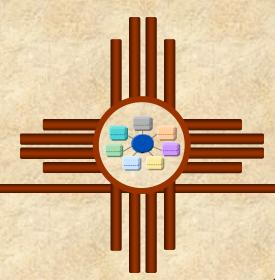
ebXML Registry Repository



Open Forum 2003 on Metadata Registries 2-3:30 p.m. 21 January 2003

Alan Kotok, DISA
Tony Weida, Apelon
Monica J. Martin, Drake Certivo



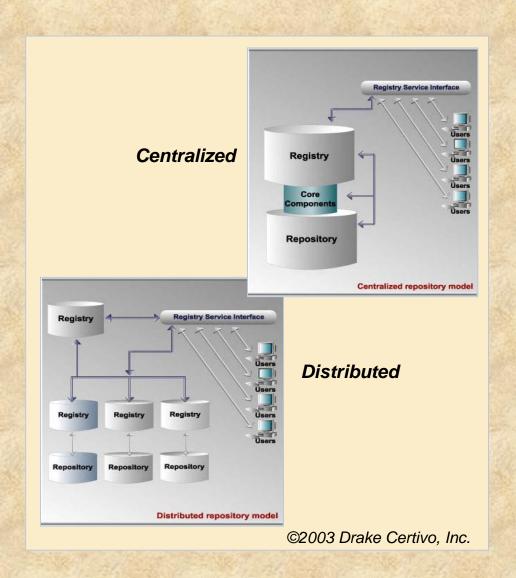
Tutorial Outline

- The ebXML Registry and Repository
- Role of ebXML Reg/Rep in Business and Technology
- Basic Implementation Steps
- Implementation Challenges
- The ebXML Reg/Rep Uses in Multiple Architectures
- Implementation Use Cases
 - Automotive: General Motors
 - Cross-industry: DISA DRIve
 - Health Care: SAGE
- Panel Discussion

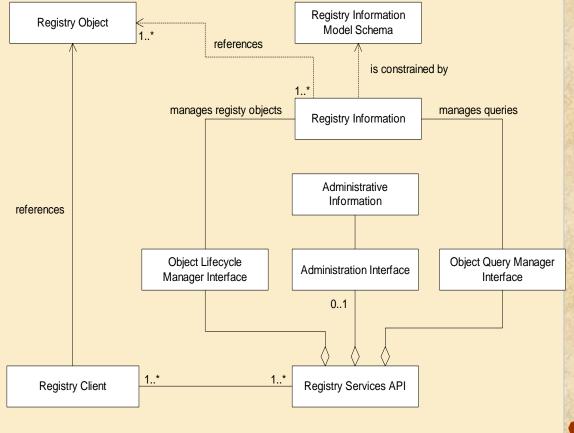


The ebXML Registry and Repository

- Provides services to enable information sharing.
- Enables business process integration.
- Provides
 mechanisms to
 store and retrieve
 persistent
 information required
 by the Registry
 Services.



Functional View of ebXML Reg/Rep

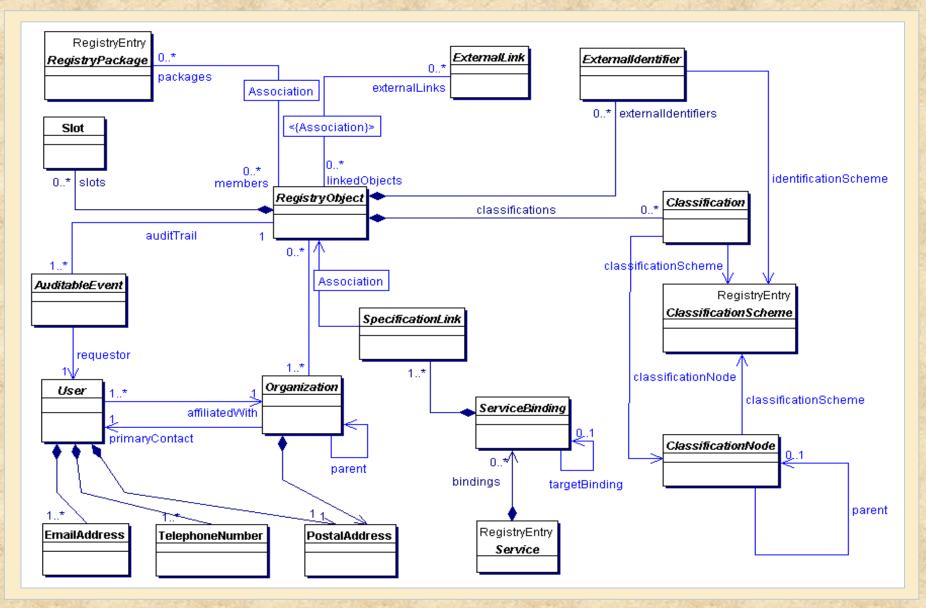


Allows business to locate trading partners, capabilities, services, business processes, and objects and artifacts.

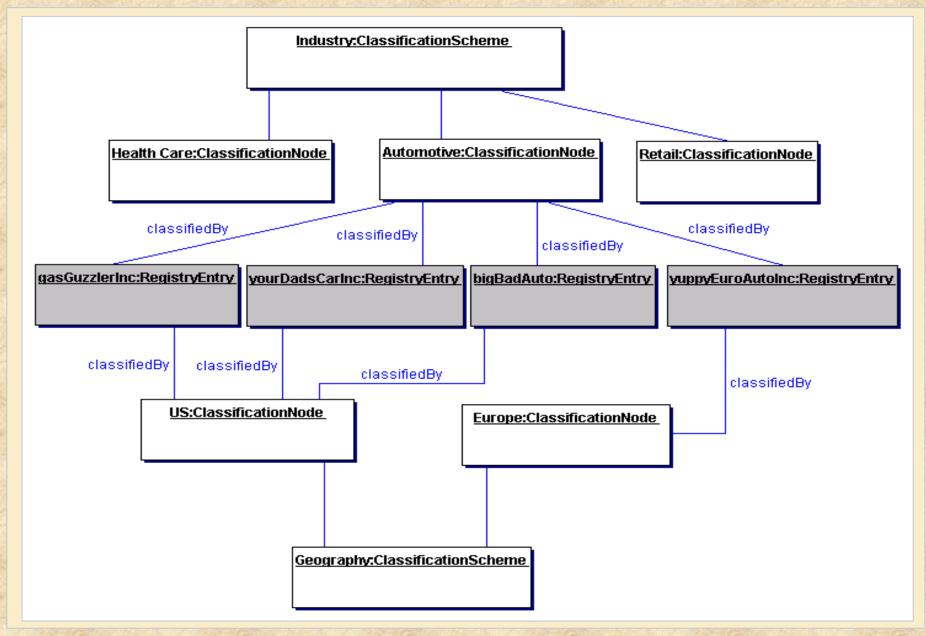
- Links and semantic relationships
- Publish and discover any content.
- Content-specific validation and cataloging
- Arbitrary classification
- Content-based, ad hoc queries
- Can provide the domain model for and support interoperability for web services.

