CDS Directory Server

The CDS Directory Server may be overseen by the Postsecondary Electronic Standards Council (PESC), by Ed-Unify, or by some other Organization/Entity. The CDS Directory Server is used to maintain the CDS Membership Directory and the CDS Delivery Options Directory. There will likely be only one server used to maintain these directories.

Membership Directory:
Data are captured and maintained in the Membership Directory for those Institutions interested in participating in the exchange of payloads (transcripts or other data) from one member to another.

Field Name	Description	Required
Member Organization Name	See Organization ID table below	Y
Member Organization ID	Unique Identifier to be concatenated with the Member Id Organization to form a global unique ID	Y
Member Sub Code	Further refinement of the delivery location. Ex, department (Math, Science)	N
Description		
Credential	Unique for each sender and receiver	Y
Contact Type	Admin, Technical, Billing, etc…	Y
Address	Mailing/Billing Address of member	Y
Email	Email address of member	Y
Phone	Phone Number of member	Y
URL	Web Site address of member	Y
EIN – Employer Identification Number	Employer Identification Number (EIN) is also known as a Federal Tax Identification Number, and is used to identify a business entity	Y
Entity Indicator	Identifies if entity is a Vendor or an Institution	Y
Terms of Use	Rules which one must agree to abide by in order to use a service. Terms of service can also be merely a disclaimer, especially regarding the use of websites.	Y
Privacy Policy	A statement that discloses some or all of the ways a party gathers, uses, discloses and manages a customer or client's data.	Y
Receiving Format	Data format the member is able to process	Y

Organization ID	Description
OPEID	Office of Postsecondary Education identification code. Number issued to colleges that are eligible to participate in federal financial aid programs
IPEDS	Integrated Postsecondary Education Data System ID
ATP	College Board's Admissions Testing Program, codes maintained by ETS
FICE	Federal Interagency Committee on Education
ACT	American College Testing program
CCD	
CEEB	College Entrance Examination Board ID. Unique ID for high school, college, or university
PSIS	Statistics Canada Organization ID
USIS	
ESIS	
DUNS	A unique nine digit identification number, for each physical location of a business.
NCHELP ID	

Note: Is vender information is also captured:

Yes, vendor information will be captured.

The vendor information will be useful for coming up with the routes. Probably when someone looks up a destination and a route, portions (or all) of that route will involve vendors.

Note: Do the institutions in the directory send and receive or just receive data?

Institutions may send, receive or send and receive data.

They might send passwords and credentials but for the most part they look up data. Which brings the question of who creates and maintains the routes. Vendors perhaps?

Member Delivery Options:
Data are captured and maintained in the Member Delivery Options data store for those Vendors and Institutions interested in providing a service to send a payload (transcripts or other data) from one Institution/Vendor to another Institution/Vendor.

Need to define what delivery options are captured for each entity in the DB.

Delivery Options Table

	Organization Name	Content Code	WebService URL	Cost Amount	Speed Code	Delivery Confirmation Flag	Error Handling Indicator
MEMBERS	Vendor 1	PESC XML	HTTP://www.Vendor1url.com	$1.00	Fastest	Yes	Yes
	Vendor 1	EDI	HTTP://www.Vendor1url.com	$2.00	Faster	Yes	Yes
	Vendor 1	PDF	HTTP://www.Vendor1url.com	$3.00	Fast	No	No
	Vendor 1	TEXT	HTTP://www.Vendor1url.com	$4.00	Normal	No	No
	Vendor 2	PESC XML	HTTP://www.Vendor2url.com	$1.00	Fastest	Yes	Yes
	Vendor 2	EDI	HTTP://www.Vendor2url.com	$2.00	Faster	Yes	Yes
	Vendor 3	PESC XML	HTTP://www.Vendor3url.com	$1.00	Fastest	Yes	Yes
	Vendor 3	EDI	HTTP://www.Vendor3url.com	$2.00	Faster	Yes	Yes
	Vendor 3	TEXT	HTTP://www.Vendor3url.com	$4.00	Normal	No	No
	Institution X	PESC XML	HTTP://www.Vendor3url.com	$1.00	Fastest	Yes	Yes
	Institution X	EDI	HTTP://www.Vendor3url.com	$2.00	Faster	Yes	Yes
	Institution X	TEXT	HTTP://www.Vendor3url.com	$4.00	Normal	No	No

The following table will establish a relationship between the institutions that want to send a payload and the vendor or other institution that will deliver that payload.

Vendor Reference Table

	Member Organization ID	Member Reference
MEMBERS	Institution 1	Vendor 1
	Institution 1	Vendor 2
	Institution 2	Vendor 1
	Institution 2	Vendor 3
	Institution 3	Vendor 1
	Institution 3	Vendor 2
	Institution 3	Institution X

If the same institutions or vendors are also in the Membership DB do we need two separate DBs?
No – a single Data Base will be used to store member and delivery option data.
Not necessarily. A vendor might just have a vendor flag.

