

The Optimal Reference Guide:

Why Your State Needs a PK-20 Electronic Record/Transcript System ...and How You Can Make it Happen

Extraordinary insight™ into today's education information topics

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National Transcript Center



ESP Solutions Group

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Introduction

For the most part, student records are maintained in automated student information systems at all levels of the education system. Practically all data on a student record or transcript exists in an electronic data source. But when it comes time to exchange this information, these data are printed directly from student information systems and mailed using the postal service.

The development of standard formats for sending electronic transcripts has changed the way we think about sending and receiving student records. Now the student information systems can produce a standard formatted transcript that can be efficiently exchanged over the internet. These systems can now be designed to download information received in an electronic record. But the exchange mechanism remains a stumbling block in how to manage efficient and confidential exchange of student records and transcripts.

State agencies with responsibilities for elementary/secondary and postsecondary education are looking for ways to help institutions improve the standardization and movement of student records. Efficiency is crucial to the success of education organizations. At the PK-12 level, student records are essential for ensuring that new students are placed into the correct classes and receive the services they need to succeed. At the postsecondary level, student records are used to determine who should be admitted and then what courses can count toward degrees. Electronic student records can help increase the efficiency of PK-20 organizations by automating the exchange process, standardizing the content, tracking the progress of the records, and providing data that can be downloaded into student information systems or admissions analysis packages. They can also help organizations to improve the confidential handling of students' records.

This paper provides more details about how electronic student records and transcripts provide benefits to PK-20 education organizations. In addition, it helps various state agencies see what role they can play in assisting the state's education system in meeting the needs of students.

Current Situation—While the capability for exchanging standardized electronic student records and transcripts has existed for almost 20 years, the impracticality (e.g., cost and ease) of implementing these exchange systems has prevented widespread adoption, and thus the failure to achieve critical mass. Instead, adoption took hold in geographic pockets, typically between handfuls of known trading partners.

Early adopter pockets could be found in Florida, Texas, Iowa, Ontario, Oregon, British Columbia, and South Carolina. Outside of these pockets, very few high school transcripts were sent electronically. The main college-to-college exchange system, known as the SPEEDE Server, has seen only modest growth given its compelling value proposition of free registration, free transactions, and basic support. There are about 600-700 colleges in the U.S. and Canada that are frequent traders of electronic transcripts.



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Today, more and more PK-12 state education agencies and commissions of higher education are working hand-in-hand on statewide eTranscript initiatives.



After two decades of only modest growth, entire states are adding their institutions en masse into the trading partner community, bringing all the benefits of scalability, reliability, and mutual trust into those systems.



We believe that a few short years from now the electronic transcript value proposition will be so compelling that institutions will expect their trading partners to exchange electronically as the norm, not the exception.

But things are changing very quickly—Today, more and more PK-12 state education agencies and commissions of higher education are working hand-in-hand on statewide eTranscript initiatives – sometimes called K-16 or PK-20 initiatives – that bridge these different stakeholders (and cultures!). Some of these states are implementing PK12-to-PK12 record exchange systems to supplement the “high school-to-college” transcript systems and bring more value to their school districts.

There are several reasons why the adoption rate of these electronic student record/transcript exchange systems is accelerating.

The Network is Growing Rapidly

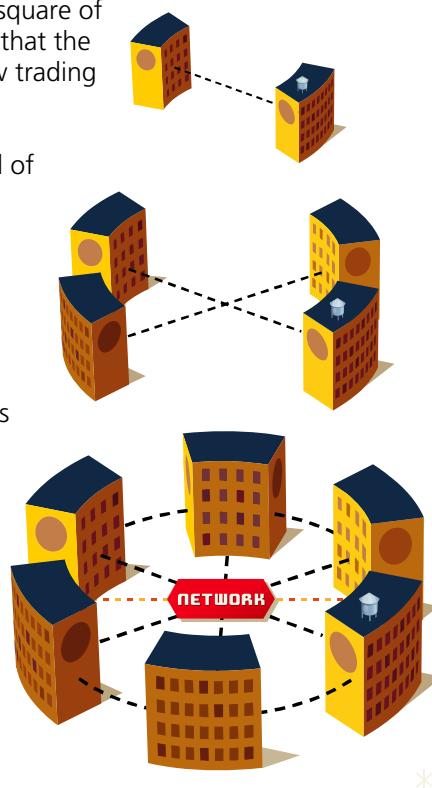
One of the fundamental premises in network growth models is the number of points on the network. **Metcalf's Law** states that the value of a telecommunications network is proportional to the square of the number of users of the system (n^2). This means that the value increases exponentially each time another new trading partner joins the network.

Metcalf's Law is playing out *right now* in the world of electronic record/transcript exchange. After two decades of only modest growth, entire states are adding their institutions *en masse* into the trading partner community, bringing all the benefits of scalability, reliability, and mutual trust into those systems.

Between 2003 and spring 2007, the following states implemented new electronic transcript systems. While the scope and functionality of these statewide deals are vastly different (some very narrow, some very broad), each of them was a true “statewide” implementation sponsored by either a state education agency, commission of higher education, or both.

- Arkansas
- California
- Georgia
- Indiana
- Louisiana
- North Carolina
- Tennessee
- Texas
- West Virginia
- Wyoming

Each state adoption – adding hundreds if not thousands of new institutions into the network – substantially increases the value of the trading partner network, making it more attractive for other states and individual institutions to join. *We believe that a few short years from now the electronic transcript value proposition will be so*



compelling that institutions will expect their trading partners to exchange electronically as the norm, not the exception.

