Messaging Focus Group

Scottsdale, AZ

January 9—10, 2006

Meeting Summary

Purpose of Meeting

The Office of Justice Programs (OJP), U.S. Department of Justice (DOJ), Bureau of Justice Assistance (BJA), convened the Messaging Focus Group (MFG) in Scottsdale, Arizona, in partnership with the Global Justice XML Data Model (Global JXDM) Training and Technical Assistance Committee (GTTAC). The meeting purpose is to provide technical leadership and to develop a recommendation for the development of a unified strategy for implementation of standards-based service-interaction profiles (formerly called "message profiles"). A "service-interaction profile" is a standards-based delivery mechanism for a Global JXDM message, for example, data exchange, transaction, and/or service. Justice and public safety business needs require an expandable set of standard profiles that enable agencies to successfully share information and to promote interoperable justice transactions. The meeting mission is to recommend to BJA a series of tasks to develop reference service-interaction profiles for the justice and public safety community.

This was the final meeting for the MFG. The group will develop a report providing recommendations based on their findings. This report will be submitted to BJA. Any outstanding assignments should be posted to the traction collaboration tool "**MSING**" project at **http://forum.gjin.net** by **Thursday, February 9, 2006**.

Messaging Focus Group Representation

The following are project participants who have been identified to represent local, state, and federal justice and public safety domains:

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Mission Description

Mr. Tom Clarke, Chair of MFG and the National Center for State Courts (NCSC), briefly stated their mission and provided a recap from the Washington, DC, meeting held on December 1, 2005. Their mission is to recommend to BJA a series of tasks which are needed to develop reference service-interaction profile(s) for the justice and public safety community.

Introductions

Mr. Clarke invited all attendees to introduce themselves and give an agency or association affiliation.

American Association of Motor Vehicles Administrator Briefing

Mr. Mark Pritchard, American Association of Motor Vehicle Administrators (AAMVA), provided an overview of AAMVAnet and their approach to messaging. AAMVAnet has over 388 message types and 14 different business systems. He defined AMIE as the AAMVA Message Interchange Envelope and stated that it is a proprietary message format and protocol used for communication over AAMVAnet by all motor vehicle agencies. In addition, Mr. Pritchard defined MAX as the new standard for "Messages over AAMVAnet in XML" which is W3C compliant. Mr. Pritchard raised an important issue about having a method to handle errors

and standardize faults. He indicated that this process helps the states that AAMVA works with, and Mr. Tom Merkle, CapWIN, agreed that this was a very good point.

> ***Recommendation: Include a standardized method for handling message errors and faults.***

GDS/GS1/AS2 Message Delivery Profile

Mr. Boris Shur, DOJ, explained GS1 data synchronization standards and the global addressing of entities that includes message structure as a standard. There is a unique identifier for each of the various suppliers, global representation, and multiple registries. Retail has many organizations and entities so this may be a good model for justice and public safety.

Outstanding Action Items/Issues

At the November 14-15, 2005, meeting, teams were identified to resolve outstanding issues. Each team had a group leader who developed a written summary explaining the assigned issue and providing a suggested recommendation, as needed. The action items were posted for MFG review, and each team leader provided a briefing which is summarized in the sections that follow.

1) Identify an appropriate set of WSDL 2.0 messaging patterns
2) Develop a comprehensive list of service-interaction requirements (previously "nonfunctional (technical) requirements") for service-interaction profiles
3) Determine if the service description should be included in the service-interaction profile
4) Develop Originating Agency Identifier (ORI) mitigation and migration strategies for the target architecture
5) Determine if appliances are transparent to the architecture
6) Evaluate Representational State Transfer (REST) protocol as a candidate service-interaction profile
7) Identify the appropriate facilitation services
8) Create a set of use cases for messaging intermediaries
9) Elaborate the Service Oriented Architecture (SOA) reference architecture for messaging intermediaries

Discussion

1) Identify an appropriate set of WSDL 2.0 messaging patterns.

Mr. Jim Cabral, Integrated Justice Information Systems (IJIS) Institute, tackled the issue by describing three de facto message exchange patterns (MEP) that are relevant and by providing the distinctions for WSDL 2.0 as listed below.