Source: UN/CEFACT eBusiness Architecture v0.83, 12 December 2002

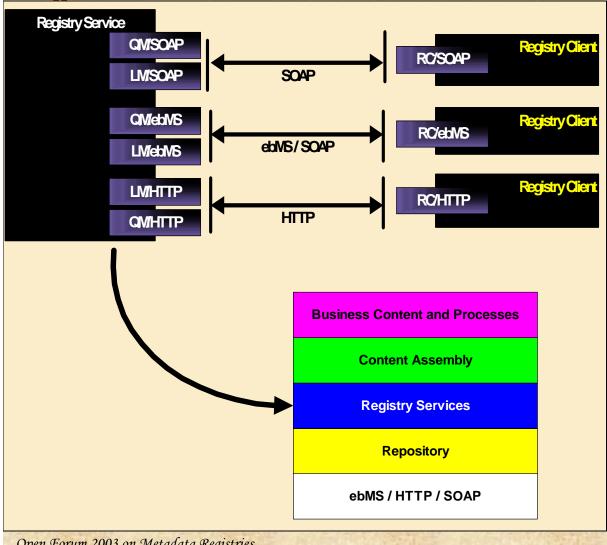
Registry Information Model



Object Classification



Role of ebXML Reg/Rep in Business



- As a part of the ebXML vision, enable global trade with proven technologies.
 - Bridge eBusiness and enterprise processes and semantics.
 - Cover many partner interactions.
- Provide uniform methodology/means to register, discover, and retrieve registry objects using standard protocols.
- Provide an effective communication tool for business domain and operations.



Registry Capabilities

Directories

Basic Registries

Advanced Registries / Content Mgmt Systems

Registry Continuum

LDAP Directory

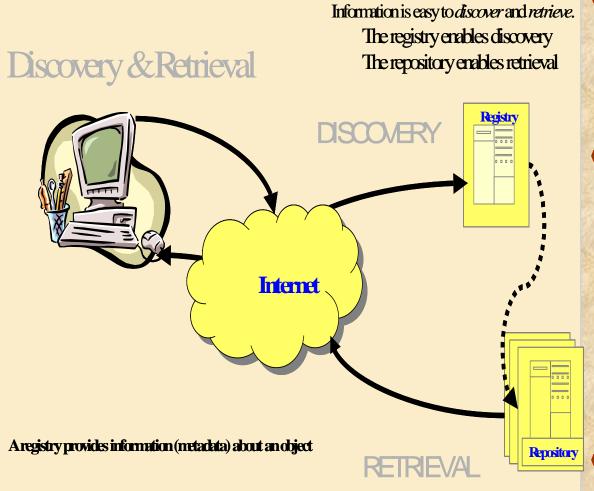
UDDI Yahoo! Yellow Pages ebXML Registry

See Capability Matrix at:

http://ebxmlrr.sourceforge.net/ebxmlrr-spec/Registry_Capability_Matrix.html



Technical Role of ebXML Reg/Rep

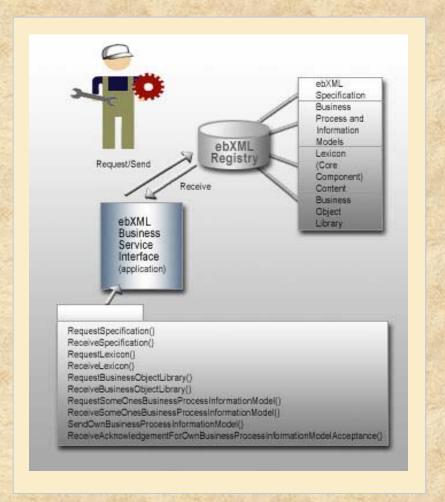


- Event notification
- Content classification
 - User-defined taxonomies
 - Business artifact classification
- Content and knowledge management
 - Content-based publish and subscribe
 - User-defined relationships between content
 - Associations of internal and external classification schemes
- Discovery and retrieval
 - Federated SQL/XML queries



Basic Steps to Implement

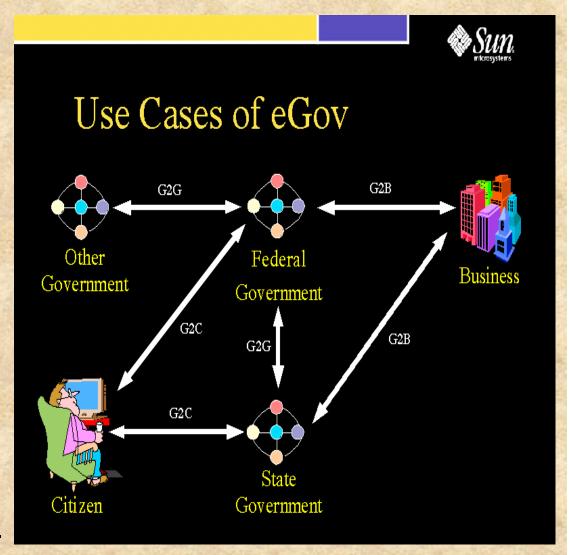
- Identify business requirements.
- Identify artifacts, objects, or data.
- Evaluate tools.
- Review and prepare objects for registration.
- Define and set up information model.
- Define registry services.
- Describe associations, relationships between objects.
- Understand processes to support – security, metadata, and use.

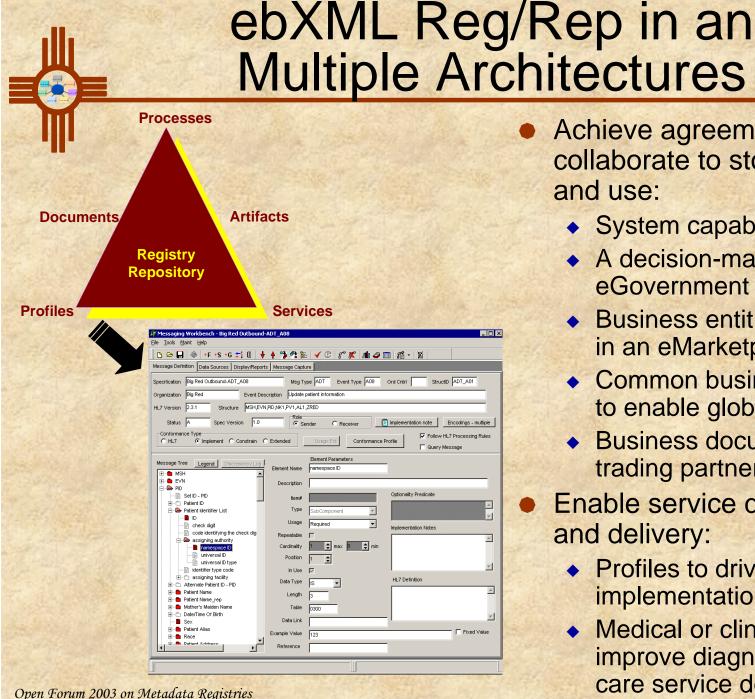




Implementation Challenges

- Identifying business needs.
 - Instill confidence.
 - Public or private registry?
- Define registry information model and classify objects.
- Selecting vendors and securing expertise.
- Defining and implementing processes internally and with trading partners to support.
- Defining and implementing access control policies.
- Integrating legacy applications and processes.





