Meeting Background, Purpose, and Introductions

The Office of Justice Programs (OJP or "Office"), U.S. Department of Justice (DOJ), convened the Global Justice Information Sharing Initiative (Global) Infrastructure/Standards Working Group (GISWG or Working Group) meeting on June 7-8, 2004, in Salt Lake City, Utah. In the past few years, this Working Group has been very active, supporting the development of the Justice Standards Clearinghouse for Information Sharing (JSC or "Clearinghouse") and the Global Justice Extensible Markup Language (XML) Data Model (Global JXDM). These tools are aimed at facilitating broadscale information sharing and achieving the Global vision: *Leading the way – getting the right information to the right people, in the right place, at the right time.*

Moving forward, GISWG continues to focus on standards (see first agenda item, below) but is turning a considerable amount of attention to the issue of service-oriented architecture (SOA)—its implications, opportunities, and challenges for justice constituencies. As noted at the March Working Group meeting by Mr. Tom Henderson, National Center for State Courts (NCSC) and GISWG chairman: "SOA appears to solve [these outlined issues]. . .but if we have found nirvana, what does that really mean? What are the implications?" Considering this express intent of exploring SOA, GISWG was reconstituted at the beginning of 2004 with representatives from a different pool of expertise than in the past. This was the second GISWG meeting of the year.

The meeting agenda items were as follows:

❑ JSC, Global JXDM, and Other Outstanding GISWG Activities

   o JSC Status Report: Past, Present, and Revitalizing the JSC for the Future
   o Report From the Global XML Structure Task Force (XSTF)

❑ OJP Report

   o Supporting the Global JXDM Through Grantee Guidelines

❑ Drafting the GISWG SOA Report

❑ Next Steps/Next Meeting

Chairman Henderson invited participants to provide introductions and express their topics of interest with regard to SOA. The following GISWG members, federal officials, and support staff were in attendance:

John Aerts
Los Angeles County Sheriff's
Department
Norwalk, California

D. J. Atkinson
National Telecommunications
and Information Administration
Boulder, Colorado

Tom Clarke
Supreme Court of Washington
Olympia, Washington

David Clopton
National Institute of Justice
Washington, DC

Gerry Coleman (Observer)
Crime Information Bureau –
Wisconsin Department of Justice
Madison, Wisconsin

Steven Correll
National Law Enforcement
Telecommunication System
Phoenix, Arizona

Paul Embley
Practitioner Resource Group
Frankfort, Kentucky

Ken Gill (Program Official)
Office of Justice Programs
Washington, DC

Kael Goodman
New York Departments of
Correction and Probation
New York, New York

Ron Hawley
SEARCH, The National Consortium for
Justice Information and Statistics
Sacramento, California

Tom Henderson (Chair)
National Center for State Courts
Arlington, Virginia

Jennifer Hicks
Law Enforcement Information
Technology Standards Council
Alexandria, Virginia

John Loverude
Joint Task Force on Rap
Sheet Standardization
Springfield, Illinois

John Matthias
Northrop Grumman Mission Systems
Denver, Colorado

Patrick McCreary (Program Official)
Office of Justice Programs
Washington, DC

Terri Pate (Staff)
Institute for Intergovernmental
Research
Tallahassee, Florida

Donna Rinehart (Staff)
Institute for Intergovernmental
Research
Tallahassee, Florida

Michael Ryan
Minnesota Office of Technology
St. Paul, Minnesota

Monique Schmidt (Staff)
Institute for Intergovernmental
Research
Tallahassee, Florida

Bob Slaski
Advanced Technology Systems, Inc.
McLean, Virginia

Robert Sykora
Minnesota Board of Public Defense
Minneapolis, Minnesota

Outstanding GISWG Activities

Justice Standards Clearinghouse for Information Sharing

Via phone, Ms. Christina Abernathy, Global staff support from the Institute for Intergovernmental Research (IIR), briefed Working Group members on the JSC—past and present—and solicited input for advancing the Clearinghouse since GISWG is the JSC governing body.

- The JSC was implemented online in September of 2002 and is housed on the OJP Information Technology (IT) Web site (www.it.ojp.gov).

