

# Concept Proposal

A standards based SOA Framework  
for  
Interoperable Enterprise Content Management

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# What is it?

## *IECM Framework*

- Vision:
  - A SOA standards based framework to enable interoperable content / document processes
  - The framework is registry / repository centric enabling design, development, publishing, discovery and interoperation of document centric work processes
  - IECM will be developed as an open standard in conjunction with customers, ISV & SI partners and standards organizations
- Objective:
  - Lower the life cycle costs of content intensive business process
  - Provide a common layer of interoperable services / infrastructure that enable content and content management systems to interoperate with core enterprise applications and work processes.

# What do Users get from IECM?

*“Information - when, where & how it is needed*

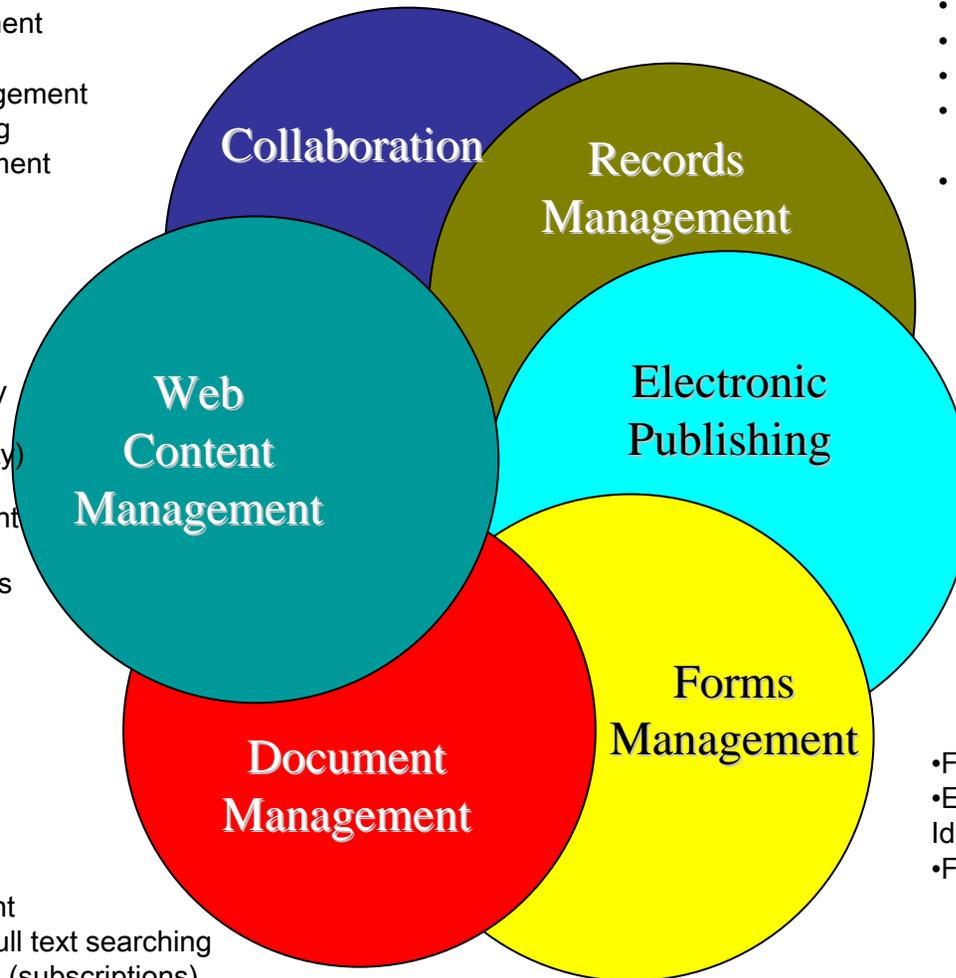
- **IECM solves the problem of creating interoperable document / content centric process flows**
- **IECM will connect customers documents, content and related process to their enterprise’s services delivery and back end systems**
- **IECM binds unstructured & semi structured content to emerging SOA, EDA and POA**
- **Key Benefits**
  - Accelerate and reduce the cost of delivery of transformed services in which content is bound to process
  - Improved Business Effectiveness - Information Sharing / Collaboration
  - Just in Time, Just Right, My Way Information
  - Highly adaptive and configurable environment – easily changed to meet new business requirements
  - Ability to multi purpose / re use existing ECM components