- Request-response: normally synchronous, but can be asynchronous
- Fire-and-forget: no response expected
- Publish-and-subscribe: asynchronous, combination of request/response and fire-and-forget

After considerable discussion, participants decided to drop the reference to WSDL 2.0 for MEPs and made the following recommendations. First, the participants agreed to adopt the first two primitive types as the most common for the purpose of the service-interaction profile. Second, the group noted that the publish-and-subscribe MEP had connotations that went beyond the scope of the MFG because of the complexity added as various combinations of the request-response and fire-and-forget are blended for real world services. The group agreed that it is a slippery slope to describe the composite pattern types.

> ***Recommendation: Define the requirements for service-interaction profiles including mechanisms for implementing the two primitive message exchange patterns: (1) request-response and (2) fire-and-forget.***

2) Develop a comprehensive list of service-interaction requirements for service-interaction profiles.

As homework, Mr. Scott Came, State of Washington, authored the paper "Nonfunctional Requirements Summary" and described his team's recommendations in response to action item number two. Mr. Came recommended terminology based out of the Organization for the Advancement of Structured Information Standards (OASIS) Service-Oriented Architecture (SOA) Reference Model Technical Committee's latest draft of the "Reference Model for Service Oriented Architecture".[1] Thus, he made the concepts more concrete and created a glossary that the participants adopted.

Three service-interaction requirement types (previously "technical (nonfunctional) requirements") were recommended by Mr. Came and his team members. First, Mr. Came defined **policy requirements** as how information is passed between service consumer and service, to express or implement rules of engagement of either the service consumer or provider that must be enforced during the exchange of messages. Second, **coordination requirements** were defined as how information is passed between service consumer and the service to implement business requirements by coordinating service actions within a service or between services. Third, **visibility requirements** were defined as how services are described, discovered, and accessed.

After considerable discussion, an effort was made to distinguish and further refine the terms. By the end of the meeting, the group agreed to better align two critical terms with SOA by renaming them, instead of extending current usage, as follows.

New Term Adopted and Definition	***Notes***
Service-interaction Profile— standards-based delivery mechanism for a Global JXDM message, for example, data exchange, transaction, and/or	Previously called "message profile"—this term has been discarded.

[1] OASIS Reference Model for Service Oriented Architectures, Working Draft 10, November 15, 2005.

service.	
Service-interaction requirements— these requirements are not directly related to the capability to which the service provides access.	Technical (nonfunctional) requirements—this term goes back to the original SOA definition (see OASIS TC).

During his briefing, Mr. Came provided the details for the three categories of service-interaction requirements.

Policy requirements—Rules to protect the interest of sender, receiver, or other stakeholders.

- Service Consumer Authentication: Information provided with messages transmitted from service consumer to service that verify the identity of the consumer.
- Message Non-Repudiation: Information provided in a message to allow the recipient to prove that the sender in fact sent the message.
- Message Integrity: Information provided in a message to allow the recipient to verify that the message has not changed since it left the control of the sender.
- Message Confidentiality: Information provided in a message to prevent anyone except an authorized recipient from reading the message.
- Message Addressing: Information provided in a message that indicates where a message originated, the ultimate destination of the message (beyond physical endpoint), and a specific recipient to whom the message should be delivered.
- Message Format: The textual structure and format of a message; this includes specification of industry-standard information structure syntaxes or vocabularies (e.g., XML, Global JXDM namespaces) governing the format and structure of the message.

Considerable discussion regarding the policy requirements followed Mr. Came's proposal. He explained that authorization was not included because it was included as a service level with trust relationships. Mr. Clarke stated that privacy and public access are not on the list because they are tied to the content. Privacy folks need to be able to assign requester to a role and data to a type. The second is tied to a particular data set.

Coordination Requirements—How to manage across systems/services.

