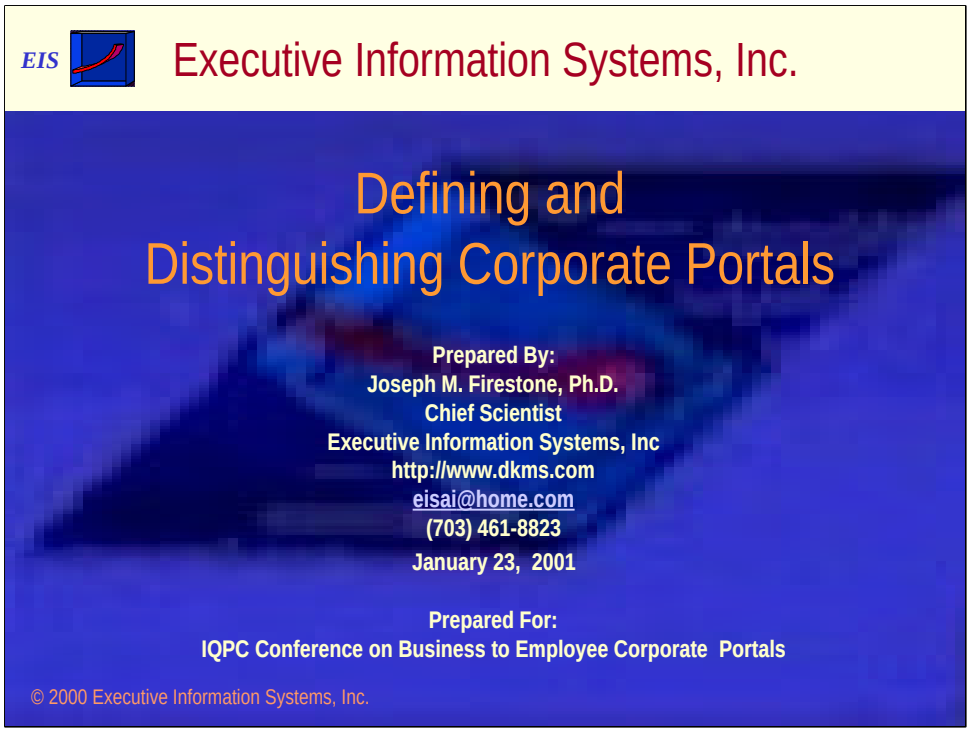
EIS
Executive Information Systems, Inc.
Defining and
Distinguishing Corporate Portals
Prepared By:
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Prepared For:
IQPC Conference on Business to Employee Corporate Portals
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B2E Corporate Portals: A Rich Feast

- Defining Objectives (Mark Lawrence, MasterCard)
- How to build a Corporate Portal (Ted Laskaris, (Denver Investment Advisors)
- Merging Your Extranet and Intranet Initiatives (Ahmed Atwan Altra Energy Technologies)
- Implementing and Developing a Centralized Corporate Portal (John Kessling, Ketchum)
- Internal Benefits of a B2E Corporate Portal (Thomas Hoglund and Todd Huskinson, Arthur Andersen)
- A Business-Driven Knowledge Management Success Story: " It's not all about the Portal" (Robert Seiner, TDAN)

B2E Corporate Portals: A Rich Feast (2)

- Content Management: Organizing and Maintaining Your Corporate Portal (Sean Heston and Dana Stark
- Creating Taxonomies and Navigational Maps to Enhance User productivity (Charlene Orcheski, Syncrude)
- Reducing Barriers to Use: Designing and Implementing an Enterprise Portal in the Upstream Energy Business (Bill Hewitt, BP Amoco)
- Making your B2E Corporate Portal “Sticky” (Doug McGowan, HP)
- Implementing and Managing your HR Portal (Roland de Agular, Ames Department Stores)

B2E Corporate Portals: A Rich Feast (3)

- How to Reduce HR Administration Costs with Self-Service Systems (Jim Sciano, J. C. Penney)
- Measuring the Success of your B2E Corporate Portal (Ted Graham, Hill and Knowlton)
- The Evolution and Future of the B2E Corporate Portal (Larry Bowden, IBM)

With All This Variety You Need Context

- How does it all fit together?
- How can you put everything in evolutionary context?
- How can you evaluate differing semantics?
- How can you relate statements about corporate portals that are not really talking about the same thing?
- What is the relationship between corporate portals and KM?
- Where does your organization fit into the corporate portal space?
- To answer these and other questions, you need a framework to provide context

What We'll Cover

- Some Definitions
- The Major Enterprise Information Portal Segments
- Trends in Segment Development and a Roadmap
- Other Trends

What is an Enterprise Information Portal?

- According to Merrill Lynch's Shilakes and Tylman:
- "Enterprise Information Portals are applications that enable companies to unlock internally and externally stored information, and **provide users a single gateway to personalized information** needed to make informed business decisions. "

What is an Enterprise Information Portal? (TWO)

- ". . . an amalgamation of software applications that consolidate, manage, analyze and distribute information across and outside of an enterprise (including Business Intelligence, Content Management, Data Warehouse & Mart and Data Management applications)."

What's An eIP?