- The JSC was developed as part of the DOJ's interoperability effort to facilitate information sharing.

- The JSC is/does:
  - A repository of technology and communications standards and specifications for promoting information sharing across the justice system.
  - Capture existing standards and alerts users of new or emerging standards.
  - Encourage users to contribute materials and learn more about standards from all levels of government.

- The OJP IT Web site team has been charged with revitalizing the JSC. To that end, representatives from IIR, REI Systems, the Bureau of Justice Assistance (BJA), and the National Telecommunications and Information Administration (NTIA) met to discuss how to make the JSC more "user-friendly" and foster activity. The group identified:
  - What should be revised?
    - Outdated content, standards, and processes
  - What does not work?
    - User-reported problems when submitting and searching standards
    - Inconsistent search results
  - What does the site need?
    - Better site structure
    - Improved navigation
    - Enhanced searching capabilities
  - How can users be better assisted?
    - Revise and enhance help topics, pop-ups, and help availability

- Ultimately, **GISWG oversight was requested in the form of establishing a new JSC committee.** This special committee will provide leadership and advisement on such issues as:
  - NTIA assumption of the administrative lead for the JSC, in both the hands-on submission and approval of JSC standards.

- Determining standard archiving intent—As newer versions are submitted, are outdated standards to be archived or can they be deleted? To implement an archive mechanism that would function within the limitations of the standards database system, managed by REI Systems, extensive developmental resources will have to be authorized by OJP.
- Updating the *Justice Standards Clearinghouse Guide and Concept of Operations (ConOps)*. The latest revision was August 28, 2003. The new JSC committee will assist in the review and revision process and present the revised guide to the appropriate advisory body for approval.
- Reviewing the JSC Performance Measures—The new committee needs to:
  - Review the JSC statistics REI has collected (to be provided by IIR) and present those to the Global Advisory Committee (GAC).
  - Develop targets for each of the next three years, as outlined in this document. Targets will be determined by the first year's baseline data.
  - Begin work on a Web survey, outlined as a committee goal in this document.
- Further defining the goals and guiding the future direction of the Clearinghouse.

In recognition of these needs, Chairman Henderson formed the **JSC committee**, to be led by Mr. Mike Ryan, Minnesota Office of Technology, and staffed by representatives of those agencies (i.e., IIR, REI, and NTIA) involved in the day-to-day activities of the Clearinghouse.

Global XML Structure Task Force (XSTF) and Global Training and Technical Assistance Committee (GTTAC)

Mr. Paul Embley, XSTF chair, began by summarizing the purpose of the XSTF: "The whole effort is about killing fat code…that's what we've been doing for years." He then provided the updates, highlighting the following:

- The operational release of Global JXDM ("Model"), Version 3.0, in mid-January has been almost *too successful*! Resources—manpower, education, and assistance with the Model—have been stretched thin (hence, the large-scale training effort, discussion following).

- To assist with the complex nature of the Model, tools are currently under development. Mr. Embley noted, "The goal [is] that someone out of college with a couple years of XML coding can write a schema in a few days." A listing of tools and access to those tools will be facilitated through the Global Web site.

- "What we [XSTF] need from you [GISWG]":

1) Outreach
2) Continued engagement
3) Provision of feedback and acting as a conduit to information, to avoid people working on same issue/duplicating efforts
4) Continued support—"we won't be done anytime soon"

Mr. Embley answered questions of certification by a standards body, such as the Organization for the Advancement of Structured Information Standards (OASIS)—the XSTF is concerned about associated costs "squelching participation"—and the creation of reference documents—the XSTF would like to have authoritative sources create these (e.g., American Association for Motor Vehicle Administration, for driver history).

Regarding the GTTAC, Mr. Embley spoke about the very successful Global JXDM Developer's Workshop, held May 11-13, 2004, on the campus at Georgia Tech, School of Management, in Atlanta, Georgia. Feedback from the 300+ attendees was overwhelmingly positive, and similar training is being planned for early July in Alaska. Additionally, he discussed the GTTAC Outreach and Communications Subcommittee, which is under the leadership of fellow GISWG member Mr. Scott Fairholm, NCSC. The subcommittee objective is to create an overall strategy, marketing plan, and communications plan to ensure a consistent message as Global JXDM is implemented throughout the justice community.