# What is ECM?

- Real-time information exchange
- Content sharing
- Collaborative Document production
- Interface with related functions
  - eRecords management
  - Online Rulemaking
  - Web Content Management
  - Electronic Publishing
  - Document Management

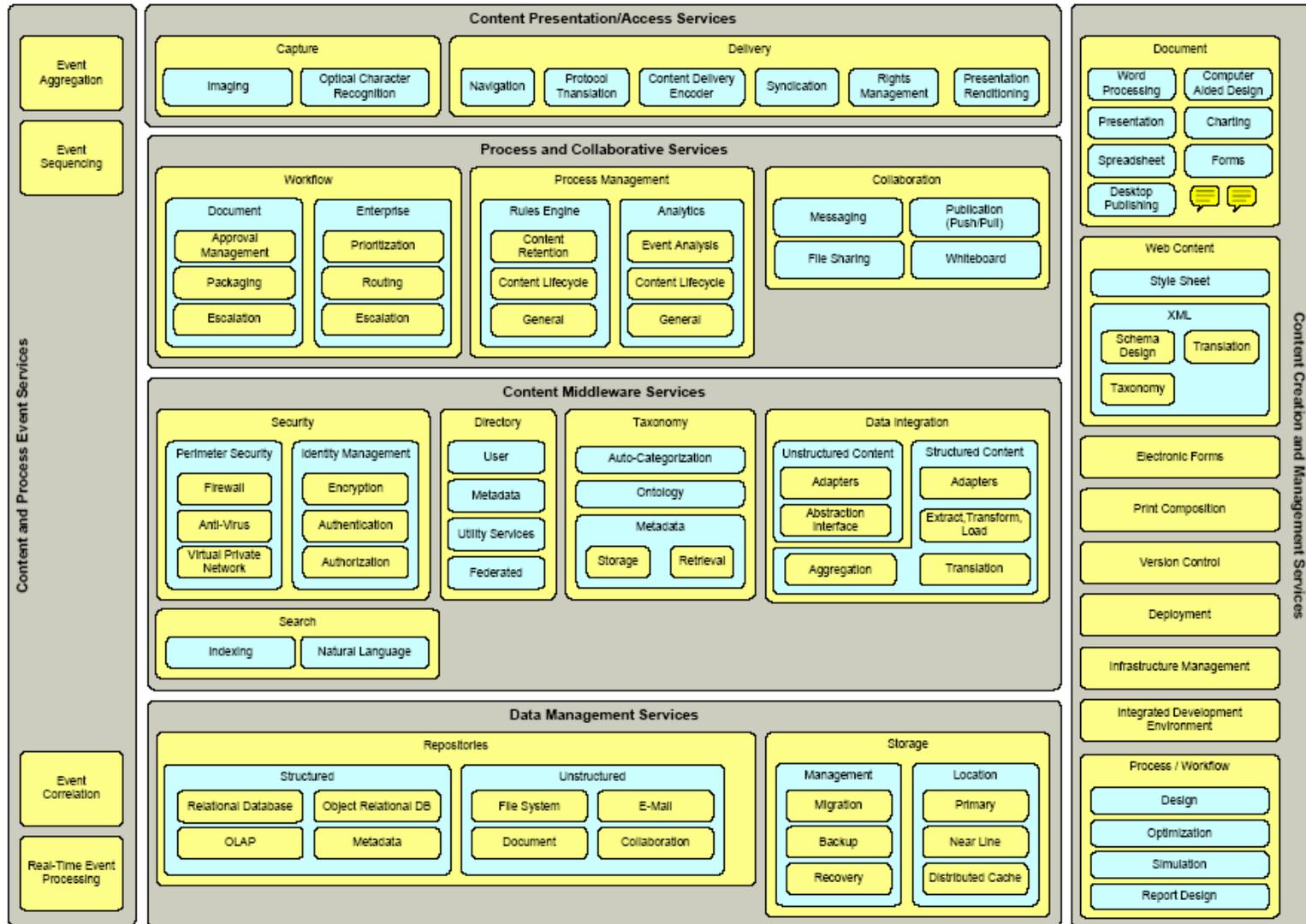
- Web site management
- Lifecycle management (workflow)
- Personalization & Customization
- Dynamic content delivery
- Content testing (508, hyperlink, privacy, security)
- Archival management
- Digital asset management
- Integration with:
  - Content creation tools
  - Enterprise portal
  - Web applications

