
POST-XML: A Peace Officer Standards and Training XML Data Model:

*A National Training and Certification Data Model for Police,
Corrections and Emergency Response Personnel*

Raymond A. Franklin, IADLEST
Ari Vidali, ENVISAGE Technologies Corporation

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www.envisagenow.com

www.iadlest.org

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Overview

New realities and interoperability directives facing our Law Enforcement and Public Safety communities demand a standard means for the sharing of vital information relevant to national security and critical incident preparedness and response. In addition, national and interstate public safety initiatives, such as H.R. 218 (the Law Enforcement Officer Safety Act of 2004) and the National Decertification Index require a robust standard to facilitate the creation and maintenance of national registries for the efficient storage and accurate exchange of officer data between states. While immediate needs exist to exchange firearms authorizations and decertification data, it is becoming increasingly evident that emergency management directives will request that POST, Academy and Agency organizations be in a position to provide training, certification and skills data to facilitate effective incident response. An XML standard based upon the vital data resident within the POST organizations would lay the foundation for significant advancements in interoperability.

Current Situation

America's 50 Peace Officer Standards and Training (POST) councils, boards and commissions use widely varying methods and systems for the management of police, sheriff and other peace officer certification and training data.

A 2005 study by the International Association of Directors of Law Enforcement Standards and Training (IADLEST) found that 26 POST entities had independently developed data management solutions for the certification function. An additional four units reported use of a manual card based system. The remaining 18 entities reported use of a diverse group of commercial products. (Franklin, 2005)

According to a Bureau of Justice Statistics survey conducted in the year 2000, over 708,000 sworn law enforcement officers were employed by over 18,000 state and local agencies. Law enforcement agencies exhibited a similar lack standardized data and technology solutions resulting in highly fragmented officer selection, background screening, training and weapons qualifications of their officers. Because most agencies are required to report mandatory in-service training to their POST, the lack of a clear data standard to facilitate the transfer of information results in costly paper and information processing.

The same situation is prevalent among America's 626 law enforcement training academies. Over the years, these organizations, which train over 50,000 recruits per year (Hickman, 2005), have implemented unique processes, vocabularies, models and technical solutions which are not designed for data interoperability. Eighty-eight percent (88%) of these academies also provide vital in-service training for officers employed across multiple public safety agencies.

In the areas of fire, emergency management and first responder services, the situation is even more difficult as most are operating using paper-based systems or homegrown databases that lack coherent information standards.

While the existing strategies may effectively meet an individual agency's specific needs, no unified interoperability strategy has been developed for the direct and efficient sharing of certification, training and skills information with other states, federal law enforcement, emergency management or even other police agencies within the same state.

Benefits of POST-XML

The proven benefits of technology standardization extend beyond data sharing. Entirely new technologies and solutions will be made possible as organizations adopt a common vocabulary. The following represent a sampling of the benefits to American public safety and national security that could be realized by a comprehensive certification, training and skills XML data standard:

Unified Data Sharing Architecture

Most POST organizations are required to maintain an authoritative, legally defensible system of record of all certifications, qualifications and training (both basic and in-service). Establishment of a unified data sharing environment for these data will facilitate the secure and simplified transfer of information from agencies and academy training management systems to the POST. Such a solution will enable the real-time tracking of compliance with legislative mandates by:

1. Streamlining reporting of mandatory in-service training between state and local agencies.
2. Supporting inter-state hiring procedures
3. Reducing errors by supporting automated digital forms completion
4. Providing near-instant validation of pre-requisites for hiring, certification and training

Additionally for those POSTs which create and distribute standardized curriculum, JTA and certification exams, POST-XML would allow these data to be published to authorized users in a machine readable format for easy integration into compliant training management and automated testing platforms.

State, Regional and National Registries

Because the POST organizations are the primary repository and data stewards of certified peace officer information, POST-XML would provide a framework for the development of a voluntary virtual peace officer registry. A national registry could solve numerous issues related to the administration of HR-218. Additional benefits would result from the aggregation of data including:

1. Improved reciprocity management for out of state hires

2. A fully searchable National public safety faculty directory of certified instructors.
3. Automated updates of state revocation data into the IADLEST National Decertification Index.
4. Establishment of a national weapons, equipment and special operations qualification system.

