OASIS ebXML Registry Standard

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What is an ebXML Registry?

- Provides services for sharing information
- Provides publishing and discovery of information
- Accessible as a web service
- Communicates using XML based request and responses
- Provides mechanisms to store and retrieve persistent information
- Includes a Repository
Why We Need Registries

- To enable publishing and discovery of information objects and artifacts
  - Technical specifications, business documents, multimedia content
  - Core components, schemas, XML DTDs, UML models, and other artifacts needed for electronic business
- Allows organizations to locate business process information
  - Trading partners, services and capabilities
  - Business processes, business objects and artifacts
- To provide content management and cataloging services
Role of ebXML Registry & Repository

Discovery & Retrieval

Information is easy to discover and retrieve

The registry enables discovery

A registry provides information (metadata) about an object

The repository enables retrieval
Architectural Principles

- Distributed Object-Oriented information model
- Extensible information model
- Dynamic metadata support
- Service interfaces carry XML structures
- Security designed in – not an afterthought
- Native language (I18N) support
- Web Service interface to registry supports multiple interface options
  - SOAP 1.1 with attachments
  - ebXML Messaging Service
  - Pure HTTP
OASIS ebXML Registry

Key Features

- Registry plus Repository
- Registration of any type of object
- Classification of any type of object
- Taxonomy hosting, browsing and validation
- Association between any two objects
- Registry packages to group any objects
- Links to external content
Object Oriented Architecture

RegistryObject

Base class for all metadata objects in registry. Provides minimal static metadata attributes for objects that need unique identity and have independent lifecycles. Also provides support for dynamic metadata.

AuditableEvent

User

ClassificationNode

Classification

ExternalLink

ExternalIdentifier

ServiceBinding

Organization

SpecificationLink

Association

RegistryEntry

Base class that provides extended metadata attributes

Classificationscheme

RegistryPackage

ExtrinsicObject

Service

Metadata describing content whose type is not known to Registry
OASIS ebXML Registry
Key Functions

- Life cycle management of objects
- Flexible query options
- Security functions
- Inter-registry cooperation
- Event archiving – complete audit trail
- Service registration and discovery
Lifecycle Management Service

- Submission of repository items, their registry entries and dynamic metadata
  - Single request allows batch submission
  - Schemes, Classifications, Associations etc. all submitted the same way
- Approval of submitted content
- Deprecation of submitted content
- Removal of submitted content
Lifecycle of a Registry Object

submitObject → Submitted

Submitted → approveObject → Approved

Approved → deprecateObject → Deprecated

Deprecated → removeObject → Removed
Query Service

- Multiple query options:
  - XML based filter queries
  - SQL queries (optional)
- Query schemas based on binding to Registry Information Model
- Support for retrieval of registry entries and repository items
Security Functions

- Access control policy
- Permissions
- Privileges
  - Roles
  - Groups
  - Identity
  - Principal
Inter-registry cooperation

- Allows multiple ebXML Registries to work together to address user needs
- Access to ebXML registry objects and repository items over HTTP
Event Archiving

- Selected events trigger an audit trail
- Provides long-term record of events for changes
- Reflects a change in life cycle of registry object (create, update, deprecate, delete)
- Read only access is not part of the audit trail
- Each event identifies the user requesting the change that generated the audit trail
Publish and Discovery of Web Services

- Services, service bindings, and specification links are Registry Objects
- Service definition may be stored in Repository
  - WSDL, ebXML CPP/BP, CORBA IDL
New Features in Version 3.0

- Cooperating registries
- Event notification
- Content management services
- HTTP interface to registry
- Iterative query support
Cooperating Registries

- Enables multiple ebXML Registries to work together to address user needs
- Based on a loosely-coupled federation model
  - Allows local autonomy to each registry operator
  - Enables smaller registries to access resources of larger registries
  - Enables federated queries to multiple registries
- Inter-registry object references
- A registry may belong to multiple Federations
Event Notification

- Enables notification of events regarding registry objects
- Clients may be registry users or other registries
- Subscription Service registers clients for notification
- Supports e-mail and programmatic notification
- Flexible notification options
  - References to event
  - Actual event
  - Objects affected by the event
Content Management Services

- Enables content management based on object type
- Content cataloging and validation
  - Validate on submission
  - Cataloging metadata applied on submission
- Content-based publish, discovery and subscribe
- User-defined relationships between content
- Invocation control file defines rules for cataloging service
Cataloging Invocation Model

1. SubmitObjectRequest
2. SubmitObjectRequest
3. Content Management Service Request
4. Content Management Service Response
5. commit
6. RegistryResponse

Registry Client

Content + Metadata

+ Content + Metadata

Invocation Control File

Content Management Service

ebXML Registry

Persistent Store
HTTP Interface to Registry

- Provides a pure HTTP interface to Registry
  - Does not require SOAP
  - Registry objects and Repository items addressable via URLs
- Allows ebXML Registries to interoperate with other types of registries
- Improves access to Registry content
Iterative Query Support

<table>
<thead>
<tr>
<th>Query Request Parameters</th>
<th>Query Response Parameters</th>
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<tbody>
<tr>
<td>Start Index</td>
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</tr>
</tbody>
</table>

100 results returned in each iteration from 1007 total result set
ebXML Registry Development

- A result of a global, open initiative sponsored by UN/CEFACT and OASIS
- Built upon past standards efforts, such as ISO 11179
- Based upon a flexible architecture
- Provides a comprehensive registry platform
- Have widespread support, momentum and adoption
- Version 3.0 enhancements provide improved functionality for business needs
Summary

- ebXML Registry/Repository provides publish and discovery of any type of object
- ebXML Registry/Repository provides life cycle management of objects
- Version 3.0 functionality adds additional flexibility
  - Content management
  - Cataloging services
  - Event notification
  - Cooperating registries
- ebXML Registry/Repository meets diverse business needs
ebXML Registry V2.0 Implementations

- Open Source Implementation
  - [http://sourceforge.net/projects/ebxmlrr](http://sourceforge.net/projects/ebxmlrr)

- ebxmlsoft Inc. Implementation

- XMLGlobal Implementation

- DISA (Data Interchange Standards Association)
  - [http://www.disa.org/drive/](http://www.disa.org/drive/)

- NOIE (National Office for the Information Economy)

- KIEC (Korea Institute for Electronic Commerce)
  - [http://www.kiec.or.kr/english/index.html](http://www.kiec.or.kr/english/index.html)
Additional Information

- OASIS ebXML Registry Technical Committee
  - [http://oasis-open.org/committees/regrep/](http://oasis-open.org/committees/regrep/)
- ebXML.org
Questions?
For More Information

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