



Electronic Transcript Exchange Implementation Guide

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For assistance, contact etx@studentclearinghouse.org.

Introduction

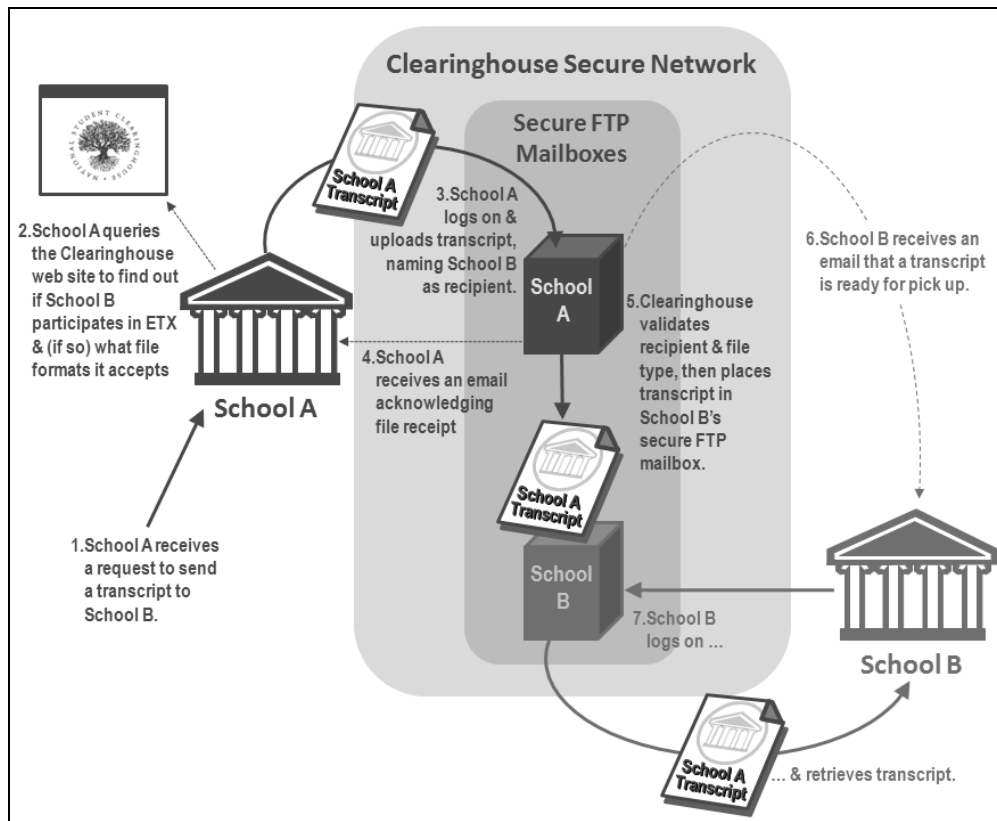
The National Student Clearinghouse's Electronic Transcript Exchange (ETX) is a Web-based service that enables participants (i.e., high schools, colleges and other educational organizations) to securely exchange electronic transcripts with each other via the Clearinghouse secure network.

The ETX network is based on the same secure network that the Clearinghouse uses to exchange thousands of files each week with its participants. The network consists of secure servers that support various protocols for transferring files. Files can be sent to the Clearinghouse using a variety of protocols and methods.

Once the recipient is determined, the files are delivered to the recipient's secure FTP mailbox, where they can be retrieved at any time and frequency. This is the same file distribution process used by your institution to deliver your enrollment files to the Clearinghouse. Individual secure FTP mailboxes will be established specifically for exchanging electronic transcript files.

For assistance, contact etx@studentclearinghouse.org.

