledged as received by the institution or agency sending this acknowledgment.				

Code illustration:

```
<URL>
        <URLAddress>www.utexas.edu</URLAddress>
        <NoteMessage/>
</URL>
```
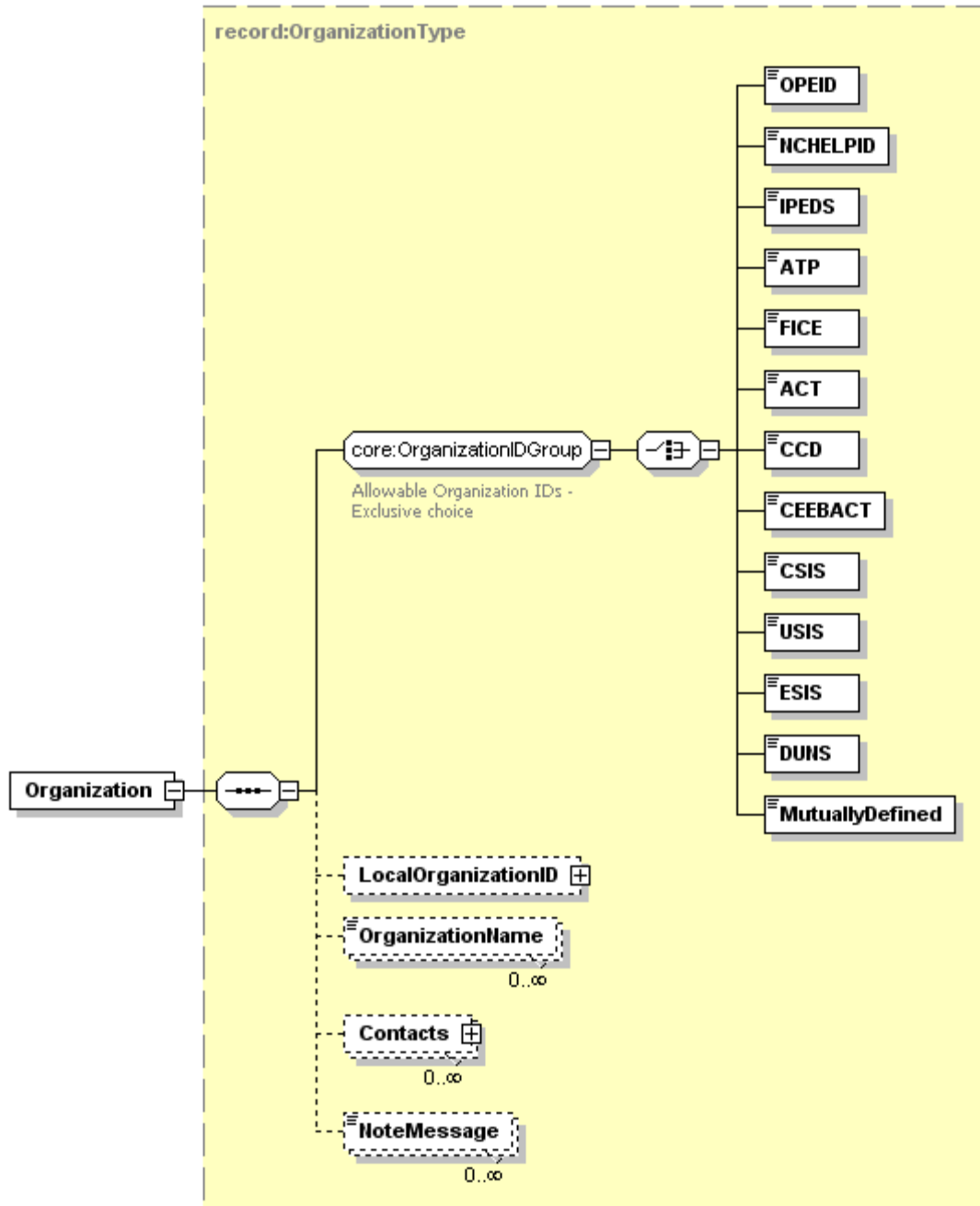
TransmissionData.Destination

Tag Name	Schema Use	Description	Recommended Use	Format	
Organization	Required	Non-person entity such as Organization, Institution, Agency or Business.	Required	minOcc maxOcc	1 1
	Comment:	*This complex data element will be expanded and explained more fully on page 20 of this document.*			
NoteMessage	Optional Repeatable	Additional information about destination organization or school.	Not Recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
Comment: This is the institution or agency to which this document acknowledgment is being sent. It is normally automatically created by the sender of this functional acknowledgment by copy the same complex data element in TransmissionData.Source in the original document being acknowledged.					

