Agenda

What are standards? Why do we care?

Industry standards

Justice and Public Safety Standards
  ➢ XML Vocabularies
  ➢ Message Specifications
  ➢ Metadata Standards
  ➢ Methodologies and Guidelines
  ➢ Functional Standards

Case Study: Whatcom County

IACP and LEITSC
This session is not a tutorial or course in using standards successfully.

We will not teach you how to build NIEM IEPDs or Web Services (we have courses for that!)

Goal is to provide you with a high-level overview of standards relevant to justice information sharing.

Resource sheet
What are standards?

Why Standards?
Foundations: Industry Standards

- Standards Bodies
  - OASIS, W3C, IETF, IEEE, Open Group, WS-I

- What does “open standard” mean to you?
eXtensible Markup Language (XML)
- Mechanism for tagging data with context
- “Mark up” data with enclosing tags that define what the data mean

XML Schema
- XML application that defines the structure of an XML document

eXtensible Stylesheet Language Transformations (XSLT)
- XML application that transforms one XML document into another
<Person>
  <PersonBirthDate>1953-02-12</PersonBirthDate>
  <PersonName type="Primary">
    <PersonGivenName>John</PersonGivenName>
    <PersonSurName>Wayne</PersonSurName>
  </PersonName>
</Person>

<xsl:template match="Person">
  <Name>
    <xsl:attribute name="name">
      <xsl:value-of select="PersonSurName"/>
      <xsl:text>, </xsl:text>
      <xsl:value-of select="PersonGivenName"/>
    </xsl:attribute>
  </Name>
</xsl:template>
Web Services

- **SOAP**
  - Message Transport Standard
  - Message Envelope Standard (generic)

- **WS-***
  - SOAP add-ons for security, reliable messaging, addressing, and more

- **WS-Interoperability Profiles**
  - More constraints to ensure vendor compatibility

- **WSDL**
  - Service description standard
National Information Exchange Model

Comprehensive set of XML Schema components used to specify interoperable messages for justice, public safety, intelligence, and homeland security

Processes and tools to assist

Builds on success of GJXDM

Collaborative governance (Federal, state, local, tribal) through DOJ/DHS/Global partnership
NIEM at 50,000 Feet

NIEM Domains

Infrastructure Protection
Immigration
Intelligence
Screening

Criminal Justice
Emergency Management
International Trade

Events
Activity

People
Person
Organization

Places
Location

Things
Property
Contact Info

MetaData

NIEM Core
NIEM Roadmap and Tools

NIEM 1.0 released in November 2006
NIEM 2.0 released in Q2 2007
- Usability improvements
- Increased flexibility
- Harmonization
- Migration support

Tools
- Searching
- Extracting needed elements from the model
- Assembling IEPDs
- Links to other tools
Other vocabularies

- **IEEE 1512**
  - Transportation standard
  - Has been mapped to GJXDM (and therefore to NIEM)

- **OASIS Vocabularies**
  - Universal Business Language
  - Extensible Access Control Markup Language
  - Emergency Data Exchange Language

- **Others**
  - Geography Markup Language
NIEM is like Webster’s Dictionary: standard spellings and definitions of words

Exchange specification is like a novel: brings together specific words to provide contextual meaning

Reading the dictionary isn’t very interesting!

NIEM “novels” are called Information Exchange Package Documentation (IEPD)

IEPDs define local standards for exchange
NIEM IEPD Lifecycle

The IEPD Lifecycle

Strategically Driven (Top Down)

Operationally Driven (Bottom Up)

Scenario Planning

Publish and Implement

Analyze and Model

Map and Validate

Build and Document
National associations/organizations have created IEPDs from common/typical requirements.

Reference IEPDs can be used as-is, or as a starting point for defining a local IEPD to meet unique local requirements.

Reference IEPDs (and IEPDs created by individual jurisdictions) available in the clearinghouse.

http://it.ojp.gov/iepd
Other Message Specifications

- Emergency Data Exchange Language (EDXLS)
  - Hospital Availability Exchange (HAvE)
  - Common Alerting Protocol (CAP)
- Rap Sheet Standard
- Nlets messages
- Electronic Court Filing specifications
- Suspicious Activity Reporting (SAR) specification (NIEM IEPD)
- More...
Metadata standards assist in the transport of messages or the enforcement of rules.

Just a couple of examples:
- EDXL Distribution Element
- Global Federated Identity and Privilege Management (GFIPM) Assertions
Methodologies/Guidelines

- Global Justice Reference Architecture
- Global Security Policy Guidelines
- Global Privacy Policy Guidelines
- Global Fusion Center Guidelines
- Justice Information Exchange Modeling (JIEM) Methodology
- NASCIO Enterprise Architecture Toolkit

http://it.ojp.gov
Functional Standards

- **Functional standards govern the requirements, design, and implementation of line-of-business systems**

- **Principal justice examples:**
  - Corrections Technology Association—standards for corrections IT systems
  - National Center for State Courts—Court Case Management functional standards
  - Law Enforcement Information Technology Standards Council (LEITSC)—RMS and CAD functional standards
Whatcom County Washington

- Over 2 million justice records and names, spread across a dozen city, county, tribal, and state university agencies on disparate, proprietary systems
- Several systems over 15 years old
- County ‘system’ a loose collection of programs and applications (DB2 on system 36 and AS400)
- Wide variety of platforms and applications in outlying agencies
- Little / No connectivity
- Limited funding
- No Statewide RMS capacity
- A Strong Desire to Share
Business Problem:
- A dozen agencies and millions of records connected by people, telephones and notepads.
- Different data models, data integrity rules, and definitions

Business Needs:
- Provide lookup of real-time justice case, arrest, booking and case management information from a variety of proprietary disparate systems across multiple agencies and jurisdictions
- Maintain or improve security and accountability for access to current information
- Provide for future growth and connectivity to other/larger systems (ARJIS, LINx, N-DEx, etc)
Whatcom Exchange NETwork (WENET)

Utilizes information sharing standards to maximize available resources and ensure future compatibility

- allows inquiry of XML data
- based on the Justice XML Data Dictionary 3.0
- via HTTP
- utilizing XPath queries
- Secured with client authenticated SSL and digital certificates.