- Reliability: Information provided with messages to permit message senders to receive notification of the success or failure of message transmissions and to permit messages sent with specific sequence-related rules either to arrive as intended, or fail as a group.
- Transaction Support: Information provided with messages to permit a sequence of messages to be treated as an atomic transaction by the recipient.
- Coordination: Information provided with messages to allow a set of messages to be identified as a group.

- Orchestration: Information used to govern the capability of a coordination service that coordinates the actions of other services to accomplish some business objective.

These requirements would specify how service activities are coordinated and managed and would be optional.

Mr. Clarke argued that the philosophical issue is that there are very important services such as orchestration which are needed to deliver the message successfully. He stated that orchestration either needs to be in scope or it needs to be assigned to someone else if it is out of scope. The group agreed that orchestration needs to live outside the MFG. In our recommendation this needs to be dealt with because it is important.

Visibility Requirements—How services are described, discovered, and accessed for the consumer of the service.

- Description: How a service (including its data model, behavior model, execution context, visibility mechanisms, policies, and other metadata) are described in a way that potential consumers can understand how to interact with the service.
- Discovery: How a service can be found by potential consumers.
- Reach-ability: A description of the physical address at which a service is available and the physical transport mechanism(s) to be used to transmit messages to the service. Table this for now.

After the briefing on the service-interaction requirements, Mr. Came provided some overall observations on service-interaction profiles, including:

- General approach to the implementation of service-interaction requirements.
- Could be a family of standards.
- Could be proprietary vendor platform/solution.
- Could make some requirements "optional".
- Even if a profile provides an implementation of a requirement, a particular service may not require it.

In conclusion, Mr. Came discussed profile and execution context and stated that a profile should document implications for execution content. It will be important to document this to ensure that profiles are useful. Mr. Came recommended including a section in the MFG recommendation report that would provide information on this issue; for example, in order to implement the profile, you need a TCP/IP network.

Recommendations: Adopt the OASIS SOA Reference Model Technical Committee's latest draft of the "Reference Model for SOA." Define the requirements for service-interaction profiles for implementing service-interaction requirements, including the three categories—policy, coordination, and visibility requirements. Add a service-interaction requirement for message context information. The service-interaction profile should document implications for execution content. Identify an initial list of common

capabilities and develop associated business cases, including identity and access management, authentication, federated query, and routing.

3) Determine if the service description should be included in the service-interaction profile.

In response to this issue, Mr. Shur divided the issue into two parts. First part, is there much value to defining the common WSDL since so much of the service is domain and implementation-specific? He stated that there needs to be a certain place in a message about the purpose of the message—a placeholder. He stated that WSDL discovery services won't work very well if the messages all say the same thing which would be, "we transmit a message". Mr. Shur recommended that we use a placeholder for message type that can be defined and enumerated within a specific community. Any additional information that may be required for application-level routing will depend on the message exchange architecture.

The second part of the issue—if there is a need for content-based routing, which approach makes more sense for identifying message types at the envelope level? There are two approaches, payload/content in the open or keywords/routing terms at the envelope level. The strategy that the OASIS TC has taken is the routing-based approach (see Suggested Approaches table below). There are a lot of issues around using keywords, and in implementation, there may be some more issues, for example, lack of structure. Another piece of the architecture would be needed between the payload and SOAP header. Most approaches use some type of distribution element to determine where a message should go.

In light of this issue, Mr. Clarke assigned Mr. Merkle homework to review WSDL and EDXL specifications. In response, Mr. Merkle took a quick look at WSDL and EDXL. He stated that EDXL is a protocol agnostic specification and should meet our needs.

During his review, Mr. Merkle did find a lack of protocol handling regarding messaging attachments. Mr. Came agreed that message attachments should be viewed as a very important issue (i.e., attaching the photo to the driver's license). Consideration of attachments and encrypted payloads should be included.

As an Action Item, Mr. Clarke assigned Mr. Came to look at service-interaction requirements regarding message format for attachments.

Suggested approaches to content-based routing	***Notes***
Payload/content in the open	▪ Intermediate services can read/understand it ▪ Necessitates parsing at every junction
Keywords/routing terms at the envelope level	▪ Necessary to support encrypted payloads ▪ Need for standardization of keywords (a huge effort to undertake)

	▪ Performance consideration—time and complexity of the routing infrastructure

Recommendation: Drop the reference to WSDL. Identify standards and/or best practices for implementing content-based routing. Include consideration of attachments in the service-interaction requirements.

