Healthcare in the 21st Century: Why Interoperability is Important

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OMG / HL7 Healthcare Interoperability Workshop
OMG Healthcare Domain Task Force
HL7 Services Specification Project Workgroup
Hurricane Katrina
Bob and Foo
KatrinaHealth.org demonstrates the commitment of the health information technology industry leaders to work toward a safer and more effective healthcare system. This is the first of many public and private sector efforts to develop new tools that will make a real difference in the lives of people.

Source: HIT National Coordinator, David Brailer, MD, PhD, KatrinaHealth.org, September 22, 2005.
Healthcare in the 21st Century

Diagram showing the integration of patients, electronic medical records, and financial management in clinical encounters.
MedicAlert: 50 Years of Service

From the bracelet... to the mainframe... to the Tab listing... to the PC... to the Rolodex... to the World Wide Web
The Network Health Record

Entity Identification & Security
- Browsers
- Healthcare Information Sources
- Portable/Mobile Devices

Secure Communications

<table>
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<tr>
<th>Patient Info Manager</th>
<th>Transaction Manager</th>
<th>Community</th>
<th>Patient Relationships Manager</th>
<th>Personal Health Manager</th>
<th>Device Manager</th>
<th>Data &amp; Terminology Interchange Services Interface</th>
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Entity Identification, Rights Management & Security

Authorization
Sign On
Authentication
Identification
Security

MediAlert Repository System (MARS)
What is the Healthcare Service Specification Project?

- An effort to create common “service interface specifications” tractable within Health IT
- A joint standards development project involving Health Level 7 (HL7) and the Object Management Group (OMG)
- Its objectives are:
  - To create useful, usable healthcare standards that address functions, semantics and technologies
  - To complement existing work and leverage existing standards
  - To focus on practical needs and not perfection
  - To capitalize on industry talent through open community participation
Why “common services” and not just “messages”?*

- A common practice in healthcare, just not yet in healthcare IT
- Many key products use them but do not expose interfaces
- Ensures functional consistency across applications
- Accepted industry best practice
- Furthers authoritative sources of data
- Minimizes duplication across applications, reuse
- Messages can be either payloads in or infrastructure beneath services
- Service-oriented architecture is just automation of common services

*slide adapted from a Veterans Health Administration Presentation, used with permission
Where would these specifications be used

• Inter-Enterprise (such as NHIN, RHIOs, LHINs)
  – By functionally specifying behavior, roles between applications and products are clarified, and the technologies supporting them can be profiled and sharpened

• Intra-Enterprise
  – Standardization on functionality allows for better integration of off-the-shelf and custom development environments, and promotes more of a “plug and play” environment

• Intra-Product
  – Facilitates vendors ability to integrate third-party value-add components and speed design phase with higher confidence

• Custom-Implementation
  – Affords organizations wishing to custom-develop the opportunity to later integrate off-the-shelf
The Approach

- HL7 to lead in service selection, functional elaboration, and conformance criteria
- OMG to lead in technical specification
- Both organizations jointly participate in all activities
- Work products will be “owned” by only one organization but used collaboratively
- “Operate as one project” as a principle
- Actively seek vendor participation
- Engage IHE community
Greater than the Sum of its Parts...

Interoperability

- Model-based Component
- Model Fragment
- Reference Information Model
- Data Types and Terminology Bindings
- Standard Terminologies and Vocabularies
- HL7 Community and Open Participation
- Information & Semantics
- Physical Software Infrastructure
- Design and Technology
- Middleware Frameworks
- Messaging Specifications (HL7, others)
- HL7 Application Roles
- Independent Specification
- Computationally Independent Specification
- Platform-independent Specifications
- Platform Bindings

Ability to Interoperate

High
Low
Project Timeline and Roadmap

1996: First OMG Healthcare Service Spec Adopted (PIDS?)

2003: HL7 Services BOF formed

2004 September: HL7, OMG Collaboration MOU

2005 January: Joint Project Chartered

2005 April: Project Kickoff

2005 September: Methodology and MetaSpecs Baselined (planned)

2005 October: Interoperability Services Workshop & Conference

2006 January: Functional Specs Ballot (planned)

2006 Q4: Technical Specs RFP (planned)
How is this project “different”?

• Active participation from three continents and 15+ organizations

• Significant cross-cutting community involvement
  • Providers (Kaiser, VHA, Intermountain Health, Mayo)
  • Vendors (CSW Group, IBM, PatientKeeper, Universata)
  • Value-added Providers (MedicAlert, Ocean Informatics, Eclipse Foundation, etc.)
  • Payers (Blue Cross/Blue Shield, Kaiser)
  • Integrators (IBM, EDS)
  • Governments (Veterans Health Administration, Canada Health Infoway, HealthConnect (Australia), SerAPI (Finland))

• Managing differences between SDOs in terms of membership, intellectual property, and cost models
Why should I participate? [One]

- This effort is focused on and driven by business-need
  - It is not an “academic exercise” striving for perfection
  - Acknowledgement that for standards to be useful they must be used
  - Focused on the practical and achievable
  - Short timelines
  - Based upon business value and ROI
- Leveraging talent from two standards communities
- Up-front commitment ensures community engagement
- Being run like a “project” and not a committee
- Recognize participation as an investment and not an expense
Why should I participate? [Two]

- This is happening—the only way to influence the outcome is to engage
- Significant “networking” opportunities—you will gain access to the best and brightest in the industry and the world
- Prime opportunity to directly engage with complementing stakeholder groups (provider-to-vendor, vendor-to-payer, SDO-to-SDO, etc)
- Benefit from “lessons learned” from others
- Reduce design burden
- Establish market presence and mindshare as industry leader
How do I Participate?

• Join appropriate standards organizations
  – HL7 for functional work
  – OMG for technical specification work
  – Join both

• Allocate resources to actively engage in the project
  – Engage existing, knowledgeable resources in the areas they are working already.
  – Subgroups form based on industry need and priority
  – Teleconferences are weekly; meetings approximately bimonthly
References

- HL7 Website:
  - http://www.hl7.org
- OMG Website:
  - http://www.omg.org
- Services Project Homepage
  - http://groups.yahoo.com/group/ServicesSpec
Welcome!