Code illustration:

```
<Destination>
        <Organization>
        </Organization>
        <NoteMessage/>
</Destination>
```

TransmissionData.Destination.Organization

Tag Name	Schema Use	Description	Recommended Use	Format
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc 1 maxOcc 1
	Comment: [OrganizationIDGroup] is not a tag and does not appear in the instance document. It requires the choice of one and only one of the following code set tags to identify the institution/organization.			
OPEID	Required choice	The unique identifier assigned by the Office of Postsecondary Education for each data exchange partner.	Required Choice Recommended	minOcc 0 maxOcc 1 minLength 3 maxLength 8

Tag Name	Schema Use	Description	Recommended Use	Format
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc 1 maxOcc 1
NCHELPID	Required choice	The unique identifier assigned by National Council on Higher Education Loan Programs for each data exchange partner.	Not Recommended	minOcc 0 maxOcc 1 minLength 3 maxLength 8
IPEDS	Required choice	The unique identifier for Integrated Postsecondary Education Data System assigned by the National Center for Education Statistics for postsecondary data exchange partners	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: The IPEDS would be an appropriate choice if this acknowledgment is being sent to a postsecondary institution and the IPEDS number for that institution was included with the original document.		
ATP	Required choice	The unique identifier for the Admissions Testing Program assigned by the College Board for each data exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: The ATP would be an appropriate choice if this acknowledgment is being sent to a postsecondary institution and the ATP number for that institution was included with the original document.		
FICE	Required choice	The unique identifier once maintained for the Federal Interagency Committee on Education by the National Center for Education Statistics for each postsecondary data exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: Although the FICE code set is still widely used by many postsecondary institutions, it has not been maintained by NCES or anyone else since late in the last century. Therefore, codes for new institutions created since then, have been locally assigned and cannot be relied upon. However, if this code was included in the original document transmission schema, then this is the recommended choice.		
ACT	Required choice	The unique identifier for postsecondary educational institutions assigned by American College Testing available at www.act.org	Required choice Recommended	minOcc 0 maxOcc 1 minLength 4 maxLength 4
		Comment: The ACT would be an appropriate choice if this acknowledgment is being sent to a postsecondary institution and the ACT number for that institution was included with the original document transmission.		
CCD	Required choice	The unique identifier assigned by the United States Department of Education's National Center for Education Statistics as the Common Core of Data for each data exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 12 maxLength 12
		Comment: The CCD was primarily a code set used by K12 and would be an appropriate option for this choice as a destination to acknowledge the receipt of a document from a high school.		
CEEBACT	Required choice	The unique identifier assigned by the College Entrance Examining Board and ACT for each K-12 data exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: The CEEBACT was primarily a code set used by K12 and would be an appropriate option for this choice as a destination to acknowledge the receipt of a document from a high school.		

Tag Name	Schema Use	Description	Recommended Use	Format
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc 1 maxOcc 1
CSIS	Required choice	The unique identifier assigned by the Statistics Canada Canadian College Student Information System for each postsecondary data exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: The CSIS would be an appropriate choice if the acknowledgment of receipt of this document is being sent to a Canadian institution and the code was included with the original document submission.		
USIS	Required choice	The unique identifier assigned by the Statistics Canada University Student Information System for each data postsecondary exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 6 maxLength 6
		Comment: The USIS would be an appropriate choice if the acknowledgment of receipt of this document is being sent to a Canadian institution and the code was included with the original document submission.		
ESIS	Required choice	The unique identifier assigned by the Statistics Canada Enhanced Student Information System for each data postsecondary exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 8 maxLength 8
		Comment: The ESIS would be an appropriate choice if the acknowledgment of receipt of this document is being sent to a Canadian institution and the code was included with the original document submission.		
PSIS	Required choice	The unique identifier assigned by the Statistics Canada Enhanced Student Information System for each data postsecondary exchange partner.	Required choice Recommended	minOcc 0 maxOcc 1 minLength 8 maxLength 8
DUNS	Required choice	Data Universal Numbering System (DUNS), unique nine character company identification number issued by Dun and Bradstreet Corporation.	Not Recommended	minOcc 0 maxOcc 1 minLength 9 maxLength 9
		Comment: The DUNS number would not be a normal choice to identify the source of an original document, unless that sender is an authorized third party or document exchange vendor.		
MutuallyDefined	Required choice	A special code set agreed upon in advance by trading partners in the exchange to identify selected trading partners	Recommended	minOcc 0 maxOcc 1 minLength 1 maxLength 60
		Comment: End of OrganizationIDGroup choice set tags		
LocalOrganizationID	Optional	A code set typically used by a state, province or region to further identify the receiving school or agency.	Optional	minOcc 0 maxOcc 1 minLength 9 maxLength 9
		Comment: This complex data element will be expanded and explained more fully on page 23 of this document.		
OrganizationName	Optional Repeatable	Name of Non-person entity such as Organization, Institution, Agency or Business.	Recommended	minOcc 0 maxOcc ∞ minLength 1 maxLength 60
		Comment: Use repeated OrganizationName to show alternate routing destination (e.g., Human Resources, Graduate School).		
Contacts	Optional Repeatable	To identify a person or an office at the receiving school or agency to which administrative communications should be directed	Optional	minOcc 0 maxOcc ∞
		Comment: Use Contacts for additional routing instructions and information for the receiving school or agency. This complex data element will be expanded and explained more fully on page 24 of this document.		