Interoperability for Public Safety

Federal Agencies including the Departments of Homeland Security and Justice have placed an intense focus on data standardization across all levels of Government. In the wake of 9/11 and Katrina there exists a compelling need to establish data interoperability in order to assess readiness and conduct effective emergency response operations. POST-XML could support the established interoperability goals for American law enforcement by extending efforts to share certification, training and skills information with public safety and first responder information systems before, during and after an emergency.

While current Federal standards efforts are focused on core data elements, messaging, intelligence, criminal justice and asset tracking, POST-XML would extend these efforts by providing detailed information regarding first responder capabilities. This will make it possible to aggregate data which vital to preparedness and the implementation of the National Incident Management System (NIMS) which will assist state and local emergency management organizations to assess their readiness. During a crisis, emergency managers need to quickly search for and access first responder skills and contact information. This vital capability is currently lacking because data is fragmented across jurisdictions utilizing incompatible technologies.

National Standards for Common Core Tasks, JTA and Skills Inventories

An initial review of Job Tasks Analysis (JTAs) provided by several POST organizations revealed marked similarities between States. For quite some time, IADLEST has been contemplating performing a national police job task analysis, with corrections and other disciplines to follow. A national set of core job tasks would save individual states significant costs and effort by providing a baseline from which to derive state-specific JTAs.

Today however, the aggregation and maintenance of the required information is not easily possible as each state stores this information in a different format. Adoption of the POST-XML standard by the majority of POST organizations would simplify the process drastically and allow IADLEST to publish national minimal recommended standards for Law Enforcement. A component of the national JTA is the development of a standard set of core tasks and related KSAOs (Knowledge, Skills, Abilities and Other Attributes) which are not only important building blocks for instructional design but also, aid in the development of first responder capability inventories which can be used by emergency managers in planning for and responding to critical incidents.

Information Systems

The current environment is not favorable to technology innovation as lack of standards creates significant barriers to entry for technology companies. Without standards, investment in research and development and collaboration by technology firms seeking to provide innovative and economical commercial-off-the-shelf solutions has been minimal. This is because new technologies thrive on common standards for integration, reuse and sharing of data. Promoting national open standards for our POST, Academy and Agency constituents will provide fertile ground for innovation by enabling technology providers to build solutions that will have the capability of interacting, sharing and consuming public safety training data. In short, by adopting standards for public safety training, certification and skills information, technologists will have the framework they need to justify the development of innovations to benefit the Public Safety community.

Interoperability with Existing and Emerging XML Standards

While numerous Criminal Justice and First Responder standards efforts are underway, including such efforts such as EDXL, various sub-standards within OASIS and IEEE, it is important to note that the most important current efforts underway are Global JXDM (Justice XML Data Model) which is being incorporated into the NIEM (National Information Exchange Model).

“NIEM, the National Information Exchange Model, is a partnership of the U.S. Department of Justice and the Department of Homeland Security. It is designed to develop, disseminate and support enterprise-wide information exchange standards and processes that can enable jurisdictions to effectively share critical information in emergency situations, as well as support the day-to-day operations of agencies throughout the nation.

NIEM enables information sharing, focusing on information exchanged among organizations as part of their current or intended business practices. The NIEM exchange development methodology results in a common semantic understanding among participating organizations and data formatted in a semantically consistent manner. NIEM will standardize content (actual data exchange standards), provide tools, and managed processes.

NIEM builds on the demonstrated success of the Global Justice XML Data Model. Stakeholders from relevant communities work together to define critical exchanges, leveraging the successful work of the GJXDM.” <http://www.niem.gov>

It is proposed that POST-XML adopt the NIEM core standard including Universal and Common data elements and extend these with POST domain-specific data elements. In this way as POSTs around the country adopt the standard, they can achieve tight alignment with the NIEM while facilitating POST-specific business processes. In addition, IADLEST as the representative of the Community of Interest (COI) for

training standards can represent the POST constituency in enhancing the national standard in a meaningful way.

Why IADLEST?

IADLEST is the foremost international organization representing those government agencies charged with developing, disseminating and enforcing standards for Peace Officer selection, training and certification. As such, IADLEST has been at the forefront of standards development and its members represent a significant majority of stakeholders who would adopt the POST-XML standard.

In addition to subject matter expertise, IADLEST has successfully spearheaded national technology efforts. In 1999, IADLEST with the support of the DOJ Office of Justice Programs took up the challenge of developing a national decertification database (NDD) through the establishment of a Peace Officer Registry Committee. The newly launched Peace Officer Certification Information System (POCIS) National Decertification Index continues as a pointer based online clearinghouse for persons decertified as law enforcement officers for misconduct. Currently the system collects data from states, with additional states accessing the system for query purposes. By year's end, the system will be available to all law enforcement agencies throughout the United States.