- Content Creation
- Version control
- Library Services
- Workflow
- Lifecycle Management
- Attribute-based and full text searching
- Electronic distribution (subscriptions)
- Hard copy printing
- Hard copy distribution (subscriptions)



- General Records Schedule (GRS) Processing
- Archival
- Disposal
- LOB Applications interface
- E-Government Application Interface
- Integration with related functions
  - Correspondence control
  - Forms
  - Electronic publishing
  - Web Content
  - Archival
  - Privacy
- Multi-format rendering
  - Internet
  - Intranet
  - PDA
  - Fax
  - Voice
  - Paper
- Repurpose Content
- Form Delivery, (HTTP, FTP, Email)
- Electronic Signature/User Identification
- Form Management
  - Populate/Deliver Forms
  - Workflow - Process control, Approval route
  - Version control
  - Archive
- Data Mgt. - Insert/extract/route data

# Doculab's ECM Architecture



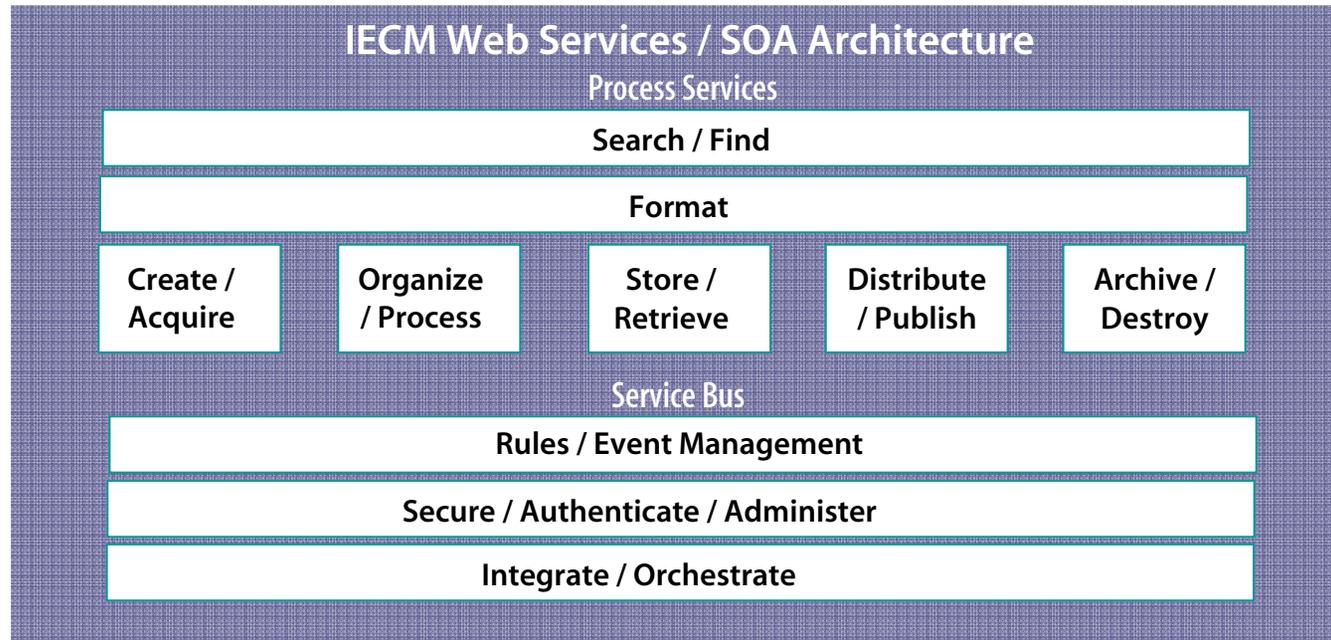
# What is the Deliverable?