Well Established Trading Relationships Currently Exist


There are well established trading partner relationships already in place. Almost all institutions have “feeder schools” or neighboring districts with which they trade actively. It is quite common for college admissions personnel to be on a first name basis with the guidance counselors and registrars of their feeder schools. There are several examples of these relationships:

- Local Community College to Nearby State University
- Local High School to Nearby State University
- Local High School to Local Community College
- Local School District to Neighboring School District

 **ESP Insight**
Almost all institutions have “feeder schools” or neighboring districts with which they trade actively.

Electronic student record/transcript exchange represents *less work* for the senders and receivers. We find that many senders and receivers are already talking amongst themselves about how to digitize their current paper processes. *Receivers want the data, not the paper.* Senders are starting to understand that critical point. At the same time, senders are starting to realize that there are tremendous time and cost savings available by going the electronic route.

While they may or may not be thinking globally, these feeder school partners are acting locally to drive the adoption of electronic record/transcript exchange systems at their institutions. Once the partners investigate an electronic solution, they realize that they want more than just sending/receiving electronically with their standard trading partners. They want to send/receive electronically with as many institutions as possible.

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Electronic student record/transcript exchange represents less work for the senders and receivers.

Registrars’ Jobs are Becoming More Complex

The registrar’s job¹ – whether PK-12 or postsecondary – has never been more difficult. High school students are applying to more colleges than in the past. Community college students are increasingly more transient. College graduates are seeking more post-graduate options. Vocational and technical education opportunities are increasing and requiring high school transcripts. Adult learning is on the rise. All of these trends demand more paper to be processed by the sending registrar – and more paper to be processed by admissions personnel.

Those same senders have to also send records to institutions across district, state, and national boundaries, where they don’t have personal “feeder school” relationships. Senders would prefer *not* to send paper to those non-standard recipients.

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More records must be exchanged than ever before, and the weight of the paper burden has never been greater.

¹ In high schools it is often the guidance counselor who sends the student transcripts. Admissions officers are the recipients of transcripts in colleges and universities. The term “Registrar” is used here to represent all PK-20 personnel with the responsibility for sending and receiving transcripts.

Also compounding this problem are the increasing trends of student mobility and dual enrollment. More records must be exchanged than ever before, and the weight of the paper burden has never been greater.

New Technologies Available

Welcome to the Internet Age. Today, there are several vendors providing electronic student record/transcript exchange systems. We recommend that you take a look at and compare all of them.

While all of the top vendors provide a web-based user interface and utilize the Internet for moving data, there are a variety of approaches in this marketplace:

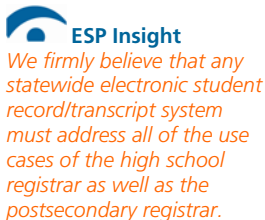
- “High School to College” PDF exchange²
- “High School to College” data exchange, sometimes with a state scholarship component and/or college guidance portal
- “College to College” PDF exchange
- “College to College” data exchange
- “School District to Other” data warehouse, with web views into the warehouse

But the recommended approach is:

- “PK-20 to PK-20/Other” data exchange, in a post office model

Some states have implemented a “High School to College” model but have seen little to modest success. This is primarily because that solution type only solves a fraction of the high school guidance counselor’s pain. That limited solution does not solve PK-12 to PK-12 needs.

Is it wise to expect this guidance counselor to learn how to use two, maybe even three, different systems for exchanging records? We firmly believe that any statewide electronic student record/transcript system must address all of the use cases of the high school registrar as well as the postsecondary registrar. **That means: Your state’s system must facilitate both PK-12 to PK-12 record exchange and High School-to-College transcripts in the same user interface.** By implementing two different systems, you run the risk of seeing limited success in each because many registrars will feel more comfortable to simply continue sending paper.



² “High School to College” does not include PK-12 to PK-12 exchange. It only moves the student record data relevant to a postsecondary audience. The high school registrar must use a different system for PK-12 record exchanges with other school districts.

What Does “PK-20 System” Mean?

The Scope of PK-20

We often refer to the elementary/secondary school system as a K-12 system. In fact, many students receive services and schooling prior to Kindergarten. Thus a student record may contain important information about a child’s prekindergarten experiences that should go with a student when he or she moves to another school or district. It is for this reason we refer to a PK-12 system.

College years are sometimes thought of as grades 13-16, thus a data system containing student records from prekindergarten through a bachelor’s degree might be called a PK-16 system. Because of the need to exchange transcripts when a student applies to graduate school and beyond the graduate degree to send records to licensure agencies and employers, we have expanded our thinking to a PK-20 system.

A true PK-20 system must facilitate the exchange of several different types:

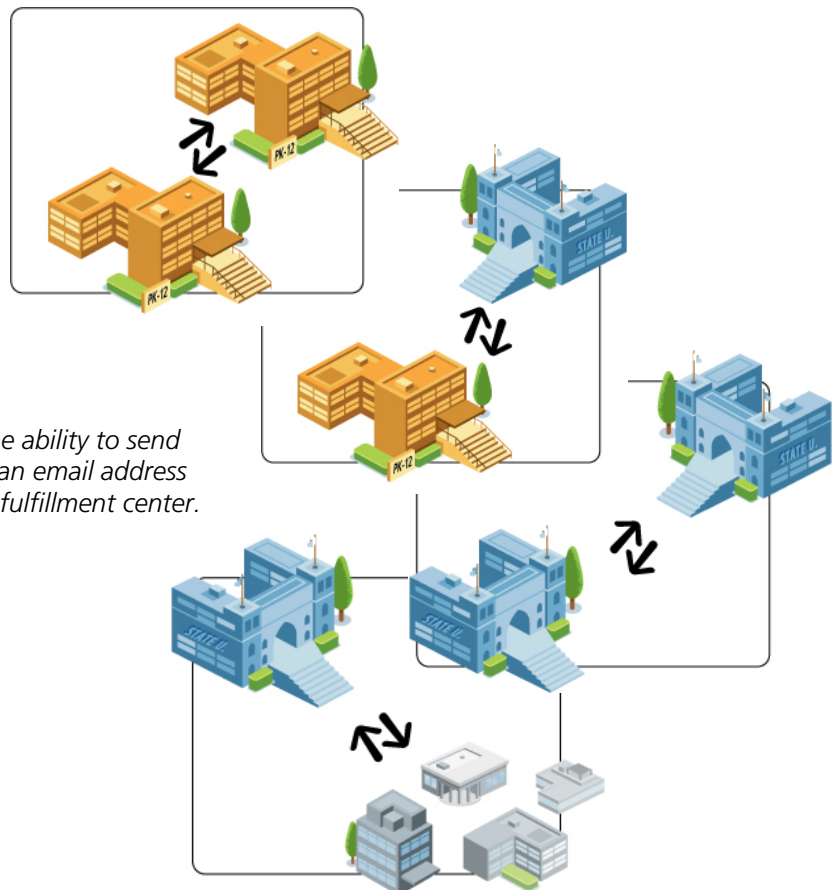
- PK-12 to PK-12
- PK-12 to College
- College to PK-12 (e.g., dual enrollment, research and evaluation)
- College to College
- PK-12 to Other
- College to Other

“Other” is a broadly defined group that includes all the typical recipients of transcripts that are not academic institutions. Your PK-20 system must include an approach to send student records to entities such as scholarship organizations, certifying bodies, licensing boards, the NCAA Eligibility Clearinghouse, the armed forces recruitment centers, and employers.

To accomplish this, your system must have the ability to send both (1) a GeoTrust/Verisign-certified PDF to an email address and (2) an official paper transcript through a fulfillment center.



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A unified system for PK-12 makes it easier for school counselors and registrars to handle data for students in all grade levels, whether they are moving to another town or state or applying to a university.

Why There Must Be One System for Both Records and Transcripts?

Recognizing that students may move numerous times during their educational careers means that schools and postsecondary institutions need to be prepared to move student records/transcripts. Within the PK-12 community, we think of a student **record** as the cumulative information that is maintained about students, including courses taken, grades/marks received, programs participated in, honors received, extracurricular activities and so on. The student **transcript** contains some of this information, namely the information colleges and universities want to receive for making admissions decisions.

When a school counselor receives word that a student is moving from one district to another, the counselor sends as much information as possible from the student's record so that the receiving district can make the most appropriate placement and service decisions possible. In the new world of electronic data, the receiving district can then download the information into its data system without re-keying the information. *This means that the quality and accuracy of the data will be better.* It also means that information about elementary and middle school students can be exchanged just as easily as high school students. Thus, a unified system for PK-12 makes it easier for school counselors and registrars to handle data for students in all grade levels, whether they are moving to another town or state or applying to a university.

A unified PK-20 student record/transcript system can also promote exchanges in instances where students have dual enrollment in high school and college courses. And with the increase in virtual schools, this system should be able to transfer data in such a way that a comprehensive record for each student can be pulled together so that better academic decisions can be made no matter whether the student is in a PK-12 school or a postsecondary institution.



Having a single system that handles all kinds of education records makes the most sense, and will make it easier for school counselors, registrars, and admissions officers to implement.

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One System, Supporting Multiple Data Formats

Ideally, a PK-20 system will send the student record/transcript in the format desired by the receiving institution or organization. Beyond those that want to receive PDF or paper copies, there are many institutions that have implemented one of the national standardized formats for sending transcript data: SPEEDE EDI, PESC College XML, PESC High School XML, and SIF Student Record Exchange.

An effective PK-20 system will provide a common user interface and trade records through a central system. But each institution should be able to determine its own data format. Your system should support all of the national data formats as well as PDF and paper documents. This means that your system must have the capacity to translate between the different formats in order to ensure correct data reach the receiver in the desired format.

Much work has gone into the development of these national student record/transcript formats over the past two decades. *You should look for a vendor*

who has provided demonstrated leadership in the development of each of these data standards.

Standardization of Data

An essential ingredient of the standard national data formats for student records/transcripts is the development of standards for how the data are translated for exchange. This means that when an institution receives a student's transcript the data are more easily interpreted. The use of standard course codes, for instance, enables a district to correctly place a student who moves into the district in the middle of his or her educational career. Standard course codes also help postsecondary institutions compare applicants and the quality of the programs they received. Ideally your PK-20 system would provide you with all students' data in the same format.



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Inherent Flexibility for Customization and Control

PK-12 districts and postsecondary institutions have a range of student information systems (SISs). These systems are crucial to the functioning of the organizations. Sending transcripts is just one use of the systems.

The PK-20 electronic transcript system you implement should take into consideration the policies and procedures already in place in your organization. Whatever system you select, you need to make sure that your local institutions remain the authoritative source of the data. Your local student information systems contain the most complete, up-to-date, and secure records. The PK-20 electronic student record/transcript system needs to receive the data directly from your SIS.

The PK-20 system should provide "local control" over the data through the use of preference settings. For instance, your institutions should each control access to the information included in the student record/transcript through the creation of user accounts. The PK-20 system should allow for an unlimited number of users, with different privileges allowed for each one.

Internal data management policies regarding your PK-20 system should be yours to set. Individual institutions should determine the frequency of uploading, the amount of data fields supported, the "shelf life" of the data (the longevity of the data in the system), and the quantity of student records uploaded. Institutions just provide their data in a supported national or state-specified format.

In a statewide PK-20 system, policies regarding data fields supported and procedures for uploading data should be established to ensure all institutions get timely and complete records.