How Electronic Transcript Exchange Works



1. School A receives a transcript request (from its existing request process) to send a transcript to School B.
2. School A queries the ETX registry on the Clearinghouse web site to determine if School B participates in ETX and, if it does, learn which electronic transcript file formats it accepts. *(Note: participants must preregister their ETX participation and the file formats they accept).*
3. School A uploads the electronic transcript file to the Clearinghouse using one of the supported methods (see “System Features”) and names School B as the recipient.
4. The Clearinghouse system emails a confirmation to School A that its file was successfully received.
5. After the Clearinghouse system validates the sender (School A) and recipient (School B), it places the transcript file in School B’s secure FTP mailbox.
6. The Clearinghouse system sends an email to School B informing it that a new file has been placed in its mailbox.
7. School B downloads the electronic transcript file.

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System Features

Electronic Transcript Exchange consists of the following components:

1. Registry of Participating Users and Their Supported File Formats

- ETX participants must preregister their participation and indicate the file formats they are capable of sending and receiving. *(This feature is currently under development. In the interim, ETX users will need to keep track of other participating ETX users with whom they wish to exchange files.)*

2. Multiple Secure Methods/Protocols for Sending and Receiving Files

- The following secure methods are supported for file uploads and downloads:
 - Web browsers that use HTTPS (Secure HTTP) for secure file transfer, including Firefox, Internet Explorer, Mozilla, Netscape, Opera, and Safari
 - Secure FTPS clients that provide FTP over SSL (Secure Sockets Layer) using any of the three FTP over SSL modes (IMPLICIT, TLS-P, TLS-C) as well as passive transfers. A variety of third-party clients are available.
 - Secure SFTP clients that provide secure FTP over SSH (Secure Shell). A variety of third-party clients are available.
- In addition, the Clearinghouse's secure FTP server has a built-in FIPS 140-2 validated cryptographic module that encrypts files "at rest" on the secure FTP server with 256-bit AES encryption.

For information on our secure FTP system, visit www.studentclearinghouse.org/ftps.

3. Validation of Participants and Supported File Formats

- Each time a file is uploaded to the ETX network, the system checks that the recipient is a valid ETX participant and it accepts the uploaded file format.
- If the recipient is invalid (not an ETX participant) or does not support the uploaded file format, the sender receives an email indicating the file delivery was unsuccessful.

4. Email Notifications of File Receipt and New File Arrival

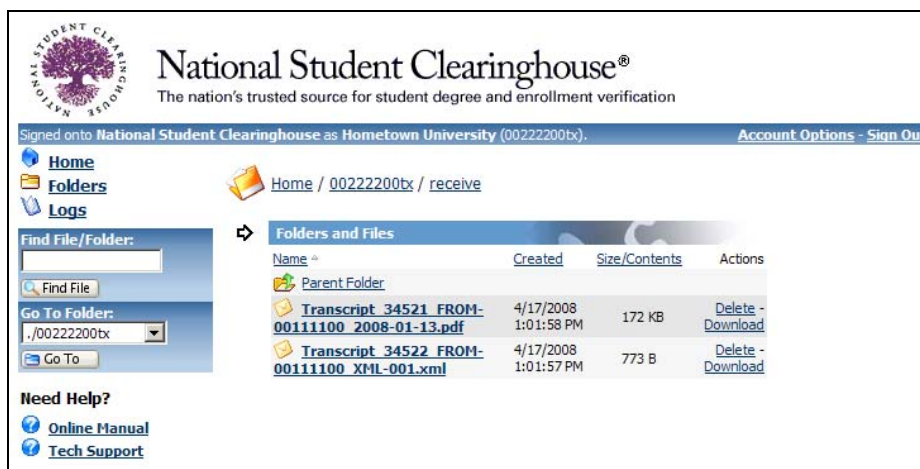
- Each time the sender successfully uploads a transcript file, the sender receives an email confirming that ETX has received the file.
- When the sender's file is placed in the recipient's secure FTP mailbox, the recipient receives an email indicating a new file is available for download.

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5. Logging File Transmission Activity

- A log entry is created each time a transcript file is sent and received through the ETX network.
- Users can view their ETX activity via the school secure login site at www.studentclearinghouse.org.

(This feature is currently under development. In the interim, you can view your file upload/download activity via the secure FTP site, see screen shot below.)