## *The IECM Architecture*

**ECM Systems**

**Front End Processes**

**External Processes**



**Document**

**Back End / Desktop Applications**

**Form**

# Deliverables

## Web Service Descriptions / Requirements / Schema

Client Layer

Infrastructure Layer

<b>Name</b>	IECM Services (1)
<b>Description</b>	Provides a common set of interfaces by which ECM systems can interoperate.
<b>Purpose</b>	Allows ECM systems from different organizations and vendors to interoperate and manage content over its life cycle securely.
<b>What it does</b>	IECM services provide a standardized approach for content-centric processes that span organizations, in a fashion that is designed to work within a service-oriented architecture (SOA).
<b>What it doesn't do</b>	Does not provide end-to-end services for enhancing or providing access to all common functionality found in ECM systems, the focus is to provide access to only those services that are part of an interoperable environment.
<b>Inputs</b>	Content, data, rules, processes, etc. in a particular format.
<b>Outputs</b>	Content, data, rules, processes, etc. in a different (often) standardized format.
<b>Function</b>	Provides APIs and interfaces to access key functionality within existing content management solutions.
<b>Examples</b>	A third services case writer needs to securely access and retrieve content records for the parents of an shared child. The information resides in the content stores of one or more registries and must be located using a federated search to both the local and data store. The information contains both structured records and unstructured reports and content.
<b>IECM parents and children</b>	<ul style="list-style-type: none"> <li>Parents: None (except for multiple inheritance from general ECM functionality).</li> <li>Children: Security (1.1), Transaction and Messaging (1.2), Integration (1.3), Directory (1.4), Connectivity (1.5), Lifecycle (1.6), Document Review and Storage (1.7), Process and Workflow (1.8).</li> </ul>

<b>Name</b>	Directory (a.k.a. Registry) (1.4)
<b>Description</b>	Directory and location services are used to find information and retrieve it. Information is distributed throughout an organization. Most users do not even realize that they are leveraging one or more directory services. Managing user profiles, looking up colleagues, participating in a workflow, and searching for documents all involve some combination of directory and location services.
<b>Purpose</b>	To help locate information, content, and services across organizational boundaries in a secure manner.
<b>What it does</b>	Allows systems and users to conduct information searches across multiple organizational boundaries.
<b>What it doesn't do</b>	Does not provide the underlying content management or structured data management solutions in which the content resides. It simply provides search capabilities across registries.
<b>Inputs</b>	Registry location information, search criteria.
<b>Outputs</b>	Accessible data structure, content, further location information.
<b>Function</b>	Provides APIs and interfaces to query one or more registries in a federated manner.
<b>Examples</b>	When someone establishes links between organizations, there may be a need to use strong encryption technology before data transmission. To do this the user must locate and retrieve the public key of the parent or parents that are sending the content to. This can be made possible through the use of registry services.
<b>IECM parents and children</b>	<ul style="list-style-type: none"> <li>Parents: IECM Services (1)</li> <li>Children: User (1.4.1), Metadata (1.4.2), Services (1.4.3), Process/Workflow (1.4.4)</li> </ul>

