Sample Trading Partner Testing Plan

PESC XML Transcript Exchange

Prepared by: OUAC
Last updated : March 17, 2021

Contents

Revision History

Version	Date	Author	Description of Change
0.9	26-Feb-2018	OUAC	First draft of document
1.0	26-Mar-2018	OUAC	Second draft
1.1	23-Apr-2019	OUAC	Added names of deferred timing options (TranscriptHold and HoldType tag values)
1.2	20-Jan-2020	OUAC	Updated links and minor content changes
1.3	17-Mar-2021	OUAC	Added testing item for Reserved Entities and link to the OUAC Systems Manual for file naming convention and character set encoding.

Introduction

Note: For a glossary of the acronyms used in this document, see section on <u>Reference Documents</u>.

The following document describes the steps required to end-to-end test your university with the OUAC as a fully electronic trading partner in the OUETS, using PESC approved XML transcript-related documents. When required, the OUAC hub will translate data from and to the corresponding ANSI X12 EDI formats in use by some OUETS trading partners. A cross-reference of the XML and EDI documents is shown in Table 1.

PESC XML Document	Corresponding ANSI X12 EDI Document
Transcript Request	TS146 Request for Transcript
Transcript Response	TS147 Response to Request for Transcript
College Transcript	TS130 Transcript
High School Transcript	TS130 Transcript
Transcript Acknowledgement	TS131 Transcript Acknowledgement
Functional Acknowledgement	TS997 Functional Acknowledgement
Transcript Batch	ISA/IEA and GS/GE envelopes

Table 1

By enabling this interoperability, the OUAC hub will continue gradually moving the OUETS towards the use of PESC XML, while at the same time allowing trading partners to communicate using different data formats.

The PESC XML transcript-related documents will utilize the data, code tables, software and processes of the existing OUAC hub wherever possible. Additional components will be created where needed to satisfy PESC XML-specific requirements.

Purpose

Testing the end-to-end exchange of documents from your university through the OUAC hub to the destinations and back again will ensure all necessary workflows are occurring in the OUETS with some trading partners using EDI and others using PESC XML.

Requirements

The general testing requirements are to ensure:

- Your university can send and receive all transcript-related documents in PESC XML format, following the PESC XML Implementation Guides (see <u>Reference Documents</u>)
- The OUAC hub can translate any of your university's transcript-related documents from the PESC XML format to the corresponding ANSI X12 EDI format before sending to other OUETS partners
- The OUAC hub can translate any other OUETS partners' transcript-related documents from ANSI X12 EDI format to the corresponding PESC XML format before sending to your university
- The OUAC hub will appropriately pass through any transcript related documents in PESC XML format that need to be sent to another partner in PESC XML format.

Reference Documents

- **Glossary of Terms**
  https://go2.ouac.on.ca/resource/list-of-acronyms/

- **Document Purpose Value Descriptions and Process Flow Diagram**
  https://go2.ouac.on.ca/docs/etranscripts/document_purpose_values.pdf

- **Canada Postsecondary Student Information System (PSIS)**
  https://go2.ouac.on.ca/docs/etranscripts/psis_codes.pdf
  Note: Document was written specific to PESC XML document names.

- **Ontario College Codes (CSIS)**
  https://go2.ouac.on.ca/docs/etranscripts/csis_codes.pdf
  Note: Document was written specific to ANSI X12 EDI document names; however, CSIS codes are also relevant in PESC XML exchange. Convert document names using Table 1.

- **Ontario University Codes (USIS)**
  https://go2.ouac.on.ca/docs/etranscripts/usis_codes.pdf
  Note: Document was written specific to ANSI X12 EDI document names; however, USIS codes are also relevant in PESC XML exchange. Convert document names using Table 1.

- **OUAC Systems Manual**
  https://go2.ouac.on.ca/resource/systems-manual/
  See **Appendix A.98 Codes** for information about OUAC Character sets, UTF-8, and Reserved Entity Characters.
  See **Appendix E File Transmission and Naming Standards** for information about the OUAC xml file naming convention.

- **PESC XML Schemas (.xsd) and Implementation Guides (.pdf)**
  https://www.pesc.org/pesc-approved-standards.html

  For each item in Table 2, download the Implementation Guide and XML Schemas used by the OUETS
  Note: Each XML Schema refers to its applicable version of "Core Main" and "Academic Record". Each relevant version ought to be downloaded as well.

PESC XML Document	Version
College Transcript	v1.4
Acknowledgement	v1.1
High School Transcript	v1.2
Functional Acknowledgement	v1.0
Request / Response for Transcript	v1.2
Batch	v2.0

Table 2

- **OUAC Portal**
  https://go2.ouac.on.ca/ (and click "OUAC Portal Login")
  Note: Ensure that Records has the appropriate access to manually action requests that are unable to be fulfilled electronically. Also, ensure that Admissions has the appropriate access to check for transcripts that ought to have been received.

