FOR IMMEDIATE RELEASE
MAY 1, 2018
CONTACT:
JENNIFER KIM
202.261.6516

INDIANA COMMISSION FOR HIGHER EDUCATION
AWARDED 1ST PLACE IN 19TH BEST PRACTICES COMPETITION
ONE STATE, TWO INITIATIVES: INDIANA'S EMBRACE OF PESC & CREDENTIAL ENGINE FEATURED AT PESC SPRING 2018 DATA SUMMIT

Washington, D.C. The Board of Directors of PESC is pleased to announce the Indiana Commission for Higher Education (ICHE) as 1st Place Winners of PESC's 19th Annual Best Practices Competition for its submission, "One State, Two Initiatives: Indiana's Embrace of e-Transcript & Credential Engine."

The award-winning submission highlights the value of a long-term strategic vision, persistency in use and applicability of standards, the power of collaboration and focus on the ultimate beneficiaries, student, parents and families in the great State of Indiana.

"The Indiana Commission is honored to receive this recognition from such a respected organization like PESC, which has been a strong and influential voice for promoting national and international standards to facilitate postsecondary data exchange. The success of the Indiana e-Transcript Program would be impossible to imagine without PESC's XML e-transcript schema, and the Commission applauds PESC's full engagement with new, transformative initiatives such as Credential Engine."

Begun in 2005, the Indiana e-Transcript Program has reliably delivered many years of convenience to students and administrative efficiencies to schools and colleges, while more importantly, contributing to greater persistence and degree completion. This now mature platform is poised to shepherd yet another era of innovative uses of technology: delivering comprehensive learner records that describe experiential/applied learning and transcripts as data files that interface with other data systems, thus providing even greater value. Thirteen years of experience has also yielded hard-won lessons, including insights about the importance of organizational outreach and legislative support to project success.

Indiana's scale-up of Credential Engine began in February of 2017, when ICHE received a grant to become the first state to begin a statewide effort aimed at populating the Credential Registry with as much information as possible about Indiana credentials, credential providers, and quality assurance entities. ICHE made much progress over the past year, most notably in health care, where ICHE uploaded all public sector health-related certificate and degree programs at all levels, and have helped to facilitate the uploading of all military credentials related to allied health. In addition, information pertaining to a variety of other fields has been incorporated in the Registry and the potential of Credential Engine has been demonstrated a diverse set of use cases.

The award-winning submission made by the Indiana Commission for Higher Education is posted on the PESC website with prior winners at http://www.PESC.org. An Awards Ceremony will be held during the General Sessions at PESC's Spring 2018 Data Summit being held May 2-4, 2018 in Washington DC at the Dupont Circle Hotel.

PESC's Fall 2018 Data Summit takes place October 17-19, 2018 in San Francisco. Sponsorship opportunities are available while registration opens July 2, 2018.

PESC IS SPONSORED ANNUALLY by Credentials Solutions, National Student Clearinghouse, Oracle, Parchment Inc. and ECE. PESC partners include AACRAO, APEREO, ARUCC, A4L, EMREX, EWP, Groningen Declaration Network, SHEEO, and the US Department of Education's Common Education Data Standards (CEDS) Initiative.

PESC IS A PROUD EXHIBITOR at AACRAO's Annual Meeting, ARUCC's Annual Meeting, and the Annual STATS-DC Conference of the National Center for Education Statistics (NCES) of the US Department of Education.

PESC IS A PROUD SPONSOR of AIR's Annual Conference and of the Annual California Electronic Transcripts Workshop and CCCApply.

PESC IS A PROUD MEMBER/AFFILIATE/SIGNATORY of is AACRAO, of the NCES National Forum on Education Statistics, and of the Groningen Declaration Network.

PESC HAS A STRONG HISTORY that includes AACRAO, SPEEDE, EDI, ANSI, X12, Canada, the US Department of Education and Y2K. Read more at www.PESC.org.

IN FULFILLING ITS NON-PROFIT MISSION, all PESC Approved Standards are available to the education community online free of charge at www.PESC.org.

ABOUT PESC

ESTABLISHED IN 1997 AT THE NATIONAL CENTER FOR HIGHER EDUCATION & HEADQUARTERED IN WASHINGTON DC, PESC is an international, 501 (c)(3) non-profit, community-based, umbrella association of data, software and education technology service providers; schools, districts, colleges and universities; college, university and state systems; local, state/province and federal government agencies; professional, commercial and non-profit organizations; and non-profit associations & foundations.

LEADING THE ESTABLISHMENT & ADOPTION OF DATA EXCHANGE STANDARDS ACROSS THE EDUCATION DOMAIN. Through open and transparent community participation, PESC enables cost-effective connectivity between data systems to accelerate performance and service, to simplify data access and research, and to improve data quality along the Education lifecycle. PESC envisions global interoperability within the Education domain, supported by a trustworthy, inter-connected network built by and between communities of interest in which data flows digitally and seamlessly from one community or system to another and throughout the entire eco-system when and where needed without compatibility barriers but in a safe, secure, reliable, legal, and efficient manner.

ABOUT PRIVACY While PESC promotes the implementation and usage of data exchange standards, PESC does not set (create or establish) policies related to privacy and security. Organizations and entities using PESC Approved Standards and services should ensure they comply with FERPA and all local, state, federal and international rules on privacy and security as applicable. For more information, see www.PESC.org.

# # #

INDIANA COMMISSION for HIGHER EDUCATION

April 19, 2018

Mr. Michael Sessa
Executive Director
Postsecondary Electronic Standards Council
1250 Connecticut Avenue, NW
Suite 200
Washington, D.C. 20036

Dear Michael,

It is with great pleasure that I submit the attached application from the Indiana Commission for Higher Education to be considered for PESC's 19th Annual Best Practices Competition. In a sense, the efforts described in our submission, "One State, Two Initiatives: Indiana's Embrace of e-Transcripts and Credential Engine," represent bookends to an exceptionally fecund period of technological innovation and application.

Begun in 2005, the Indiana e-Transcript Program has reliably delivered many years of convenience to students and administrative efficiencies to schools and colleges, while more importantly, contributing to greater persistence and degree completion. This now mature platform is poised to shepherd yet another era of innovative uses of technology: delivering comprehensive learner records that describe experiential/applied learning and transcripts as data files that interface with other data systems, thus providing even greater value. Thirteen years of experience has also yielded hard-won lessons, including insights about the importance of organizational outreach and legislative support to project success.

Indiana's scale-up of Credential Engine began in February of 2017, when the Commission received a grant to become the first state to begin a statewide effort aimed at populating the Credential Registry with as much information as possible about Indiana credentials, credential providers, and quality assurance entities. We have made much progress over the past year, most notably in health care, where we have uploaded all public sector health-related certificate and degree programs at all levels, and have helped to facilitate the uploading of all military credentials related to allied health. In addition, information pertaining to a variety of other fields has been incorporated in the Registry and the potential of Credential Engine has been demonstrated a diverse set of use cases.

Underlying all of this work, of course, is the use of standards. In the case of the Indiana e-Transcript Program, the RFP issued in 2005 to solicit proposed platforms referenced the then new PESC e-Transcript XLM Schema, which has made possible the mature program we have today. So too does Credential Engine rely on data standards; it is fitting indeed that this year's PESC Data Summit is devoting considerable attention to Credential Engine.

While it is the Commission for Higher Education that submits this application, we freely acknowledge that our achievements would not have been possible without the engagement of many partners, chief among them Parchment, Inc., in the case of the Indiana e-Transcript Program, and our colleagues at Credential Engine. I would be remiss if I did not also acknowledge the work of colleagues at Solutions for Information Design, who led the work on military credentials.