4) Develop Originating Agency Identifier (ORI) mitigation and migration strategies for the target architecture.

Mr. John Ruegg, Information Systems Advisory Body, provided written documentation and a comprehensive presentation on the Federal Bureau of Investigation (FBI) Criminal Justice Information Services (CJIS) Division systems messaging infrastructure; local, state, and federal message broker view, and role of the ORI.

Considerable discussion was held regarding the ORI. The ORI identifies the role of the requestor (role-based access), provides organization identification of the requestor, is the valid token credential for FBI CJIS systems, and is the return address for the message response. Mr. Ruegg outlined what would be involved in transitioning the county networks that are very proprietary, how this works for Los Angeles today, and how to overlay the different views. He stated that messages flow from the bottom up in a centralized model. California reformats the header (note: variety of coding in the header). Encoding is in the ORI for law enforcement roles and organization.

Mr. Bill Ford, National Institute of Justice (NIJ), argues that we do not want to use this approach for routing because the ORI has become more than a coded number which goes beyond the original definition. Now it is role, organization, and access; ORI is part of the content payload.

Mr. David Aylward, COMCARE, stated that everyone needs a unique identifier and needs to have a delegation structure. He stated that he focuses at the local level and argued that we do not need switch-based messaging.

In terms of migration and mitigation strategies, Mr. Ruegg argued that there are achievable goals and benefits to having the entry point between user and county level. In a trusted model (i.e., the integration of SOA with CJIS messaging infrastructure), the message broker interface to end-users is an opportunity to apply SOA technology services where all of the databases and transactions currently available via the message broker federation become a set of Web services and methods at the interface point to the message broker. In California, the consumer and service provider can stay were they are, but they do not have to turn the entire process to rewrite the model. He added that communication today is all IP with the exception of two Computer Assisted Drafting (CAD) systems. Mr. Ruegg stated that they are not SNA any more but are TCP/IP and able to apply TCP/IP where most efficient. He suggested that there is value in getting transactions to the user. There is a logical place to extend legacy systems, and all of the legacy message handling would remain unchanged. But, the secured Web services interface would permit more versatile utilization of the retrieved information, which for many

locations today is sent to a printer only. The returned XML messages could be further routed for local application integration, converted to new XML messages for further processing, and could trigger content-based work flows within an organization. The message broker would convert all of the returned messages to Global JXDM as the standard message format for each Web service. Nlets–the International Justice and Public Safety Information Sharing Network is also all IP, and Nlets masks all the legacy systems and offers a virtual service that is XML. Mr. Ruegg stated to start locally because the data is flowing up. The local resources are each a Web service.

Recommendation: Table the discussion on the function of the ORI and whether or not it can be deleted from the Global JXDM, and do not include this in the scope. The resolution was made that it is not possible to get rid of the ORI entirely in the Global JXDM.

5) Determine if appliances are transparent to the architecture.

Mr. Ruegg determined that appliances are transparent to the architecture. Service-interaction profiles would communicate with an XML appliance in the same manner it would communicate with any Web service. In that sense, Mr. Ruegg recommended that the introduction of XML appliances has no effect on our use of standard service-interaction profiles. The difference with interfacing with an XML appliance is that it is acting as a proxy http/https connection point for the destination Web service, and it is transparent to the requestor that the XML message is being validated by an XML appliance before being passed on to the destination Web service. Los Angeles County will use XML appliances to offline the work of authentication, encryption, etc., to the XML appliance. The XML appliance takes the payload and separates it for service-interaction requirements. It simplifies the Web service since the appliance knows the service, protocol, and addressing, and it will also conduct auditing. Mr. Ruegg recommended that XML appliances are more of an implementation approach, rather than an enabler or hurdle.

Recommendation: Appliances are transparent to the architecture and will not be included in the scope of this report.

6) Evaluate REST protocol as a candidate service-interaction profile.

