

THE RIGHT **DATA**
THE RIGHT **WAY**
THE RIGHT **TECHNOLOGY**
THE RIGHT **PEOPLE**

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www.PESC.org

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PESC

- **Founded 1997 in Washington DC**
- **Non-profit (501c3) Association w/ 2 Staff**
- **Open Standards-Development Body**
- **Open Standards-Setting Body**
- **Governed by Voluntary Consensus**
- **Funded by Dues, Sponsors, Registrations**
- **PESC Approved Standards Free & Open**
 - EDI
 - PDF
 - XML
- **Data, Software & Technology Service Providers**
- **Schools, Districts, Colleges & Universities**
- **College, University & State/Province Systems**
- **Local, State/Province & Federal Government Offices**
- **Professional, Commercial & Non-Profit Organizations**
- **Non-Profit Associations & Foundations**
- **150 volunteers**

PESC

leading the establishment and adoption of open data standards across the education domain

Academic
Credentialing &
Experiential Learning

*Admissions
Workgroup for
Recruitment Data

Canadian PESC
User Group
(CanPESC)

JSON
Task
Force

Global Education
Code (GEO)
Workgroup

Change Control
Board (CCB)

EdExchange (CDS)
User Group

Education Record
User Group (ERUG)

Seal of Approval
Board (SAB)

Technical Advisory
Board (TAB)

PESC Board
of Directors

PESC MEMBERS

PESC APPROVED STANDARDS

INTEROPERABILITY BUSINESS VS. TECHNICAL

- **Comprehensive Management Support**
- **Controlled Access & Security**
- **Disaster Recovery**
- **Flexibility & Scalability**
- **Formal Governance & Policy**
- **Fraud Prevention**
- **Funding & Licensing**
- **Privacy**
- **Quality Control Measures**
- **Training**
- **IT Strategy**
- **Business/Use Cases**
- **Data Delivery, Timelines & Requirements**
- **Federations**
- **PESC Approved Standards**
- **Student/Learner-Centric Perspective**
- **Unique ID's & Standardized Code Sets**
- **Use of Hubs and Spokes**

PESC APPROVED STANDARDS BY TECHNOLOGY

JSON
In Process

PDFxml



2011 – Also referred to as ‘PDF Attachment’, this standard is payload neutral; and automated, machine-to-machine functionality, emphasized by PESC, is only possible if payloads are PESC APPROVED STANDARDS.

XML

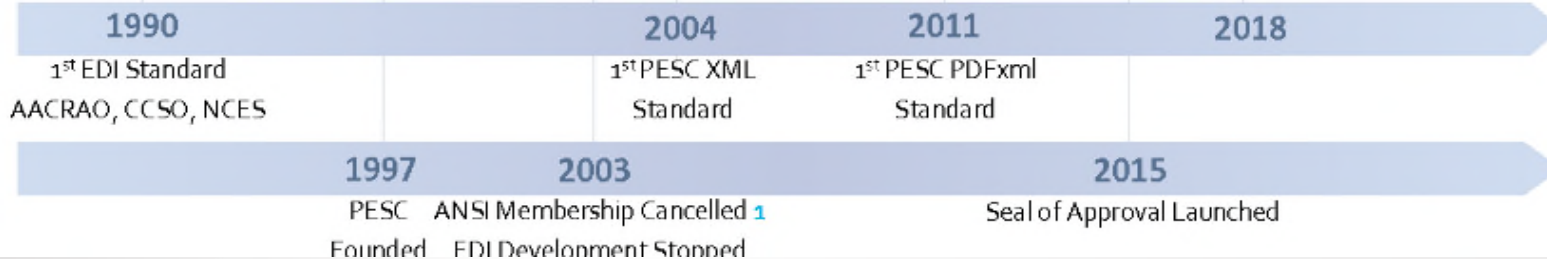


2004 – College Transcript & Student Aid
2006 – High School Transcript
2009 – Admissions Application & IPEDS
2009 – Education Test Score Report
2011 – NSLDS
2013 – Student Loan
2015 – Education Course Inventory
2016 – Academic ePortfolio
2017 – Common Credential

EDI



1990 – College/High School Transcript (combined)
2001 – Education Course Inventory
2009 – Admissions Application



A light gray world map is centered in the background of the slide. The title 'AROUND THE WORLD' is overlaid on the map in a dark blue, sans-serif font.