- Achieve agreements and collaborate to store, discover and use:
 - System capabilities
 - A decision-making structure for eGovernment
 - Business entities and services in an eMarketplace
 - Common business processes to enable global trade
 - Business documents for trading partner use
- **Enable service decision-making** and delivery:
 - Profiles to drive implementations in health care
 - Medical or clinical data to improve diagnosis and health care service delivery 12

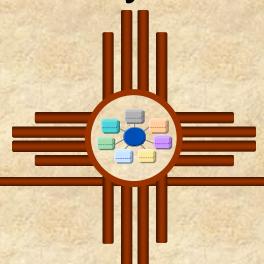
Project / Standards	<u>Stakeholders</u>	<u>Progress</u>	<u>Plans</u>	
DISA - Finance, Mortgage Banking, Standards, Travel, Grocery, etc. ebRS and ebRIM 2.0 Registry	DISA ASC X12 IFX MISMO OTA XML Global	Created registry with MISMO, IFX using NAICS, UN/SPSC. Tests involve CPP and SOAP messaging.	Add new testing features. Add more classifications and objects – registering objects in a more granular manner.	
General Motors – Automotive Software Factory Enabler Project GM ebRS and ebRIM 2.0	General Motors Suppliers OAG Inc. AIAG / STAR Sun Microsystems Sybase New Era Networks BEA IBM	SOA – ebXML/ Web Services Demo/Pilot in September 2002 Reg/Rep as the B2B Document Mgmt System; ebxmlrr used.	Q4 2002 and into 2003: Formalize use of ebXML Reg/Rep and other non- ebXML elements. Standardize SOA products/processes for integration guidelines. Mentor ebXML and Web Service projects.	

Project / Standards	<u>Stakeholders</u>	<u>Progress</u>	<u>Plans</u>	
US Government and Health Care – HL7 ebRS and ebRIM 2.1	HL7 NIST Sun Microsystems	For HDF effort, study how to use Reg/Rep to store V2 Conformance Profiles and V3 Templates. Experimental Reg/Rep online	Study HL7 processes and artifacts to understand how to effectively use the ebXML Reg/Rep — metadata, storage, query, retrieval and process integration. In future - MWB Interface and registry host.	
Health Care – Institutions, Providers - Advanced Technology Program The SAGE Project Stocknow Stock Sharely A drive Guideline Entowners A collaborative project to downlop a substronic clinical guidelines BRS and ebRIM 2.1	NIST Apelon, Inc. Mayo Clinic IDX Univ. of NE Univ. of Utah Intermountain Health Care Stanford Medical Informatics	Continue to define standardized shareable clinical guidelines using common vocabularies.	Identify metadata for guidelines and how it is mapped to RIM. Develop a guideline registry, that is webenabled, to facilitate SAGE.	

	Project / Standards Pacific Rim - KIEC Reg/Rep now REMKO		<u>Stakeholders</u>	<u>Progress</u>	<u>Plans</u>
			KIEC Iron and Steel (KISA)	Completed v.1.0 and first development	Continue effort with Iron and Steel industry to support their National
		MEC	Other industry players	stage.	Central Registry and Repository.
		⋒ REMKO		**Ten Pacific Rim countries plan to	Upgrade v3.0 planned.
	ebRS an ebRIM 2.			implement ebXML by 2005.**	Interconnect NCRR, and Iron and Steel.
F1000000000000000000000000000000000000	Pacific Rim - KTNET		KTNET (XENI-Global Business	Launched the XENI RegRep in November 2002,	Have plans to participate and/or collaborate with ebXML IIC in test arena.
		ЖКТПЕТ	Registry, GXML Hub-messaging	which hosts XML schema, CPP	Will promote BPMS
		< xenı	center) Pan-Asia	and EDI libraries.	Engine adoption.
	ebRS a ebRIM 2		Alliance (PAA) POSData Innodigital		

Project / Standards	<u>Stakeholders</u>	<u>Progress</u>	<u>Plans</u>
Government of Australia The National Office for the INFORMATION ECONOMY Standards Australia ebRS/RIM 3.0 planned	NOIE backed by Government of Australia Standards Australia Multiple, cross- industry stakeholders	Completed analysis. Pilot ongoing. Decisions almost complete to move forward with later phases.	Phase 1: Distributed registry. Phase 2: Multiple ebXML specs – BPSS, CPPA, Reg/Rep. Implementation and deployment anticipated soon, after finalization of contractual agreements.
Government of Canada E-Forms Domain Architecture Government of Canada XML in Ontario ONTARIO EDAT: 1.0; XiO: 3.0	EDAT: Ottawa and Vancouver XMLGlobal Sun Microsystems XiO: In Ontario - Transportation, health and economic agencies	EDAT: In 2002, integrated MS BizTalk environment with a Registry and ebXML adapter. XiO: Phase 2 – Evaluate tools. Committed to ebXML.	EDAT: Using current version, until funding allows next steps. XiO: Complete evaluation; implement prototype by March 2003; work with government ministries/agencies to enable ebXML solution (plan Reg/Rep 3.0).

General Motors Software Factory Enabler Project



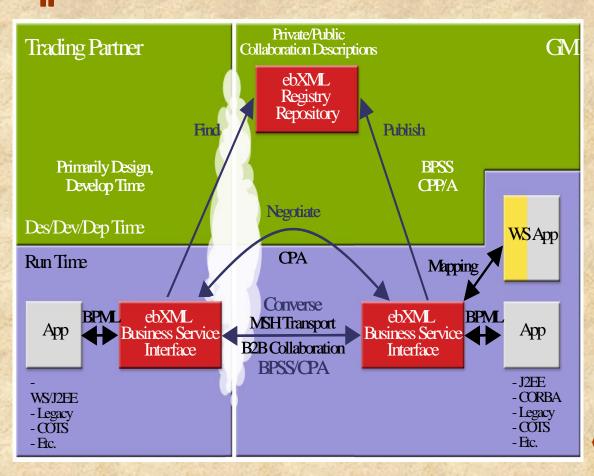
Open Forum 2003 on Metadata Registries

Monica J. Martin Drake Certivo, Inc.