Please let me know if you have any questions about our application.

Cordially,

Ken Sauer, Ph.D.
Senior Associate Commissioner and Chief Academic Officer

cc: Commissioner Teresa Lubbers

One State, Two Initiatives:
Indiana's Embrace of e-Transcripts and Credential Engine

Application Submitted by the Indiana Commission for Higher Education for the
2018 PESC Best Practices Award

April 19, 2018

Introduction

The two initiatives described in this application bookend a 13-year period of innovation, both for the development of standards and for the State of Indiana.

In 2005, Indiana became the first state to embrace the goal of using the newly developed PESC XML high school schema in implementing a statewide e-Transcript initiative in a challenging environment that is characteristic of most states: a diversity of student information systems, ranging from large and small vendors to in-house systems. In this instance, we have an initiative that has matured and is now being used to develop a whole new set of applications that add exponential value to this already prized endeavor.

Early in 2017, Indiana began a statewide scale-up of Credential Engine, the first state to do so, in the context of a highly visible national rollout of a well-developed platform that was being piloted by a hundred or so institutions across the country. In this instance, we have a potentially transformative initiative in the early stages of true scale-up and whose platform is being refined as a result of actual use.

Both of the initiatives are impossible to imagine without standards, partnerships, and deliberate strategies for implementation. This application will describe Indiana's experience in all of these areas with respect to our e-Transcript and Credential Engine initiatives.

Part One: Indiana e-Transcript Program

In 2005, the Indiana Commission for Higher Education (ICHE or the Commission) received a grant from the Indiana Secondary Market to develop a statewide e-Transcript infrastructure, which would encompass both secondary and postsecondary education. Although the Commission was the grantee, the project was viewed by the ICHE from the outset as a partnership with the Indiana Department of Education (IDOE), symbolized literally from Day 1 by both state agencies jointly drafting the RFP that resulted in a contract with Docufide, later absorbed by Parchment, to provide the platform for the initiative.

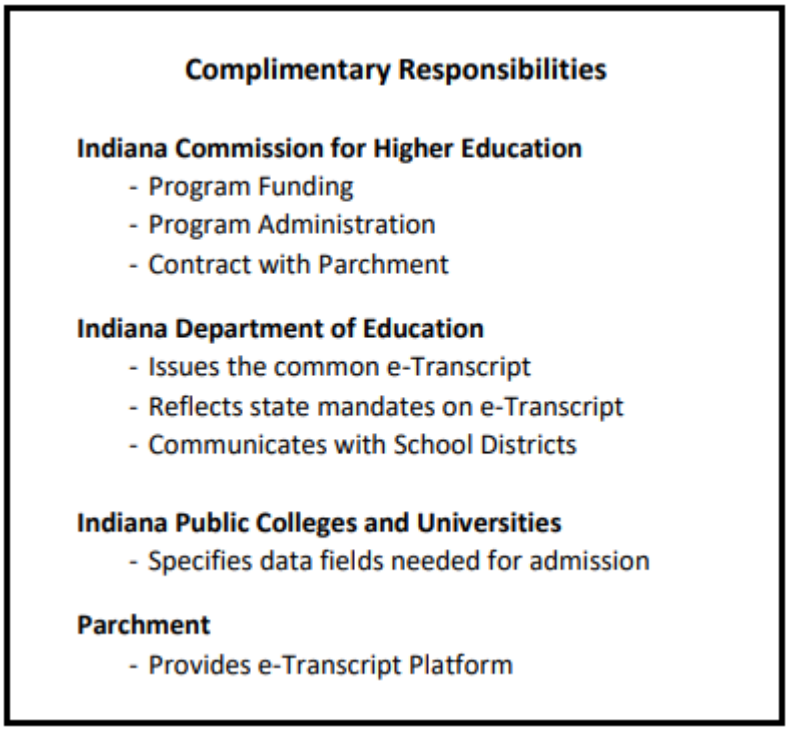
The RFP expressed a desire to put in place both a high school-to-college and a college-to-college capability, which were to be anchored in newly created PESC XML transcript schema. While externalities

limited the initial implementation to high school-to-college and delayed by many years the transmittal of transcript information as XML data files, the original, broader vision was present from the beginning.

Another early characteristic of the e-Transcript initiative in Indiana was a desire to work in partnership with other states through the Midwestern Higher Education Compact (MHEC), which has focused much attention on developing cost-sharing agreements with vendors, thus saving member states considerable sums of money. Soon after the Indiana initiative got under way, MHEC negotiated a contract with Docufide (2006), initially modelled after the Indiana contract, which was later re-negotiated with Parchment. Other states, notably Illinois, Michigan, and Ohio, have made use of this contract and launched major e-transcript initiatives.

Legislation has played a key role in sustaining and expanding Indiana's work on e-transcripts. While money from the Indiana Secondary Market was essential to launching the effort and, together with funds cobbled together from other sources, supporting the effort in its early years, a measure of uncertainty clouded the future of the initiative until the General Assembly provided sustained support in the form of a line item appropriation. This stable source of funding has enabled the initiative to reach its full potential, all at no cost to parents, schools, or colleges.

Figure 1



Equally important was legislation passed in 2013, which established the Indiana e-Transcript Program as a formal, statutory initiative that mandated a common high school transcript to be created by key stakeholders with interlocking and complementary responsibilities (see Figure 1). Funding for the Program came to the Commission, which had responsibility for administering the Program and signing the contract with Parchment, taking advantage of the discounted terms available through MHEC. IDOE would actually issue the list of fields that were to be included on the common transcript, ensuring that a small number of detailed statutory reporting requirements could be addressed. However, the legislation also required that the data fields included in the transcript had to be developed collaboratively by IDOE, ICHE, and the public colleges and universities, ensuring that the transcripts delivered to the colleges would meet the

requirements of the admissions offices, since the legislative intent was to facilitate college admissions. (See Appendix for a copy of the 2013 legislation, HEA 1341)

Although unstated in the legislation, a critical factor contributing to the success of the Indiana e-Transcript Program has been communications, especially on the part of Department of Education and other stakeholders, including Parchment. IDOE has a number of regular communication mechanisms for reaching out to the 400 or so public high schools in Indiana. Weekly newsletters to counselors, principals, and superintendents provided a means by which important communication could be conveyed statewide as occasions arose.

Likewise, periodic, day-long Parchment Connect meetings, drawing 100-200 participants from diverse backgrounds, both technical and non-technical, provided opportunities for general as well as targeted updates. Quarterly webinars developed by Parchment, many focusing on technical issues unique to a specific high school student information system (SIS) vendor, provided yet another avenue by which information could be conveyed efficiently to a particular user group. Seeking invitations to present at high school SIS vendor interest groups and gatherings of school IT directors presented other avenues for reaching users in the field.

Figure 2

Since 2005, more than 1.5 million high school transcripts have been sent using the Indiana e-Transcript Program. About 200,000 are now sent each year.

All of these efforts have resulted in a highly successful statewide e-Transcript initiative. Over 1.5 million high school transcripts have been sent to Indiana colleges and universities, public and private, as well as out-of-state and non-collegiate destinations (see Figure 2). At this point, about 200,000 high school transcripts are sent each year through the Indiana e-Transcript Program.