OJP Report: Grantee Guidelines

To support the Global JXDM, representatives from OJP spoke about the need for grantee guideline language. The goal of these instructions is simplicity and a tone of "guidance, not mandating."

With input from GISWG members, the following statement was crafted for immediate use by OJP, with widespread program office integration slated for the 2005 funding cycle:

> To support public safety and justice information sharing, OJP requires the grantee to use the Global JXDM specifications and guidelines for this particular grant. Grantee shall publish and make available without restriction all schemas (extensions, constraint, proxy) generated as a result of this grant to the component registry as specified in the guidelines. This information is available at www.it.ojp.gov/gjxdm.

GISWG SOA Document Development

Working Group members devoted the remainder of the meeting time to working towards production of the GISWG SOA paper (slated for presentation to the GAC in September). The objectives of this report include:

- Defining SOA for policymakers and managers.

- Suggesting a strategic approach for Global and justice-interested agencies.
- Identifying issues that need to be delegated to other Working Groups (e.g., security, privacy, and data quality).
- Identifying issues to be addressed by GISWG (e.g., registries, interagency service agreements, and standards development).

Mr. John Loverude, SOA paper task team leader, led members through a discussion of key elements of the paper. Items discussed included audience, goal, components of/approaches to presenting SOA, and recommendations. A summary of these discussions is as follows:

Audience

The central question under this section: Should this paper be geared toward the justice executive—the person "controlling the purse strings"—or the technologist? **Ultimately, it was decided that this first iteration of the paper will be directed to the policymaker, with as much of a "nontechnical slant" as possible.** (Note: This conclusion was reached with the accepted caveat that inherent to any discussion of SOA, some fundamental technical issues must be presented.) In the future, GISWG members may wish to create a "spin-off" document approaching the issue with a more technical audience in mind.

Goals

This paper hopes to achieve or facilitate the following:

- Recommending to justice policymakers an architecture that facilitates the electronic sharing of appropriate justice information at all levels of government and providing direction for future delivery of justice information services.
  - This "information sharing" must include consideration of access (e.g., consolidated/singular log-in procedures for multiple systems and access based on user's role), security, and privacy issues.
- Exploiting advancements in technology to support electronic sharing of justice information.
- Strengthening justice business practices.

Document Components: What Needs to Be Said About SOA?

The results of this discussion yielded the following sections to be considered (and possibly integrated) into the drafting:

What Is SOA?

"Service-oriented architecture" needs to be explained to the policymaker. This section may need to differentiate between the concepts of SOA, Web services, and enterprise architecture (EA). The Working Group may wish to include the issues of

"implications for legacy systems" and "reusable components" in the discussion or integrate into later sections of the document.

Making the Business Case for SOA

As resolved in the "audience" section, this document will be geared toward policymakers, with a part of the persuasive equation being the "bottom line"—cost-effectively addressing electronic business development and the reengineering of old systems. GISWG members enumerated the following points to help make the SOA business case:

- In some instances, there is ***not*** a funding issue because the technical framework is already in place (e.g., CT).
- Leveraging/utilizing old systems: While SOA technology is not nirvana, it does provide real solutions.
- SOA is used to "enhance," not "fix" ("because we *are* sharing information already").
- To sell to policymakers, highlight the self-serving feature: What will make them look good, for example, catching criminals or using resources wisely/"getting more for taxpayers' money"? (**Fundamental theme of reusability:** this is a much cheaper methodology with a much greater scope than is currently being used.)
- An SOA registry will help avoid duplicative efforts, facilitate leveraging, and combine resources (e.g., two states working on the same type of project can "join forces").
- SOA allows for an incremental approach: "You don't have to put up big bucks to get in the game."
- SOA allows for systems' agility: the ability to respond to challenges, such as changing laws (systematic expunction of records).
- SOA can *complement* and improve an existing initiative without requiring complete compartmentalization (e.g., the Law Enforcement National Data Exchange).
- Value equates to successful transactions; to make a business case, explain how SOA addresses and achieves the major components of a successful transaction (e.g., security and privacy).

