














U.S. AIR FORCE

**USAF e-Forms Program
(Brief – Federal XML Working Group)
Feb 19th, 2003**

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-  USAF e-Forms Program - Transition
-  Data Commonality Approach
-  Forms Data Analysis - Data Elements Mapping
-  Data Object Library
-  Planned XML Schema Development Approach
-  DoD XML Namespace Mapping
-  Re-Use of Industry XML Schemas
-  Product Metadata Management
-  Forms-Based Automation Solutions
-  Emerging XForms Standard
-  Areas of Need/Focus



Product Selection Decision Criteria

- ◆ Digital Signature Capable
- ◆ XML-Based
- ◆ User Friendly (based on user community feedback)

Additional Factor

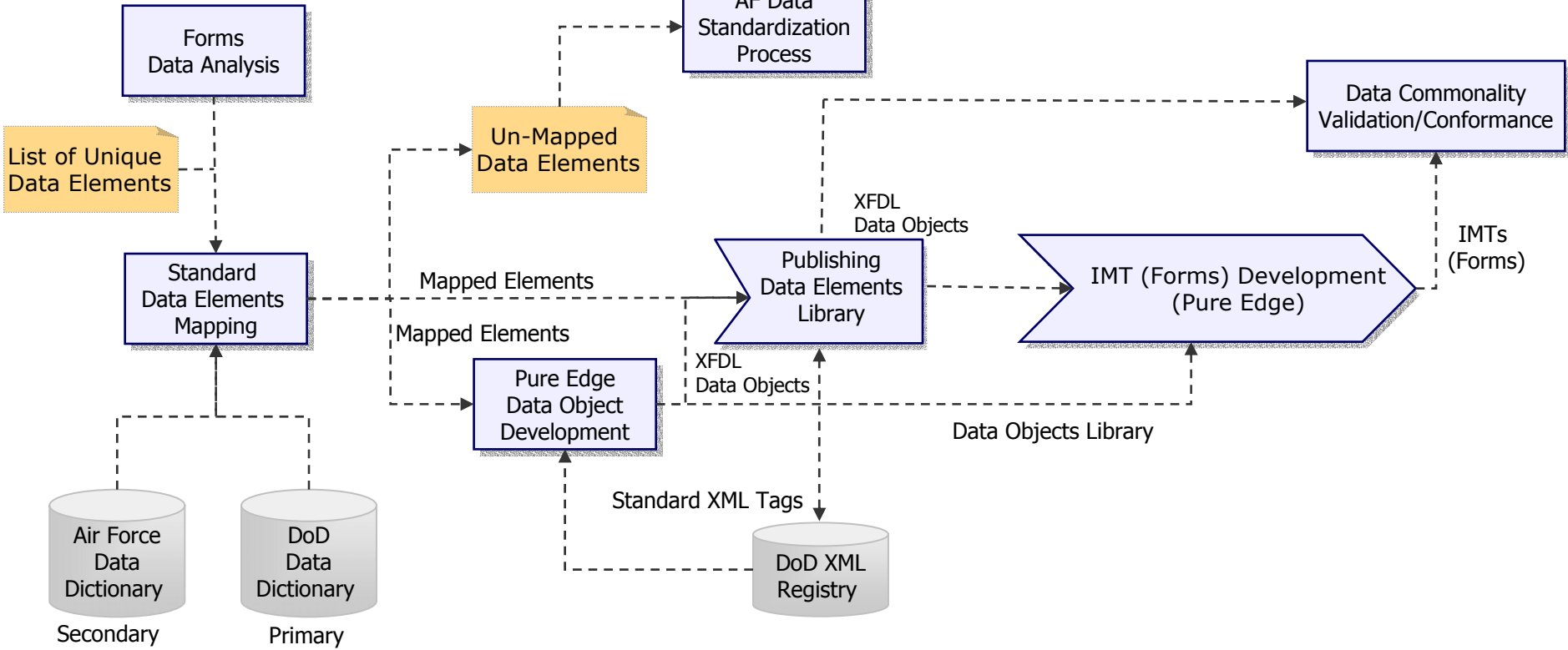
- ◆ Alignment with e-Government Mandates
 - GPEA - Government Paperwork Elimination Act 1999
 - Section 508 (U.S.C. 794d)
 - E-SIGN-P.L. 106-228