In addition, IADLEST has taken the lead in linking all U. S. POST agencies and over 700 training academies through POST-Net and N-LEARN initiatives. IADLEST is well positioned to galvanize the POST "community of interest" by facilitating dialog with its stakeholders and recommending standards development and adoption.

Implementation Strategy

Successful implementation will require the consensus of stakeholders as well as necessary developmental resources. The authors propose extension of the current USDOJ funded Peace Officer Certification Information Sharing Project (2005DDBX1119) for the express purpose of establishing a national standard.

Included should be a one-day, national roundtable, inviting POST, academy and agency executive and information management personnel, as well as industry and national law enforcement organization representatives and appropriate U.S. Department of Justice, Homeland Security and Transportation officials. An effort should be made to equitably represent law enforcement, corrections, fire and emergency services personnel. The roundtable should be used as a forum to discuss and decide issues of strategy and tactics in furtherance of rapidly developing a draft standard for review by the broader community of interest.

The project should also consider a national survey of agencies and academies regarding current data management methods, processes and needs.

Conclusion

America's greatest public safety challenges in the 21st century are national in scope and vast in scale. Response resources, to a great extent, remain locally administered reflecting the fundamental and constitutional values of state and local authority and control. Effective response, therefore, will require improved cooperation, timely and effective information and resource sharing and interoperability among states, agencies and personnel. The proposed national standard for personnel information management will enable mutual support and integrated response. The need is critical.

Raymond A. Franklin

Executive Assistant Director, Maryland Police and Correctional Training Commissions

Mr. Franklin is an instructional technologist and information systems specialist with over thirty years of experience in the area of police and correctional training. He has conceived and administered several state and federally funded high technology projects. Mr. Franklin developed Maryland's Terrorism Information Network and Web Based Public Safety Information Access System, as well as the national POST-Net Information System and National Decertification Database. Most recently, he developed and implemented the Peace Officer Certification Information System (POCIS) and its National Decertification Index. He currently serves as Director of the National Sobriety Testing Resource Center where he led the effort to create its Training Management Information System.

Recently published research has included the [2005 Survey of POST Agencies Regarding Certification Practices and Impediments to Testing: The Impact of Hearing Impairment and Language Barriers on the Field Sobriety Testing Function.](#)

A nationally recognized expert on the impact of information and media technology on criminal justice, Mr. Franklin's work has been cited in Time, U.S. News and World Report, USA Today, Newsday, Baltimore Sun, Jerusalem Post, Salt Lake Tribune, Detroit News and the Chicago Tribune. Television appearances have included CNN and local broadcast outlets.

Mr. Franklin currently chairs the IADLEST Technology Committee.

Raymond A. Franklin

IADLEST
Public Safety Education and Training Center
6852 4th Street
Sykesville, MD 21784
(410) 875-3606
rfranklin@iadlest.org
<http://www.iadlest.org>

Ari A. Vidali

Founder & CEO, ENVISAGE Technologies Corp.

In his 16 year career in high-technology, Mr. Vidali has been the lead founder and visionary for 5 high-tech enterprises. Over the last 6 years, in his capacity as CEO of ENVISAGE Technologies Corp., he has been instrumental in assisting Military and Law Enforcement Commands with training transformation strategies. Mr. Vidali founded iFORCES (Institute For Operational Readiness and Continuous Education in Security), a unique, nationwide public and private sector consortium dedicated to practical scientific research and exploration into the application of effective practices, next-generation methodologies, and continuous learning and performance technologies for the acceleration of Security, Law Enforcement, First Responder and Military readiness.

His current work involves developing technologies to support operational Readiness and Human Performance Improvement for Law Enforcement, Homeland Security and Military commands.

Mr. Vidali has consulted for the Federal Government, Military, Law Enforcement, First Responder, Higher Education and Medical industries.

As a nationally recognized, visionary and frequent speaker and writer on the subjects of technology as an education enabler, complex logistics, human performance improvement, data standards, and Training Transformation, he has been featured in publications such as the Wall Street Journal, Chicago Sun Times, Indianapolis Star, RIS Media, and PC Week.

Ari A. Vidali

ENVISAGE Technologies Corp.
1441 Fenbrook Lane
Bloomington, IN 47401
(812) 330-7101
ari.vidali@envisagenow.com
<http://www.envisagenow.com>