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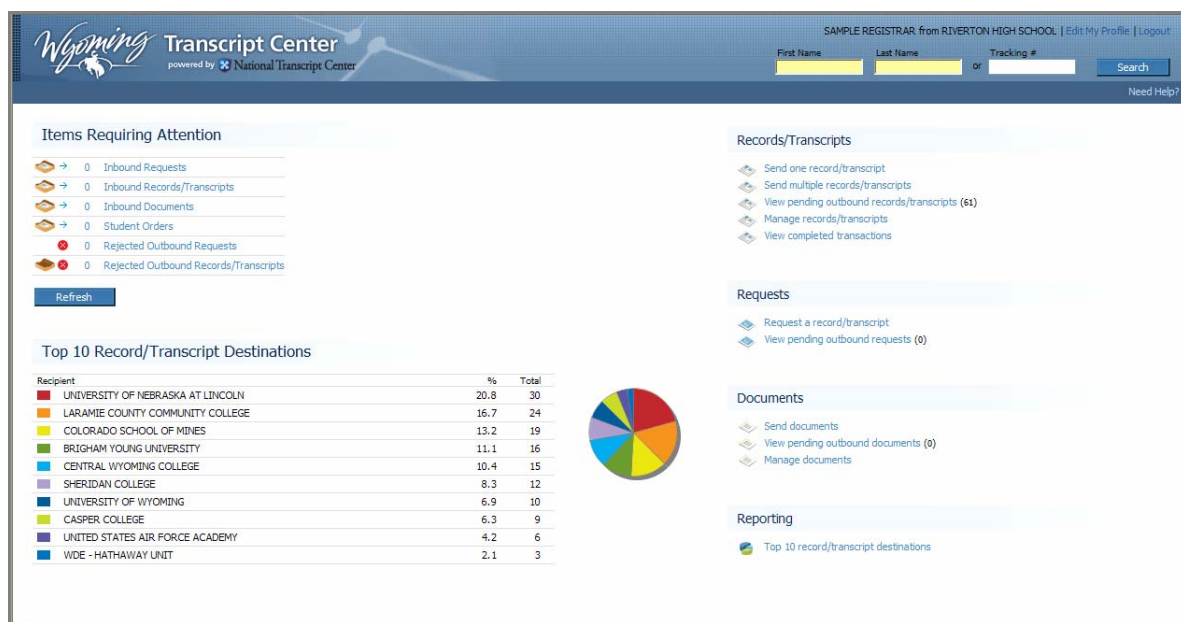
Collaboration

Implementing a PK-20 electronic student record/transcript system is a great opportunity to forge closer relationships between state education agencies, commissions of higher education, and other stakeholders in your state. Schools and districts and institutions of higher education particularly benefit from the more efficient exchange of standard records.



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Think of this PK-20 system as the “YourStateName Transcript Center.” It is a website that is the central source for student record exchanges in your state. Vendors offer flexibility when signing a contract that allows for the inclusion of every public institution in the state. Many times this solution can be licensed to your state for unlimited transactions so that your costs are fixed and known.



Example of a state-specific PK-20 electronic transcript application.

Many states are seeking ways to improve the relations between PK-12 schools and districts and postsecondary institutions and the sharing of data to improve public education. Depending on the vendor selected, a PK-20 system can be implemented quickly. The result is a quick win-win for all the stakeholders involved and a step forward for collaboration.

Opportunity

Your PK-20 system should easily accommodate state-specific programs, either current or future. For example, many states use an electronic transcript system as the collection vehicle for evaluating students for state scholarships. Others are considering the natural synergy that exists between an electronic transcript system and a common electronic application system.

The potential is enormous. Think of the quantity and value of the data moving through a state-sponsored system. How many of your state programs could utilize some of the information (such as course history, demographic data, grades/marks, etc.) contained in a record/transcript?

There is also tremendous research potential available. For instance, having students' high school transcripts linked to postsecondary transcripts enables a state to look at college success as it relates to high school courses taken. Many states are








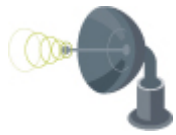
developing longitudinal databases to conduct such research. The advantages of using existing electronic transcript for moving the data into the databases are obvious, assuming that the same unique student identifier is used by both PK-12 and postsecondary education.

Naturally, FERPA compliance is critical. But there are many areas of opportunity that fall clearly within the parameters of FERPA. Electronic student records/transcripts are actually safer in many instances than the paper records now sent because less human intervention is needed. Using a vendor solution that carefully adheres to FERPA and a company that has clearly established policies to ensure the safety and security of student records are essential.



Benefits of a PK-20 Approach to Your State

There are many benefits of sending electronic records instead of paper printouts to receiving districts, postsecondary institutions, or other organizations—and many benefits have been alluded to in this paper.


 <p>Security</p> <ul style="list-style-type: none"> • Point-to-point secure transmissions. • Fault redundant and backed up servers. • Hosted at Tier 1 secure facilities. 	 <p>Speed</p> <ul style="list-style-type: none"> • Nearly instantaneous delivery now possible. • Overnight packages obsolete. • No waiting to send or receive. 	 <p>Easy to Use</p> <ul style="list-style-type: none"> • As easy as using email or a major website. • Web browser based. • Intuitive interface. 	 <p>Translation</p> <ul style="list-style-type: none"> • You choose the standard you want to use. • From your standard to many standards. • From many standards to your standard.
 <p>Savings</p> <ul style="list-style-type: none"> • Saves money through reduced expenses. • Saves time through improved efficiencies. • Saves reputation through increased security. 	 <p>Confidential</p> <ul style="list-style-type: none"> • FERPA Compliant System. • Built to protect sensitive information. • No transcripts are saved at NTC. 	 <p>No State Boundaries</p> <ul style="list-style-type: none"> • A great solution for interstate student mobility challenges. • It's just as easy to trade with out-of-state schools as it is in-state schools. 	 <p>Tracking</p> <ul style="list-style-type: none"> • Unique "tracking number" created for each transaction. • Each number is stored permanently. • Notifies sender upon successful delivery.