The 2013 legislation required a common high school transcript in a format needed by colleges and universities, which they determined to be XML data consistent with the PESC XML high school transcript schema. This led to the formation of a technical development team whose charge was to specify what data elements would be included in the common transcript. The team consisted of a mix of secondary and post-secondary partners including:

- High school registrars, guidance counselors, administrators, IT professionals – mostly public, but some private high schools were represented
- College registrars, admissions officers, academic officers, IT professionals
- State agency representation from CHE, DOE, Department of Health
- Independent Colleges of Indiana technical and academic representation
- Parchment K-12 Account Manager and Project Manager

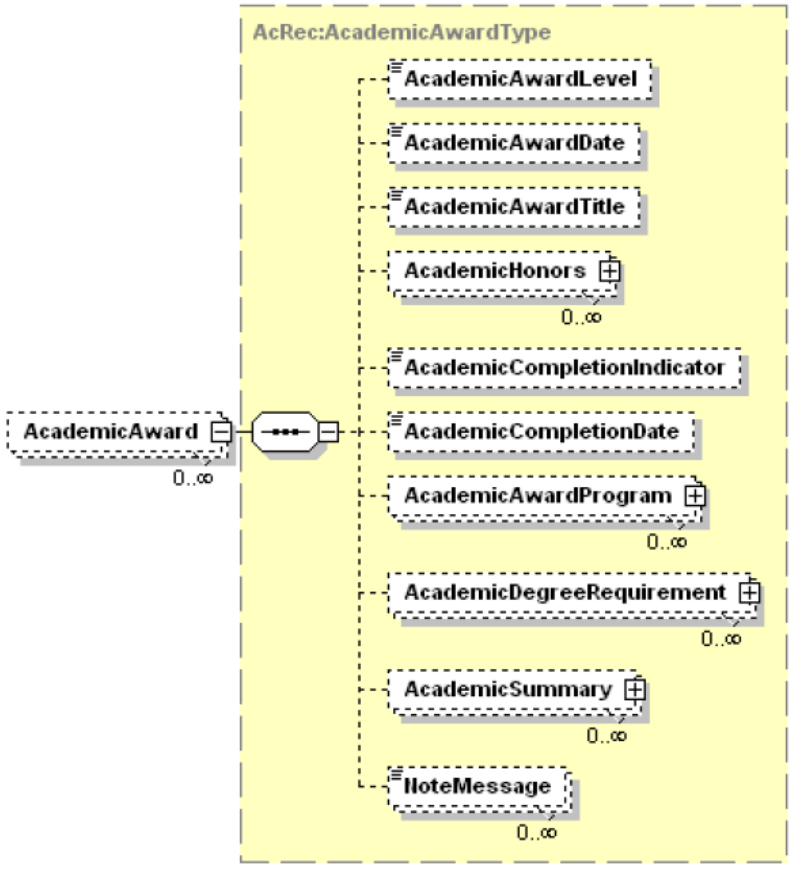
While most fields in the Indiana high school XML transcript could be extracted from the PESC schema without alteration, some had to be customized, e.g. the high school diploma type.

The PESC schema data elements for academic awards, which allow for customization to meet the needs of the user, are depicted in Figure 3. . In this example, "AcademicAwardTitle" allowed for the Indiana diploma types to be enumerated as descriptive titles, as depicted in Figure 4.

Figure 3

Student.AcademicRecord.AcademicSession.AcademicAward

Note: The workgroup that developed the PESC XML High School Transcript recommends that information about the High School Diploma be included in the complex data element Student.AcademicRecord.AcademicAward and not in this area of the schema.



AcademicAwardTitle	Optional	The descriptive title for the academic award.	Recommended	minOcc 0 maxOcc 1 minLength 1 maxLength 400
Comment: *The typical title for the award on a high school transcript would be "diploma."*				

Figure 4

INDIANA Common High School e-Transcript Schema:

Public Name	Field Name	Field Status	PESC Status	Format	PESC Data Element	Element Description	Max Length
Diploma Name	Diploma Type / Name	CT - R	Recc	minOcc = 0 maxOcc = 1	Student.AcademicRecord.AcademicAward.AcademicAwardTitle	The descriptive title for the academic award. Expected for Indiana: General Core 40 Core 40 with Academic Honors (AHD) or Core 40 with Technical Honors (THD) Certificate of Completion International Baccalaureate Locally Defined Certificate (or Other) **Core 40 with Academic and Technical Honors**	minLength = 1 maxLength = 400

The final version of the schema also took into account a relatively small number of fields that IDOE needed because of statutory requirements; one of these was attendance, i.e. the number of days or partial days a student did not attend school. Reaching consensus on the Indiana high school transcript schema, which was finalized in February 2017, took approximately two years, with some 22 versions required before it could be shared with the major high school SIS vendors.

The particular tasks needed for implementation of the schema were more specialized and therefore required a subset of the development team consisting of postsecondary admissions officers and IT specialists as well as IDOE and ICHE staff and the Parchment K-12 Account Manager and Project Manager for Indiana. The implementation team continues to meet on a weekly basis and focuses on the following tasks:

- Develop guidance for implementation by high schools
- Coordinate work with major SIS, career readiness, and college application software vendors
- Monitor high school compliance
- Troubleshoot and assist with technical issues
- Provide connections between high school contacts and vendors
- Work with post-secondary institutions to monitor receipt of XML data
- Coordinate outreach efforts and communication with high schools

Indiana, like most states, does not have a single SIS vendor that is used by all public high schools. When the implementation work began, Indiana had seven major high school SIS vendors (although some of them merged along the way, their legacy technology remained in place). These seven vendors together accounted for almost 91 percent of the public high schools and over 287 thousand high school students in Indiana (see Figure 5). When the implementation effort began, PowerSchool accounted for 35 percent of the high schools and 41.5 percent of the students. As a result of acquisitions, PowerSchool now accounts for 45 percent of the high schools and 50 percent of the students. PowerSchool has a national presence, with over 4,200 customers, and while the application program interfaces (APIs) developed for Indiana cannot simply transfer without alteration to other customers, it seems plausible that the knowledge acquired through the Indiana initiative could be leveraged to some extent in developing APIs in other states.

Smaller SIS vendors and in-house systems are in use by nine percent of the high schools, which enroll 7.5 percent of the students.

Figure 5

Indiana e-Transcript Program - High School to College
Public High Schools and Students by Type of Student Information System

Group A - High Schools Using Major SIS Vendor

SIS System	High Schools		High School Students	
	Number	Percent	Number	Percent
PowerSchool	135	*35.0%*	125,830	*40.5%*
Harmony	92	*23.8%*	35,470	*11.4%*
Skyward	51	*13.2%*	56,957	*18.3%*
Information Now	29	*7.5%*	22,229	*7.2%*
RDS	23	*6.0%*	31,794	*10.2%*
Specialized Data Systems	13	*3.4%*	6,151	*2.0%*
SunGard eSchoolPlus	8	*2.1%*	9,044	*2.9%*
Subtotal - Group A	**351**	***90.9%***	**287,475**	***92.5%***

Group B - High Schools Using Smaller SIS Vendor or In-House System

Other	26	*6.7%*	14,214	*4.6%*
Infinite Campus	6	*1.6%*	6,011	*1.9%*
Synergy	3	*0.8%*	3,110	*1.0%*
Subtotal - Group B	**35**	***9.1%***	**23,335**	***7.5%***

