Introduction to National Information Exchange Model (NIEM)

Exercises

Exercise #1 – NIEM Model

1. Select 3 of the common NIEM Core types shown below
2. Write down 2 examples of business domain-specific types for each selected NIEM Core type

<nc:Person>	<nc:Activity>	<nc:Item>
<personSexCode>	<activityDate>	<itemName>
<personBirthDate>	<activityCategoryText>	<itemDescriptionText>
<personEyeColorText>	<activityDescriptionText>	<itemConditionText>
<personHairColorText>	<activityDisposition>	<itemValue>
…	…	…

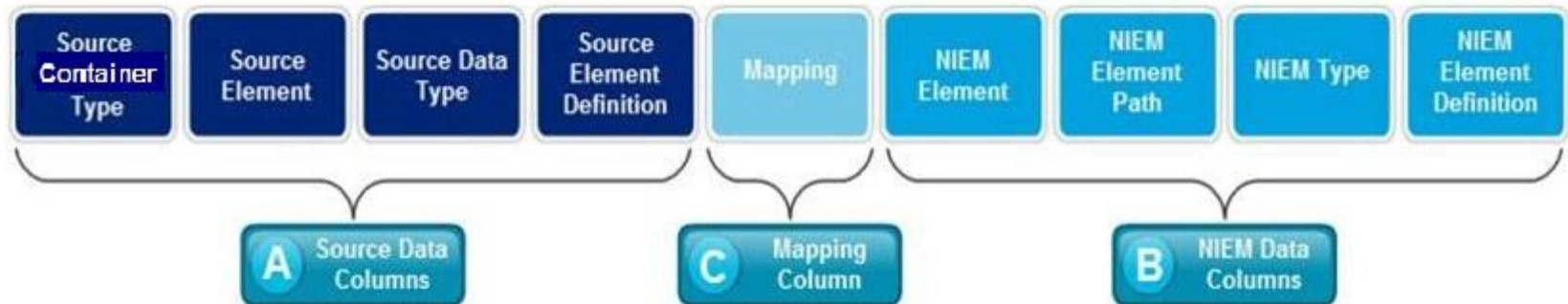| <nc:Location>	<nc:Organization>
<locationDescriptionText>	<organizationName>
<locationAddress>	<organizationDescriptionText>
<locationCategoryCode>	<organizationCategoryText>
<locationName>	<organizationEstablishedDate>
…	…

Exercise #1 – Type Definitions

- nc:Person – A human being
- nc:Activity – A single or set of related actions, events, or process steps
- nc:Item – An article or thing
- nc:Location – A geospatial location
- nc:Organization - A unit which conducts some sort of business or operations

Exercise #2 – Mapping and Matching

Using the Component Mapping Template provided on slide 5, map the Source Elements on slide 6 to the NIEM elements on slide 7

1. Determine the type of match (equivalent, no, partial)
2. If a partial match, identify the conflict type (semantic, structural, or container) in the comments

Exercise #2 – Mapping Template

Source Container Type	Source Element	Mapping	Conflict Type	NIEM Element	NIEM Element Path
InspectionReport	InspectionDate				
InspectionReport	OfficerID				
InspectionReport	InspectionResult				
InspectionReport	InspectionNotes				
InspectionReport	PortOfEntry				
Vehicle	VehiclePlateNumber				
Vehicle	VehicleCarrierDOTNumber				
Vehicle	VehicleRegistrationState				
Vehicle	VehicleRegistrationCountry				
Driver	DriverFirstName				
Driver	DriverLastName				
Driver	DriverDOB				

Exercise #2 – Source Elements

Source Container Type	Source Element	Source Data Type	Source Element Definition
InspectionReport	InspectionDate	date	Contains the date the inspection was completed
InspectionReport	OfficerID	long	Contains the ID of the officer who performed the inspection
InspectionReport	InspectionResult	string	Contains a description of the results of the inspection
InspectionReport	InspectionNotes	string	Contains additional notes for the inspection
InspectionReport	PortOfEntry	string	Contains the code for a Port of Entry
Vehicle	VehiclePlateNumber	string	Contains the license plate number for the vehicle
Vehicle	VehicleCarrierDOTNumber	string	Contains the DOT number for the vehicle
Vehicle	VehicleRegistrationState	string	Contains the state code for the issuing state of vehicle registration
Vehicle	VehicleRegistrationCountry	string	Contains the country code for the issuing country of vehicle registration
Driver	DriverFirstName	string	Contains the first name of the driver
Driver	DriverLastName	string	Contains the last name of the driver
Driver	DriverDOB	string	Contains the birth date of the driver

Exercise #2 – NIEM Elements

NIEM Element	NIEM Element Path	NIEM Type	NIEM Element Definition
nc:ActivityDate	nc:Activity/nc:ActivityDate	nc:DateType	A date of an activity
nc:IdentificationID	nc:Identification/nc:IdentificationID	niem-xsd:string	A value that identifies something
nc:LocationCountryFIPS10-4Code	nc:LocationCountryFIPS10-4Code	fips_10-4:CountryCodeType	
nc:LocationStateNCICLISCode	nc:LocationStateNCICLISCode	fbi:LISCodeType	
nc:PersonBirthDate	nc:Person/nc:PersonBirthDate	nc:DateType	A date a person was born.
nc:PersonGivenName	nc:Person/nc:PersonGivenName	nc:PersonNameTextType	A first name of a person.
nc:PersonSurName	nc:Person/nc:PersonSurName	nc:PersonNameTextType	A last name or family name of a person.
scr:PortOfEntryCode	scr:PortOfEntryCode	nc:TextType	An organization location that is used for operating sea, air, and land traffic.
nc:VehicleMotorCarrierIdentification	nc:Vehicle/nc:VehicleMotorCarrierIdentification	nc:IdentificationType	US DOT Number

Exercise #3 – Exchange Assessment

Using the Exchange Assessment Criteria on slides 114 - 115 of the course materials and the exchange descriptions on the slide 9,

1. Determine if the exchange is a good candidate for implementation using NIEM

2. Identify which Exchange Partner organization should implement the exchange

3. Document the reason(s) for your decision

Exercise #3 – Exchange Descriptions

1. Agency A wants to provide adjudication results and approved immigration benefit request data to Agencies B, C, and D, and Department X.

2. Agency X wants to receive financial statement data from many companies. The XBRL (eXtensible Business Reporting Language) standard contains all the necessary data elements.

3. Agency A wants to send passport application data to Department X when an application for naturalization as a U.S. citizen has been approved.

4. Agency A wants to receive immigration benefit requests from third party systems via a system-to-system e-filing interface.

5. Department Y wants to receive employment authorization data from Agency A upon approval of an employment authorization benefit request. No other agencies or departments require this information.