In addition to these general benefits, there are benefits specific to education organizations when a system is deployed statewide in a PK-20 environment.

Benefits to Colleges and Universities

1. The format and contents for transcripts will be agreed upon by all participants in the state. As a result, the college or university will receive all in-state transcripts in the same format (i.e., they will all look the same) and the data will be easier to interpret.
2. Once the process is set up, the data can be sent to other colleges or universities automatically when requested by the student. No printing will be needed for identified trading partners.
3. Transcripts can be sent or received in batches for downloading at low-usage times.

4. Participants are authenticated. If the receiving institution is not a member of the system, then an official paper document will be printed and mailed to the institution, just as is done today.
5. The system can be configured to track usage and provides feedback to the user.
6. Personnel time and resources to send transcripts are greatly reduced, and the cost to send is minimal.
7. Improves customer service. Today's students live in a world of instant online transactions, and they expect faster delivery and processing of their data.

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*Personnel time and
 resources to send transcripts
 are greatly reduced, and the
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Benefits to PK-12 Schools and Districts

1. The format and contents for student records/transcripts will be agreed upon by all participants in the state. As a result, the school or district will receive all in-state student records/transcripts in the same format (i.e., they will all look the same) and the data will be easier to interpret. This will help to determine correct placements for students moving into a district.
2. Once the process is set up, the data can be sent to school districts, colleges or universities automatically when requested by the student or the receiving district. No printing will be needed for identified trading partners.
3. Data about a student's educational program will be available to school counselors immediately helping counselors place students more efficiently.
4. Transcripts can be sent or received in batches for downloading at low-usage times.
5. Participants are authenticated. If the receiving school, district or institution is not a member of the system, then an official paper document will be printed and mailed to the institution, just as is done today.
6. The system can be configured to track usage and provides feedback to the user.
7. Person time and resources to send transcripts are greatly reduced, and the cost to send is minimal.
8. Track each transaction using a unique tracking number.

Benefits to State PK-12 and Higher Education Agencies

1. PK-12 and postsecondary communities come to agreement about what data are needed for evaluating students' experiences and qualifications. This can help to ensure student data are maintained more consistently and comprehensively, thus improving the quality of the data, much of which is reported to the state.
2. Building a PK-20 system can provide the connections between levels of the school system that will allow for research about student success that can lead to improvements in the education system. Tracking students across levels of the education system can help to identify where programs or services are needed to ensure adequate preparation and smooth transition from high school to postsecondary education.
3. A PK-20 system funded, at least in part, by state funds can save money for schools, districts, and postsecondary institutions and ensure that all potential participants are given the means to participate.
4. Track each transaction using a unique tracking number.

Benefits to Students

1. Student records arrive more quickly and efficiently at the district or postsecondary institution where they are intending to enroll.
2. Data are more standardized, and thus are easier to interpret. This can help to make admission decisions fairer. It will also help to ensure student placements are more accurate.
3. Track each transaction using a unique tracking number.

How to Make It Happen: Overcoming Hesitation

There are a million arguments why electronic records exchange can't be done, not the least of which is lack of interest. But the world we live in is changing rapidly and the old ways of doing things often seem antiquated.

What follows is a list of hesitations to get involved that may be felt by state education agencies and state higher education agencies along with answers and a discussion of realities.

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When presented the opportunity, policy leaders become enthusiastic supporters.

Hesitation	Answer	Today's Reality
We don't have authority over student records.	Work together to facilitate voluntary adoption of a standard format as a minimum.	Providing guidance and facilitating a standard for the state requires leadership more than authority.
Not all statewide standards are in place.	Continue using any standards already in place.	Schools and districts are already sending records in their own formats. So are postsecondary institutions. That can continue without delaying moving to electronic records exchange.
The political leadership/buy-in does not exist.	Call upon National Transcript Center and other entities that can present the business case.	When presented the opportunity, policy leaders become enthusiastic supporters. Forums exist for presentations, e.g., conferences, meetings.
This is not the responsibility of the state education agency or the state higher education agency.	Consider this either an explicit or implicit responsibility. Either way, there are compelling reasons for state-level education agencies to be involved.	See above discussion of why a state-level education agency should be involved in electronic records exchange.
Let the colleges work it all out and tell everyone, including PK-12, how to send the records.	Avoid finding out that a postsecondary solution does not include as much information as PK-12 needs.	Mobile students have needs that are not described in the type of transcripts that go to postsecondary institutions.
Let the PK-12 schools and districts work it out on their own.	Reduce the time required for schools and districts with scarce time and dollars to work out a solution that may not be accepted across the state and by other states. And insure that postsecondary gets the data it needs.	Fortunately, there are standards that have been developed with extensive district, school and postsecondary institution input that can be used to begin the process of designing a state solution.
Let some other states lead the way and ours will pick the best solution after they all sort themselves out.	Remember that your state is unique and may have needs that other states do not have, such as scholarship organizations.	Perhaps this is a way to work with other states to come up with a solution that meets all of your needs.
There is uncertainty about where to begin.	Read this paper for a good start.	See the chart "Steps for Implementing a Statewide Electronic Records Exchange Standard or System."
The schools and postsecondary	Look again. Yes, they are.	Student information system software