Groups A and B - All Public High Schools

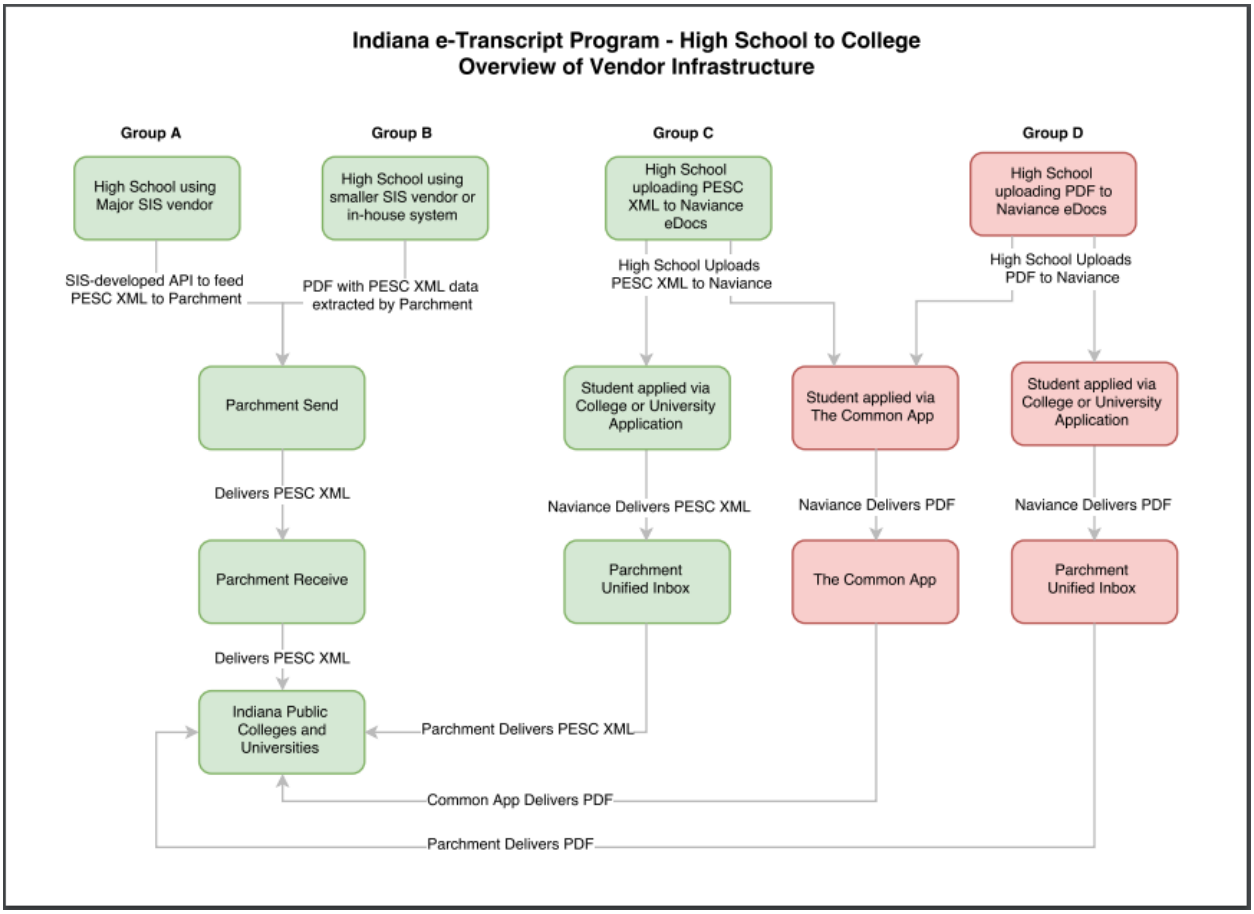
Total - Groups A and B	**386**	***100.0%***	**310,810**	***100.0%***

A critical implementation task was for Parchment to work with each of the major high school SIS vendors to enable them to develop an application program interface (API), which would feed transcript information as PESC-compliant XML data to Parchment, which in turn would be delivered to the college, university, or other receiver (see Group A in Figure 6). For the small high school SIS vendors or in-house systems, Parchment would extract PESC-compliant XML data from the high school's PDF of the transcript (see Group B in Figure 6). Thus, virtually all of the Indiana public high schools are capable of sending transcripts as XML data files because of the SIS vendor developed APIs or Parchment extraction. The Parchment solution allows for both XML and PDF transcripts to be delivered to a target recipient; however, the workflow required to send both the XML and PDF necessitates an alteration to the workflow needed to send only a PDF, which has been in place since the earliest days of the initiative.

An added complexity, which contributes to less than 100 percent of the high schools being compliant with sending all transcripts as XML data, is the additional steps required in the workflow for high schools that are using Naviance, a popular career readiness software. High schools that take those additional steps can send transcripts as XML data to the Naviance eDocs service, which in turn sends them to the Parchment Unified Inbox; from there, Parchment can then deliver the PESC-compliant XML transcript to the intended receiver (see Group C in Figure 6). High schools not taking these additional steps remain non-compliant, in that they will only be sending transcripts as PDF images through the Naviance eDocs service/Parchment Unified Inbox delivery pathway (see Group D in Figure 6). As a point of clarification, it should be understood that the high schools in Groups C and D constitute a subset of all 386 public Indiana high schools (Groups A and B).

Yet another, even greater challenge to achieving 100 percent compliance is presented by those colleges that use the Common Application (Common App). At this point, the Common App is simply not capable of handling transcripts as XML data.

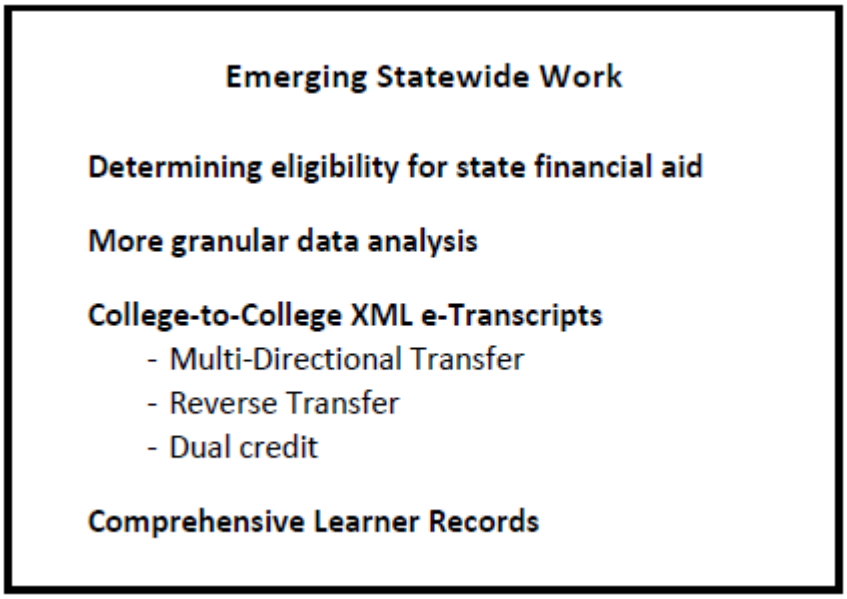
Figure 6



Now that the Indiana e-Transcript Program has matured and is capable of sending transcripts as XML transcripts in a common format, new opportunities abound for adding value to this initiative. Three of these that are now underway are described here (see Figure 7).

The Indiana Commission is responsible for operating the State's student financial aid programs, one requirement of which is to determine eligibility of high school seniors based on student diploma type and grade point average. Beginning with Academic Year 2018-2019, high schools will be encouraged to use the Indiana e-Transcript Program for determining eligibility, instead of the current system that requires high schools to manually enter data on the Commission's website, thus adding efficiency and accuracy to the system. Once this initial phase-in is complete, determining eligibility for all students will be happen through the e-Transcript Program. The shift to e-Transcripts will mean that MOUs between the Commission and high schools will need to be re-written, which will be done in a way to allow for all of the information on the transcripts to be available for more granular academic research, thus contributing to improved student success.