Approach

Document Workflow Testing

The general testing approach will be to mimic production transcript-related document exchange scenarios in the OUAC's user test environment (UAT). The EDI documents exchanged amongst the existing OUETS trading partners use data element BGN01 to denote the various workflow statuses (see Reference Documents). One or more XML elements of each corresponding PESC XML document are used to denote the same statuses. It should be noted that the PESC XML transcript-related documents might allow for additional scenarios, which will not be implemented as part of this project. The OUAC will initiate all exchanges with a transcript request, followed by the various back-and-forth flows outlined in Tables 3 and 4 and their associated footnotes.

During testing, the OUAC and your university may also with prior notice send "ad hoc" XML documents to each other for specific test or troubleshooting purposes. The OUAC will review the XML transactions both structurally and for content to ensure that the documents validate to the PESC schemas as well as contain the agreed upon OUETS data elements.

The workflow test scenarios are numbered "**#x**", where:
- **#** = test scenario number
- **x** = step within test scenario number **#**

Records Scenarios: Your university's transcripts to the OUAC

	Test Scenario [1, 2, 3, 4, 5]	Initiated By	Status
1a	Original "*immediate*" request for transcript	OUAC	
1b	Respond to "*immediate*" request with a transcript	Your university	
1c	Respond to transcript with a transcript acknowledgement	OUAC	
2a	Original "*deferred – end of term*" request for transcript	OUAC	
2b	Respond to "*deferred – end of term*" request with appropriate "*pending*" transcript response	Your university	
2c	Respond to "*deferred – end of term*" request at maturity with a transcript	Your university	
2d	Respond to transcript with a transcript acknowledgement	OUAC	
3a	Original "*deferred – after degree*" request for transcript	OUAC	
3b	Respond to "*deferred – after degree*" request with appropriate "*pending*" transcript response	Your university	
3c	Respond to "*deferred – after degree*" request at maturity with a transcript	Your university	
3d	Respond to transcript with a transcript acknowledgement	OUAC	

4a	Original request for transcript (any timing option) for a student with no match in your university's SIS	OUAC	
4b	Respond to request for transcript for a student with no match in SIS with appropriate "*not found*" response	Your university	
4c	Resubmitted request for transcript with updated student identifiers (i.e., to mimic corrected information received from student)	OUAC	

4d	Respond to resubmitted request with either:
	
	    i. transcript, if student can be identified **and** request has reached maturity
	
	    ii. appropriate "*pending"* response, if student can be identified **but** request has not yet matured
	
	    iii. appropriate "not found" response, if student cannot be identified
	
	any other valid response corresponding to the new request attributes
		Your university	

4e	Respond to transcript with a transcript acknowledgement (if appropriate)	OUAC	
5a	Original request for transcript (any timing option) where automated match fails (i.e., requested student may be in SIS, but not enough required student identifiers match)	OUAC	

5b	Respond to request for transcript where automated match fails with either:
	
	    i. transcript, if business process is to manually match and then fulfill
	
	    ii. appropriate "not found" response, if either:
	
	        o business process is to manually match, but student is not found
	
	        o business process does not allow manual match
		Your university	

5c	Respond to transcript with a transcript acknowledgement (if appropriate)	OUAC	
6a	Original request for transcript (any timing option) where corresponding student has outstanding fees in SIS	OUAC	

6b	Respond to request for transcript where student has outstanding fees with appropriate "pending" transcript response	Your university	
6c	Release the "held" transcript where student had outstanding fees (i.e., to mimic payment received from student) and send transcript	Your university	
6d	Respond to transcript with a transcript acknowledgement	OUAC	
7a	Original request for transcript (any timing option) where corresponding student's record can only be sent as paper directly to the destination(s) specified in the request (e.g., stored on paper, microfiche)	OUAC	
7b	Respond to request for transcript, either with an automatically generated response or by manually marking the request in the OUAC Portal, where the student's record can only be sent as paper with appropriate "transcript sent manually" response	Your university	
8a	Original request for transcript (any timing option) where corresponding student's record will not be sent because there is no academic data which would normally result in a transcript (e.g., student has only pre-registered, etc.)	OUAC	
8b	Respond to request for transcript where there is no academic data to send with either: i. "empty" XML transcript, containing the minimum required fields to pass schema validation, plus a header-level NoteMessage with prefix NOTATION and text something like "No academic data to send" ii. appropriate "nothing to send" transcript response	Your university	
9a	Original request for transcript (any timing option) for a student who is now deceased	OUAC	
9b	Respond to request for transcript, either with an automatically generated response or by manually marking the request in the OUAC Portal, for a student who is deceased with appropriate "deceased" response	Your university	
10a	"Push" a revised transcript for a transcript previously sent (e.g., grades appeal, revised degree details, etc.)	Your university	
10b	Respond to revised transcript with a transcript acknowledgement	OUAC	