Mr. Bill Blondeau, Wisconsin Justice Information Sharing Program, submitted an Executive Summary to the MFG regarding the Representational State Transfer (REST) protocol. In the Executive Summary, Mr. Blondeau recommended that BJA devote resources to develop service-interaction profile specifications and best practice descriptions to support REST information exchanges. REST is a lightweight distributed computing architectural style that was reverse engineered from the World Wide Web's architecture to view the computational space as addressable resources, and it is rooted in the URI namespace. Mr. Blondeau argued in the Executive Summary that REST is broadly suitable for many message-based applications and provided the history, logic, and benefits for the implementation of a candidate service-interaction profile based on REST.

The MFG noted that Mr. Blondeau was missed in his absence due to a family emergency. Participants decided to review Mr. Blondeau's Executive Summary and to determine a recommendation on whether or not to pursue a candidate service-interaction profile based on

REST. After considerable discussion, participants reached agreement that a service-interaction profile would not be developed for REST. The discussion involved issues about the OSI stack, and it was determined that the REST protocol would move the service-interaction profile too far down the OSI stack. In addition, participants argued that the REST service-interaction protocol would be a secondary concern, and there would not be much value to the justice community overall regarding this approach.

Recommendation: Do not develop a service-interaction profile for REST.

7) Identify the appropriate facilitation services.

Mr. Aylward provided a written summary on facilitation services and briefed the group on emergency response business needs regarding certain shared services, including, but not limited to, rights management, routing directory, security, authentication, and network coordination. Facilitation services are the technical tools that allow emergency response officials to make and implement information sharing policies in an interoperable environment. Thus, beginning work on developing the key facilitation service tools helps with acceptance of interoperability and allows messages and data sets to be broadly used much quicker. These shared services are needed for data to be broadly shared among the tens of thousands of emergency agencies.

Mr. Aylward stated that emergency agencies have divided the facilitation services into five blocks which should be viewed as utilities. Mr. Aylward discussed the five tiers of how you manage facilitation services summarized in the table below.

Facilitation Service	***Notes***
Unified routing registration system	▪ Must have a registry or federation of registries ▪ Must register emergency agencies in a secure location-based "utility" ▪ Must be a trusted process to authorize emergency agencies entries and use of registries ▪ Must have public and open registration systems for individuals and businesses
Information discovery services	▪ Must be easy to use and provide relevant data and information sources ▪ Must advertise registries availability, nature, extent, and applicability of the various data sources and access mechanisms ▪ Must have appropriate governance by emergency agencies

Facilitation Service	*Notes*
Integrity protection and privacy	▪ Must have a shared and uniform security system ▪ Must have data integrity ▪ Must have privacy (encryption) of data with end-to-end authentication
Rights management	▪ Must have identity rights management ▪ Must have data rights management and access rules
Network management facilitation service	▪ Must have the ability to diagnose and resolve a problem end to end ▪ Must have common standards

Mr. Aylward shared a facilitation services diagram titled "Data Sharing: No Single Path" with the MFG. The diagram illustrated the following information.

- Facilitation services
  - Directory
  - Authentication
  - Authorization
  - Security
  - Diagnostics

- Key services
  - Agency to agency
  - Message polling service
  - Direct message delivery using facilitation services
  - Message delivery using a message broker and facilitation service

After considerable discussion on facilitation services, Mr. Bob Slaski, Nlets, recommended that MFG map facilitation services to the previous service-interaction requirements. Mr. Came agreed that links between the layers existed. Mr. Clarke added that the Global Justice Information Sharing Initiative (GLOBAL) has started discussions regarding how to help groups make their policies consistent.

The discussion then turned to intermediary services that are not facilitation services. Facilitation services are to be looked at as utilities. There are some applications/customers that do not need intermediaries.