Tag Name	Schema Use	Description	Recommended Use	Format	
[OrganizationIDGroup]	Required	Allowable Organization IDs - Exclusive choice	Required	minOcc maxOcc	1 1
NoteMessage	Optional Repeatable	Additional information about the organization	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
Comment: *This entire section of the acknowledgment would normally just be copied from the TransmissionData.Source.Organization portion of the original document received.*					

Code illustration:

```
<Organization>
        <CEEBACT>440320</CEEBACT>
        <LocalOrganizationID>

        </LocalOrganizationID>
        <OrganizationName>Austin High School</OrganizationName>
        <OrganizationName>Austin Independent School District</OrganizationName>
        <Contacts>

        </Contacts>
        <NoteMessage/>
</Organization>
```
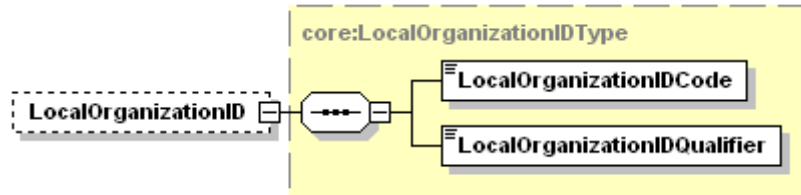
TransmissionData.Destination.Organization.LocalOrganizationID

Note: Although the complex data element LocalOrganizationID is an optional data element, if you choose to send LocalOrganizationID, then you must also send both LocalOrganizationIDCode and also LocalOrganizationIDQualifier.
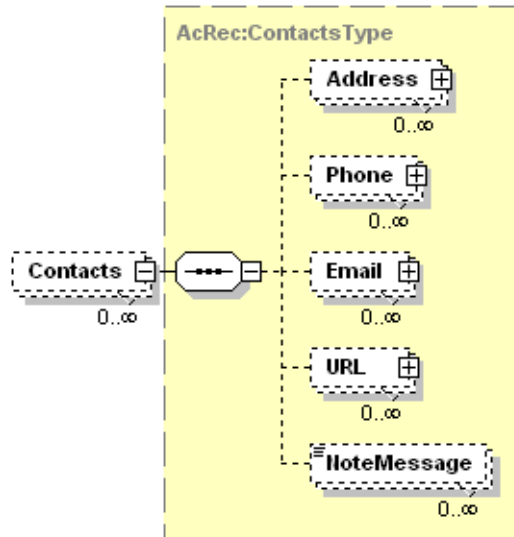

Tag Name	Schema Use	Description	Recommended Use	Format
LocalOrganizationIDCode	Required	The code assigned for the receiving school by the state, province or other mutually defined agency specified in the LocalIDQualifier that follows.	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 35
	Comment: This is a required data element only if the Local Organization ID complex data element is sent. This is typically the administrative school code assigned by a state or province to specifically identify the school in that state that sent the original document that is being acknowledged. If it is not assigned by a state or province, then code ZZ should be used in the Local ID Qualifier that follows.			
LocalIDQualifier	Required	This is the state, province or other mutually defined agency that assigned the Local D Code above.	Required	minOcc 1 maxOcc 1 **Enumeration:** Sec Appendix A
	Comment: This is a required data element only if the Local ID data element is sent. This is typically the state or province that assigned the code to specifically identify the school in that state that sent the original document that is being acknowledged. If it is not assigned by a state or province, then code ZZ should be used in this data element			
Comment:				

Code illustration:

```
<LocalOrganizationID>
        <LocalOrganizationIDCode>012587</LocalOrganizationIDCode>
        <LocalOrganizationIDQualifer>TX</LocalOrganizationIDQualifier>
</LocalOrganizationID>
```
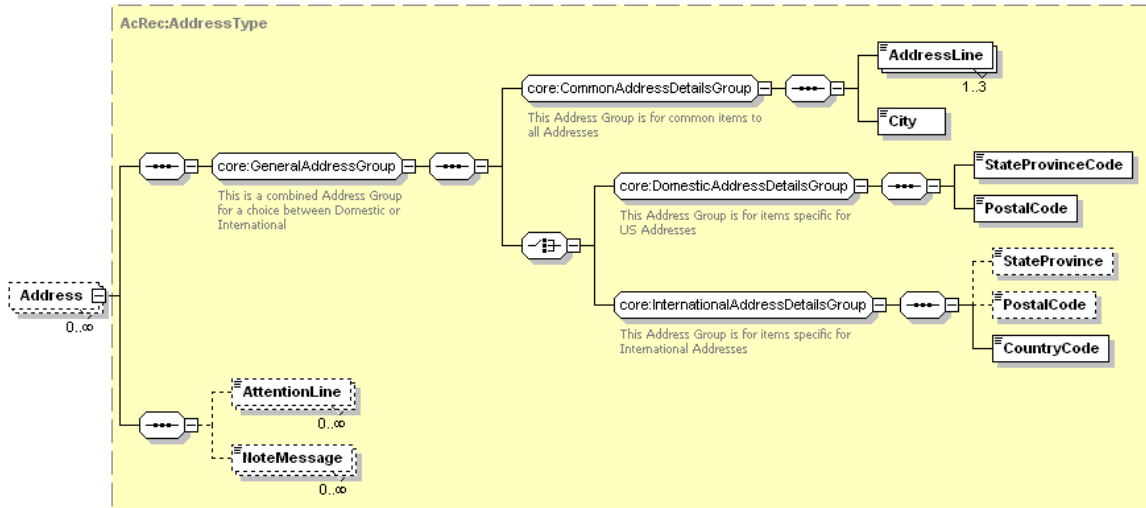
TransmissionData.Destination.Organization.Contacts