CDS Network Server

While there will probably only be one CDS Directory Server there may be many CDS Network Servers. Each Institution or vendor may maintain one or more server used to send and receive payloads via the CDS Webservice.

CDS Get Delivery Options

1) Actor Initiates a document exchange (Delivery Options Requested XML)
2) Process connects to the server to get the Delivery Locations. Note: This system will assign a Transaction ID to all requests that pass through the server.
3) Some sort of executable is run on the server which accesses a “Local Membership mirror” database containing the delivery location of all entities (educational institutions and vendors alike).
4) Get the Delivery Option(s) for each of the delivery locations obtained from the “Membership” database. Delivery Options are passed back to the Actor.
5) Actor selects one or more Delivery Locations and one or more Delivery Options to be associated with each Delivery Location.
6) Actor SENDS the payload to the CDS Network Server
7) Payload is sent (maybe a request for a transcript) to the selected Delivery Locations,

7.1 Transaction History DB is updated

8) Receiving Entity(s) as defined by Delivery Location receives the payload.
9) Receiving Entity(s) send some payload back to the Actor.

Issues and or Assumptions

1. Do I have to be a PESC member to be a member of the CDS Network?
2. Is there a need to vet prospective members prior to allowing access to the CDS Network?
3. If yes to number 2, what criteria are used to determine acceptance?
4. Should Full Replacement be used when updating Membership Directory and Delivery options or should individual Create, Read, Update, and Delete transactions be used?
5. Should another document be started to define the structure of the database?

XML Excepts

Coremain

```
- <xs:complexType name="OrganizationType">
- <xs:sequence>
<xs:group ref="core:OrganizationIDGroup"/>
<xs:element name="OrganizationName" type="core:OrganizationNameType" minOccurs="0" maxOccurs ="unbounded"/>
<xs:element name="Contacts" type="core:ContactsType" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="NoteMessage" type="core:NoteMessageType" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>

<!--=========================================-->
<!--Contacts Types-->
<!--=========================================-->
```

Contact Type

```
- <xs:complexType name="ContactsType">
- <xs:sequence>
<xs:element name="Address" type="core:AddressType" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="Email" type="core:EmailType" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="Phone" type="core:PhoneType" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="URL" type="core:URLType" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="NoteMessage" type="core:NoteMessageType" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
```

Address Types

```
<!--=========================================-->
<!--Address Types-->
<!--=========================================-->
- <xs:simpleType name="AddressLineType">
- <xs:annotation>
- <xs:documentation>
Local delivery information such as street, building number, PO box, or apartment portion of a postal address.
</xs:documentation>
</xs:annotation>
- <xs:restriction base="xs:string">
<xs:minLength value="1"/>
<xs:maxLength value="40"/>
</xs:restriction>
</xs:simpleType>
- <xs:simpleType name="AttentionLineType">
                .
                .
        Continues for many pages
                .


<!--=========================================-->
<!--Email Types-->
<!--=========================================-->
- <xs:complexType name="EmailType">
- <xs:sequence>
<xs:element name="EmailAddress" type="core:EmailAddressType"/>
</xs:sequence>
</xs:complexType>

<!--=========================================-->
<!--Phone Types-->
<!--=========================================-->
- <xs:complexType name="PhoneType">
- <xs:sequence>
<xs:element name="CountryPrefixCode" type="core:CountryPrefixCodeType" minOccurs="0"/>
```

```
<xs:element name="AreaCityCode" type="core:AreaCityCodeType" minOccurs="0"/>
<xs:element name="PhoneNumber" type="core:PhoneNumberType"/>
<xs:element name="PhoneNumberExtension" type="core:PhoneNumberExtensionType" minOccurs="0"/>
</xs:sequence>
</xs:complexType>

<!--=========================================-->
<! -- URL Types-->
<!--=========================================-->
- <xs:complexType name="URLType">
- <xs:sequence>
<xs:element name="URLAddress" type="core:URLAddressType"/>
<xs:element name="NoteMessage" type="core:NoteMessageType" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>


<!--=========================================-->
<!--Organization Types-->
<!--=========================================-->
- <xs:group name="OrganizationIDGroup">
- <xs:annotation>
<xs:documentation>Allowable Organization IDs - Exclusive choice</xs:documentation>
</xs:annotation>
- <xs:choice>
<xs:element name="OPEID" type="core:OPEIDType"/>
<xs:element name="NCHELPID" type="core:NCHELPIDType"/>
<xs:element name="IPEDS" type="core:IPEDSType"/>
<xs:element name="ATP" type="core:ATPType"/>
<xs:element name="FICE" type="core:FICEType"/>
<xs:element name="ACT" type="core:ACTType"/>
<xs:element name="CCD" type="core:CCDType"/>
<xs:element name="CEEBACT" type="core:CEEBACTType"/>
<xs:element name="CSIS" type="core:CSISType"/>
<xs:element name="USIS" type="core:USISType"/>
<xs:element name="ESIS" type="core:ESISType"/>
<xs:element name="DUNS" type="core:DUNSType"/>
</xs:choice>
```