Key Implementation Goals

- ◆ Improve Data and Information Management Quality
- ◆ Enhance Employee Productivity
- ◆ Reduce Operational Costs



AF-CIO
Community of Interest (COI) Councils



-  Query the entire collection of Air Force forms
-  Map elements to AF and/or DoD data dictionaries
-  Feed into forms data elements library (publishing reference source)
-  Research/develop standard XML tags for data elements
-  Develop Pure Edge data content objects (XFDL-based) – distribute data object library
-  Enforce development of new forms/IMT on standard object library

Progress A/O Feb 7th, 2003

Forms Data Analysis		Data Standards Mapping		Data Objects Developed	
Unique Data Elements	267	DoD DDS	77	IMT Object (PureEdge XFDL)	53
Free-Form Unformatted Text	1131	<ul style="list-style-type: none"> • Approved • Archived • Disapproved • Development • Candidate 	46 1 4 26 0	XML Data Objects	-
		AF DD	126		
		<ul style="list-style-type: none"> • Approved • Archived • Disapproved • Development • Candidate • Un-Matched 	5 5 0 0 0 116		
		Other Data Dictionaries	64		
		<ul style="list-style-type: none"> • SBSS 	27		
		<ul style="list-style-type: none"> • ACES 	11		
		<ul style="list-style-type: none"> • Other AIS 	26		
		Federal Agencies Data Repository	Not Utilized		



Air Mission Type

Following Camel Upper Case Style Convention ----->

Applying the Standard Code Set ----->

XFDL-based Data Object for Designers ----->

Future Development ----->

Common Name:	Air Mission Type	
Standard Name:	AIR-MISSION-TYPE CODE	
Standard XML Tag: (IMT Field Name)	AirMissionTypeCode	
Definition:	The code that represents the type of air mission.	
Data Type:	Standard	XML Data Type
	String	String
Length:	6	
Format:		
Domain:	Code List	Range Values
	<ul style="list-style-type: none"> CAS CAST CASW CDS CHAFF CHANL CINT CMD CNTNG COMM 	Lower: <input type="text"/> Upper: <input type="text"/>
IMT Object (PureEdge):	Objects	Description
	air_mission_type_v1.xfb	Air Mission Type
XML Schema (W3C Compliant):		
Standardization Authoritative Source:	Repository	Element ID
	DoD DDS	52457



```

<?xml version="1.0"?>
<XFDL version="">
  <page sid="clipboard_page">
    <popup sid='MilitaryAircraftTypeMissionDesignSeries#>
      <itemlocation content="array">
        <ae content="array">
          <ae>absolute</ae>
          <ae>1</ae>
          <ae>27</ae>
        </ae>
        <ae content="array">
          <ae>extent</ae>
          <ae>217</ae>
          <ae>25</ae>
        </ae>
      </itemlocation>
      <group>MilitaryAircraftTypeMissionDesignSeries_GROUP</group>
      <value></value>
      <fontinfo content="array">
        <ae>Times New Roman</ae>
        <ae>10</ae>
        <ae>plain</ae>
      </fontinfo>
      <help>hlp_MilitaryAircraftTypeMissionDesignSeries</help>
      <acclabel>The code that represents the official designation for a military aircraft type.</acclabel>
      <borderwidth>0</borderwidth>
      <label> </label>
    </popup>
    <cell sid="CELL2">
      <group>MilitaryAircraftTypeMissionDesignSeries_GROUP</group>
      <label>A-7D</label>
      <value>A-7D</value>
      <code_value>A-7D</code_value>
      <vfd_group>MilitaryAircraftTypeMissionDesignSeries</vfd_group>
    </cell>
    .....
  