Tag Name	Schema Use	Description	Recommended Use	Format	
Address	Optional Repeatable	This is a combined Address Group for a choice between Domestic or International	Optional	minOcc maxOcc	o ∞
		Comment: *This complex data element will be expanded and explained more fully on page 26 of this document.*			
Phone	Optional Repeatable	This is the phone number of the contact at the destination school or agency that sent the original *document*.	Optional	minOcc maxOcc	o ∞
		Comment: *This complex data element will be expanded and explained more fully on page 29 of this document.*			
Email	Optional Repeatable	This is the email address of the contact at the destination school that sent the original *document*.	Optional	minOcc maxOcc	o ∞
		Comment: *This complex data element will be expanded and explained more fully on page 30 of this document.*			
URL	Optional Repeatable	This is the Uniform Resource Locator of the destination school that sent the original *document*.	Not Recommended	minOcc maxOcc	o ∞
		Comment: *This complex data element will be expanded and explained more fully on page 31 of this document.*			
NoteMessage	Optional Repeatable	Additional information about the contact at the destination school or agency that sent the original *document*.	Not Recommended	minOcc maxOcc minLength maxLength	o ∞ 1 80
Comment: *This entire section should just be copied from the TransmissionData.Source.Organization.Contacts portion of the original document that was received.*					

Code illustration:

```
<Contacts>
        <Address>

        </Address>
        <Phone>

        </Phone>
        <Email>

        </Email>
        <URL>

        </URL>

        <NoteMessage/>
</Contacts>
```

TransmissionData.Destination.Organization.Contacts.Address

Note: Although the complex data element Address is an optional data element, if you choose to send the Address of Contacts at the Destination Institution or Agency, then you must send AddressLine and City and also StateProvinceCode, and PostalCode OR CountryCode.

Tag Name	Schema Use	Description	Recommended Use	Format	
GeneralAddressGroup	Required	This Address Group is for items common to all Addresses	Required	minOcc maxOcc	1 1
	Comment: [GeneralAddressGroup] does not appear in the instance document. It requires the use of CommonAddressDetailsGroup <u>and</u> the choice of one of either DomesticAddressDetailsGroup or InternationalAddressDetailsGroup. This group is required in the document only if you choose to send the address of the contact or school.				
CommonAddressDetailsGroup	Required	This Address Group is for items common to all Addresses	Required	minOcc maxOcc	1 1
	Comment: [CommonAddressDetailsGroup] does not appear in the instance document. If the address of a contact is included In the document, then this must be sent. It is required and must be paired with one of either DomesticAddressDetailsGroup or InternationalAddressDetailsGroup.				
AddressLine	Required Repeatable	Local delivery information such as street, building number, PO box, or apartment portion of a postal address of a Contact at the school that sent the original document.	Required	minOcc maxOcc minLength maxLength	1 3 1 40
City	Required	The city portion of the Address of a Contact at the school that sent the original original document	Required	minOcc maxOcc minLength maxLength	1 1 2 30
DomesticAddressDetailsGroup	Required choice	This Address Group is for items specific for US and Canadian Addresses	Required for domestic addresses	minOcc maxOcc	1 1
	Comment: [DomesticAddressDetailsGroup] and does not appear in the instance document. If the complex data element address has a United States or Canadian Postal Code and a US State or Canadian Province Code, then this should be the required choice.				

Tag Name	Schema Use	Description	Recommended Use	Format
StateProvinceCode	Required	Code for US states, etc., and Canadian provinces.	Required	minOcc 1 maxOcc 1 **Enumeration:** See Appendix A
PostalCode	Required	The postal code portion of the Address.	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 17
InternationalAddressDetails Group	Required choice	This Address Group is for items specific for International Addresses	Required for international addresses	minOcc 1 maxOcc 1
		Comment: [InternationalAddressDetailsGroup] does not appear in the instance document. This choice is for addresses that do not have a US or Canadian postal code.		
StateProvince	Optional	The literal name of the state, province or territory of a postal address of the source of this document. Use for addresses outside US or Canada.	Recommended Refer to common postal practices of the source country	minOcc 0 maxOcc 1 minLength 2 maxLength 30
		Comment: For an internet resource of states or other geographical subdivisions in countries other than the US and Canada, you might choose to refer to the website of the Universal Postal Union at http://www.upu.int		
PostalCode	Optional	The postal code portion of the Address.	Recommended Refer to common postal practices of the source country	minOcc 0 maxOcc 1 minLength 1 maxLength 17
		Comment: For an internet resource of states or other geographical subdivisions in countries other than the US and Canada, you might choose to refer to the website of the Universal Postal Union at http://www.upu.int		
CountryCode	Required	Code indicating Country. Use ISO 3166-1 alpha-2 standard.	Required	minOcc 1 maxOcc 1 **Enumerations:** See Appendix B
AttentionLine	Optional Repeatable	The individual or office name within the postal address where inquiries should be directed.	Optional	minOcc 0 maxOcc ∞ minLength 1 maxLength 45
NoteMessage	Optional Repeatable	Additional information about the addresses of the contacts at the source school	Not recommended	minOcc 0 maxOcc ∞ minLength 1 maxLength 80
Comment:				

