

Meta-Data For Data Exchange Standards

- **Title of Standard/Specification**

Global Justice XML Data Model

- **Version Number**

3.0. The namespace for the current release is <http://www.it.ojp.gov/jxdm/3.0>. This namespace is used for schema version control. It is also anticipated that a set of namespaces corresponding to a number of schemas for reference documents routinely used in the justice and public safety communities will be developed. The exact format for these is yet to be determined.

- **Definition/Explanation/Purpose of Standard/Specification**

The Global Justice XML Data Model (GJXDM) is an object-oriented data model for organizing the content of a data dictionary (the GJXDD) in a database. From this database an XML schema specification can be generated that consistently represents the semantics and structure of common data elements and types required to exchange information within the justice and public safety communities. The purpose of the GJXDM is to provide a consistent, extensible, maintainable XML schema reference specification for data elements and types that represent the data requirements of the general justice and public safety communities. A secondary goal is to provide a baseline model for the data dictionary that can be represented in advanced technologies beyond XML Schema.

- The GJXDM consists primarily of object classes and properties:
 - Object classes are converted into XML Schema types. They represent a specific syntax and structure for a set of values.
 - Properties are converted into XML Schema attributes and elements. They represent characteristics, or values of things.
 - The GJXDM v3 is a reference model that is based on a class hierarchy of many specific objects (xsd:type) derived from one very general object (SuperType). Each object contains any number of properties (xsd:element or xsd:attribute). These properties may be simple or complex elements (containing sub-elements). The highest level object classes (under the SuperType) are PersonType, OrganizationType, PropertyType (i.e., things), LocationType, ContactInformationType (i.e., electronic means of contact), ActivityType, EventType, DocumentType, and other smaller

supporting types. There is also a special class of RelationshipType used to specify meaning to a link between two object instances. On many of these objects, there are metadata properties (xsd:element or xsd:attribute) that supplement meaning. For example, all properties of MeasureType have a mandatory "units" attribute.

- Data components were built from approximately 35 data dictionaries, XML schema documents, or XML data models under development or in use around the justice and public safety communities. These sources yielded approximately 16,000 data components (elements, attributes, and types). Through study and analysis of the similarities and differences among these components, approximately 2,200 properties (xsd:element) and 550 type definitions (xsd:type) were synthesized to represent a common set of elements and types, the GJXDM v3. It is important to realize that the authors have not attempted to invent content. Instead, the GJXDM tries to capture the requirements of the 35 data sources as completely and accurately as possible. However, compromises were necessary in order to follow the basic design principles and criteria adopted by Global's XML Structure Task Force (XSTF).

- **Open Source vs. Proprietary**

Open Source

- **Organization Responsible for Developing Standard/Specification, including contact information**

Georgia Tech Research Institute
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- **Organization Responsible for Maintaining Standard/Specification, including contact information**

Global XML Structure Task Force
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- **Date of Adoption by Authoring Organization**

January 2004

- **Description of Standard/Specification Development Process**

In August 2002, the Global Justice Information Sharing Initiative (or just "Global") Infrastructure and Standards Working Group (GISWG) formed the XML Structure Task Force (XSTF) to identify data requirements, explore XML concepts, and apply XML best practices to design and implement the Global Justice XML Data Model (GJXDM). The XSTF is a working group composed of government and industry domain experts (from law enforcement, courts, corrections, etc.), technical managers, and engineers.

So, the [U.S. Department of Justice](#) runs the [Office of Justice Programs](#), which sponsored the [Global Advisory Committee](#) to create the [Global Justice Information Sharing Initiative](#) (also [here](#)), which supervises the [Global Infrastructure/Standards Working Group](#), which has a subcommittee called the XML Structure Task Force, which works with [The Georgia Tech Research Institute](#) in the creation of the GJXDM and related technology.