Provide Assurance

Policymakers need to have a certain "comfort level" to fully embrace SOA, especially considering the relative immaturity of the technology. To engender this confidence, the GISWG document should stress the following: the banking industry is already using SOA with great success in managing huge amounts of money. Technology changes and it is changing toward SOA. Just as XML is now ubiquitous and widely accepted in the justice world, "a few years ago people didn't even know what XML was—that's where we are with SOA now." In a confederated environment, such as justice, SOA *is* the answer, allowing participants to both own their systems/data *and* share information.

Why <u>Not</u> SOA

GISWG participants also debated including a section tacking these questions: If this is the way of industry, why/when *should not* a policymaker embrace SOA? If there are better alternatives to SOA in a specific instance, should those be included? (Several GISWG members made the point that these "why not" concerns usually boil down to *implementation* issues, not truly arguments against SOA.)

Privacy and Security Issues

Working Group members agreed these issues are paramount and should be interwoven throughout the document.

Case Studies

Several members suggested appending case studies of SOA to "study instances where this is being done, to examine which incentives are to do this and how they manage," and to enhance policymaker comprehension. Suggested case studies include:

- National Law Enforcement Telecommunication System (migration to SOA, a "before and after" comparison)
- Marietta, Georgia
- Regional Information Sharing Systems™/U.S. Drug Enforcement Administration (National Virtual Pointer System)
- Nonjustice examples, such as Travelocity and online dating services

Technical Components

While GISWG members agreed to the "business case" approach, they also noted that "what we say about the technology is absolutely integral to success. Technical knowledge, at a certain level, is important—even for the policymaker—to ensure things like appropriate monitoring, that 'this is actually an SOA implementation.'" "What are the attributes, the components of these black boxes I need to know about to guide my decisions? What are the attributes of the black box with which I **need** to be aligned?" **Key <u>technical points</u> must be considered in the drafting (and possibly integrated in a "nontechnical" manner), including:**

- **Messaging/transport issues**
  There needs to be a broad policy statement, such as "There should be a consistent means of service delivery." At the technical level, this entails XML and Web services specifications. (Aside: **For further GISWG action –** The XSTF/XML effort is the model for Global development of common messaging standards. [GISWG may need to name a group to address this.] Outputs from that will go into the registry.)

- **Registries**
  The issues of "to registry or not to registry," what to say about registries, and what GISWG should do along these lines are fundamental parts of the Working Group discussion. Responsively, Chairman Henderson formed the GISWG Registries Committee, to be led by Dr. Tom Clarke, Supreme Court of Washington. This group is charged with exploring and recommending solutions to the issues surrounding registries for the justice community that will be required by an SOA. The committee will begin work in the fall of 2004. Registries are a critical component of SOA. However, they are relatively new phenomena. Form, governance structure, and operational requirements are still evolving. This committee will explore their operations in other fields and make recommendations to the GAC on registries development for the justice enterprise.

The following thoughts were proffered by Working Group members, some of which have implications for the paper, and some of which will guide the work of the Registries Committee:

- "Part of the critical aspects of SOA is reusability—a role that registries can play in the near term."
- The distinction needs to be made between a "registry" and a "clearinghouse." Per Dr. Clarke, "To enforce standards, you must agree on a finite number of components and what you put in a *registry. Registries* are different than a *clearinghouse*, even at a policy level. For Global, **we need to make that distinction**. We will need to build or use an existing registry resource—this is **not** just another function of the JSC."
- "'Registry' means the computer will do the work for you; we will need both a clearinghouse and a registry."
- Semantics may yield the need for a discussion of two registry layers, each with distinct requirements and attendant software:
  - **Component registries**
  - **E-business registries** (e.g., rules for engagement and security requirements)
- A "discovery registry," or "How do I find these services?" is a directory.
- As hundreds of small services are created and version issues are added to the mix, **the registry becomes a key component.**
- Issues of implementation and control are implicit to the discussion.
- Registries can also notify users of new services.
- Although SOA *can* be implemented as a registry, Global must understand that a strong registry component is necessary to "make this all fit together." **Therefore, the Working Group's agreement of registries' importance should be included in the GISWG SOA paper.** (How this will be addressed—whether the paper will simply highlight "registries" as an important component needing attention and work or will treat the issue more substantively—has yet to be determined.)