21 January 2003



General Motors: Software Factory Enabler Project



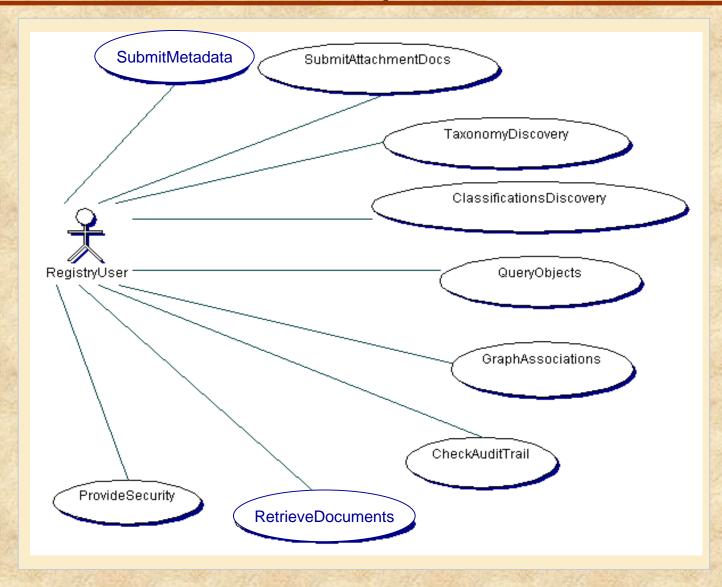
- Use ebXML to extend the service-oriented architecture and enhance B2B to:
 - Allow loose coupling of components for scalability and extensibility.
 - Improved deployment and execution.
 - Encouraged buy vs. build model.
 - Lowered costs and increase business agility.
- Create a reference implementation that integrated A2A and B2B complex interactions.

GM: Need for ebXML Reg/Rep

- A registry serves multiple needs (for example, search for APIs or trading partner relationships).
- Reg/Rep is the latest evolution in B2B electronic business.
 - Point-to-point → B2B Exchanges → ebXML Reg/Rep
- Enables publishing and discovery of trading documents.
- Enables businesses to find partners and services.
- Consists of a database of shared information:
 - CPP, core components, schemas, business processes, UML models, business documents, software components, etc.
- Can provide an electronic yellow pages for publication, classification and discovery of businesses, products, services.
- Can provide an electronic bulletin board for dynamic sharing of content.

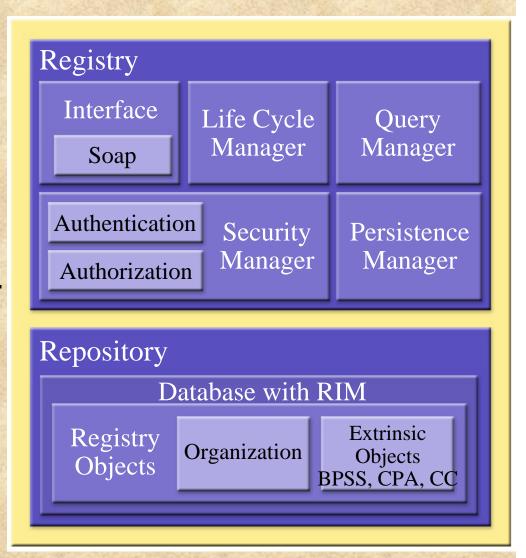


GM: Reg/Rep Use Case for Reference Implementation

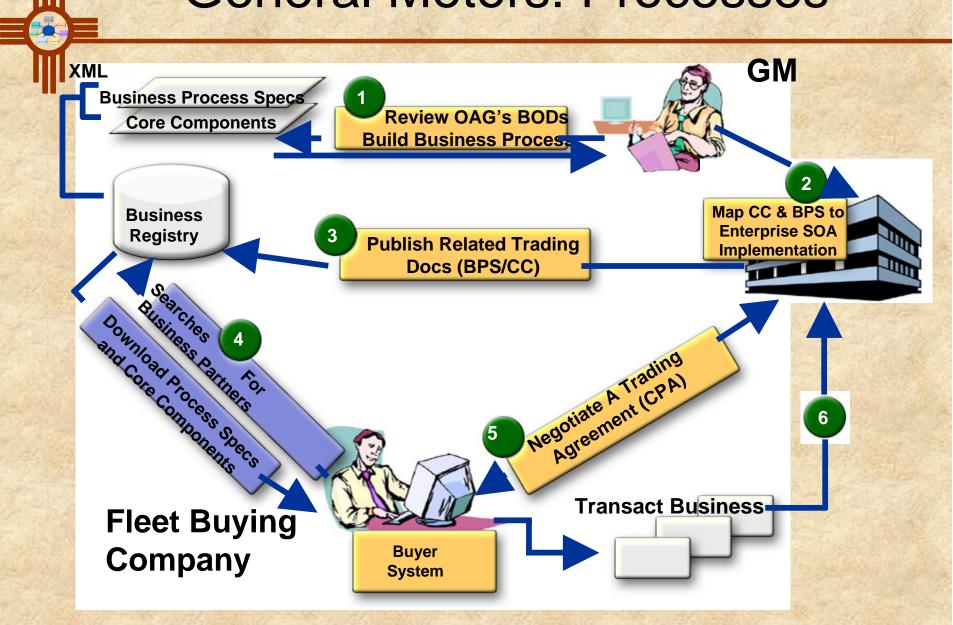


General Motors: Technical View of ebXML Reg/Rep

- Original code donated by Sun.
- Developed in open source.
- Developed entirely in Java and fully compliant with Reg/Rep v.2.0 specification.
- Uses Java 2 Enterprise Edition APIs.
- Uses Java APIs for XML from Sun.
 - JAXP, JAXB, JAX-RPC, JAXM, JAXR



General Motors: Processes





GM: Registry Functionality

- Discovery How to find trading partners
 - Access Reg/Rep as a Web Service via a URL.
 - Search all "Services" exposed as web services.
 - Search for all trading partners "Organizations".
 - Filter the Organizations.
 - Standard Taxonomies Filter
 - Custom Taxonomies (BPSS) Filter
- Explore the trading partner documents.
 - Explore the Documents associated with the BPSS
 - Through the GUI mapping
 - Find document through ad hoc query
 - Download the CPA, BPSS and CC from the Repository.
- Create and submit metadata.
 - GUI browser
 - XML content

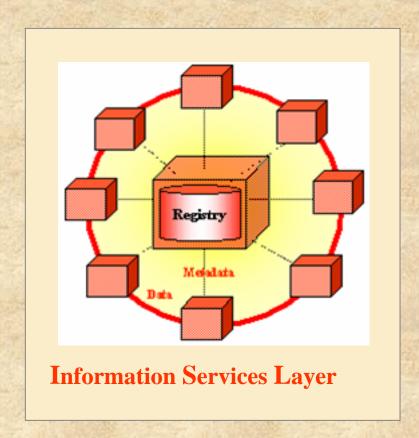


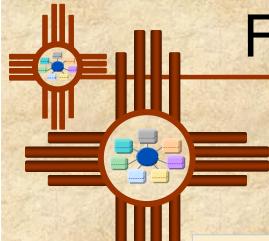




GM: Implementation Challenges

- Need for federations to handle multiple GM divisions (Now in ebXML Reg/Rep 3.0).
- Minor issue with digital signature validation (Resolved during development).
- Overall performance concerns with XML (Not specific to ebXML Reg/Rep).