```

PureEdge Schema Reference

Data Element Tag Name

Presentation Style Attributes

Enumerated List

Form Control Object



Purpose

- Support Data Analysis activity – generate list of standard data elements
- Enable common definition of the individual data object for each product

Menu

- How-To Guide
- FAQ
- IMT Object Library
- ICS Designer Objects

Search:

- Or -

Browse: [A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#)
[O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

Selected Elements

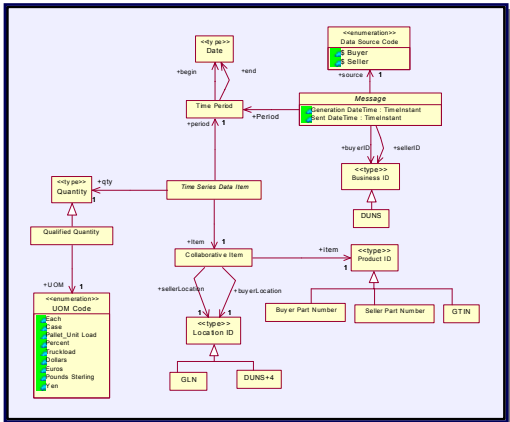
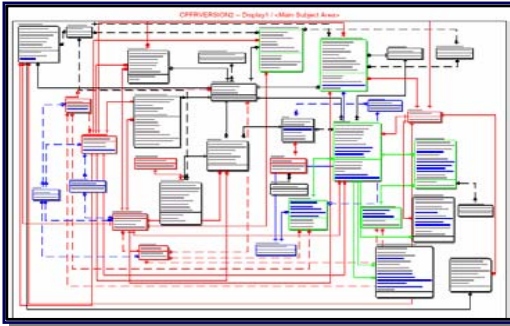


View/Print List

Remove Item

[Click here to download the entire object library as a zip file >>>](#)

Description	IMT Objects
AFSC - Enlisted Specialty	afsc_enlisted_v2.xfb
AFSC - Officer Specialty	afsc_officer_v2.xfb
Air Mission Type	air_mission_type_v1.xfb
Aircraft MDS	aircraft_mds_v1.xfb
Airport Identifier	airport_identifier_v1.xfb
Blood Type	blood_type_v1.xfb
Branch of Service	branch_of_service_v1.xfb
Call Sign	call_sign_v1.xfb
Cause of Death	cause_of_death_v1.xfb
Date of Birth	birthdate_v2.xfb
DODAAC	dodaac_v1.xfb
Ethnic Affinity	ethnic_affinity_v2.xfb
Evaluation Period Begin Date	eval_period_begin_date_v1.xfb
Evaluation Period End Date	eval_period_end_date_v1.xfb
Eye Color	eyecolor_v2.xfb
Hair Color	haircolor_v2.xfb
Height	height_v2.xfb
Installation Name	installation_name_v1.xfb
Marital Status	marital_status_v2.xfb
National Stock Number	national_stock_number_v1.xfb
Organization Commercial Telephone Number - fax	org_comm_phone_fax_v2.xfb
Organization Commercial Telephone Number - mobile	org_comm_phone_mobile_v2.xfb
Organization Commercial Telephone Number - pager	org_comm_phone_pager_v2.xfb
Organization Commercial Telephone Number - voice	org_comm_phone_voice_v2.xfb
Organization DSN Telephone Number - fax	org_dsn_phone_fax_v2.xfb
Organization DSN Telephone Number - mobile	org_dsn_phone_mobile_v2.xfb
Organization DSN Telephone Number - pager	org_dsn_phone_pager_v2.xfb
Organization DSN Telephone Number - voice	org_dsn_phone_voice_v2.xfb



```
<Forecast xmlns="http://www.cpfir.org/cpfr"
  purpose="Sales" source="Buyer">
  <sellerID>674839283</sellerID>
  <buyerID>349984204</buyerID>
  <generationDate>2000-06-01T13:20:00</generationDate>
  <sentDate>2000-06-01T15:05:03</sentDate>
  <period>
    <begin>2000-06-04</begin>
    <end>2000-12-02</end>
  </period>
  <forecastItem type="Total" status="Modifiable">
    <item>
      <product xsi:type="GTIN">00121993754832</product>
      <sellerLocation xsi:type="GLN">6748392830001</sellerLocation>
      <buyerLocation xsi:type="GLN">3499842040001</buyerLocation>
    </item>
    <period>
      <begin>2000-06-04</begin>
      <end>2000-06-10</end>
    </period>
    <qty>2041</qty>
  </forecastItem>
  ....
</Forecast>
```

Analyze existing data models, data dictionaries, business objects and message types.