Figure 7



Work is well underway to realize a long-sought, PESC-compliant, college-to-college e-Transcript capability. A college-to-college development team has just completed identifying all of the core elements of an Indiana college transcript XML schema, once again relying on the PESC XML schema and guidelines, this time for colleges. The team consisted of representation from all Indiana public two- and four-year institutions, including registrars, academic officers, admissions officers, and IT professionals. Also represented in this CHE-facilitated activity is a liaison from the Independent Colleges of Indiana, the association of the State's 30 private non-profit colleges and universities.

Now that consensus has been reached on the Indiana XML schema, work is now underway on implementing a college-to-college program. In contrast to the high school-to-college solution, which is entirely vended, the college-to-college program will be a combination of vended and non-vended solutions. In addition to facilitating mobility for multi-directional college transfer students, the college-to-college e-Transcript program will provide support for dual credit and reverse transfer initiatives.

Indiana is now participating in phase II of the AACRAO-NASPA Comprehensive Learner Record (CLR) project, which is intended to build on and bring to scale the innovative work of a dozen institutions that was completed in the phase I pilot of this project (an Indiana institution, IUPUI, was among the twelve

pilot institutions). The focus of this work will be to incorporate information about student knowledge and skill sets that are not typically captured on a conventional academic transcript, such as student internships and other workplace experiences, community-based projects, and extracurricular activities. The AACRAO-NASPA project is well-timed: in September 2017, the Commission passed a resolution that called for "accelerated development of college transcript supplements that share some core elements and provide a more complete picture of a student's knowledge and skills by documenting student experiential and applied learning."

Because of the standards-based, foundation already completed in building its statewide e-Transcript infrastructure, Indiana is well poised to create comprehensive learner records or transcript supplements that can be introduced expeditiously statewide, linked to PESC-compliant XML transcripts and developed consistently at both the secondary and postsecondary levels.

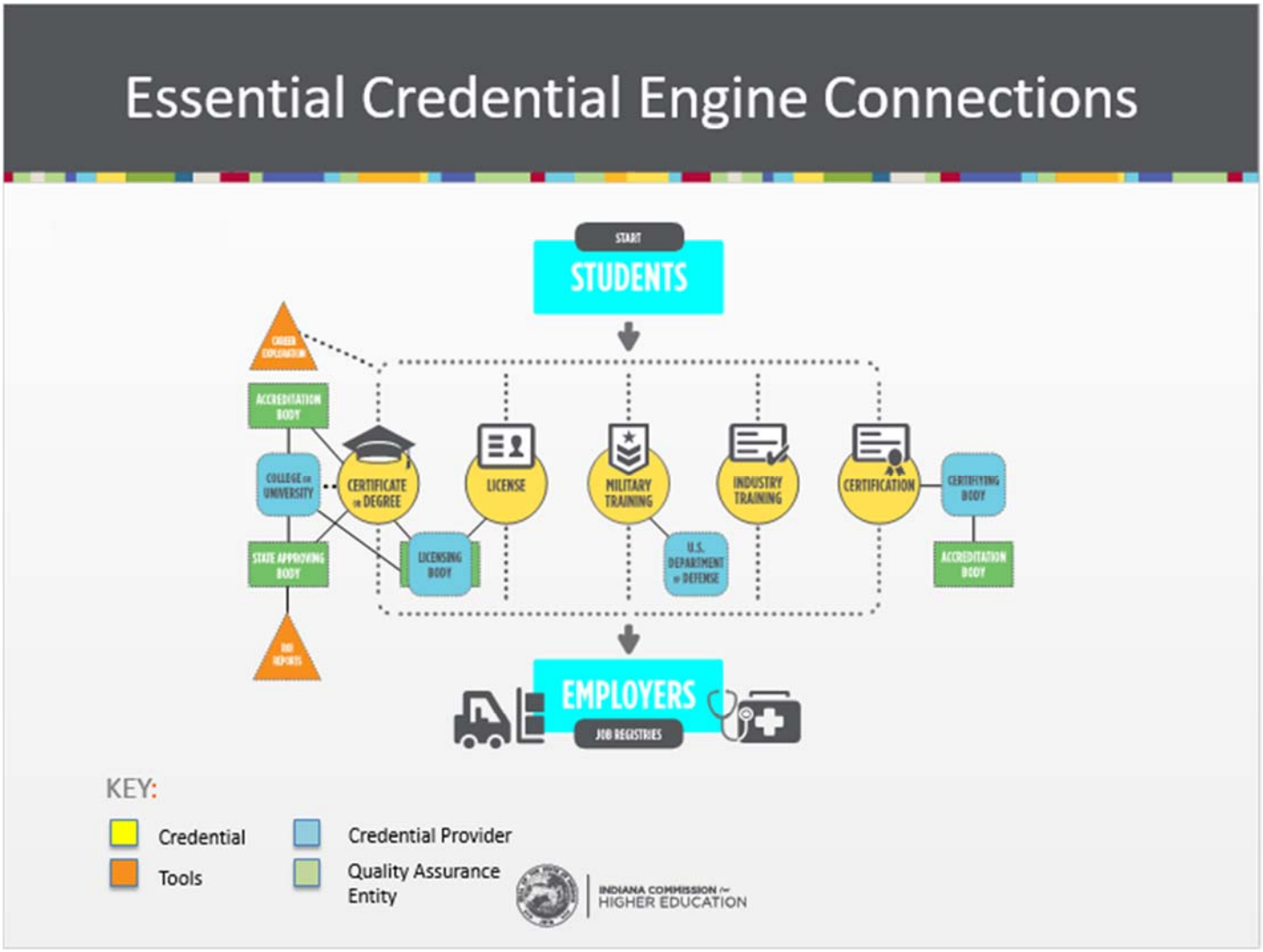
Part Two: Indiana Statewide Scale-Up of Credential Engine

Credential Engine traces its roots back to 2013, when the Credential Transparency Initiative (CTI) was launched, and is a 501(c)(3) non-profit corporation that was created at the end of 2016. Its mission "is to create credential transparency, reveal the credential marketplace, increase credential literacy, and empower everyone to make more informed decisions about credentials and their value." More information about the initiative and its activities can be found at Credential Engine's website.

The Commission for Higher Education's strategic plan, *Reaching Higher, Delivering Value*, emphasizes the following guiding principles: "student-centered, mission-driven, workforce-aligned," which align well with the mission of Credential Engine. For this reason, the Commission submitted a proposal to Credential Engine in early 2017 to be the first state to undertake a statewide scale-up of its credentials and related information. The initial focus of the proposal was on healthcare credentials and military training and experience, with the understanding that additional credentials would be added as the project proceeded. The Commission's proposal was funded and what follows describes the work that was accomplished from March 2017 to the present.

As the Indiana scale-up proceeded, the Commission created an infographic that explained the salient features of the Credential Registry, as the repository of data on credentials is called, from a state agency perspective (see Figure 8). The yellow circles in the infographic symbolize the many different kinds of credentials, ranging from the familiar certificate and degree programs offered by postsecondary institutions to licenses, military and industry training, and professional certifications. The blue squares represent the credential providers, while the green rectangles represent entities that provide a measure of quality assurance for the credentials and credential providers in the Registry. The orange triangles represent the many applications or tools that might be attached to the Registry, thanks to the Open Source nature of its platform. The solid and dotted lines symbolize the many connections among all entries in the Registry that can provide value to student, employers, and other stakeholders who might use Credential Engine.

Figure 8



The Commission's initial strategy for populating the Registry with information about credentials and credential providers was to manually input data utilizing the Commission's Academic Program Inventory and the institutional web sites. This made it possible for the initial contact with university and other stakeholders to start with a conversation about the value of Credential Engine by demonstrating how their information would appear on the Registry through a live navigation of its capabilities. As institutions came to see value in the Registry, they began to add information about their credentials on their own initiative. In addition, as a result of work done with Ivy Tech Community College, Indiana's statewide community college, and the desire of the College to have all of its certificates and degrees published in the Registry, a Bulk Upload tool in Credential Publisher was developed by Credential Engine to enable all of a provider's credentials to be added to the Registry by uploading them through a spreadsheet.