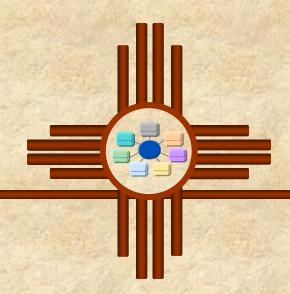
For More Information ...

Contact Mike Wheaton
Sun Microsystems

michael.wheaton@sun.com

Thanks to General Motors, AIAG, Sybase and others for their contributions.

DISA Registry Initiative (DRIve)



Open Forum 2003 on Metadata Registries

Alan Kotok
Data Interchange Standards Association

21 January 2003





DISA Registry Initiative (DRIve)

- ebXML-compliant (v 2.0) registry of DISA standards objects
- Allow for interconnections with other registries and services.
- Beginning with vertical industry affiliates
- Registry only, NOT a repository
- Software donated by XML Global.

http://www.disa.org/drive/



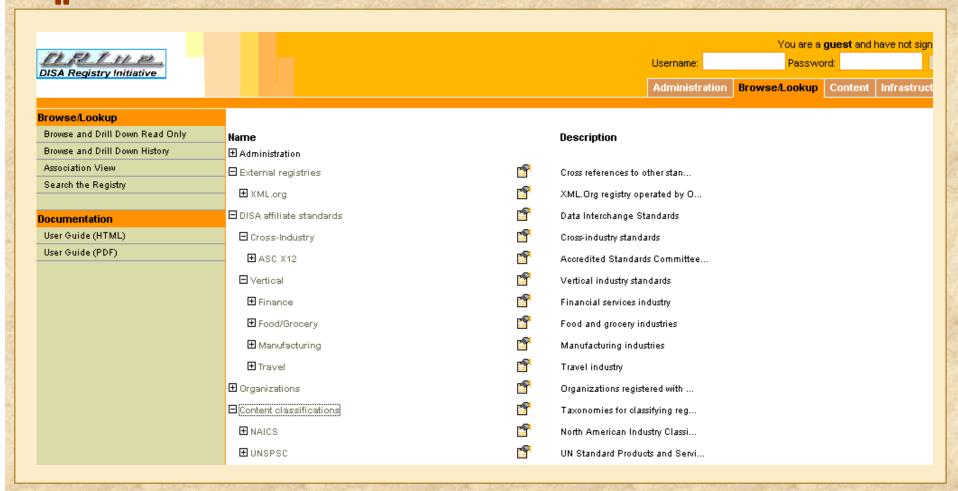


DISA Registry Initiative (DRIve)





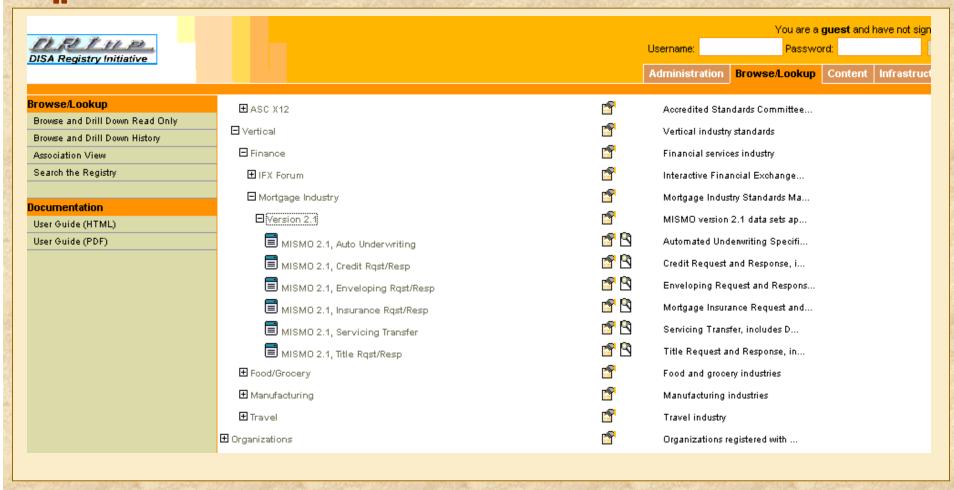
Top-Level View of DRIve



29



Example: MISMO v.2.1



30



Title Req/Rep Metadata (1)

ExtrinsicObject Properties

Attributes

Key Value

urn:uuid:561b2601-0836-6004-185a-1b356f757c23

Name MISMO 2.1, Title Rqst/Resp

Major Version 1

Minor Version 1

User Version

Object Type XMLSchema

Status Approved

Description Title Request and Response, includes DTDs, examples, and data dictionary. For demonstration only.

true

Remote Content

Content url http://www.mismo.org/mismo/docs/drftspc/Title_v_2_1.zip



Title Req/Rep Metadata (2)

Classifications

Name Description

NAICS, 522292 Real Estate Credit

UNSPSC, 80131700 Escrow and title services

Version 2.1 MISMO version 2.1 data sets approved for final release on 8 March 2002.

NAICS, 541191 Title Abstract and Settlement Offices

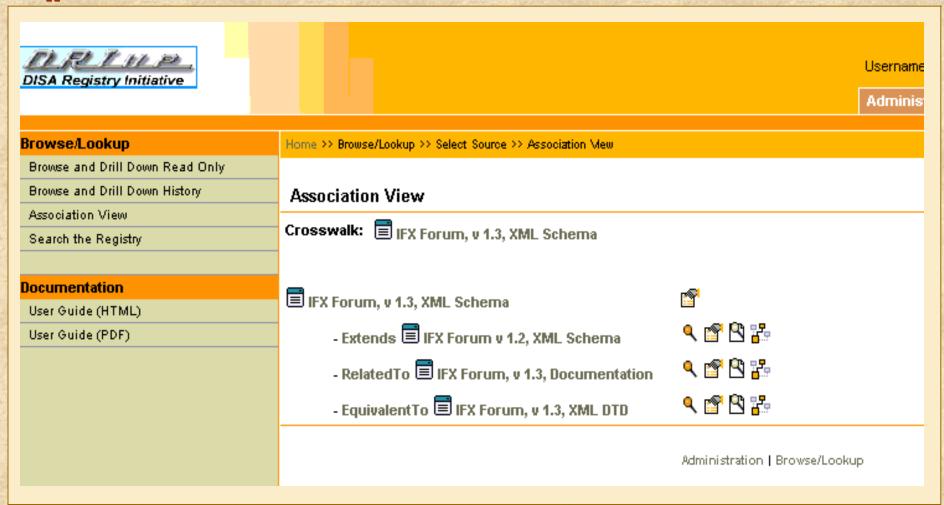
UNSPSC, 84121900 Mortgage banking

XML.Org, MISMO entry

NAICS, 52231 Mortgage and Nonmortgage Loan Brokers



Associations: IFX Forum 1.3 Schema





Business Process/CPP Testing



Administration

Browse/Lookup

Browse and Drill Down Read Only

Browse and Drill Down Read Write

Browse and Drill Down History

Browse and Drill Down Remove

Association View

Search the Registry

Documentation

User Guide (HTML)