	Test Scenario	Initiated By	Status
11a	Cancellation request for a transcript request (any timing option) which is currently unfulfilled	OUAC	
11b	Respond to cancellation of an unfulfilled request with appropriate "cancelled" response	Your university	
12a	Cancellation request for a transcript request (any timing option) which is already fulfilled (e.g., "batch" nature of the OUETS can allow cancel and transcript to "cross" in the network)	OUAC	
12b	Respond to cancellation of a fulfilled request with appropriate "error" response	Your university	

13a	Forward a variety of your university's test transcripts to several other OUETS trading partners in each of the following categories:
	• OUAC Professional divisions (i.e., OMSAS, OLSAS, ORPAS)
	• Ontario universities
	  • EDI transcript receiver
	  • XML transcript receiver
	• OCAS
	• Ontario colleges
	• Ontario College of Teachers (OCT)
		OUAC	

Table 3

Admissions Scenarios: Transcripts from other OUETS trading partners via the OUAC, to your university

	Test Scenario [1, 2, 3, 4, 5]	Initiated By	Status

14a	Transcript(s) from all other OUETS trading partners (to test 14b, correct counts):
	• Ontario universities
	  • EDI transcript sender
	  • XML transcript sender
	• Ontario colleges
	• Ontario secondary schools (eTMS for 105 applicants)
	• British Columbia postsecondary institutions
	  • Note: any postsecondary institutions which currently send to the OUETS via XML
	    • Matched applicants
	    • Unmatched applicants
	Note: Send two or more transcripts for each applicable type of applicant:
	• Undergrad 105
	• Undergrad Contract
	• Graduate Contract
	• TEAS
	• OMSAS
	• OLSAS
	• ORPAS
		OUAC	

	This will test OUETS file naming and appropriate folder access on the SSH server.		
14b	Respond with transcript acknowledgements corresponding to each transcript received – correct counts of courses and degrees	Your university	
15a	Transcript(s) from several OUETS trading partners, to test 15b&c, incorrect counts)	OUAC	
15b	Respond with transcript acknowledgements corresponding to each transcript received – incorrect counts of courses, degrees or both	Your university	
15c	Manually contact your university to troubleshoot and rectify	OUAC	
16a	Test UTF-8 character encoding (e.g., French accents, other accents, special characters, and reserved entities) ▪ Sending data to your university (each XML transaction) ▪ Receiving data from your university (each XML transaction)	OUAC	
16b	Test UTF-8 character encoding (e.g., French accents, other accents, special characters, and reserved entities) ▪ Sending data to OUAC (each XML transaction) ▪ Receiving data from OUAC (each XML transaction)	Your university	

<p align="center">Table 4</p>

Notes:

[1] A Functional Acknowledgement is assumed to follow every step "**#x**" listed in Tables 3 and 4.

[2] Due to differences in the data format of both the OUAC Reference Number and the transcript destination codes, for each scenario in Tables 3 and 4 where the OUAC is issuing a request for transcript, multiple requests may be issued to test all valid combinations shown in Table 6.

[3] For actual codes used to represent timing options (Table 5) and responses (e.g., "pending"), see corresponding PESC XML Implementation Guides (see Reference Documents).

[4] Any scenario description flagged as "[tentative]" may not be required by all trading partners.

[5] For any "deferred" transcript request which has actually "matured" by the time it is received at your university (e.g., Fall term grades are already available for the student who requested their transcript "end of term – Fall"), the transcript should be sent immediately after the "pending" response.

[6] Corresponding destination codes can be found in the lists of College and University codes (see Reference Documents).