Reuse/develop object models of required business objects and messages in Unified Markup Language (UML).

Map classes, attributes, methods, and associations from UML to XML Schemas and Structures.

- ◆ Re-use/Extend Industry Schemas Where Possible

Build XML-based business object documents. (Not just XML data object schemas)

- ◆ Utilize Federal XML Develops Guide
- ◆ Develop W3C Compliant Schemas for Forms

Publish Schemas in AF, DoD or Federal XML Registries

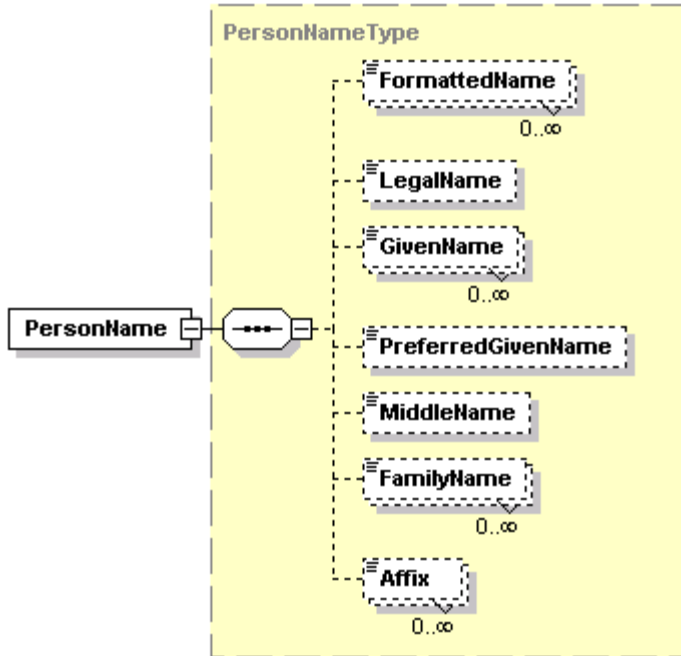


Code	Description	Status	IMT Data Objects Namespace
LOG	Logistics	Approved	3
PER	Personnel	Approved	29
FIN	Finance and Accounting	Approved	
SUP	Supply	Approved	3
TRP	Transportation	Approved	
AOP	Aerospace Operations	Approved	8
ACQ	Acquisition Logistics	Approved	
CSS	Combat Support	Approved	
GMI	General Military Intelligence	Approved	
GEO	Geospatial and Imagery	Approved	
MET	Meteorological and Oceanographic	Approved	
NBC	Nuclear Biological Chemical	Approved	
ENT	DoD Enterprise	Approved	5
CXP	Controlled Exports	Approved	
EB	eBusiness	Approved	
PDT	Product Data	Approved	
SPC	SpaceControl	Approved	
PRC	Procurement	Approved	3
TAR	Tracks and Reports	Approved	
SEG	System Engineering	Approved	
CFM	Configuration Management	Approved	
MSG	Messages	Approved	
CBRN	Chemical, Biological, Radiological, and Nuclear	Approved	
ARCH	Architecture	Developmental	
INT	Intelligence	Developmental	
MED	Medical	TBD	2