User Guide (PDF)

Attributes

Key Value

ld: urn:uuid:6a565b03-3031-4643-4544-244f7c3e5c5b

Name: Business process for CPPs

Major Version: 1

Minor Version: 1

Object Type: Process

Status: Approved

Description: Simple BP definition for CPP generation

Remote Content: false

Outgoing Associations

Name Type Participant

No associations found.



Test Collaboration Protocol Profile

ExtrinsicObject Properties

	-		- 4	
٩tt	П	al	Jt	es

Key Value

ld um:uuid:03204e09-1c03-6064-7e3d-21133f20257e

Name XML Global ebXML testing

Major Version 1

Minor Version 0

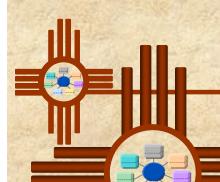
User Version

Object Type CPP

Status Approved

Description Test point for ebMS interfacing. Can be used to test ebXML interoperability.

Remote Content false



For More Information ...

DRIve site: http://www.disa.org/drive/

or contact Alan Kotok

Data Interchange Standards Association

akotok@disa.org, +1 703-518-4174

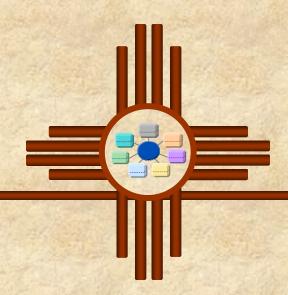
http://www.disa.org



<E-Business*Standards*Today/>

Daily news wire: http://www.disa.org/dailywire/

SAGE Clinical Guideline Registry



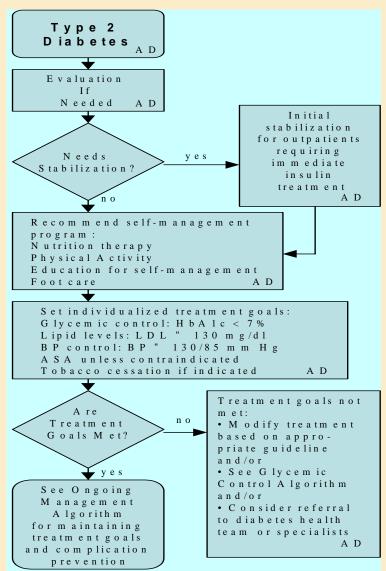
Open Forum 2003 on Metadata Registries

Tony Weida Apelon

21 January 2003



Clinical Guidelines



 Capture best practices for providing medical care.



Organization

- NIST Advanced Technology Program
- Three year grant, \$18 million
- Collaboration
 - Apelon
 - IDX (lead)
 - Intermountain Healthcare
 - Mayo Clinic
 - Stanford Medical Informatics
 - University of Nebraska Medical Center



Description

Mission

 Develop the technology infrastructure to enable computable clinical guidelines, that will be shareable and interoperable across multiple clinical information system platforms.

Goals

- Author and encode clinical practice guidelines in a standard computable format.
- Deploy those guidelines easily within any standards-conforming clinical information system.



Artifacts

- Shareable Active Guideline Environment (SAGE)
 - Interoperable guideline model
 - Interoperable guideline workbench (Protégé)
 - Guideline deployment system



Web-based guideline registry



Registry Implementation

- Early prototype
- Developed at Apelon by Derrick Butler.
- Based on ebXML Registry 2.1 specifications
- Using ebxmlrr software from SourceForge
- Integrates Apelon's Distributed Terminology Server (DTS).
- Now supports submission, basic indexing, and retrieval of guideline packages.
- Aims at robust collaboration and publishing.

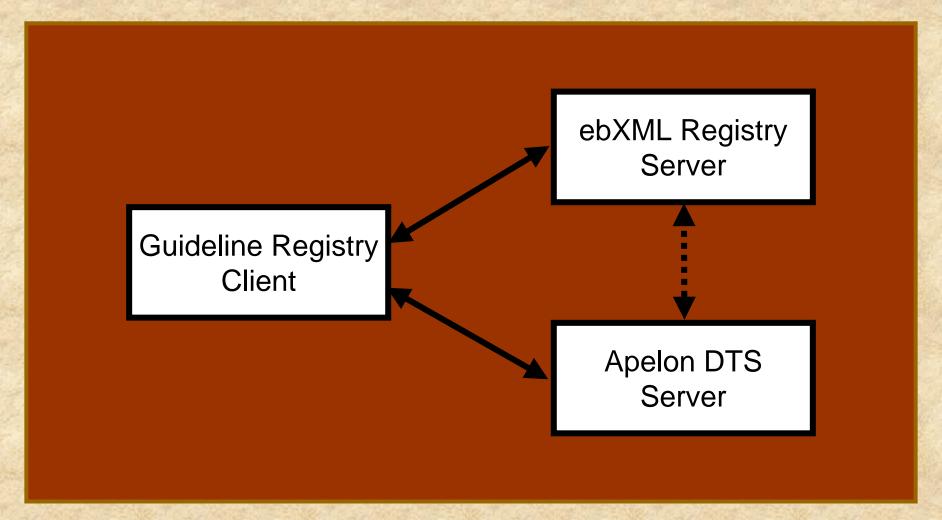


Terminology-Powered Registry

- Standard terminology makes guidelines easier to:
 - Author
 - Explain and understand
 - Share
 - Localize
 - Execute
- Similarly for registered guideline metadata
- Generally for other types of registry content