As a result of these efforts, 38 Indiana organizations or credential providers have uploaded a total of 907 credentials as of December 2017 (see Figure 9). The 38 organizations included all 16 of Indiana's public colleges and universities, two private non-profit universities, and all 20 of Indiana healthcare-related licensing boards under the Indiana Professional Licensing Agency, where most of the State's healthcare licensing boards are housed. The 907 credentials include: all health-related programs in public colleges and universities, ranging from short-term certificates to doctoral programs; health-related programs at the two private, non-profit universities; and 33 healthcare licenses. All levels of credentials – certificates as well as associate, baccalaureate, and graduate degrees – are well represented in the nine hundred Indiana entries in the Registry.

It is also important to note that **all** programs, both health-related and non-health related, offered by our public two-year institutions, Ivy Tech Community College and Vincennes University, as well as all programs offered by the University of St. Francis, have been added to the Registry.

Figure 9

Indiana Credentials and Organizations on the Credential Registry

Number of Indiana Organizations (Credential Providers)	
All Public Colleges and Universities	16
Non-Profit Universities	2
All Health Licensing Boards	20
Total	**38**

Number of Indiana Credentials	
Certificates	275
Associate Degrees	259
Baccalaureate Degrees	176
Graduate Degrees	164
Health Licenses	33
Total	**907**

An important milestone in Indiana's scale-up of Credential Engine was the Rollout event that took place on the afternoon of December 13, 2017, which was attended by a hundred or so participants and was recorded and streamed nationally. Subsequently, a brief video was created featuring remarks by Commissioner for Higher Education Teresa Lubbers and Ivy Tech Community College President Sue Ellspermann.

Figure 10

Credential Engine

Indiana Scales-Up Workforce In Healthcare And Beyond With Credential Engine

The success of Indiana's economy relies on building a high-quality workforce ready to innovate and power the state into the future. Health-related jobs are crucial to Indiana's economy, and as they represent 25% of its in-demand jobs, understanding the healthcare credentials currently offered in the state is critical to ensuring programs are ready to expand, evolve, and scale to meet future needs. To do this, Indiana committed to work with credentialing organizations to publish all healthcare-related credentials to the Credential Registry. Partnering with Credential Engine, the Indiana Commission for Higher Education has worked with Indiana's credential providers to publish over 1,000 healthcare credentials on the Credential Registry so far, building a clear map of where the healthcare credentialing ecosystem is, and where it needs to go.

To highlight some of the important ways healthcare data is being used in the state, a number of use cases were developed and will guide the creation of applications that use credential data from the Registry to meet identified needs.

Healthcare Industry – By publishing all health-related credentials in Indiana on the Registry—such as certificates, certifications, licenses, and degrees of all types and levels—prospective students can better search for and understand their education and training options in the state and the competencies acquired through these credentials, helping students make more informed decisions.

Military Training and Experience – Indiana has put an emphasis on translating military training and experience into meaningful college credit. The Registry shows the Military Bridge programs that are connected with Indiana's institutions and the Defense Department's Medical Education Training Campus (METC), allowing service members and veterans to better understand their options for civilian employment in related fields.

Dual Credit – Including Career Centers and associated Career Technical Education programs on the Registry will allow students and advisors to see which credentials can be earned from Early College Programs and will eventually show related jobs from employers.

Apprenticeships – Apprenticeship information will highlight the connections between institutions, apprenticeships, and employers.

Next Level Jobs – Incorporating Governor Holcomb's Next Level Indiana initiative, Credential Finder will allow users to search for credentials in high-priority industries driving Indiana's economy forward. The searchable information shows the programs that are associated with the Workforce Ready Grant, which pays the tuition and mandatory fees for working-age Hoosiers to earn a high-value certificate at Ivy Tech Community College or Vincennes University.

Career Exploration – In the future, the Registry data will be connected with the Indiana Career Ready website. Some of the tools on the site are mandatory exploration tools for high school students, and the Registry information will add additional layers of information, such as competencies, career pathways, and return on investment.

Return on Investment Applications – Indiana will include information about the return on investment for each credential in the Registry. Return on Investment information can help students and advisors make more informed decisions on potential career pathways.

Digital Credentials – Indiana has a strong partnership with Parchment, including work with the Indiana e-Transcript which will soon incorporate Registry data, so students are armed with rich data about their degrees and can better communicate that information to future employers.

To learn more, please visit www.credentialengine.org or contact info@credentialengine.org