Data Layer

<b>Name</b>	Metadata (1.4.2)
<b>Description</b>	Metadata registry services are one of the most important data services in an ECM environment. The registry services allow providers to store and retrieve about their own data and content. Metadata is content management information used if the solution is a high-structured and business-comprehensible environment.
<b>Purpose</b>	To help locate information, content, and services across organizational boundaries in a secure manner.
<b>What it does</b>	The metadata registry services should have the ability to interact with other related metadata directory services in order to provide a federated search. Metadata is content management information in a data structure in which the content resides. It may provide the underlying content management or structured data management solutions in which the content resides to which data is then retrieved.
<b>What it doesn't do</b>	Does not provide the underlying content management or structured data management solutions in which the content resides. It simply provides capabilities to store information related to what exists in these registries.
<b>Inputs</b>	Search criteria or request from metadata, etc.
<b>Outputs</b>	Accessible data structure, content, further location information.
<b>Function</b>	Provides methods to query a metadata registry (and possibly other metadata registries) specialized for the retrieval of information.
<b>Examples</b>	Parents: Security (1.4),
<b>IECM parents and children</b>	<ul style="list-style-type: none"> <li>Children: MetadataRegistry (1.4.2.1), MetadataRegistry (1.4.2.2), MetadataRegistry (1.4.2.3), MetadataRegistry (1.4.2.4), MetadataRegistry (1.4.2.5), MetadataRegistry (1.4.2.6)</li> </ul>

syncRegistry()

getRegistryInfo()

searchRegistry()

storeLocationInfo()

<XML Schema & Data>, Web Services, Documentation

Document Layer

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<b>Outputs</b>	Content, data, rules, processes, etc. in a different (often) standardized format.
<b>Function</b>	Provides APIs and interfaces to access key functionality within existing content management solutions.
<b>Examples</b>	A third services case writer needs to securely access and retrieve content records for the parents of an shared child. The information resides in the content stores of one or more registries and must be located using a federated search to both the local and data store. The information contains both structured records and unstructured reports and content.
<b>IECM parents and children</b>	<ul style="list-style-type: none"> <li>Parents: None (except for multiple inheritance from general ECM functionality).</li> <li>Children: Security (1.1), Transaction and Messaging (1.2), Integration (1.3), Directory (1.4), Connectivity (1.5), Lifecycle (1.6), Document Review and Storage (1.7), Process and Workflow (1.8).</li> </ul>
<b>Process fit</b>	<ul style="list-style-type: none"> <li>— explain what types of services typically call this service within a process, and what types of services it might call as part of a process.</li> <li>— add this to the template.</li> <li>— note to provide additional input on this model.</li> </ul>

Meta data & presentation & services

# IECM Service Definition - Example

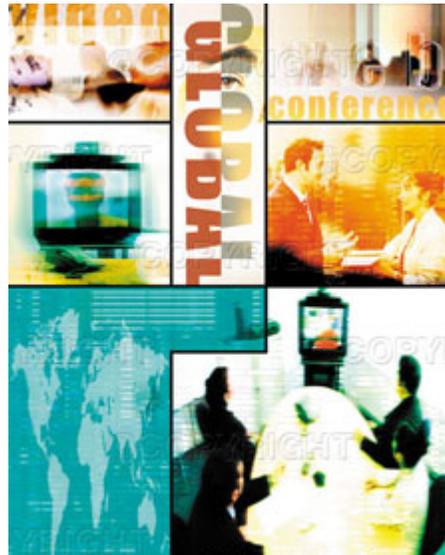
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Inputs	<b>Content, data, rules, processes, etc. in a particular format.</b>
Outputs	<b>Content, data, rules, processes, etc. in a different (ideally standardized) format.</b>
Function	<b>Provides APIs and interfaces to access key functionality within existing content management solutions.</b>
Examples	<b>A child services case worker needs to securely access and retrieve criminal records for the parents of an abused child. The information resides in the content stores of one or more agencies and must be located using a federated search on both the local and state level. The information contains both structured records and unstructured reports and content.</b>
IECM parents and children	<ul style="list-style-type: none"> <li>▪ <b>Parents: None (except for multiple inheritance from general ECM functionality).</b></li> <li>▪ <b>Children: Security (1.1), Transaction and Messaging (1.2), Integration (1.3), Directory (1.4), Connectivity (1.5), Lifecycle (1.6), Document Retrieval and Storage (1.7), Process and Workflow (1.8).</b></li> </ul>
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# Participation Benefits