Supported File Formats

The ETX system supports any file format, including:

- PESC XML High School and Postsecondary Transcript
- ANSI X12 TS130 Student Educational Record
- Any system or statewide standard data record format
- Any graphical format, including PDF

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Activation and Usage

Activation and usage of the ETX service is straightforward, just follow these steps:

1. Contact your Clearinghouse regional director to sign up for ETX:
www.studentclearinghouse.org/inc/RD_table.htm
2. Complete the ETX Profile Form on the last page of this guide, including specifying which of your departments (up to three) require a secure FTP mailbox to send and/or receive transcripts.

For each department, you must indicate:

- Whether or not the mailbox is allowed to send and/or receive files
 - File formats each department is capable of creating and sending
 - File formats each department is capable of receiving
 - Email addresses where file notification emails should be sent
3. Check the online ETX registry (*in development*) before producing and uploading transcripts to determine if the recipient participates in ETX and the file formats the recipient accepts.
 4. Send your electronic transcript files through the ETX network (see “ETX File Transfer Procedures”).

ETX File Transfer Procedures

1. Creating Transcript Files and Specifying the Recipient

The first step in exchanging transcript files is to create the electronic file. Many student information systems can create a PDF, XML, and/or EDI file containing a single individual’s transcript record. Instead of printing the transcript onto paper, you save the transcript electronically as a data file using a format that the ETX recipient accepts.

During ETX activation, each participant is assigned a unique ETX recipient ID code. For higher education institutions, the ID code is typically their eight-digit OPE ID. When you create the electronic transcript file, you specify the recipient using the recipient’s ETX ID code. If an institution has multiple departments that send and receive transcripts, a two-character ID identifying the individual department is appended to its ETX ID. For example, if an institution’s ETX ID code is 00123456, the ETX ID code for its Admissions Office would be 00123456AO. You can obtain all the ETX ID codes for ETX participants by querying the online ETX registry.

- For EDI and XML files, the recipient’s ETX ID code is specified in the “recipient” data element within the file data.

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- Because they are in a binary format, for PDF and other graphical file formats, you must include the ETX ID code in the file name using this naming convention:

PDF/Graphical File Naming Convention

TRANSCRIPT_TO-XXXXXXXXXX_CCYYMMDD_ZZZZZZZZZZZZZZZ_NNNNN.EXT

Samples:

TRANSCRIPT_TO-00123456AO_20080531.PDF

TRANSCRIPT_TO-00123456AO_20080531_1234.PDF

TRANSCRIPT_TO-00123456AO_20080531_1234_JONES.PDF

- XXXXXXXXXXXX = the recipient's eight- or 10-character ETX ID code
- CCYYMMDD = current century, year, month and day (e.g., 20080531)
- ZZZZZZZZZZZZZZZ = optional sender-defined information (data can vary in length). Examples are:
 - Time the file was generated
 - Unique tracking Id
 - Any unique number to ensure a unique file name.
- NNNNN = optional last name (or first "x" characters of the last name) of the person whose transcript data is included in the file (data can vary in length). This information helps the recipient locate a specific individual's transcript file.
- EXT = file extension (e.g., PDF).

2. Sending Files to the ETX System

- a. Log onto the ETX secure FTP system
- b. Upload the transcript files to your secure FTP mailbox using any of the following secure methods:
 - Web browser using Secure Sockets Layer (SSL)
 - FTP client that supports FTP over SSL (FTPS)
 - Secure Shell FTP client that supports FTP over Secure Shell (SFTP)

3. File Delivery through the ETX System

ETX retrieves files from the sender's secure FTP mailbox every 15 minutes, downloading them for delivery and removing them from the sender's secure FTP mailbox. You will receive an email each time a file you uploaded was successfully received by the ETX system

ETX uses the ETX ID code in the data file (XML and EDI) or file name (PDF and graphical files) to identify the recipient. The system validates recipients by verifying their active participation status in the ETX registry and confirming they can accept the uploaded file

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format. Upon verification of the recipient, ETX retrieves the recipient's secure FTP mailbox from the registry and delivers the file to it. Each time a new file becomes available for download, the recipient receives an email.