Code illustration 1 (Domestic Address):

```
<Address>
        <AddressLine>1715 W Cesar Chavez</AddressLine>
        <City>Austin</City>
        <StateProvinceCode>TX</StateProvinceCode>
        <PostalCode>78703</PostalCode>
        <AttentionLine>Jane Doe</AttentionLine>
        <AttentionLine>Guidance Counselor</AttentionLine>
        <NoteMessage/>
</Address>
```
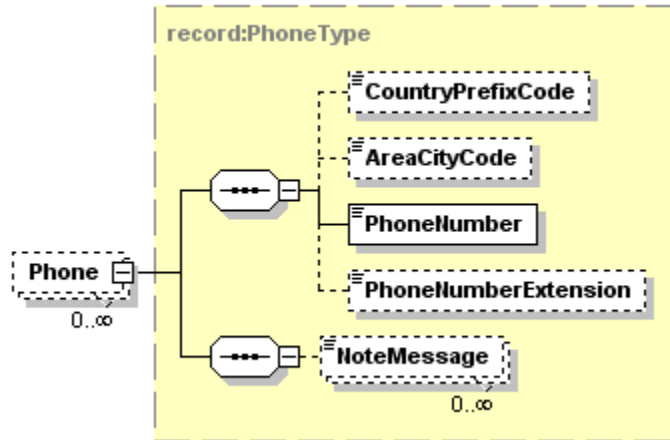
Code illustration 2 (International Address):

```
<Address>
        <AddressLine>Overseas Corporation</AddressLine>
        <AddressLine>Rudolfsplatz 13a/9</AddressLine>
        <City>Wien</City>
        <StateProvince/>
        <PostalCode>A-1010</PostalCode>
        <CountryCode>AT</CountryCode>
</Address>
```

TransmissionData.Destination.Organization.Contacts.Phone

Note: Although the complex data element Phone is an optional data element, if you choose to send the Phone of a Contact at the Receiving Institution, then you must send a phone number.

Tag Name	Schema Use	Description	Recommended Use	Format	
CountryPrefixCode	Optional	International dialing code	Optional	minOcc maxOcc minLength maxLength	0 1 1 3
AreaCityCode	Optional	Regional dialing code	Recommended	minOcc maxOcc minLength maxLength	0 1 1 5
PhoneNumber	Required	Telephone number	Required	minOcc maxOcc minLength maxLength	1 1 1 11
PhoneNumberExtension	Optional	The extended telephone addressing information used in addition to phone number such as a PBX extension, a pager PIN, or FAX sub-address.	Optional	minOcc maxOcc minLength maxLength	0 1 1 5
NoteMessage	Optional Repeatable	Additional information about the phone number of the contact at the destination school or agency	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80

Comment: This entire section would normally just be copied from the TransmissionData.Source.Organization.Contacts.Phone section of the original document that was received and is now being acknowledged.
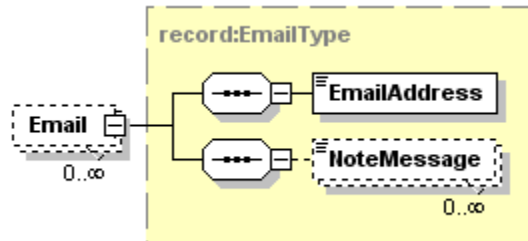
Code illustration:

```
<Phone>
        <CountryPrefixCode/>
        <AreaCityCode>512</AreaCityCode>
        <PhoneNumber>4757638</PhoneNumber>
        <PhoneNumberExtension>4589</PhoneNumberExtension>
</Phone>
```

TransmissionData.Destination.Organization.Contacts.Email

Note: Although the complex data element Email is an optional data element, if you choose to send the Email of a Contact at the Receiving Institution, then you must send the data element EmailAddress.

Tag Name	Schema Use	Description	Recommended Use	Format	
EmailAddress	Required	The numbers, letters, and symbols used to identify an electronic mail (Email) user within a network.	Required	minOcc maxOcc minLength maxLength	1 1 1 128
NoteMessage	Optional Repeatable	Additional information about the email address of the contact at the destination school or agency	Not recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
	Comment:				
Comment:					

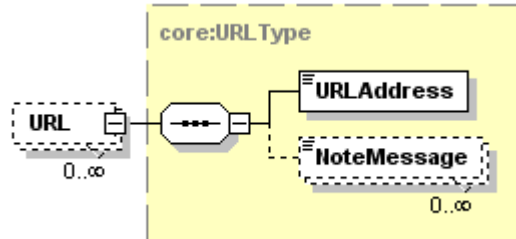Code illustration:

```
<Email>
        <EmailAddress>GuidanceCounselor@AustinISD.edu</EmailAddress>
        <NoteMessage/>
</Email>
```