Recommendations

Attendees discussed recommendations that should be made to a number of constituencies—either in this paper or through other more appropriate vehicles—to further the SOA proposition:

GAC, Global Member Agencies, and OJP

- Through this paper and its presentation to the GAC, GISWG will urge Committee adoption of the following statement: **The GAC recommends that OJP support development of SOA for justice-related information sharing through the Global process.** Attendees stressed that this entails significant resource allocation, and the onus will be placed on OJP to determine if SOA is something in which the Office wants to invest. GISWG members concurred on the importance of initial OJP buy-in "at the get-go, because the XSTF certainly continues to have support challenges" (vis-à-vis a clearly designated/articulated funding plan). For example, OJP could fund demonstration projects via initiatives *already* working toward SOA in some capacity, with the intent of exposing layers needing further exploration and serving as case studies/best practices.

- GISWG will recommend using the JSC to publish material on SOA-related initiatives, to include specifications as well as the "whole picture, not just components." There is also a need to "develop a mechanism on the Clearinghouse to discover and post justice-related entities working in SOA."

- GISWG will recommend that Global and GAC member agencies "add to the SOA literature, especially from a nontechnological standpoint." For example, the National Association of State Chief Information Officers (NASCIO) can contribute "from the public sector." (Mr. Michael Ryan, representing NASCIO on the Working Group, noted he will take the recommendation to NASCIO for their consideration).

(A sideline conversation centered on whether GISWG should recommend establishing an SOA Task Force, similar to the XSTF, or should the SOA dialogue continue under auspices of the full Working Group until "further down the line?" Per Chairman Henderson, GISWG should continue to advance the issue: "we don't need to do that [separate Task Force development] right now.")

Local and State Entities

GISWG members determined the following recommendations for these constituencies:

- Use our products (e.g., the Integrated Justice Information Systems [IJIS] Institute's Pre-RFP Toolkit).

- At the highest level, GISWG recommends that statewide EA should integrate/embrace SOA concepts. (Per Mr. Ryan, approximately 22 states are "headed down the road of EA planning.") "Ultimately, what we want to say is that while SOA fits with EA and strategic planning very well, you can still employ this [SOA] without these two components already in place."
- GISWG members strategized that perhaps the idea should be introduced in the following manner: "We recommend organizations align their technology investments toward the following attributes…."
- States need to standardize proxy schemas, and according to Mr. Ken Gill of OJP, "Take the opportunity to figure out what I *already have* – the data layer: how do I describe that data? Do I have the necessary documentation? Inventory what I have and what I need."
- SOA should be embraced *from a policy standpoint*. A strength of SOA is that each state and municipality does *not* have to develop at the same pace, speaking to the larger issue of ***toleration of diversity***. "SOA lets you express your diversity at the policy level. This can migrate down into your business plan, etc."

Vendors

When determining what vendors should be encouraged to do to advance SOA in the justice arena, the discussion took on an atmosphere of brainstorming. Following, in no specific order, are the members' suggestions:

- High-level recommendations are the way to go.
- "As vendors develop SOA products, they should also be integrating the Global JXDM."
- Revise the IJIS Institute's Pre-RFP Toolkit.
- Continue outreach and education to both public and private communities.
- Quarterly training on the Global JXDM should include a high-level SOA component.
- Continue to support the evolution and robustness of the Global JXDM.
- Components should be published in the interest of promoting reusability. *(See "Grantee Guideline" discussion earlier in this report.)*
- Developers should "learn what SOA means and how it applies to the systems you are going to build for me."

Next Steps/Next Meetings

Considering the input provided by GISWG members, Mr. Loverude and select members of GISWG will begin the SOA drafting process. The intent is to present this paper to the GAC at the fall meeting. Prior to that delivery, presentations to other GAC Working Groups will be made to incorporate the various efforts (e.g., input regarding

privacy and security matters). GISWG members were encouraged to share any ideas or comments with Mr. Loverude.

The next GISWG meeting was forecast for late fall 2004 (likely early November). Having no further business and hearing no further questions, the GISWG meeting was adjourned.

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