Files are placed in the recipient's mailbox using the following naming convention:

Recipient Mailbox File Naming Convention

TRANSCRIPT_FROM-YYYYYYY_99999999_CCYYMMDD_ZZZZZZZZZZZZ_NNNNN.EXT

Sample:

TRANSCRIPT_FROM-00654321AO_12345678_1234_JONES.PDF

- YYYYYYYY = sender's ETX ID code
- 99999999 = unique file ID assigned by the secure FTP system
- CCYYMMDD = current century, year, month and day (e.g., 20080531), as provided by the sender
- ZZZZZZZZZZZZ = optional sender-defined tracking identifier
- NNNNN = optional last name of the person whose transcript data is included in the file, as provided by the sender
- EXT = file extension, as provided by the sender

4. Retrieving Files from the ETX System

You can retrieve files from your secure FTP mailbox using any of these secure methods:

- a. Web browser using Secure Sockets Layer (SSL)
- b. FTP client that supports FTP over SSL (FTPS)
- c. Secure Shell FTP client that supports FTP over Secure Shell (SFTP)

Methods "a" and "b" can be automated for batch jobs; "c" is best for manually retrieving files.

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Testing

After you sign up for ETX and your secure FTP mailbox(s) is created, you can submit test files before you begin sending actual transcript files. Test files can be sent to any of your department mailboxes or the Clearinghouse test recipient (use ETX ID code, ETXTESTING).

To send a test file:

1. Create a test PDF transcript file from your system (one transcript per file)
2. Name the file using the PDF file naming convention (see page 8).
 - a. The file name of a test PDF sent to your Admissions Office would look like this sample: TRANSCRIPT_TO-00123400AO_20080509_1234.PDF
In this example, your school's ETX ID code is 00123400. "AO" was added at the end to indicate the file should go to the Admissions Office. You should use the actual ETX ID code of the department at your institution that you want to receive the test file.
 - b. The file name of a test PDF sent to the Clearinghouse test recipient would look like this sample: TRANSCRIPT_TO-ETXTESTING_20080509_1234.PDF
Use ETXTESTING instead of your ETX ID code to specify the Clearinghouse test recipient.
3. Log onto your secure FTP account (the ETX account you use for sending transcripts).
4. Upload the test file.

Within 15 minutes, the Clearinghouse system will pick up your test file, deliver it to your recipient department's secure FTP mailbox, and send new file notifications to the recipient email addresses you listed for the department. If you sent tests to the Clearinghouse test recipient, we will email you to confirm that we received your files.

Questions?

For questions about ETX pricing and activation, please contact your Clearinghouse regional director: www.studentclearinghouse.org/inc/RD_table.htm.

For questions about implementing and using ETX, please contact ETX@studentclearinghouse.org.

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ETX Profile Setup Form

School Name *(please print or type)*

School Code

Person Completing Form
Name _____
Title _____
Phone _____
Email _____

Technical Contact
Name _____
Title _____
Phone _____
Email _____

Secure FTP Mailbox Setup: Indicate the departments that require separate secure FTP mailboxes for sending and/or receiving electronic transcripts. Please copy this form to request more than three mailboxes.

Department Name	Allow to SEND transcripts? <i>(check one)</i>	SEND file formats <i>(check all that apply)</i>	Allow to RECEIVE transcripts? <i>(check one)</i>	RECEIVE file formats <i>(check all that apply)</i>	List of email addresses that should receive file notification emails <i>(attach separate sheet, if necessary)</i>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	_____ _____ _____
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	_____ _____ _____
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> EDI <input type="checkbox"/> PDF <input type="checkbox"/> XML <input type="checkbox"/> Other: _____	_____ _____ _____

Fax form with Electronic Transcript Agreement to 703-742-4234.