TransmissionData.Destination.Organization.Contacts.URL

Note: Although the complex data element URL is an optional data element, if you choose to send the URL of a Contact at the Receiving Institution or Agency, then you must send the URLAddress.
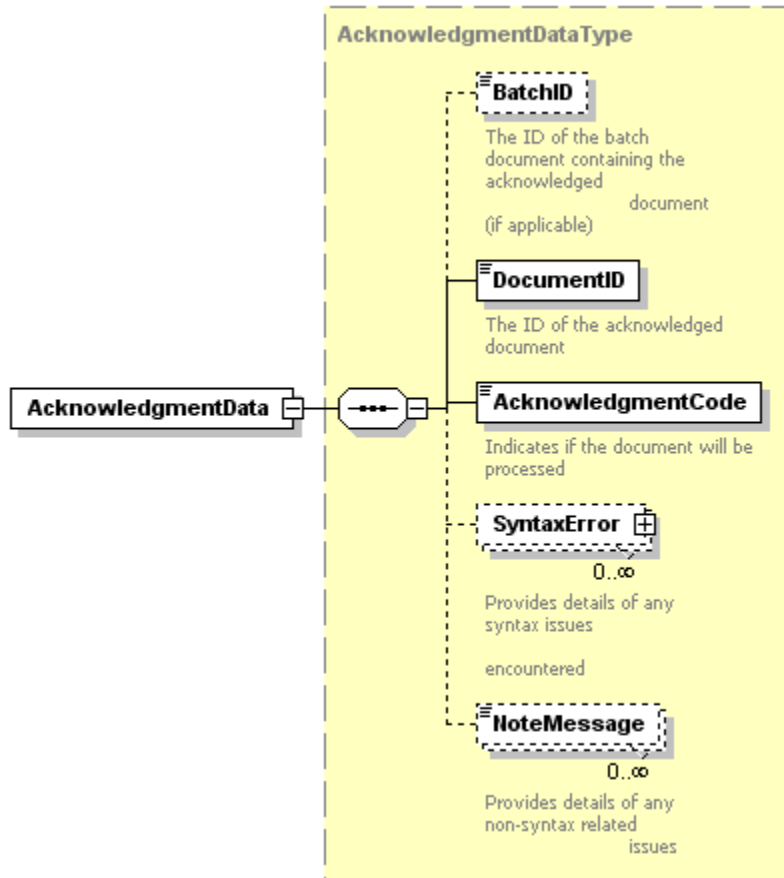

Tag Name	Schema Use	Description	Recommended Use	Format	
URLAddress	Required	The Uniform Resource Locator (URL) address associated with a product, deliverable or contact, i.e., the URL of the school that sent the original document.	Required	minOcc maxOcc minLength maxLength	1 1 0 512
NoteMessage	Optional Repeatable	Additional information about the URL of the contact at the destination school or agency	Not Recommended	minOcc maxOcc minLength maxLength	0 ∞ 1 80
Comment:					

Code illustration:

```
<URL>
        <URLAddress>www.anyhighschool.edu</URLAddress>
        <NoteMessage/>
</URL>
```

AcknowledgmentData

Tag Name	Schema Use	Description	Recommended Use	Format
BatchID	Optional	The File Transmission Date and Time stamp with additional unique qualifying characters for the original batch container for the original document.	Recommended	minOcc　1 maxOcc　1 minLength　9 maxLength　35
		Comment: This is the BatchID referenced in the original Document being acknowledged. This would be the same as was received in the original document now being acknowledged and can be copied over from the source document.		
DocumentID	Required	The File Transmission Date and Time stamp with additional unique qualifying characters of the original document	Required	minOcc　1 maxOcc　1 minLength　9 maxLength　35
		Comment: This is the DocumentID referenced in the original Document being acknowledged. This would be the same as was received in the original document now being acknowledged and can be copied over from the source document.		
AcknowledgmentCode	Required	Enumerated values indicating if the document received was valid and will be processed.	Required	minOcc　0 maxOcc　1 **Enumeration:** Accepted Rejected
		Comment: A best practice would be to ensure that if any document is marked as Rejected in the AcknowledgmentCode, at least one SyntaxError will be present in the message.		
SyntaxError	Optional Repeatable	Provides details of any Syntax related issues	Recommended	minOcc　0 maxOcc　∞

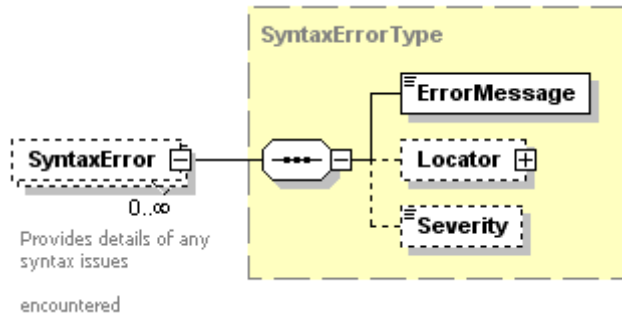| Tag Name	Schema Use	Description	Recommended Use	Format
		Comment: Use multiple occurrences of SyntaxError for each reason that the original document failed validation or a business process at the recipient.		
NoteMessage	Optional Repeatable	Provides details of any non-syntax issues or amplifying messages	Not Recommended	minOcc 0 maxOcc ∞
		Comment: Use the NoteMessage to provide amplifying, human-readable comments in order to assist in troubleshooting the negative receipt of the original document. Avoid including any information that references the location in the original file where the error occurred.		

Code illustration:

```
<AcknowledgmentData>
        <DocumentID>050330001</DocumentID>
        <AcknowledgmentCode>Rejected</AcknowledgmentCode>
        <SyntaxError>

        </SyntaxError>
        <NoteMessage/>
</AcknowledgmentData>
```
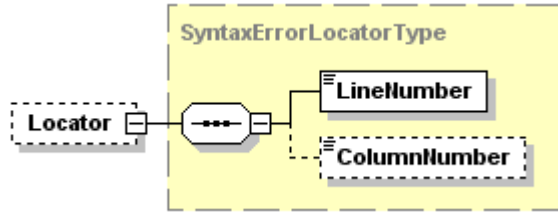
SyntaxError