Timing Option	Description	XML Tags and Values	EDI Loops and Values
ADC	Send After Degree Conferred	`<TranscriptHold>` `<HoldType>AfterDegreeAwarded</HoldType>` `</TranscriptHold>`	ERP»PS»»R4«
FALL	Send After Fall Term	`<TranscriptHold>` `<HoldType>AfterGradesPosted</HoldType>`	ERP»PS»»R3« and NTE»»TERM= F YYYY«

		<SessionName>F YYYY</SessionName> </TranscriptHold>	
IMMD	Send Immediately	<TranscriptHold> <HoldType>Now</HoldType> </TranscriptHold>	ERP»PS»»R2«
INTS	Send After Intersession Term	<TranscriptHold> <HoldType>AfterGradesPosted</HoldType> <SessionName>I YYYY</SessionName> </TranscriptHold>	ERP»PS»»R3« and NTE»»TERM= I YYYY«
SPRG	Send After Spring Term	<TranscriptHold> <HoldType>AfterGradesPosted</HoldType> <SessionName>S YYYY</SessionName> </TranscriptHold>	ERP»PS»»R3« and NTE»»TERM= S YYYY«
SUMR	Send After Summer Term	<TranscriptHold> <HoldType>AfterGradesPosted</HoldType> <SessionName>A YYYY</SessionName> </TranscriptHold>	ERP»PS»»R3« and NTE»»TERM= A YYYY«
WNTR	Send After Winter Term	<TranscriptHold> <HoldType>AfterGradesPosted</HoldType> <SessionName>W YYYY</SessionName> </TranscriptHold>	ERP»PS»»R3« and NTE»»TERM= W YYYY«

Table 5

OUAC Reference Number	Format	Destination Code[6]	Formal[6]
OUAC applicant (Undergrad) OUAC applicant (Graduate) OUAC applicant (OLSAS) OUAC applicant (OMSAS) OUAC applicant (ORPAS) OUAC applicant (TEAS)	See OUAC Data Element 020 in the most current OUAC Systems Manual	Ontario university Ontario university (Grad) OLSAS OMSAS ORPAS Ontario university (TEAS)	See university code list
OCT applicant	See Appenix A.53, current cycle, in the most current OUAC Systems Manual	OCT	
OCAS applicant	ccyyOnnnnnk Note: the capital letter "O" is a constant	Ontario college	See college code list

Table 6

Any items related to *format* (i.e., XML structure) or *content* (i.e., data) of any of the documents (e.g., invalid code values, incorrect document types for the particular scenario being tested, etc.) which may arise during testing will be dealt with as they are identified.

Technical Testing Details

The OUAC utilizes an SSH server to exchange both EDI and XML transcript-related files (see the SSH Overview section of the OUAC's website at http://go2.ouac.on.ca/systems/ssh/). Testing will occur in the OUAC's UAT environment, which mimics the production transcript-related document exchange environment.

Test Server

The test server's host name and other relevant information are outlined on the "Server Information" section of the OUAC's website at http://go2.ouac.on.ca/systems/ssh#server .

User Accounts

The user credentials required to access your university's accounts on the OUAC's Production servers will be sent separately to the official OUAC contact at your university.

The OUAC Portal is accessed in order to:

- manually action transcript requests
- run outstanding reports
- check the status of inbound transcripts to Admissions

Directory Structure

The directory tree on the UAT SSH server mirrors production to allow for full end-to-end testing of any automated scripts involved in sending and receiving transcript-related files (both EDI and XML). Directories have been set up to allow segregation of files sent and received with the OUAC (see Table 7).

Directory	Purpose
\var\ssh-root\edi\universityname	**"home" or "root"**
\var\ssh-root\edi\universityname\toOUAC	Files from your university to the OUAC
\var\ssh-root\edi\universityname\fromOUAC	File from the OUAC to your university
\var\ssh-root\edi\universityname\fromOUAC\docimages	PDF files from the OUAC to your university (if applicable)

Table 7

File Names

The general format of files exchanged between the OUETS trading partners and the OUAC can be found in Appendix E of the OUAC Systems Manual (see most current systems manual found at http://go2.ouac.on.ca/systems/systems-manual/). For the PESC XML transcript-related files, a distinct filename prefix for the files containing PESC XML transcript-related documents is used for the following reasons:

- easily distinguish PESC XML files from ANSI X12 EDI files (i.e., both for humans and computers)
- facilitate existing trading partners moving from ANSI X12 EDI to PESC XML in future

Note: If possible, the university should consider returning each type of XML document in a separate file (e.g., a file of Transcripts, a file of Responses, etc.). This allows for more efficient processing of potentially larger XML files by the OUAC's hub.

Encryption – PGP

The OUAC encrypts all transcript-related data files (both EDI and XML) exchanged by the OUETS (see the PGP Overview section of the GO2 website at http://go2.ouac.on.ca/systems/pgp/).

University Documentation

The university should post their transcript legend on their website. The URL should be sent within a NoteMessage tag containing the prefix LEGEND in the header area of each XML transcript. The OUAC will post the link to the legend on the GO2 website (http://go2.ouac.on.ca/etranscripts/transcript-legends/) so that other trading partners may access it.

Summary

This document has explained the approach to testing the OUETS transcript-related files in a PESC XML format. It lists the requirements as well as the steps required to meet those requirements using the OUAC hub to process the test files.