The discussion continued on the definitions of nonfunctional and functional requirements. Mr. Came restated the guideline that he used, "if the requirements are enriching the message with something, then they are functional requirements." Mr. Came stated that it can be a struggle to identify the functional versus the nonfunctional requirements. He then provided an example of when the transformation of routing services is functional in nature and where a message goes is functional. He stated that how that happens is nonfunctional. Agencies

support both the National Incident-Based Reporting System (NIBRS) and the Uniform Crime Reporting (UCR) system. When a crime incident happens, the message is transformed as an incident report to the National Data Exchange (N-DEx) and then it is routed to two different places, and the content payload can be changed because some agencies want it in different formats or versions. In Mr. Came's example, the intermediary has consumed the service and the transformation has created a new service. The term service virtualization is also used. Distinction between primitive and virtualization is useful for some of the participants.

Mr. Clarke stated that he sees two different governance models for jurisdiction or organization. He stated that it was pointless to conduct a gap analysis for different types of standards that do not talk together. Facilitation services are not standards but are governance issues and tools. The justice community prefers that anyone can create tools and standards. DOJ wants to follow a different tool strategy.

Action Item: Mr. Clarke delegated Mr. Came and Mr. Aylward to do a systematic review of mapping facilitation services, following the service-interaction requirements that Mr. Came previously identified.

Recommendations: Identify standards and/or best practices for implementing transformation, identity and access management, and data rights management. Define the requirements for service-interaction profiles, including mechanisms for implementing service-interaction requirements, based on the findings of the mapping between facilitation services and previously identified service-interaction requirements.

8) Create a set of use cases for messaging intermediaries.

Mr. Slaski provided a presentation on intermediate system models and on the use cases for messaging to provide an aggregate overview. The following use cases were described in detail using real-world examples.

- Inquiry, response
- Inquiry index response
- Multicast inquiry, response
- Update, acknowledgement
  - Cancel, clear, enter, modify, locate
- Unsolicited message
- Multicast unsolicited message
- Batched inquiry, response
- Interactive, e.g., GIS
- Inquiry, silent hit/lookout
- Unsolicited system-to-system message, e.g., system failure
- Intelligent inquiry, multiple response aggregation (federated query)
- Ordered aggregation
- Enter, deconfliction response

Mr. Slaski stated that service-interaction requirements are technical words that need to make sense. Mr. Slaski argued that these terms are law enforcement terms that get abstracted into what we are doing. He indicated that these are the types of service-interaction requirements that Nlets performs today. He explained that intermediary services should be mapped into the general service-interaction requirements list that follows.

- Help
- Optimization, e.g., Images—MTOM
- Service virtualization (set of services that are extracted)
- Security
- Continuity of operations
- Auditing
- Reliable transfer
- Validation (schema-based)

Mr. Came replied that "help" is an implementation technique and not a service-interaction requirement.

Mr. Slaski argued that there is an opportunity for interoperability as things are designed and developed, and he would like to introduce the concept of intermediary services. There are legacy databases and no current place, but on intermediary systems, to perform services. This will impact the service-interaction profile. In conclusion, Mr. Slaski finished his presentation with a list of Intermediate System Models as follows.

- Traditional broker
- Transparency—service virtualization
- Web services orchestration/choreography
- Major vendors will embed standards into bundled solutions
- Continuity of operations

After considerable discussion, it was agreed that intermediary service providers deliver added services on top of what the scope of our group is doing. Mr. Clarke added that these services add value, but the question is where these services will belong in the architecture. The intermediary system can be viewed as just another application.

Mr. Came stated that by definition from the SOA documentation, an application is defined as a capability. He asked, "At what point does an intermediary system become more than another capability? How is it different?" Mr. Came stated that as an example, intelligent query is a new capability. We need to look at these new capabilities and how they impact the service-interaction profile. Mr. Came is convinced that intermediary services should not go into the service-interaction profile. Mr. Came states that we are okay with viewing what we are doing in terms of capabilities. Some capabilities have a more complex interaction with SOA, for example, run time artifact. Those are the only things that would impact the reference architecture. We are recognizing two types of capabilities:

- Regular capabilities

- Common capabilities—there is a business requirement to provide capabilities through a common provider. Community ownership. Different governance process and SLA process.

