Extensible Markup Language (XML) and
Its Role in Supporting the Global Justice XML Data Model

Extensible Markup Language, or "XML," is a computer programming language designed to transmit both **data** and the **meaning of the data**. XML accomplishes this by being a *markup language*, a mechanism that identifies different structures within a document. Structured information contains both content (such as words, pictures, or video) and an indication of what role content plays, or its meaning. XML identifies different structures by assigning data "tags" to define both the name of a data element and the format of the data within that element. Elements are combined to form objects.

An **XML specification** defines a standard way to add markup language to documents, identifying the embedded structures in a consistent way. By applying a consistent identification structure, data can be shared between different systems, up and down the levels of agencies, across the nation, and around the world, with the ease of using the Internet. In other words, XML lays the technological foundation that supports interoperability.

XML also allows structured *relationships* to be defined. The ability to represent objects and their relationships is key to creating a fully beneficial justice information sharing tool. A simple example can be used to illustrate this point:

> A "person" object may contain elements like physical descriptors (e.g., eye and hair color, height, weight), biometric data (e.g., DNA, fingerprints), and social descriptors (e.g., marital status, occupation). A "vehicle" object would also contain many elements (such as description, registration, and/or lien-holder). The *relationship* between these two objects—person and vehicle—presents an interesting challenge that XML can address. Is the person the owner of the vehicle? The driver? Did he/she steal it? Get hit by it? And so forth.

XML is sanctioned by the World Wide Web Consortium (W3C), a premier forum comprised of agencies from across the globe committed to helping the World Wide Web reach its full potential by developing common protocols promoting Web evolution and interoperability. For more information on W3C, please visit http://www.w3.org/.

XML is compatible with major Internet transmission protocols, and is also highly compressible for faster transmission. Almost all major software vendors fully support the general XML standard. Major database vendors and their database applications provide software development "tools" to assist justice agency technical staff to develop and use XML more efficiently and productively within agency applications. XML is very developer-friendly, yet ordinary users with no particular XML expertise can make sense of an XML file. The XML standard is designed to be independent of vendor, operating system, source application, destination application, storage medium (database), and/or transport protocol.

This last fact makes XML great news for justice administrators: sharing vital information **no longer entails** purchasing new systems or compromising one's business practices. XML is generally recognized as an enabler for increasing the sharing of information, and

has emerged as a key technology for assisting commercial and government organizations in exchanging information and conducting business over the Internet and intranets. XML is the "glue" that promotes interoperability—it allows systems already in use and those being developed to communicate with each other and paves the way for future expanded collaboration between agencies.