Hesitation	Answer	Today's Reality
institutions are not ready yet to produce and send electronic records.		can provide extracts containing the data elements needed.
There are not enough schools and colleges able to receive electronic records.	Find a solution that includes both electronic and paper processes. Today, it is true that not all entities can receive electronic records.	A comprehensive system should accommodate exchanges that must still be on paper, by fax, or merely as PDFs.
We are so far from everyone being able to handle electronic records that it is just extra work to do both paper and electronic.	Find a solution that can handle both.	In most states, districts and postsecondary institutions have had to meet state electronic reporting requirements for individual student data, so they have electronic exchange experience that can be leveraged.
The technology is not ready yet.	Look again; it is.	Bank accounts and bill payments are managed on-line these days. Legal documents are accepted in electronic formats. The same technology is available to manage confidential academic records.
Let the vendors work it all out and tell PK-12 how to do it.	Avoid adopting a vendor's product that meets only the requirements they already know and understand. Each state has unique needs.	There are vendors who are willing to work with states to ensure that a system meets those unique needs. Look for a solution that is comprehensive and functional for your schools and colleges.
The electronic records standards, e.g., SPEEDE/ExPRESS, SIF Student Record Exchange, PESC XML, are not ready for full use yet.	Use what they offer now and work with them to continue expanding. Each is in a different state of maturity, but one or more can be used right now.	Most of the companies in the vendor community are committed to making standard electronic student records a reality.
We don't have the money in our state budget.	Continue to rely upon schools, districts and postsecondary institutions to pay on a per record basis as they do now.	Schools, districts, and postsecondaries are already paying their own freight on records exchange. The savings in time and dollars will be theirs anyway. Continuing to have the costs spread across all districts and universities is reasonable.
There are no resources to organize the state or to manage the process	Rely upon a vendor or vendors.	With some state guidance, the vendor community will be very willing to step forward and provide tools and services. The crucial factor is for the state to oversee that process and provide guidance to schools, districts and postsecondary institutions.
This is just a postsecondary issue. They are the ones who benefit while the high schools do the extra work.	Discover that even though the greatest gains are from receiving an electronic record, quantifiable savings are achieved from sending as well.	A system for electronic student records can be established fairly easily in such a way that a high school counselor spends almost no time sending transcripts, and can devote time to other needs.

Steps for Implementing a PK-20 System

There are numerous steps you will need to take if you decide to design such a system in-house. If you choose to develop a Request for Proposals to obtain outside assistance, you can rely upon the respondents' proposals to fill in the details. However, there are several steps a state-level education agency should take up front.



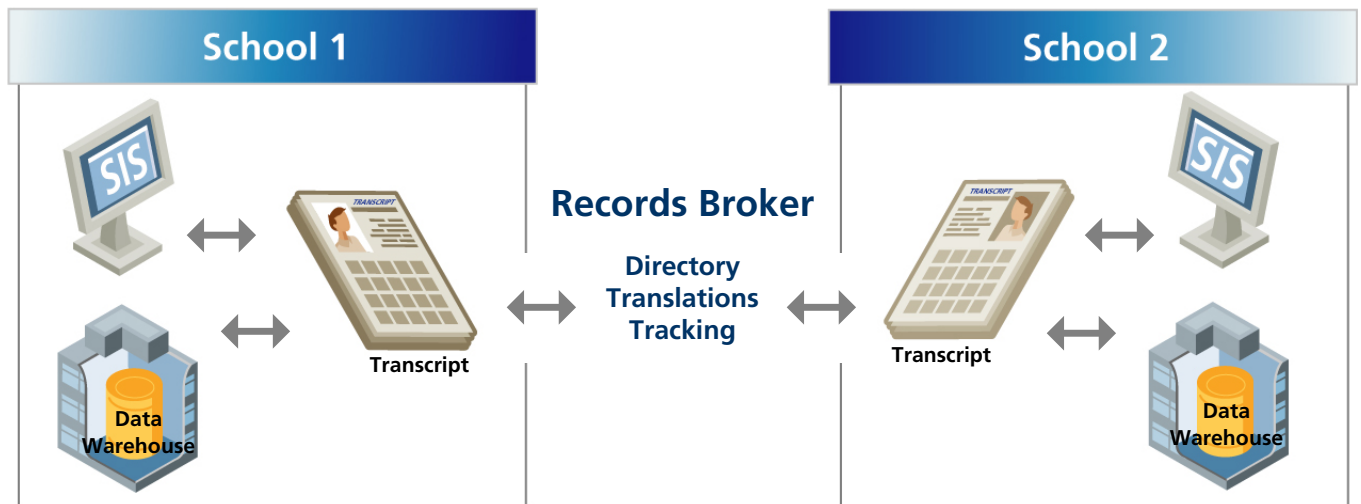
We have found that the potential economic savings alone gets the attention of management. NTC can help quantify what this savings would be in your state.

Step	Action Required
1. Secure policy and administrative support.	Review current policies and laws to determine state enhancements to FERPA and other mandates. Present the business case to policy and administrative leaders. We have found that the potential economic savings alone gets the attention of management. NTC can help quantify what this savings would be in your state.
2. Determine the level of state support and funding to be provided.	What level of funding will be sought and made available? 1. Fully or partially funded by the state 2. Fully or partially funded by schools, districts, and postsecondary institutions One scenario that merits consideration is a hybrid approach , where the state licenses a statewide solution for unlimited intrastate transactions between any public PK-20 institutions but individual institutions can still send records/transcripts to out-of-scope institutions (such as to private or out-of-state institutions) for a separate fee, borne by the sending institution and not the state.
3. Establish the process for oversight and user advice.	Create an oversight/governance group and a user group, or expand the role of existing groups to include electronic record exchange.
4. Determine the level of specification that the state agencies will mandate.	a. Allow each LEA and postsecondary institution to select from among approved standards, such as: • SPEEDE/ExPRESS EDI • SIF Student Record Exchange • PESC HS XML • State standard b. State standard recommended c. State standard mandated
5. Determine the content specifications.	a. SEA state reporting metadata dictionary standard b. Course classification system c. State graduation standards d. State assessment standards e. State class rank and/or grade point average standards
6. Determine the level of integration to be established with the state-level education agencies' data collection processes.	a. Same metadata standards as state's funding and accountability reporting system. b. State collection of data to produce full student records and transcripts.
7. Pursue the appropriate procurement process for the services to be provided.	Each state's procurement process is unique and must be followed to ensure a successful procurement and implementation.