Recommendation: ***The intermediary system will not fit into the service-interaction profile today since it is transparent to the profile, but the intermediary system is a critical element to interoperability and success in ultimately delivering the content to the consumer. A statement to this effect should be included in the report with the identification of standards and best practices. This suggested recommendation will not come in the form of a service-interaction profile in the final report but, instead will result in documentation that looks at the following three issues.***

- ***Orchestration***
- ***Content-based routing***
- ***Transformation***

9) Elaborate the SOA reference architecture for messaging intermediaries.

In light of the previous discussion of item eight, the MFG agreed to skip this item because it is not relevant and was already covered.

Discussion/update with Mr. Lee Tincher and Mr. Tim Grapes. Mr. Tincher and Mr. Grapes had questions regarding the list of service-interaction requirements.

Action item: Mr. Tincher and Mr. Grapes will look at the service-interaction requirements list and obtain additional meeting updates from Mr. Aylward.

In response, Mr. Came stated that we do not want to list all of the general requirements for SOA. We are just looking at things that better define the service-interaction profile for interoperability. For example, we discussed network management. Someone would have to monitor network traffic, but this does not affect interoperability. If it did, then the MFG would have to deal with bandwidth. Mr. Tincher and Mr. Grapes asked for a definition of what we are trying to achieve. The reply was interoperability of the message exchange.

Action Item: MFG needs to specify the scope of the service-interaction profile regarding what is included and what is not included in scope.

Recommendations on Service-Interaction Profiles

The group's final recommendations are listed below.

1. Define terms for service-interaction profiles based on the Reference Model for SOAs developed by the OASIS SOA TC, and provide examples for each, including:

a. Capability
b. Common capability (facilitation service)
c. Service
d. Service interface
e. Message
f. Service-interaction requirement (previously "nonfunctional requirement")
g. Service-interaction profile (previously "messaging profile")
h. Functional vs. nonfunctional

2. Define the requirements for service-interaction profiles, including mechanisms for implementing:

    a. Message exchange patterns (MEPs)/primitives
        (1) Request-response
        (2) Fire-and-forget
    b. Service-interaction requirement.

3. Develop and rapidly prototype the following service-interaction profiles. Prioritize which ones the community wants first.

    a. Web services profile based on the WS-I profiles
    b. MQ profile
    c. ebXML profile based on ebXML Messaging Service (ebMS) 3.0 Convergence (John agreed to be the documenter of this.)
    d. Wireless profiles

4. Identify initial list of common capabilities and develop associated business cases including:

    a. Identity and access management (nonfunctional)
    b. Federated query (functional)
    c. Routing (nonfunctional)

5. Identify standards and/or best practices for implementing:

    a. Orchestration
    b. Transformation
    c. Content-based routing
    d. Identity and access management
    e. Data rights management

6. Incorporate the results of the previous tasks in general reference architecture.

7. Revisit these recommendations periodically in light of related SOAs.

8. Include representatives from this group in the groups assigned these tasks for knowledge transfer.

9. Coordinate the assignment of these tasks and review the results to ensure architectural consistency and balance by an oversight group.

    a. Balance of industry and practitioner individuals
    b. Weighted toward technical architecture competence

Schedule

- Finalize and submit outstanding action items by **Thursday, February 8, 2006.**
- Develop draft report by Tuesday, February 28, 2006.
- Vet report for 30 days beginning March 1, 2006.
- Submit final recommendations to BJA on April 3, 2006.

Results

- Resolved set of action items/issues
- Determined messaging profile should be called "service-interaction profile"
- Determined nonfunctional (technical) requirements should be called "service-interaction requirements"
- Developed a set of recommendations to be developed into a report for BJA

Messaging Focus Group Action Items Summary

The MFG identified a number of issues and tasks that require resolution.

- Mr. Came and Mr. Aylward will do a systematic review of mapping facilitation services to the list of service-interaction requirements.
- Mr. Came will look at service-interaction requirements of message format for attachments.
- Mr. Tincher and Mr. Grapes will get a meeting recap from Mr. Aylward. They would like to have the scope defined for the service-interaction profile and review what is included and what is not included in terms of service-interaction requirements.