

Guide to Electronic Transcript Format Standards and TACRAO

by Dave Stones 2/21/20

This document is intended to provide an overview to data standards for electronic transcripts, and point to locations where various resources are available.

Section I. Brief History.

In Texas, high school transcripts were delivered on magnetic tape from the Austin ISD to UT Austin in a proprietary electronic format beginning in 1981, and several colleges in the DFW area, with help from the Association for Higher Education in North Texas, started an exchange in their own proprietary format in 1983, using a value-added network for delivery, costing about \$1 per transcript. The format was designed to provide sufficient information for the recipient school to automatically process it as an official admission credential. The latter expanded to about 24 colleges and universities, and was known as the Texas ETN (electronic transcript network).

Work was also underway in other states, most notably in Florida, with K-12 and college transcripts delivered via a hub in Tallahassee run by the Florida Department of Education using FIRN - the Florida Information Resource Network – and also in Maryland. Each used a separate proprietary format.

The 1988 AACRAO annual conference in Nashville saw several different presentations on electronic transcript exchanges and automated certifications of enrollment. These led AACRAO to appoint a task force on electronic transcripts, with the charge of developing a standard format which could be used across state boundaries. This task force first met in January 1989, and would become known as the AACRAO SPEEDE (Standardization of Postsecondary Education Electronic Data Exchange).

Independently, NCES (National Center for Educational Statistics, under the U.S. Department of Education) funded the creation of a similar group to develop standards for K-12. This would become known as ExPRESS (Exchanging Permanent Records Electronically for Students and Schools).

Section II. National EDI Format.

Early on, both the SPEEDE and the ExPRESS groups decided to use ANSI ASC X12 – the American National Standards Institute, Accreditation Standards Committee for EDI – electronic data interchange. Data formats use compressed and delimited fields and records, as opposed to fixed-length fields in a “flat file format”. ANSI ASC X12 required that the postsecondary (SPEEDE) and K-12 (ExPRESS) groups share a single format, transaction set TS130, with an IG (implementation guide) showing which data segments, fields, and codes would be used by K-12 and postsecondary, respectively. X12 includes a segment map showing the order in which data segments (records) must occur. It has optional segments and fields, and others which may have only pre-approved (by the entire ASC X12 community) values. The first version of the TS130 format was approved by ANSI ASC X12 by 1992.

By 1994, the Texas ETN user group, following a recommendation from a committee chaired by William Holda, approved a **movement from the proprietary TX ETN format to SPEEDE**, and both TXETN and SPEEDE transcript files were delivered by the VAN used for the TX ETN.

ANSI ASC X12 documentation defines the exact data structure, as well as all the allowable code values in what is called ID fields (almost everything but text fields). The manuals run to hundreds, if not thousands of pages. Commercial EDI translation software forces compliances with this structure and these code values. For educational transcript purposes, the **TS130 Implementation** Guide is far more appropriate, but it still runs to hundreds of pages. It is great as a reference, but not very readable. The SPEEDE IGs are found on the **PESC (Postsecondary Electronic Standards Council) website** (see Section VII, below) – for the TS130 transcript, its TS131 acknowledgement, the TS189 application for admission, the TS146 request for a transcript, TS147 response (negative) to a request, etc... Also found there and on the **AACRAO SPEEDE website** (see below) is the far more readable RIPS document (**Recommended Implementation Practices for SPEEDE**), which is just 29 pages, tells what schools need to include, what else they can reasonably include, and what envelope structure is needed for EDI.

AACRAO SPEEDE ran needed modifications to the format through the lengthy X12 process thru the 1990s, finishing with the version which accommodated the 21st century dates required for the Y2K conversion and after (CCMMDD formats, for instance). X12 membership was expensive, and data maintenance very involved, so no further revisions were made, but that format has proven remarkably robust, and is still in active use. With segments such as the NTE free-form note and the RAP for requirements, attributes, and proficiencies, the Texas schools have been able to accommodate all they needed (see Section IV, below).

An NCES grant funded an AACRAO SPEEDE Coordinator position for several years. In 1997, that funding was lost, but AACRAO SPEEDE was a major player in forming PESAC, with the former AACRAO coordinator, Betsy Bainbridge, becoming the first executive director of PESC. PESC had X12 membership until about 2000, but PESC and AACRAO SPEEDE shifted to development of **XML formats**, and their crosswalks to the EDI layouts. As of 2020, though, most schools, including those in Texas, have not shifted from X12 EDI to XML. All Texas SPEEDE documentation references the EDI format.

Section III. Free Internet-based Delivery & Other Tools

The TS130 format was just that, and was independent of the method of delivery. In 1995, UT Austin opened up the UT SPEEDE Server, providing free delivery of educational EDI transactions via the internet (e-mail attachments or FTP) and PGP encryption capability. This took off fairly rapidly, and Texas schools moved from the TX ETN and its VAN to the UT Server. In 2011, the National Student Clearinghouse took over operation of the SPEEDE Server from UT Austin, continuing the free service and more, including maintenance of the Quick and Easy software – see below. As of January 2020, the Cumulative report option at the **NSC SPEEDE Server website** shows over 22 million student transcripts and over 79 million total transaction sets have been delivered free of charge by the Server. The SPEEDE Server was, and continues to be, used for the ApplyTexas application for admission, using the TS189 transaction set, as well as the TReX TS130 transcripts for Texas K-12 schools. Full reports on the NSC

site show how many of which transaction set were sent from which sender to which recipient , by month, since 1996 - a great tool for selecting trading partners.