Recommended Requirements for a Statewide PK-20 System

Infrastructure

At the highest level, the components that are required for electronic records exchange are straightforward.




State-Specific Requirements

These requirements expand those above to be functional within your state. Each is optional dependent upon the standards adopted by your state.

1. (State name)'s adopted metadata standards for our (name of state-level education agencies' individual student record collection system or process) must be accommodated.
2. (Name of state)'s adopted template and requirements for an official education record or transcript are attached.
3. The processes required of schools, districts and postsecondary institutions within (name of state) must follow as closely as possible the processes established by the (name of state-level education agencies) and followed by the local school systems and postsecondary institutions, their service providers, and vendors in complying with the (name of state-level education agencies' individual student record collection system).
4. All (name of state)'s applicable laws, policies, and regulations and any relevant federal laws and regulations related to the management of student academic records and the personally identifiable and confidential data within them must be understood and followed.
5. The PK-12 course classification and numbering system adopted by the (name of state education agency) must be crosswalked with the following classification systems. (List here any that apply, e.g., SCED...) The (name of state education agency) will provide the crosswalk tables and updates in electronic form as they are available.

 **ESP Insight**
At the highest level, the components that are required for electronic records exchange are straightforward.

6. The proposed system must allow users to enter through the (name of state education agency)'s single-sign-on portal, with all identifications, authorizations, and permissions passed through without re-keying.
7. The proposed system must provide (name of state-level education agency) scheduled and on-demand audit reports describing the nature and volume of activity through the system.
8. The proposed system must provide (name of state-level education agency) data files of the records exchanged for use in determining eligibility for state scholarships.
9. The proposed system must be capable, if requested by the (name of state-level education agency), to provide actual records for research or accountability purposes. For this requirement, users of the system who provide the records must certify that appropriate documents and permissions are on file locally.

 **ESP Insight**
Importing saves keying in data, avoids making manual translations of codes, and maintains data quality.

Following is a list of recommended requirements and the issues related to them.

Requirement	Issue
1. The system's primary format must accommodate the sending and receiving of a real electronic record (data files). Although they may accommodate schools not yet converted to electronic exchanges, an image, fax, PDF, paper, or other format that does not provide an actual data file will not qualify as an electronic record.	A PDF, fax, or other image cannot be edited and imported directly into a student information system or a transcript evaluation system. Importing saves keying in data, avoids making manual translations of codes, and maintains data quality.
2. The system must exchange records between all types of trading partners, e.g., PK-12 schools, postsecondary institutions, scholarship organizations, certification agencies, and employers. Therefore, the system must handle all record types that a school or district may send or receive. These must include PDF, images, paper, and fax.	If only "high school to postsecondary" transcripts are handled, the school is left managing the old process for mobile students. If electronic records can only go to recipients accepting electronic records, then the old system has to be used for everyone else.
3. The system must provide a directory for ALL potential trading partners. Each trading partner must be able to update its own profile describing its contact information and its preferences for standards, processes, etc.	A truly national directory of trading institutions is required to send to any recipient and to receive verified records from any sender.
4a. The system must allow each participating agency to select one standard for both sending and receiving records. The system must translate that standard to all others selected by trading partners. 4b. The standards can be limited to national standards set by open-membership organizations, state education agencies, and vendors that have established a single standard with crosswalks to national open standards. 4c. The system developer may establish a generic standard that a participant can use if they choose not to adopt an open standard.	No single standard exists, so your standard must be one that can be translated to all the other standards in use.

Requirement	Issue
5. To prevent fraud, authentication of trading partners must be included.	You must be sure that the persons or institutions sending you an official record are who they say they are and that they have the authority from both the student/parent and their agency to send a record. You must also be sure that the electronic record you send goes to the right institution.
6. Records while in the possession of the system must be kept confidential, that is protected from unauthorized access.	The solution must be FERPA compliant and flexible for state and local rules.
7. Records while in the possession of the system must be kept secure; that is, maintained in a computer environment with safeguards to prevent compromise or destruction.	The hardware, software, network, cables, peripheral equipment, data, procedures, and all technology resources and functions must be designed with the highest levels of security in mind.
8. The user interface and processes required of participants must reduce the burden of sending and receiving records rather than add a new, time-demanding process.	Electronic transcripts must save time and effort, not just add another process to the paper process.
9. The formats and standards for exchange must represent a true PK-20 solution, not just a high school to postsecondary specification of content.	The standard must be one developed for PK-20, not just for high school to postsecondary.
10. Non-academic institutions must be allowed to participate.	To achieve maximum benefit, the system must handle all trading partners. Non-academic institutions require official records/transcripts for scholarships, certification programs, employment, etc.
11. An alternative for archiving data or the provision of an off-site store should be available for disaster recovery.	In the event of a disaster that prevents the school or agency from sending a record, an off-site facility should be available to receive requests and send official records to ensure that a displaced student's services can be continued in a new location.
12. The system should provide for logging of transactions, status, and history.	Paperwork reduction, responding if a student needs to verify that a record has been sent or received, tracking postsecondary institutions that have received a student's transcript, and documenting all actions taken with a student's record for FERPA and for local use are all satisfied by a logging system.
13. The system should be aligned with state, vendor, national, and other metadata standards to avoid multiple format burden.	Schools cannot handle the burden of creating a student record in all of the standard and proprietary formats that exist. The school should adopt a single standard for sending and receiving, and the service should translate into and out of that format for all trading partners.
14. User profiles should be communicated to all trading partners.	Each agency should be able to specify its own preferences and requirements for record formats, how long a record can be kept available before it is accepted by a receiving agency, content that will be sent or accepted, etc.
15. The system must have student information system vendor cooperation.	The service must be able to interface with all vendors through multiple open standards or individual vendor agreements.