AROUND THE WORLD

- **Australia / New Zealand**

- My eQuals

- **Canada**

- OCAS & OUAC
- ApplyAlberta

- **China**

- Higher Education Student Info & Career Center

- **Europe**

- EMREX
- EWP

- **Netherlands**

- Diploma Registry

- **South Africa**

- Qualifications Authority

- **USA**

- Common Application
- Credentials, NSC, Parchment

USE CASES – THE IT STACK

Applications

Database

Middleware

Operating System

External Presentation
To Students, Learners,
Parents, Employers

Netherlands

- Ministry Collects Diplomas
- Trusted, National Hub
- Authentic & Verifiable
- Suitable for Blockchain

Applications

Database

Middleware

Operating System

External Presentation
To Students, Learners,
Parents, Employers

Internal Processing
Delivery & Results

DATA DELIVERY & EXCHANGE

- **Globally insufficient or non-existent solutions**
- **PESC Common Data Services Taskforce (10/2011)**
- **Gap Analysis by California Community Colleges resulted in need for EdExchange**
- **No consistent way to request & exchange documents between academic institutions**
- **Service provider exchange networks operate in isolation from one another**
- **Available legacy exchange built on legacy technology, storage of PII, and lacks confirmation of delivery**

THE EDEXCHANGE SOLUTION

- **Enables real-time open data exchange among academic institutions and their service providers**
- **Payload agnostic to support a multitude of documents, types of exchanges**
- **Community based solution based on standards, open source development**

- **Open web services architecture, open source code & standards**
- **Neutral digital look-up service, neutral platform (PaaS)**
- **Peer-to-peer network enabling secure, reliable & direct connection between users**
- **Avoids store-and-forward & file-based technologies**

DIRECTORY SERVER

Purpose

- Secure repository of validated network endpoints servicing listed destinations

Functions

- Accept Delivery Options request
- Return Delivery Options report

Reference Implementation

- Java Server

Deployment

- Operated by PESC



NETWORK SERVER

Purpose

- Serve as an endpoint in the secure EdExchange network

Functions

- Lookup
- Send
- Receive

Reference Implementation

- Java Server

Intended Deployment

- Local to Vetted Institutions & Service Providers



HOW IT WORKS

How do I send
an electronic
transcript to
_____?

College/Service Provider A



Network Server

College/Service Provider B



Network Server

HOW IT WORKS

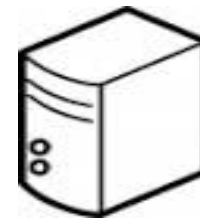
College A calls the EdExchange Directory Server with a Delivery Options Request

College/Service Provider A

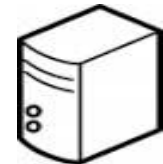


Network Server

EdExchange Server Host



Directory Server



Backup Directory Server

College/Service Provider B

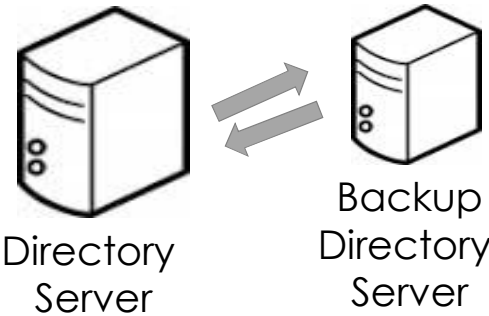


Network Server

HOW IT WORKS

Directory server responds with Delivery Options Report which contains validated network servers

EdExchange Server Host



College/Service Provider A



Network Server

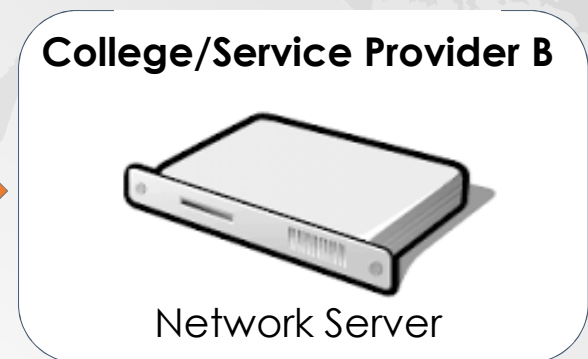
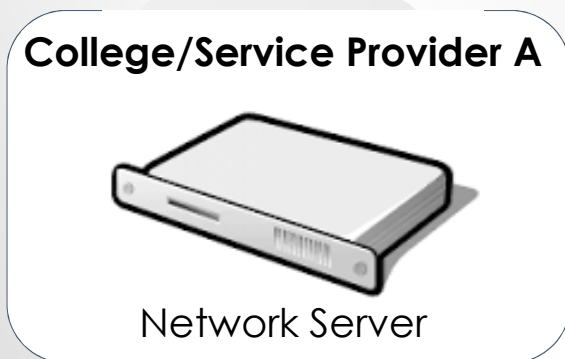
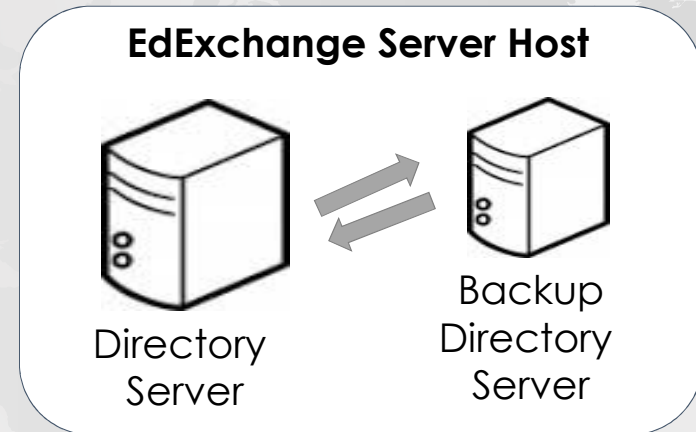
College/Service Provider B