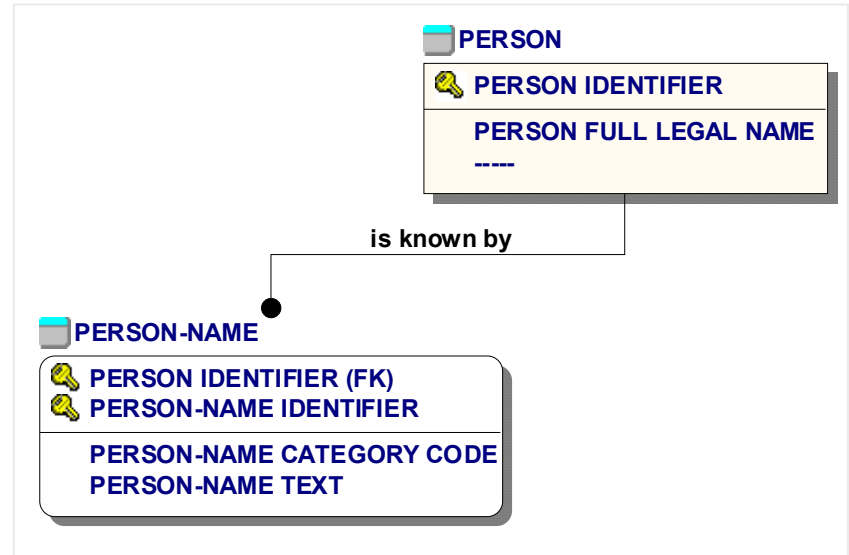
 Currently Mapping Data Objects to DoD Namespace Reference Tag



✈️ PersonName, Version 1.2 (2001-Oct-16) (Approved) Prescribes the form of the Person Name object used in HR-XML specifications.



Published Schema Representation



Existing DoD Data Model Entity(s)

✈️ Need to retrofit existing data models to better align with published schemas

✈️ Key portions of Person Name entity not standardized in USAF or DoD repository.



✈ PostalAddress, Version 1.2 (2001-Oct-16) (Approved) Prescribes the form of the PostalAddress object used in HR-XML specifications.

3 Reusability

1 Validate - Pub 28 USPS Postal Addressing Standard

2 Define Applicable Extension

<GeographicContext=UK>

PostalAddress

AddressUK

- AA | ARMED FORCES AMERICAS
- AE | ARMED FORCES EUROPE
- AP | ARMED FORCES PACIFIC

Used as

<role context="Buyer/Seller">

BillToAddress

ShipToAddress

Used as

<role context="Organization">

PhysicalAddress

MailingAddress

Used as

<role context="Person">

HomeOfRecord

MailingAddress


HomeAddress



Dublin Core Metadata Element Set

1. Title
2. Author or Creator
3. Subject
4. Description
5. Publisher
6. Other Contributor
7. Date
8. Resource Type
9. Format
10. Resource Identifier
11. Source
12. Language
13. Relation
14. Coverage
15. Rights Management

 Using Specialized Element Set – Some Elements Correlate

 Metadata Embedded in each Form Schema Specification – Information Resource Discovery & Mgt

Metadata Element	Example Values	Required
Security Classification	U, C, S	Y
Special Handling	NONE, FOUO, A	Y
Short Title Type Prefix	AF, 11WG, THULE	Y
Short Title Number	9900	Y
Short Title Suffix	A, 1, (PG1), 2(PG1), A(NOTICE)	N
Effective Date	19970301	Y
Long Title	Request for Metadata	Y
Version	1, 2, 3	Y
Functional Code	6410	Y
Functional Statement	Replaces paper form which will be disposed of upon receipt of this form.	Y
Unit of Issue	EF	Y
Unit of Requisition	EA	N
Prescribing Directive	AFI64-1099	Y
OPR	SAF/AQCOXXYX	Y
Medium	E	Y
Source	AFPUBS	Y
OMB/GAO Number	1111-2222	N
Special Instructions	Must be completed in triplicate	N
Distribution Code	F	Y
Product Code	F	Y
Product Type	CH	Y
Privacy Act Code	I	N
Form Supersedes	AF9900, 1993/11/25	N



Accessible from Tools Menu

Populated by each Form Designer as part of the design process

Controlled Content from Updatable Config File

The screenshot shows the InternetForms Designer interface. A 'Form Meta Data' dialog box is open, displaying various fields for form configuration. The background shows a form design with sections like 'I. RATEE IDENTIFICATION' and 'II. JOB DESCRIPTION'. The dialog box includes the following fields:

- Security Classification: *
- Special Handling:
- Short Title:
 - Prefix: *
 - Number: *
 - Suffix:
- Date:(YYYY/MM/DD) *
- Long Title: *
- Version:(1,2,3...) *
- Functional Code: *
- Functional Statement: *
- Unit of Issue: *
- Unit of Requisition: *
- Prescribing Directive: *
- OPR: *
- Medium: *
- Source: *
- OMB Number:
- Special Instructions:
- Distribution Code: *
- Product Code: *
- Product Type: *
- Privacy Act Code: *
- Supersedes:

* Denotes Mandatory Item

config v3



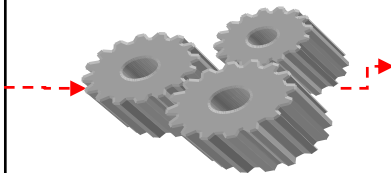
- ✈ Metadata is validated before loading to the repository
- ✈ Validation errors logged (At present, metadata content only)
- ✈ Depending on Severity of validation errors, product may not be loaded
- ✈ Product archiving rules apply for existing products
- ✈ Future ~ products will be validated for standard data elements conformance

More Info for AF9

```

<form_metadata content="array">
  <shorttitle content="array">
    <prefix>AF</prefix>
    <number>9</number>
    <suffix></suffix>
  </shorttitle>
  <secclass>U</secclass>
  <sphand>NONE</sphand>
  <date>1997/05/01</date>
  <longtitle>Request for Purchase</longtitle>
  <version>2</version>
  <funccode>6410</funccode>
  <funcstatement></funcstatement>
  <ui>EF</ui>
  <ur></ur>
  <prescdir>AFI64-109, 1994/5/4</prescdir>
  <opr>SAF/AQCO</opr>
  <medium>E</medium>
  <source>AFPUBS</source>
  <ombnbr></ombnbr>
  <spinst>NONE</spinst>
  <dist>F</dist>
  <prodcode>F</prodcode>
  <prodtype>AD</prodtype>
  <pa></pa>
  <supercede>AF9, 1995/12/1</supercede>
</form_metadata>

```



Metadata Validation

Short Title	AF9
Date	01 Mar 1977
Long Title	Request for Purchase
Organization	AF
Functional Code	6410
Functional Area	Contracting Management
Prescribing Publication	AFI64-109
Classification	U
Version	2
Issued As	EF
Special Codes	None
Special Handling	None
Source	AFPUBS
Medium	Electronic
Pages	
Filesize	462K
Print Specifications	
OPR Organization	SAF/AQCO
OPR Telephone	NotAvailable
OPR Base	
OPR State	
OPR Zip	



Wizard Style Forms

Ratee Identification

Viewer Help

FIELD GRADE OFFICER PERFORMANCE REPORT

Workflow with Functional Process Areas



Targeted at:

- ◆ Enhancing Employee Productivity
- ◆ Reducing Operational Costs
- ◆ Improving Operational Efficiencies

SECTION I, RATEE IDENTIFICATION DATA *(Read AFI 36-2406 carefully before filling in any item)*

Please verify data is correct as it appears in MilPDS. If data is incorrect, please contact your CSS or MPF to correct.

Name (last, first, middle initial) SSAN Grade

DAFSC Period of Report From Thru

No. days supervision Reason For Report

Organization, command, location PAS CODE

DRAFT IMT

Next

NOT FOR OFFICIAL RELEASE



Query Product Vendors on Planned XForms Strategy

- ◆ PureEdge
 - Stated Plan Support for XForms in end of Q2 2003
- ◆ Others Cardiff, Adobe (TBD – not yet queried)

Increase Understanding of XForms Specification

- ◆ Key Requirement – XML Digital Signature Spec/Standard

Familiarize with XForms Beta Tools

Possible Pilot Development of XForms Schema for an AF Form




 DoD and AF Data Dictionaries are Limited Resource for Standard Data Elements

- ◆ Ability to use AIS/Functional Area data dictionaries as possible source for data definitions for common object development.

 Progressively continue development of common data objects:

- ◆ Near-term in XFDL
- ◆ Transition to XML

 Interchange with other Federal Agencies to possibly harmonize key data objects definition/code set.

- ◆ Establish a common basis for information content definition and potential future data interchange.

 Increase awareness of the AF, DoD and Federal XML and Information Management strategy.



Thank You!