Recommended Requirements in Selecting a Vendor

There are many vendors interested in working with school districts, postsecondary institutions and state-level education agencies on electronic transcripts. Evaluation of potential solutions must start by a careful review of vendor qualifications. Companies proposing to provide a statewide electronic records solution for elementary/secondary school districts and postsecondary institutions must have the following qualifications.



There are many vendors interested in working with school districts, postsecondary institutions and state-level education agencies on electronic transcripts.

1. Direct experience in implementing large-scale statewide student record/transcript systems. Look for vendors with multiple statewide contracts under their belt.
2. Experience and product offerings that address the needs of *both* PK12-to-PK12 (record) exchange and "high school-to-college" (transcript) exchange.
3. Direct experience accessing data or supporting schools to access data from their information systems that manage student academic records, knowledge about how they are configured, how they store data, how they extract data, and the multitude of issues schools encounter when accessing their data for records exchange.
4. Direct experience, membership in, and active participation in the work of institutions that develop standards for electronic records exchange (e.g., SPEEDE/ExPRESS, Schools Interoperability Framework Association, Postsecondary Electronic Standards Council).
5. Experience in the design, development, and implementation of statewide systems that exchange secure, confidential, and official student records between schools and districts and the state education agency.
6. Major business focus in PK-20 education with successful projects at the various levels.
7. Demonstrated understanding and use of open standards and reporting standards for EDEN, IPEDS, and statewide data submission systems.
8. Project management experience with successful statewide technology implementations.
9. Demonstrated understanding and compliance with FERPA and state-specific confidentiality laws and policies.



Look for vendors with multiple statewide contracts under their belt.



Everything that goes into a student record/transcript must be standardized, authenticated, kept confidential, exchanged securely, and processed in a timely manner.



The development of a PK-20 electronic student record/transcript system provides many benefits to all levels of the education system, but especially to the students whose records are exchanged. State agencies responsible for elementary/secondary and postsecondary education should take the lead in supporting and establishing processes for electronic record/transcript exchanges.



The experts at the National Transcript Center and ESP Solutions Group have been involved in all aspects of education records creation, exchange, and use.

Conclusion

Student records and transcripts receive the ultimate attention by schools, postsecondary institutions, IT professionals, students, and parents. Everything that goes into a student record/transcript must be standardized, authenticated, kept confidential, exchanged securely, and processed in a timely manner. State agencies responsible for PK-20 education realize that by supporting schools, districts, and postsecondary institutions in the creation and exchange of electronic transcripts within the state and across state boundaries, the state can have a positive affect on its own need to improve the quality and timeliness of the education data collected for state funding formulas, public reports, No Child Left Behind's adequate yearly progress determinations, and submissions to the U.S. Department of Education.

The main message in this white paper is: The development of a PK-20 electronic student record/transcript system provides many benefits to all levels of the education system, but especially to the students whose records are exchanged. State agencies responsible for elementary/secondary and postsecondary education should take the lead in supporting and establishing processes for electronic record/transcript exchanges.

The experts at the National Transcript Center and ESP Solutions Group have been involved in all aspects of education records creation, exchange, and use. We are ready to assist your state in the next move to statewide and national electronic records/transcript exchange.

The National Transcript Center (NTC) is the largest e-transcript provider in the world, comprising of 5 statewide contracts and supporting over 8500 institutions representing more than 5 million students.

NTC is a secure national server that improves the efficiency, reliability, cost and security of sending and receiving student records. NTC member institutions log into a user-friendly, browser-based application to send, receive, manage, track, and import their electronic transcripts. PK-20 schools can rest easy knowing we are passionate about open standards, confidentiality, and security, and that NTC was built on these commitments.

NTC is a true PK-20 solution, as it facilitates both "PK-12 to PK-12" record exchange and "high school to college" transcript exchange.

Want more information?

Call **512-879-5400** or email **info@transcriptcenter.com**.
www.transcriptcenter.com



About ESP Solutions Group

ESP Solutions Group provides its clients with *Extraordinary Insight™* into K-12 education data systems and psychometrics. Our team is comprised of industry experts who pioneered the concept of “data driven decision making” and now help optimize the management of our clients’ state and local education agencies.

ESP personnel have advised school districts, all 52 state education agencies, and the U.S. Department of Education on the practice of K-12 school data management. We are regarded as leading experts in understanding the data and technology implications of the

No Child Left Behind Act (NCLB), Education Data Exchange Network (EDEN), and the Schools Interoperability Framework (SIF).

Dozens of education agencies have hired ESP to design and build their student record collection systems, federal reporting systems, student identifier systems, data dictionaries, evaluation/assessment programs, and data management/analysis systems.

This document is part of *The Optimal Reference Guide Series*, designed to help education data decision makers analyze, manage, and share data in the 21st Century.

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For more information on PK-20 electronic records/transcripts, contact Patrick McDonald at (512) 879-5476 or patrick.mcdonald@transcriptcenter.com.



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