Network Server

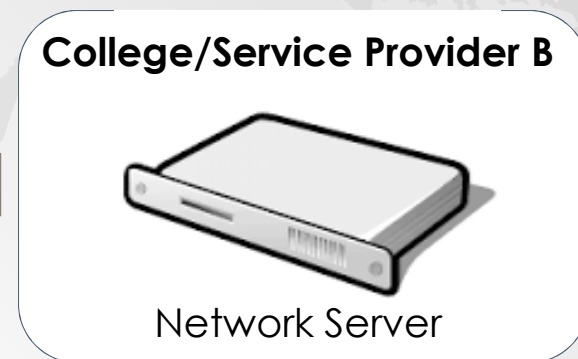
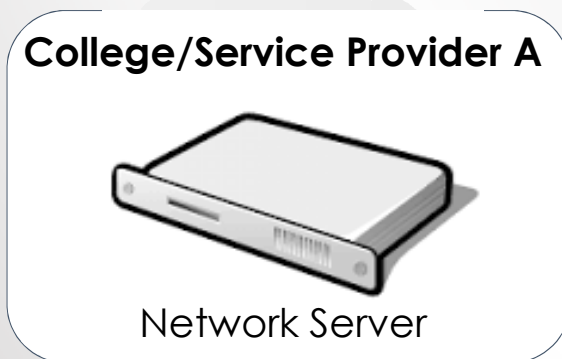
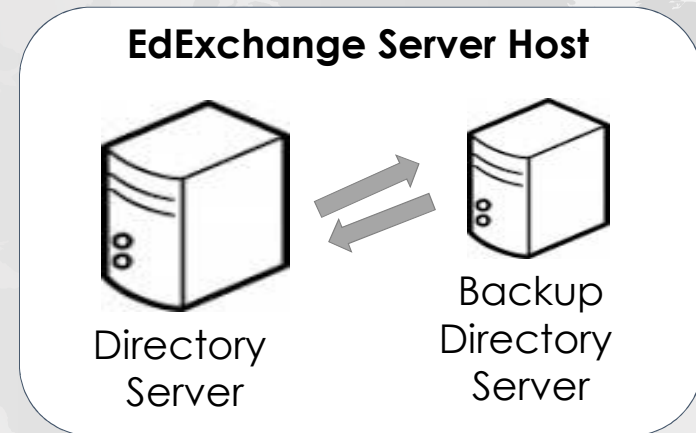
HOW IT WORKS

Transcript placed in an “EdExchange Envelope” and delivered to appropriate Network Server



HOW IT WORKS

**Confirmation placed
in “EdExchange
Envelope” and
returned to senders
Network Server**



EDEXCHANGE

- **Secure** Avoiding file based technologies keeps exchange of data between the sender and receiver
- **Reliable** EdExchange standard assures confirmation of delivery is received
- **Fast** Peer to peer architecture provides for a direct connection
- **Payload Agnostic** Supporting a variety of document types and transactions

BENEFITS

- **Improve data integrity and data quality**
- **Provide consistent and reliable information and service to end users and consumers of data**
- **Enable the ability to measure and benchmark various levels and components of data**
- **Decrease programming costs**
- **Reduce human resource costs**
- **Instill a hierarchical methodology for development based on standards and minimizes variables**

A light gray world map is visible in the background of the slide, centered behind the text.

NEXT STEPS

- **Finalize pilots:**
 - **California Community Colleges**
 - **Credentials Solutions**
 - **National Student Clearinghouse**
 - **Parchment**
- **MOU w/ PESC**
- **Confirmed Insurance**
- **Budget**
- **Subscription Pricing**
- **'Soft launch' Fall 2018**

A faint, light gray world map is visible in the background of the slide, centered behind the text.

ADDITIONAL INITIATIVES

- **Admissions Workgroup for Standardizing Recruitment Data**
 - Thursday June 21, 2018 3pm EDT
- **GEO Code**
- **JSON Task Force**
- **Technology Task Force**
- **Fall 2018 Data Summit**
 - October 17-19, 2018, San Francisco
 - Charmain Hack, President, ARUCC, Keynote Speaker
 - SIS and Application Centers

THANK YOU!

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