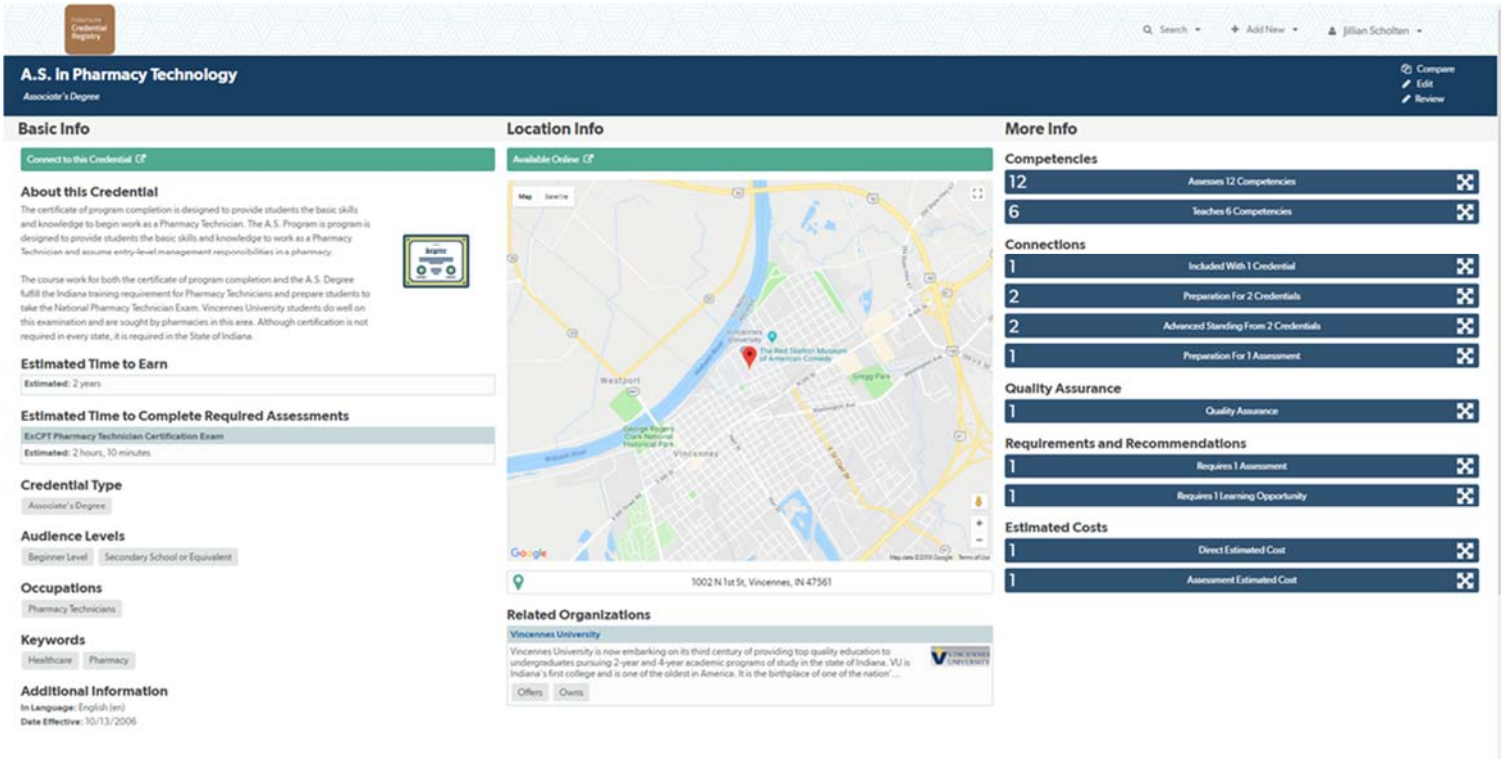
Last Updated: 03/06/2018

Download this Fact Sheet

This event marked the progress that had been made over the previous ten months and featured ten use cases (Figure 10). The use cases related to healthcare and military training and experience are featured in the screenshots presented below. Other use cases highlighted how high schools could benefit by having credentials represented on the Registry (career and technical education courses and dual credit courses) as well as industry training (apprenticeships). Two other use cases demonstrated the benefits of the Open Source nature of the Registry through linkages to career exploration tools and return on investment reports (ROI) developed by other parties, in these cases the IDWD and ICHE. The final use case on digital credentials describes potential linkages to Indiana's e-Transcript Program.

A powerful feature of Credential Engine is the Credential Transparency Description Language (CTDL), which is illustrated by the screenshot describing the A.S. in Pharmacy Technology offered by Vincennes University (see Figure 11). In addition to displaying basic information about the credential itself and the location of the credential provider, links to related information, such as competencies, connections to other credentials, and costs, permit the user to readily access a wealth of critical information that needs to be taken into consideration when making educational and career decisions.

Figure 11



One of the most important CTDL descriptors, and it can be argued the most important descriptor, is the set of competencies that someone earning a credential is expected to master. This is important both to the credential provider and to the learner considering investing time and money to earn the credential. To providers, this descriptor presents an opportunity to be clear and focused about what they are trying to accomplish, and to learners, it provides an understanding about what knowledge and skills they can be expected to have mastered once the credential has been earned. This descriptor also reflects the increasing educational and employer emphasis on what someone knows and is able to do with that

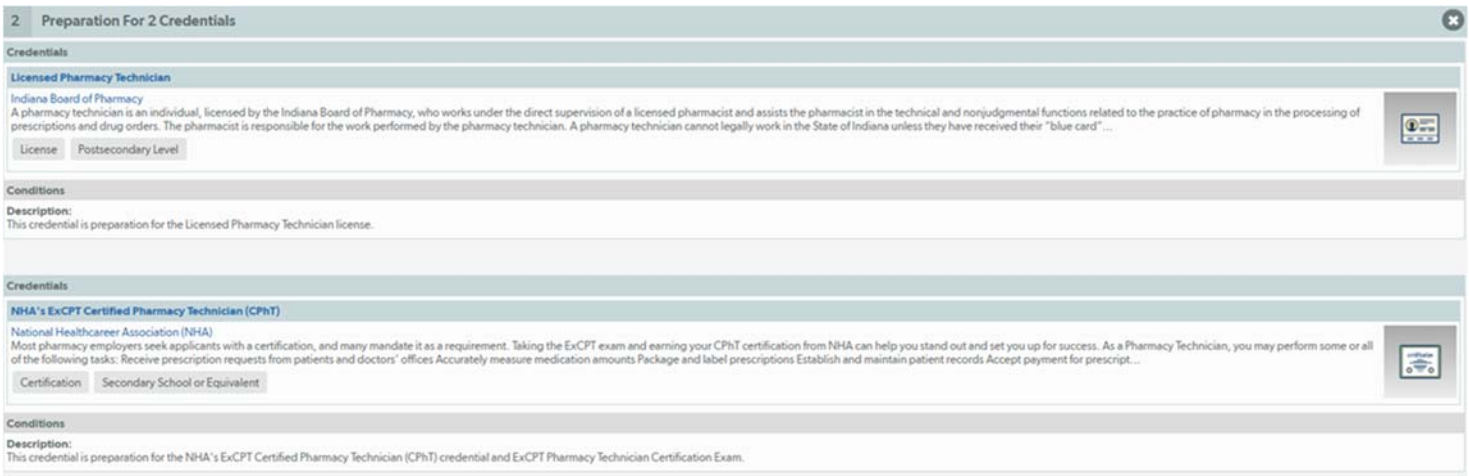
knowledge, as opposed to measuring progress toward earning a credential by solely counting credit hours and seat time.

Figure 12

In the case of the Vincennes University A.S. in Pharmacy Technology, a graduate of this program will be prepared to successfully pass the Exam for the Certification of Pharmacy Technicians (ExCPT), which itself tests knowledge of nine competencies in three different areas: Regulations and Pharmacy Duties, Drugs and Drug Therapy, and the Dispensing Process. These can be accessed through one of the listings under the CTDL descriptor "Competencies" (see Figure 12).

"Connections" represents another important set of CTDL descriptors. One type of connection is how one credential prepares someone for earning another credential. Again using the example of the Vincennes University A.S. in Pharmacy Technology, preparation for two other credentials are indicated. One of these is issued by the Indiana Board of Pharmacy: the Licensed Pharmacy Technician (see Figure 13). Embedded in this CTDL descriptor is a link to the Board of Pharmacy, where the user can access all the information needed to become licensed as a Pharmacy Technician in Indiana, including licensure fees, required documentation, criminal background checks, and application forms. The second credential, for which the A.S. degree prepares the graduate to earn, is the ExCPT exam administered through the National Healthcareer Association, which was referenced earlier (Figure 12).

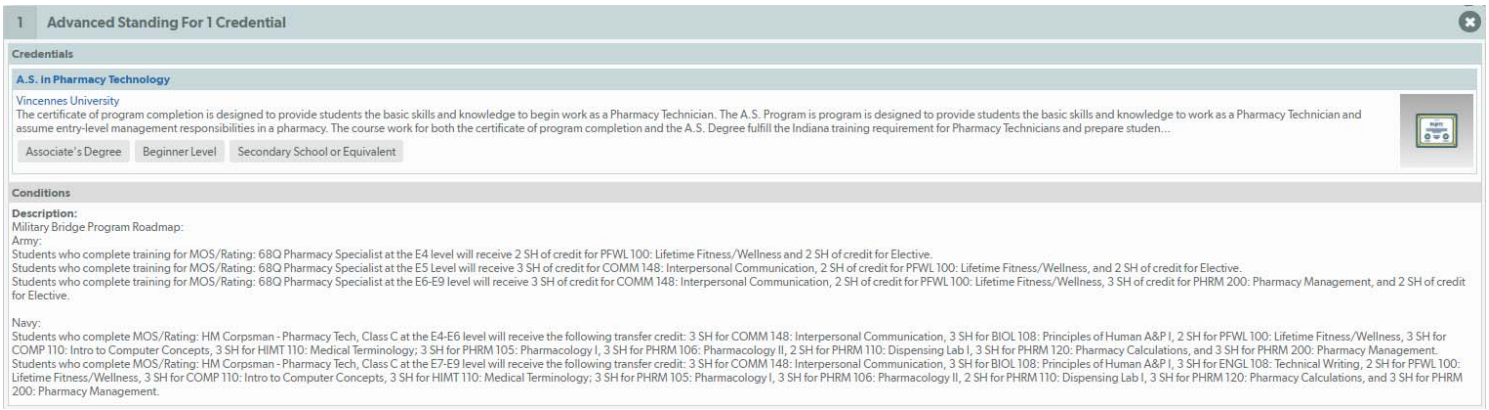
Figure 13



Careful attention to competencies, irrespective of where, when, and how someone has acquired those competencies, underscores yet again the importance of CTDL descriptor, "Connections." The general mobility of the population along, with the need for workers to access educational opportunities throughout their lifetime, due to the need to keep or change jobs or to enhance their careers, punctuates the importance of recognizing how credentials can build upon one another, relieving the learner of the burden of having to repeat something they already know. This clearly applies to veterans, some of whom may wish to pursue a career in the civilian sector that was related to their military training and experience.