Provides details of any syntax issues encountered

Tag Name	Schema Use	Description	Recommended Use	Format
ErrorMessage	Required	The content of the actual syntax error that occurred when validating or processing the source document (string)	Required	minOcc 1 maxOcc 1 minLength 1 maxLength 512
		Comment: A best practice is to use standard XML validation to generate the content of these error messages such that the sender and recipient can independently validate original document and generate the same or similar error message content.		
Locator	Optional	Line and Column locations for each occurrence of this specific type and severity of error.	Recommended	minOcc 1 maxOcc 1
		Comment: Use multiple SyntaxError instances, even if the same SyntaxError is found at different locations, as only one Locator is allowed per SyntaError.		
Severity	Optional	Enumerated values indicating the severity of the error and if processing of the document was able to continue with errors (enumerated)	Recommended	minOcc 0 maxOcc 1 **Enumeration:** Warning Error FatalError
		Comment: Use of FatalError is required to alert the sender to a processing or systems related issue and to inspect the generation and delivery method of the source documents. Error is required to alert the sender of the original document to correct the errors and resend the source document. Warning is used to alert the sender of defects in the file in order to correct the file and optionally resend the document, but the errors are not significant as to not allow successful processing of the source document.		

Code illustration:

```
<SyntaxError>
        <Message><![CDATA[cvc-enumeration-valid: Value 'Semester ' is not facet-valid with respect to enumeration
        '[NoCredit, Quarter, Semester, Units, ClockHours, CarnegieUnits, ContinuingEducationUnits, Unreported, Other,
        NoCredit , Quarter , Semester  , Units , Other ]'. It must be a value from the enumeration.]]></Message>

        <Locator>

        </Locator>

        <Severity>Error</Severity>
</SyntaxError>
```

Locator

Tag Name	Schema Use	Description	Recommended Use	Format	
LineNumber	Required	The Line number in the original document where the Syntax error occurred (integer)	Required	minOcc maxOcc minLength maxLength	1 1 1 35
	Comment: Line numbers of original syntax errors should be programmatically generated using standard XML validation practices whenever possible.				
ColumnNumber	Optional	The Column number in the original document where the Syntax error occurred (integer)	Recommended	minOcc maxOcc minLength maxLength	1 1 1 35
	Comment: Column numbers of original syntax errors should be programmatically generated using standard XML validation practices whenever possible.				

Code illustration:

```
<Locator>
    <LineNumber>313</LineNumber>
    <ColumnNumber>59</ColumnNumber>
</Locator>
```

End of the Functional Acknowledgment Schema

Appendix A – StateProvinceCode

StateProvinceCode	Description	StateProvinceCode	Description
AA	Military-Americas	NB	New Brunswick
AB	Alberta	NC	North Carolina
AE	Military-Europe	ND	North Dakota
AK	Alaska	NE	Nebraska
AL	Alabama	NF	Newfoundland
AP	Military-Pacific	NH	New Hampshire
AR	Arkansas	NJ	New Jersey
AS	American Samoa	NL	Newfoundland And Labrador
AZ	Arizona	NM	New Mexico
BC	British Columbia	NS	Nova Scotia
CA	California	NT	Northwest Territories
CO	Colorado	NU	Nunavut
CT	Connecticut	NV	Nevada
CZ	Canal Zone	NY	New York
DC	District Of Columbia	OH	Ohio
DE	Delaware	OK	Oklahoma
FL	Florida	ON	Ontario
FM	Federated States Of Micronesia	OR	Oregon
GA	Georgia	PA	Pennsylvania
GU	Guam	PE	Prince Edward Island
HI	Hawaii	PR	Puerto Rico
IA	Iowa	PW	Republic Of Palau
ID	Idaho	QC	Quebec
IL	Illinois	RI	Rhode Island
IN	Indiana	SC	South Carolina
KS	Kansas	SD	South Dakota
KY	Kentucky	SK	Saskatchewan
LA	Louisiana	TN	Tennessee
MA	Massachusetts	TX	Texas
MB	Manitoba	UT	Utah
MD	Maryland	VA	Virginia
ME	Maine	VI	Virgin Islands
MH	Marshall Islands	VT	Vermont
MI	Michigan	WA	Washington
MN	Minnesota	WI	Wisconsin
MO	Missouri	WV	West Virginia
MP	Northern Mariana Islands	WY	Wyoming
MS	Mississippi	YT	Yukon
MT	Montana		