FOR MORE INFO...

Project specs:
http://www.whatcomcounty.us/apps/wenet/
1. Define a technical specification and means to inquire disparate law and justice records management systems.

2. Implement services using the technical specification for the disparate SQL and IBM RMS, and connect the services.

3. Create clients that take advantage of the shared data. Extend existing applications to allow searching of shared data.

4. Develop methods to import retrieved data into the RMSes to better utilize data.
Prior to implementing GJXDM, custom conversion programming was required for each legacy system:

- Limited code reuse
- Extended (multi-year) development time
- Serial development activity
Successful Project metrics

- **Jail and prosecutor record lookups:**
  - Over 15 minutes each of three people’s time, reduced to seconds by one person

- **GJXDM compliance and mapping benefits**
  - 2 million + records
  - 15+ years of cases
  - Projects subsequent to mapping estimated at much lower costs of legacy

- **Design, build and implementation of countywide pawn program completed in months**
Future GJXDM Projects

- **Extend access outside county region**
  - Sharing record query with vetted local, tribal, county, state and federal partners
    - LINx-NW, ARJIS, N-DEx

- **E-Filing**
  - Electronic transmission of case information from law enforcement to prosecutor

- **Full connectivity to all member agencies**
  - Two way query access
  - Information capture, automated update, alerts
Implementing Advantages

- **Reusable components**
  - Future projects can benefit

- **Opportunity to improve business processes**
  - Use Case design and modeling

- **Improved communication between information provider and project team**

- **Reduce overall project delivery time**
  - Conversions are now averaging 6 to 9 months

- **Reduce overall project costs**
Funded by the Bureau of Justice Assistance until 2008

IACP, NSA, NOBLE, and PERF


Completion of CAD and RMS IEPDs
Sponsors of LEITSC

- **2002:** LEITSC was created
  - Grant No. 2002-LD-BX-0002) from BJA

- **2003:** LEITSC received new funding through a collaborative effort between BJA and NIJ
  - Grant No. 2003-MU-BX-0068

- **LEITSC is currently funded by BJA**
  - Grant No. 2003-MU-BX-0068
Standard Functional Specifications for Law Enforcement CAD & RMS

http://it.ojp.gov www.leitsc.org
Serve as a starting point for law enforcement agencies to use when developing CAD or RMS RFPs.

Level the playing field when working with vendors.

Streamline the process and lower the cost of implementing and maintaining a CAD or RMS.

Promote interoperability & information sharing.
5 Business Functions for a CAD System

- Law Enforcement Dispatch
- CAD System Administration
- Support Services
- Call Management & Management Reporting
- Interfaces (internal and external)
Highlights 25 Business Functions for a RMS

- Master Indices
- Calls for Service
- Incident Reporting
- Investigative Case Management
- Property & Evidence Management
- Warrant
- Arrest
- Booking
- Juvenile Contact
- Traffic Accident Reporting
- Citation

- Field Contact
- Pawn
- Civil Process
- Protection Order & Restraints
- Permits & Licenses
- Equipment & Asset Management
- Fleet Management
- Personnel
- Internal Affairs
- Analytical Support
- RMS Reports
- RMS System Administration
- RMS Interfaces
LEITSC Outreach Activity

- **E-mail to full membership: IACP, NSA, NOBLE, PERF**
- **Peripheral assistance: BJA, IJIS Institute, Nlets,**
- **Recent Presentations:**
  - NSA, NOBLE, PERF, and IACP Annual Conferences as well as the APCO Annual Conference & the GJXDM Users’ Conference
  - IACP Communications & Technology Committee Meeting & the IACP CJIS Committee Meeting
- **2006 – 2007 BJA Regional Information Sharing Conferences**
LEITSC Collaboration

- IACP, NSA, NOBLE, and PERF
- Association for Public Communications Officers (APCO)
- Global: GISWG, GXSTF, GTTAC
- NIEM Business Architecture Committee (NBAC)
- Institute Intergovernmental Research (IIR)
- IJIS Institute
- Nlets
- SEARCH
- National Criminal Justice Association (NCJA)
- National Center for State Courts (NCSC)
- ARJIS
- US Department of Justice, Office of Justice Programs
  - BJA and NIJ
LEITSC Next Steps

- Distribute CAD & RMS Standard Functional Specifications
- Provide Technical Assistance to Law Enforcement
- Implement IEPD’s for CAD and RMS
- Educate, outreach, and inform the law enforcement community on LEITSC and the impact of IT standards
- Identify areas of need within law enforcement IT standards
- Represent the law enforcement community in ongoing IT standards initiatives
- Host Standards related workshops
- Presentations to committees, sections, working groups, etc.
- Publications
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Thank You!

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