- **General Applicability of the Standard/Specification**

The basic principles and design criteria used to build the GJXDM were:

- To design and synthesize a common set of reusable, extensible data components that facilitates standard information exchange in Extensible Markup Language (XML).
- To generalize the GJXDM for the larger justice and public safety communities, but do NOT target specific applications.
- To provide reference-able schema components primarily for schema developers.
- To facilitate the evolution of the GJXDM and its schema by providing change management and extension.
- To use the best extension methods that minimize the impact on prior schema and code investments.
- To implement and represent domain relationships so they are globally understood.
- To consider technical dependencies in requirements and solutions, and the time constraints of national priorities and demands, requiring rational compromises.

- **Criminal Justice Exchange Types Utilizing/Requiring that Standard**

- County-level justice system workflow
- Required data submissions from local and county agencies to the State
- Transfers of offender record information to justice decision-makers

- **Compliance Issues (Mandatory Compliance/Specification/Best Practice)**

For county workflow and other exchanges between county and local justice agencies, the standard is a “best practice” that can promote efficiency and cost savings by eliminating the need for a series of custom interfaces between participating agencies. For exchanges that are part of statutorily- required reporting arrangements between from local and county agencies to state repositories, these standards can be adopted as mandatory compliance. For exchanges that are needed in order to create a “portal” or single view into multiple subject record systems (i.e., to enable subject records from state-level records systems to be viewed in a common application) could require mandatory compliance with the GJXDM to facilitate future transfers of those records into other systems.

- **Installed Base (Extent of Current Use) in Illinois**

None registered through Global Registry

- **Installed Base (Extent of Current Use) nationally**

There are over 30 projects or agencies that are using or are committed to using the GJXDM for their data exchange applications. These currently represent about 15 of the 50 states. See attached

- **Future Plans for Standard/Specification (planned enhancements/updates/other modifications)**

In the first year of release, the Global XSTF anticipates that there may be many requests for additional components to satisfy a number of common requirements that were either unknown or that they hadn’t had time to analyze and incorporate – such as commonly used national justice standards that they hadn’t compared to the GJXDM to ensure they were completely incorporated. Global intends to provide information regarding such efforts to evolve the GJXDM content without publishing new releases too frequently. Once an official release is published, it

becomes frozen and permanently available (in its namespace). However, at sometime in the future, they will also make available an experimental version of the next release. All such preview versions of the GJXDM will be working prototypes, subject to change without notice. Experimental use of such preview schemas is encouraged, however, operational use is at the user's own risk.

The [Integrated Justice Information Systems \(IJIS\) Institute](#) has formed a GJXDM Performance Testing Committee that is currently formulating objectives and plans for formal performance testing of the GJXDM. The project will result in a written report providing detailed information regarding GJXDM performance testing results and shall make recommendations to the practitioner community regarding the implementation of the GJXDM.

- **Future Plans for Use of Standard/Specification by Justice Practitioners**

POLARIS (collection of case-level probation data)

- **Benefits Associated with Adoption by IJIS**

- GJXDM was developed from existing accepted sets of data standards and therefore has some existing usage and acceptance.
- Is model-based, and therefore generates consistent XML schema
- Is requirements-based; so it is built from existing processes and document specifications
- Is object oriented, providing efficient extension and reuse (inheritance)
- Is extendable, enabling local additions of data components
- Has comprehensive justice domain that includes police, courts, corrections, juvenile, etc.
- Provides relationships for rich exchange information context
- Is built to evolve and advance with emerging technologies (e.g., RDF)

- **Risks Associated with Adoption by IJIS**

- Not everyone will share the vision of GJXDM
- GJXDM is a big compromise; everyone will find one or more things they don't like about it
- Is different from what people are used to
- Appears big and complex
- Lack of training and understanding can lead to overwhelming confusion
- Often seems more difficult than what you would come up with on your own to implement a particular exchange

- Few reference schemas exist today
 - GJXDM-specific tools are in their infancy
 - GJXDM learning curve may be inconsistent with project timeline and cost
 - Developers want to do what they want to do
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- **Risks Associated with Non-Adoption by IJIS**
 - County-level integration efforts proceeding as custom, non-reusable interfaces
 - County and local justice agencies reporting to state and federal databases in diverse formats, which contribute to inaccurate, untimely, incomplete, or missing data.