In the case of the A.S. in Pharmacy Technology, Vincennes University has determined that soldiers who have completed training for the Army Military Occupational Specialty (MOS) 68Q Pharmacy Specialist may receive 4-10 semester credit hours toward their associate degree in Pharmacy Technology, depending upon rank. For example, a Specialist or Corporal (E4) would receive four credits, while a Staff Sargent (E6) would receive ten credits. Likewise, sailors who have trained for the Navy Rating HM Corpsman – Pharmacy Tech Class C may receive 28-31 credit hours depending on their rank. A Petty Officer Third Class (E4) would receive 28 credits toward the A.S. in Pharmacy Technology, whereas a Chief Petty Officer (E7) would receive 31 credits (see Figure 14).

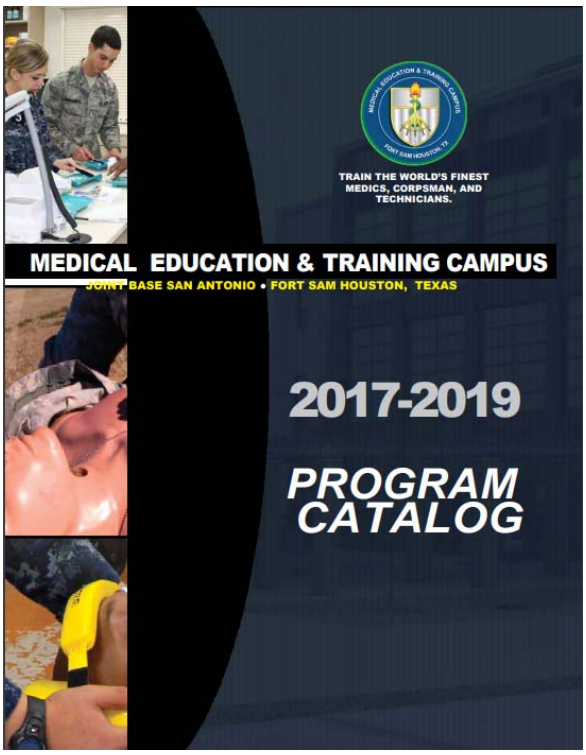
Figure 14



As illustrated by the foregoing examples, Credential Engine has enormous potential for recognizing the excellent training and experience servicemembers acquire during their enlistment in the Armed Forces as part of the ecosystem of credentials that have genuine value because of the clearly identified knowledge and skills associated with them. This is why the Indiana scale-up of Credential Engine devoted considerable effort to incorporating military training and experience into the Registry as credentials, referenced, in the case of the Army for example, by their MOS.

To this end, the Commission used half of its scale-up grant from Credential Engine to contract with Solutions for Information Design (SOLID) to focus specifically on incorporating military allied health-related training into the Registry. All of this training, for all branches of the Armed Forces, is done at the Medical Education and Training Campus (METC) at Joint Base San Antonio – Fort Sam Houston, Texas and is described in the METC 2017-2019 Program Catalog (see Figure 15).

Figure 15



Conclusion

The two initiatives described in this application are different in many ways, yet they share things in common and have the potential to connect in extraordinarily important ways.

The Indiana e-Transcript Program is a mature, state initiative that has focused entirely on secondary and postsecondary educational providers and narrowly, at least up to this point, on the well-established data elements comprising a conventional academic transcript. By contrast, the Indiana scale-up of Credential Engine is part of a brand new, national initiative that is focused on the broadest possible set of educational and training providers and a wide range of data elements.

Yet there are also trend lines of convergence. The Indiana e-Transcript Program is now part of a new, national AACRAO-NASPA Comprehensive Learner Record project, whose objective is to provide a more complete depiction of a student's knowledge and skills as reflected in learning experiences outside the classroom. Implicitly, if not explicitly, a CLR or transcript of experiential and applied learning represents movement toward the CTDL Competencies descriptor. While legislation made the Indiana e-Transcript Program a statutory initiative, developing a CLR or transcript supplement will require a voluntary consensus among key stakeholders, which embodies the wholly voluntary nature of Credential Engine.

In one essential way, the two initiatives absolutely share something in common: they both depend on standards. Without the PESC XML e-Transcript schema, it would be impossible to achieve the full

promise of the Indiana e-Transcript Program. Likewise, without the CTDL, it would be impossible to organize, share, and link the data about credentials, credential providers, and quality assurance entities.

Finally, as e-Transcript broadens beyond its initial focus and as Credential Engine matures, there is no doubt that these two initiatives can connect. With each passing day, the Credential Registry is populated with more data and receives greater attention, as a way to better understand a complex credential ecosystem and address the country's workforce needs. In light of this, it is possible to foresee the day when employers, by using APIs and taking advantage of the Open Source nature of Credential Engine, could post job vacancies on the Registry, along with the competencies required for successful applicants. As that day approaches, one can also foresee applicants submitting their CLRs, through other APIs, to apply for those vacancies.

Appendix

House Enrolled Act (HEA) 1341

Creating

The Indiana e-Transcript Program

First Regular Session 118th General Assembly (2013)

PRINTING CODE. Amendments: Whenever an existing statute (or a section of the Indiana Constitution) is being amended, the text of the existing provision will appear in this style type, additions will appear in **this style type**, and deletions will appear in ~~this style type.~~

Additions: Whenever a new statutory provision is being enacted (or a new constitutional provision adopted), the text of the new provision will appear in **this style type**. Also, the word **NEW** will appear in that style type in the introductory clause of each SECTION that adds a new provision to the Indiana Code or the Indiana Constitution.

Conflict reconciliation: Text in a statute in *this style type* or ~~*this style type*~~ reconciles conflicts between statutes enacted by the 2012 Regular Session of the General Assembly.

HOUSE ENROLLED ACT No. 1341

AN ACT to amend the Indiana Code concerning higher education.

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 21-18-12 IS ADDED TO THE INDIANA CODE AS A **NEW** CHAPTER TO READ AS FOLLOWS [EFFECTIVE JULY 1, 2013]:

Chapter 12. Indiana E-Transcript Program

Sec. 1. (a) The Indiana e-transcript program is created to allow students at all accredited high schools located in Indiana to request that the student's school transcripts be transmitted electronically to state educational institutions, participating Indiana not-for-profit or privately endowed institutions, and participating Indiana institutions authorized by the board for proprietary education established by IC 21-18.5-5-1.

(b) The commission shall administer the program.

(c) Beginning July 1, 2013, the department of education established by IC 20-19-3-1, in collaboration with the state educational institutions and the commission, shall develop a common electronic transcript, using common data fields and formats that are required by state educational institutions.

(d) Not later than July 1, 2015, all public secondary schools shall use the common electronic transcript developed by the department of education.

(e) The governing body of an accredited nonpublic secondary school may elect to use the common electronic transcript developed

by the department of education.

Sec. 2. The commission, in consultation with the department of education established by IC 20-19-3-1, may adopt rules under IC 4-22-2 to implement this chapter.