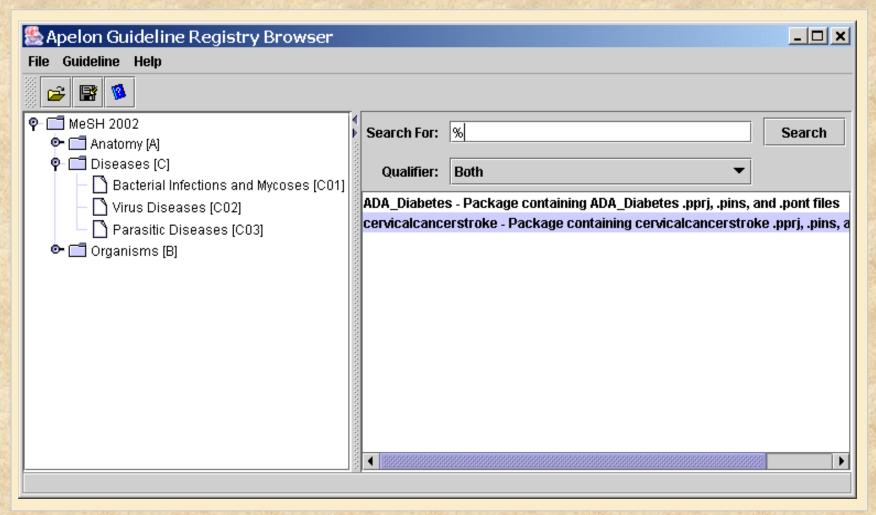


Registration Architecture



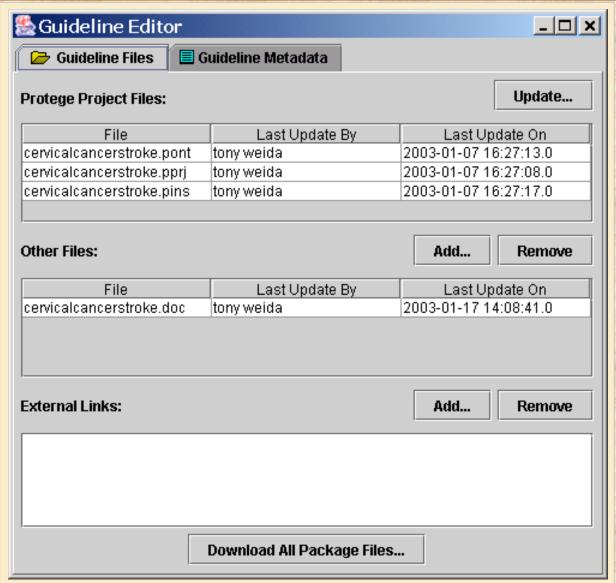


Guideline Registry Client





Guideline Package



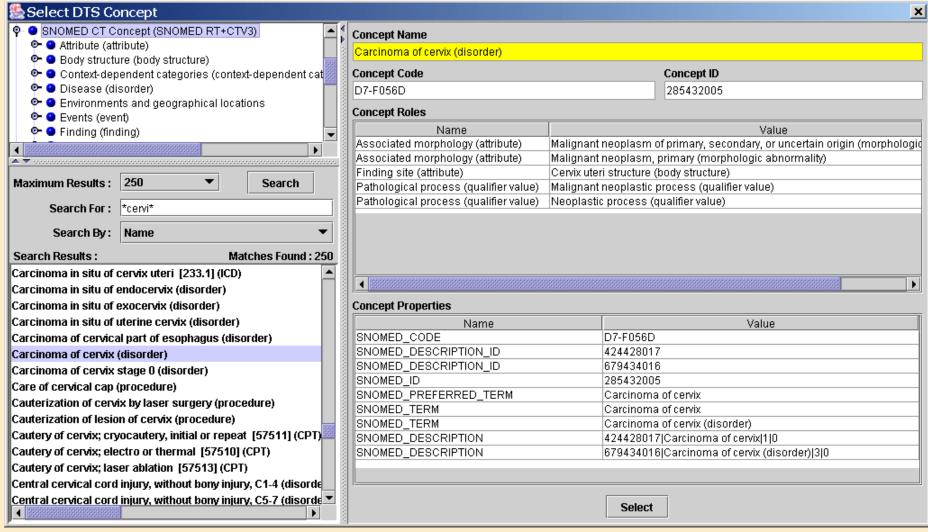


Guideline Metadata (sample)





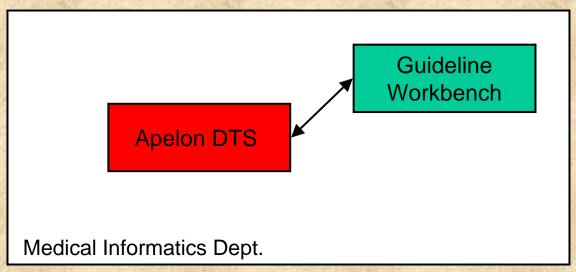
Metadata Selection via DTS





Workflow Vision - Phase I

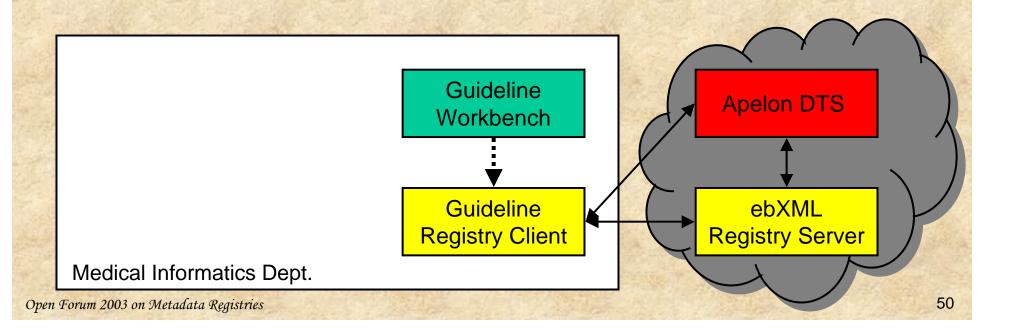
- Authoring and publishing
 - 1. Create guideline with standard terminology.





Workflow Vision - Phase I

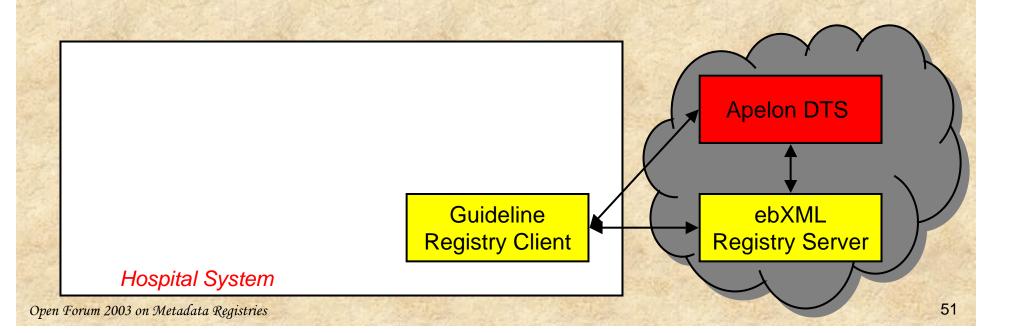
- Authoring and publishing
 - 1. Create guideline with standard terminology
 - 2. Shareable guideline submitted to registry with metadata chosen from standard terminologies.