*Interaction with a World Wide IECM Community of Practice*

## Relationships

- Government
- Industry
- ISV's
- SI's
- Standards Groups
- Working Groups
- Major Project and Program Managers



## Insight

- Real World Requirements
- Thought Leaders
- Real Projects
- Interoperability Testing
- Best Practice Development

## Market Alignment

- Whitepapers
- Forums
- Conferences
- Standards

# What Do Vendors get?

- **Projects** - Opens doors to major enterprise and cross enterprise projects
- **Partnering** - Opens doors to powerful partnering relationships
- **Enterprise Scale Deployment** - Provides basis for truly enterprise level development, management and deployment of document services
- **Interoperable Next Generation Architecture** - Provides a cross product line interoperability platform
- **Leadership** - Creates a leadership seat at the design table for next generation enterprise environment - SOA, EDA & POA
- **Next generation products** –Can productize and enhance IECM as well as the requirements that emerge from the IECM community

# Current Status

- AllIM – Standards Group
  - Formal process to recommend / establish IECM standards working group
  - Immediate extension to financial, manufacturing, and pharmaceutical industries
  - Will propose as an ISO standard – potential OASIS partnership
  - Endorsement from chair & senior members of document & content management interoperability standard working group.
- Federal CIO Council
  - Support / Endorsement from chairs of emerging components groups
    - They have agreed to host and promote IECM group on web site
    - To help contribute to creation of the IECM standard
    - Help develop business case for IECM as top level component in Fed Architecture and to integrate and align with other working groups
  - Engagement with registry / repository working group
- DOT
  - Seeking support to create an IECM center of excellence lab – will be extending invitation to help fund / staff to other government organizations and vendors as well as other working groups

# IECM Development Methodology

- Establish IECM Standards Working Group
  - Organizations with active IECM type projects
  - Develop and publish work plan and methodology
- Review and refine Adobe provided IECM Draft 1 architecture
  - Review / refine against current real world requirements from working group
  - Publish V2 for review by market and analysts
- Fund, Build & Staff IECM Center of Excellence (US & Europe)
  - Bring major architectural components together in an interoperability lab
  - Gather world wide requirements across industries
  - Gather world wide SOA / Web services components that align with IECM architecture
  - Begin test and integration of components in lab based on real world requirements
  - Refine and publish results and services back out for real world test and review
- Publish community guidance, services and best practices back out to the world
  - Establish collaborative community (IBM AlphaWorks)
- Publish & release standards in phases
  - Use a maturity model to evolve the standard
  - “The first thing we want to is be able to get the phone to ring, we will address electronic switching, failover, call forwarding in later phases.”

# IECM 2005 Implementation Plan

Q4	Q1	Q2	Q3	Q4
<b>Formal Kick Off of Standards Group</b>	<b>Whitepaper on IECM Architecture &amp; Effort</b>	<b>Guidance &amp; 1st Level components description</b>	<b>2nd Level components description</b>	<b>Formal Standards Guidance for Review</b>
Complete preliminary architecture work  Formal approach to vendors  Formal approach to government & industry	Web site & Lab up & running	Publish results  Hold conference in DC		Hold conference in Europe
<b>Ongoing –meetings with users, working groups, standards bodies &amp; vendors</b>				