Another free offering developed by UT Austin is the **Quick and Easy software**. It is downloadable and PC-based, and allows printing one or a batch of transcripts, generating TS131 acknowledgments, checking received acknowledgments against those expected, and more. It also interprets (for print) the coded and structured free-form notes in the TReX K-12 transcript for a cleaner print of honors status and other TEA codes. Maintenance of Q&E was taken over by NSC, and it can be downloaded from the speedeserver.org site. Using Q&E removes the need for purchasing translation software, although some schools might actually want to make the purchase. Q&E also allows a school starting to send SPEEDE to test by sending to itself, printing, and making sure the output looks right when compared to the home printed transcript.

Section IV. Texas-Specific Requirements

As the Texas legislature has enacted legislation requiring the transcribing of various information, regarding core curriculum, the Six-Drop Rule, and TSI, the TACRAO Technology Committee has crafted ways to comply by using the RAP and NTE segments. These allow the use of a “9TX” qualifier to indicate they are of interest only to Texas schools. The committee documents lists **of structured contents of free form text fields** (RAP/9TX/TSIALL/6=SAT Exempt=1500,750,750/A/CM/199703!, for example). These records can be automatically processed by looking for codes in the prescribed positions, or make sense if printed. Proposed formats are sent to the Texas SPEEDE User Group (which meets every summer at the SPEEDE/Apply Texas conference).

These coding conventions are NOT part of the national format, but are allowed by that structure. The conventions are published on the **TACRAO.org website** under **Resources**, then **TACRAO Data Structures**. One should refer to the segment map in the Implementation Guide to make sure these segments are placed in the right locations.

Section V. Texas Higher Education Coordinating Board Rule

- (c) Student transcripts created after September 1, 2000 should be maintained by the institutions in a format suitable for electronic interchange. The format of transcripts shall be the format that is used to store the most transcripts by Texas institutions of higher education as of September 1, 1998 or another format adopted by a majority of the members of the Texas Association of Collegiate Registrars and Admissions Officers prior to that date. posted 9/28/99
- Confusion over “electric transcripts” – the intent was to ensure secure, speedy delivery of student transcripts to enable the receiving college or university to quickly and efficiently process and evaluate the transcript, thereby saving the institution money and providing faster service to the student or applicant.
- The THECB rule is for sending and receiving in the SPEEDE format.
- PDF transcripts definitely have their niche (see AACRAO white paper), but do not satisfy the Rule for public institutions. Where many schools – especially the larger ones – have

automated systems for processing received batches of SPEEDE transcripts, PDF transcripts cannot generally be processed automatically or quickly.

- Even if a school is not sending SPEEDE, PDF should not be sent to schools without verifying their willingness to receive them.

Section VI. TREx for Texas K-12 Transcripts

The state of Texas passed legislation requiring Texas public k-12 schools to develop the capability to send transcripts in the TS130 ExPRESS format known as TREx (Texas Records Exchange). A code in the transaction set marks these as k-12 documents rather than postsecondary. Documentation on the format is found on the **Texas Education Agency's TREx website** – see below.

It should be noted that TREx transcripts should be acknowledged by the receiving institution by TS131 transactions. If these are not received, TEA's contractor marks the transactions as cancelled, and the high school might have to follow with a paper transcript, and nobody wants to get on the bad side of a high school registrar.

Section VII. Websites for Electronic Transcript Resources.

AACRAO SPEEDE Committee. www.aacrao.org/Resources/electronic-records-data-exchange/

- PESC approved standards and IG's
- RIPS (Recommended Implementation Practices for SPEEDE)
- Free Open SPEEDE Server
- Free Quick & Easy software
- Completed crosswalks
- Paper vs Electronic Cost Calculator

PESC. www.pesc.org

- Data Standards for EDI (IGs) and XML
- RIPS
- Much more.

SPEEDE Server at National Student Clearinghouse. www.speedeserver.org

- Server registrant table (has codes needed for addressing the outer envelope)
- Registration instructions
- Encryption options
- Usage Reports
- Quick & Easy download

TACRAO Technology Committee

TACRAO. www.tacrao.org. Then pick Resources, followed by TACRAO Standards.

- Texas-specific SPEEDE Conventions for Legislative Mandates
- Full (60+ page) document about the Six Drop Rule
- Guide to Electronic Transcript Format Standards (this document – hopefully)

TREx. [tea.texas.gov/reports-and-data/data-submission/texas-records-exchange-trexData standards](http://tea.texas.gov/reports-and-data/data-submission/texas-records-exchange-trexData%20standards)

- Sample files (see IHE Tools for institutes of higher education)
- Corresponding sample AARs (Academic Achievement Records in prescribed print form)
- Contact information

C:\Users\dstones\Desktop\TACRAO_GuideToElectronicTranscriptFormatStandards.docx