Workflow Vision - Phase II

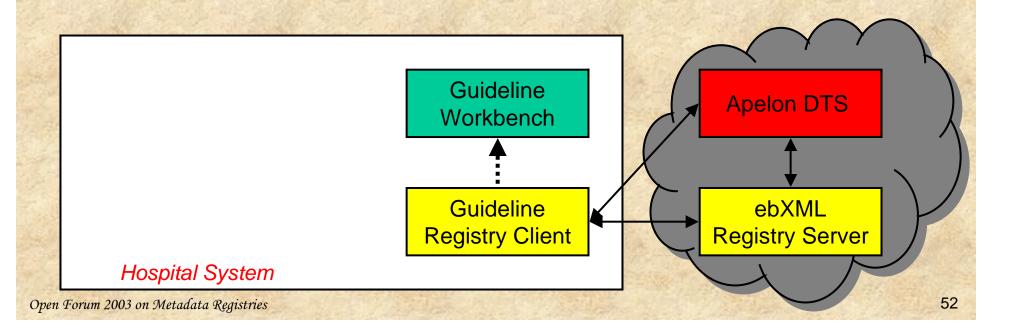
- Search and retrieval
 - 1. Browse or query registry for guideline of interest.





Workflow Vision - Phase II

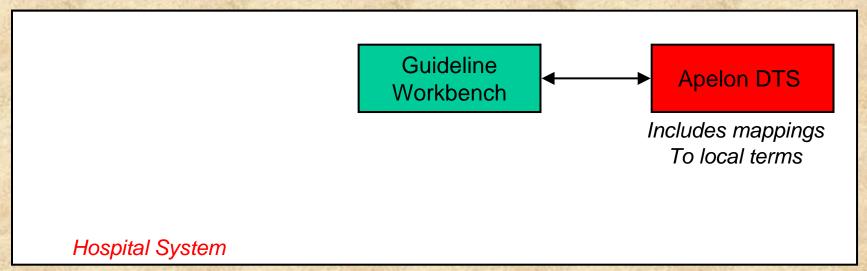
- Search and retrieval
 - 1. Browse or query registry for guideline of interest.
 - 2. Select and retrieve guideline.





Workflow Vision-Phase III

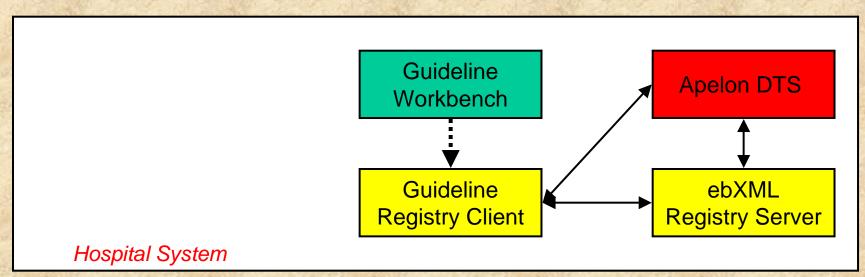
- Localization and deployment
 - 1. Tailor guideline to local needs and resources.





Workflow Vision-Phase III

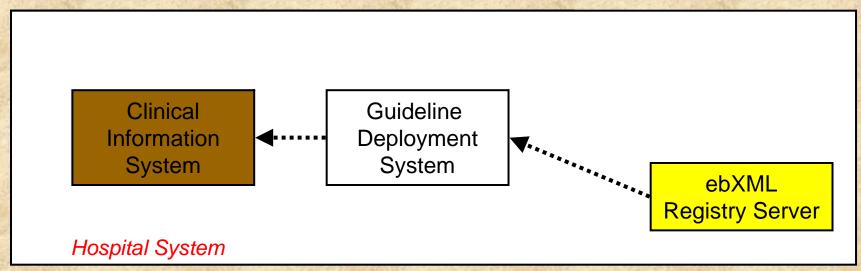
- Localization and deployment
 - 1. Tailor guideline to local needs and resources
 - 2. Register localized guideline in *local* registry.





Workflow Vision - Phase III

- Localization and deployment
 - 1. Tailor guideline to local needs and resources.
 - 2. Register localized guideline in local registry.
 - Deploy localized guideline in Clinical Information System.





Status and Plans

- Early prototype
- Next steps
 - More elaborate metadata
 - Package dependencies with versioning
 - Terminology service plug-in for registry server
- Long-term goals
 - Validation within SAGE
 - Wider deployment



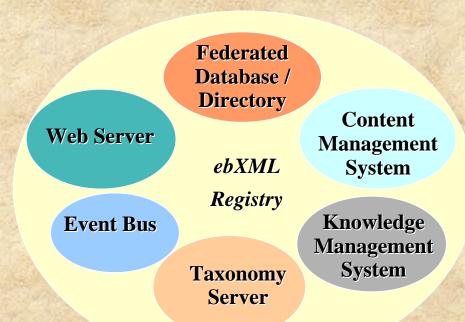
Guideline Registry Contact

- Tony Weida
 - weida@apelon.com
 - 917-992-9728
- Apelon
 - www.apelon.com





Summary and Questions



- ebXML Registry/Repository is multi-faceted and answers many diverse business needs – process, technical and functional.
- Challenges lie in defining and implementing processes that Reg/Rep supports.
- Record of and plans for adoption and deployment support its utility in the marketplace. Reg/Rep v3.0 functionality makes it even more pervasive.

Questions welcome in panel discussion. 58



Panel Discussion

- Kathryn Breininger, The Boeing Company
- Alan Kotok, DISA
- Tony Weida, Apelon
- Facilitator-Monica J. Martin, Drake Certivo

For More Information...

NOIE: Victor Pawley, victor.pawley@noie.gov.au

DISA: Alan Kotok, akotok@disa.org

EDAT: David Webber,

david.webber@xmlglobal.com

GM: Mike Wheaton, Michael. Wheaton@sun.com

HL7: John Silva, john.silva@philips.com

KIEC (REMKO): Jasmine Jang,

jasmine@kiec.or.kr

KTNET: Chaemee Kim, cmkim@ktnet.com

SAGE: Tony Weida, tweida@apelon.com

XiO: Zheng Liang, aheng.liang@mbs.gov.on.ca

General: Monica J. Martin, mmartin@certivo.net

For More Information...

NOIE: http://www.noie.gov.au/

DISA: http://www.disa.org/drive/

EDAT: http://www.xmlglobal.com/cst/

customer_cdngovt.jsp

GM: Contact participants.

HL7:

http://groups.yahoo.com/group/HL7-Conformance/files/

KIEC (REMKO): http://www.kiec.or.kr/english/index.html

KTNET: Chaemee Kim,

http://www.ktnet.co.kr/enghome/index.html

SAGE: Contact Weida.

XiO: Contact Liang.

General: Monica J. Martin – Look for updates on

www.ebxml.org.