Appendix B – CountryCode

CountryCode	Description	CountryCode	Description
AD	Andorra	ER	Eritrea
AE	United Arab Emirates	ES	Spain
AF	Afghanistan	ET	Ethiopia
AG	Antigua And Barbuda	FI	Finland
AI	Anguilla	FJ	Fiji
AL	Albania	FK	Falkland Islands (Malvinas)
AM	Armenia	FM	Micronesia, Federated States Of
AN	Netherlands Antilles	FO	Faroe Islands
AO	Angola	FR	France
AQ	Antarctica	GA	Gabon
AR	Argentina	GB	United Kingdom
AS	American Samoa	GD	Grenada
AT	Austria	GE	Georgia
AU	Australia	GF	French Guiana
AW	Aruba	GG	Guernsey
AX	Åland Islands	GH	Ghana
AZ	Azerbaijan	GI	Gibraltar
BA	Bosnia And Herzegovina	GL	Greenland
BB	Barbados	GM	Gambia
BD	Bangladesh	GN	Guinea
BE	Belgium	GP	Guadeloupe
BF	Burkina Faso	GQ	Equatorial Guinea
BG	Bulgaria	GR	Greece
BH	Bahrain	GS	South Georgia And The South Sandwich Islands
BI	Burundi		
BJ	Benin	GT	Guatemala
BL	Saint-Barthélemy	GU	Guam
BM	Bermuda	GW	Guinea Bissau
BN	Brunei Darussalam	GY	Guyana
BO	Bolivia	HK	Hong Kong
BR	Brazil	HM	Heard Island And Mcdonald Islands
BS	Bahamas	HN	Honduras
BT	Bhutan	HR	Croatia
BV	Bouvet Island	HT	Haiti
BW	Botswana	HU	Hungary
BY	Belarus	ID	Indonesia
BZ	Belize	IE	Ireland
CA	Canada	IL	Israel
CC	Cocos (Keeling) Islands	IM	Isle of Man
CD	Congo, The Democratic Republic Of The	IN	India
CF	Central African Republic	IO	British Indian Ocean Territory
CG	Congo	IQ	Iraq
CH	Switzerland	IR	Iran, Islamic Republic Of
CI	Cote D'ivoire	IS	Iceland
CK	Cook Islands	IT	Italy
CL	Chile	JE	Jersey
CM	Cameroon	JM	Jamaica
CN	China	JO	Jordan
CO	Colombia	JP	Japan
CR	Costa Rica	KE	Kenya
CS	Serbia And Montenegro	KG	Kyrgyzstan
CU	Cuba	KH	Cambodia
CV	Cape Verde	KI	Kiribati
CX	Christmas Island	KM	Comoros
CY	Cyprus	KN	Saint Kitts And Nevis
CZ	Czech Republic	KP	Korea, Democratic People's Republic Of
DE	Germany	KR	Korea, Republic Of
DJ	Djibouti	KW	Kuwait
DK	Denmark	KY	Cayman Islands
DM	Dominica	KZ	Kazakhstan
DO	Dominican Republic	LA	Lao People's Democratic Republic
DZ	Algeria	LB	Lebanon
EC	Ecuador	LC	Saint Lucia
EE	Estonia	LI	Liechtenstein
EG	Egypt	LK	Sri Lanka
EH	Western Sahara	LR	Liberia

CountryCode	Description	CountryCode	Description
LS	Lesotho	RS	Serbia
LT	Lithuania	RU	Russian Federation
LU	Luxembourg	RW	Rwanda
LV	Latvia	SA	Saudi Arabia
LY	Libyan Arab Jamahiriya	SB	Solomon Islands
MA	Morocco	SC	Seychelles
MC	Monaco	SD	Sudan
MD	Moldova, Republic Of	SE	Sweden
ME	Montenegro	SG	Singapore
MF	Saint Martin (French Part)	SH	Saint Helena
MG	Madagascar	SI	Slovenia
MH	Marshall Islands	SJ	Svalbard And Jan Mayen
MK	Macedonia, The Former Yugoslav Republic Of	SK	Slovakia
		SL	Sierra Leone
ML	Mali	SM	San Marino
MM	Myanmar	SN	Senegal
MN	Mongolia	SO	Somalia
MO	Macao	SR	Suriname
MP	Northern Mariana Islands	ST	Sao Tome And Principe
MQ	Martinique	SV	El Salvador
MR	Mauritania	SY	Syrian Arab Republic
MS	Montserrat	SZ	Swaziland
MT	Malta	TC	Turks And Caicos Islands
MU	Mauritius	TD	Chad
MV	Maldives	TF	French Southern Territories
MW	Malawi	TG	Togo
MX	Mexico	TH	Thailand
MY	Malaysia	TJ	Tajikistan
MZ	Mozambique	TK	Tokelau
NA	Namibia	TL	Timor Leste
NC	New Caledonia	TM	Turkmenistan
NE	Niger	TN	Tunisia
NF	Norfolk Island	TO	Tonga
NG	Nigeria	TR	Turkey
NI	Nicaragua	TT	Trinidad And Tobago
NL	Netherlands	TV	Tuvalu
NO	Norway	TW	Taiwan, Province Of China
NP	Nepal	TZ	Tanzania, United Republic Of
NR	Nauru	UA	Ukraine
NU	Niue	UG	Uganda
NZ	New Zealand	UM	United States Minor Outlying Islands
OM	Oman	US	United States
PA	Panama	UY	Uruguay
PE	Peru	UZ	Uzbekistan
PF	French Polynesia	VA	Holy See (Vatican City State)
PG	Papua New Guinea	VC	Saint Vincent And The Grenadines
PH	Philippines	VE	Venezuela
PK	Pakistan	VG	Virgin Islands, British
PL	Poland	VI	Virgin Islands, U.S.
PM	Saint Pierre And Miquelon	VN	Viet Nam
PN	Pitcairn	VU	Vanuatu
PR	Puerto Rico	WF	Wallis And Futuna
PS	Palestinian Territory, Occupied	WS	Samoa
PT	Portugal	YE	Yemen
PW	Palau	YT	Mayotte
PY	Paraguay	ZA	South Africa
QA	Qatar	ZM	Zambia
RE	Reunion	ZW	Zimbabwe
RO	Romania		

Appendix C – Sample (but significantly abridged) XML Documents (Individual and Batch) to be used with Appendix D

Individual Document

Document Batch

Appendix D – Sample XML Functional Acknowledgment Documents to be returned to sender of original XML Documents (Individual and Batch)

Functional Acknowledgment for Individual Document

Functional Acknowledgment for Document Batch