- An eIP is an ebusiness Information Portal, that is, it uses EIP technology to support e-business processes that transcend the enterprise.
- There are two basic types of eIPs:
  - Extraprise Information Portals (ExIPs); and
  - Interprise information Portals (IIPs)

Extraprise Information Portals

- An ExIP is an Information portal supporting an extended enterprise usually consisting of a community of trading partners revolving around a common host enterprise of mutual interest who do business with one another on a fairly predictable and repetitive basis. The enterprise at the center of the system usually hosts the "extended Intranet" (aka, the "Extranet").

Interprise Information Portals

- An Interprise Information Portal (IIP) is an Information portal supporting web-like federations of otherwise independent companies with no “network host” at the center. The members of the interprise do business with one another through the IIP on a fairly unpredictable and irregular basis in response to individual expressions of demand in marketplaces of mutual interest

What is an Enterprise Knowledge Portal (EKP)?

- An EKP is an enhanced Enterprise Information Portal (EIP)
- It is an EIP that supports knowledge production, knowledge integration, and knowledge management
- It is an EIP that supports individuals, groups, and teams in the swirl of problem-solving activities permeating enterprise business processes

Enterprise Knowledge Portals

- focus upon, provide, produce and integrate information about the validity of the information they supply
- provide information about your business and meta-information about the degree to which you can rely on that information,
- distinguish knowledge from mere information,
- provide a facility for producing knowledge from information
- orient one toward producing and integrating knowledge rather than information

What's an eKP?

- An eKP uses EKP technology to support e-business processes that transcend the enterprise.
- There are two basic types of eKPs:
  - Extraprise Knowledge Portals (ExKPs); and
  - Interprise Knowledge Portals (IKPs)

Eight Portal Segments

- Decision Processing (Viador, Computer Associates, Brio One)
- Content Management (Plumtree, Autonomy, Verity, Oracle, IBM, KnowledgeTrack, SageMaker, DataChannel, Sequoia Software)
- Collaborative Processing (Practicity, Engenia, Intraspect, OpenText)
- Decision Processing/Content Management (Hummingbird, Sybase, Iona)

Eight Portal Segments

- Advanced Collaborative Processing (DP/CM + Collaborative + some Knowledge Production + additional features)
- Structured Information Management (ACP minus Most CM features of ACP)
- Structured Knowledge Processing (ACP minus- Most CM features of ACP + Knowledge Processing and KM)
- Comprehensive Knowledge Processing (ACP + Knowledge Processing and KM)

Decision Processing Portals Support:

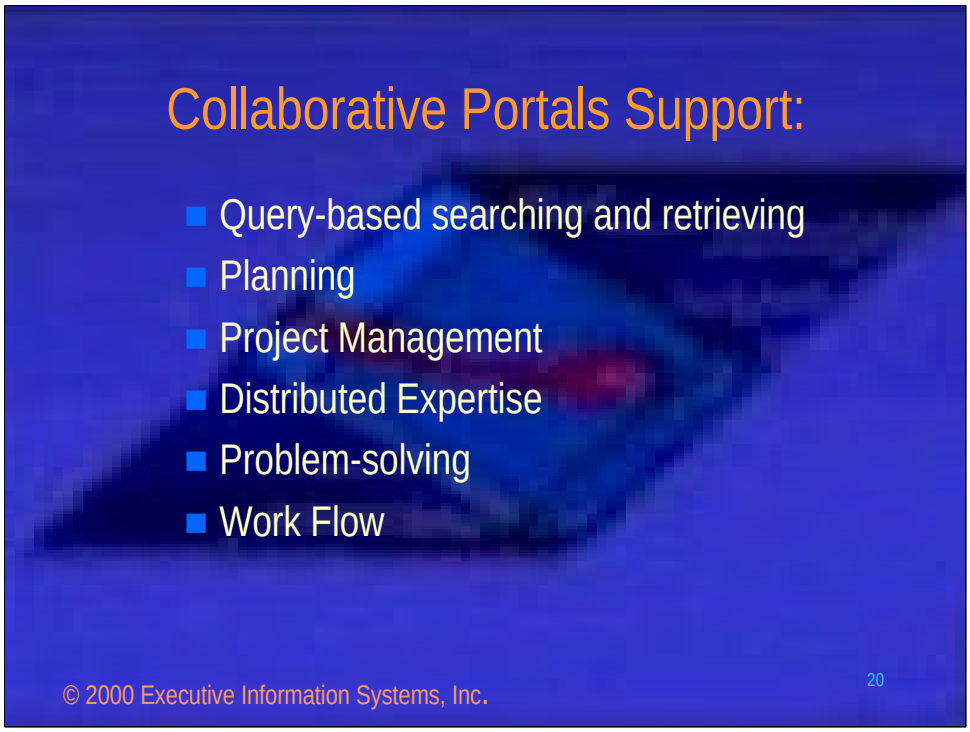
- structured data management
- querying and reporting against structured data
- query and or agent-based searching on unstructured content
- posting and broadcasting content
- Integrating information useful for information management
- portal interface integration - incremental
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, BI Reports, text, and word processing

Content Management Portals Support:

- Query and or agent-based searching on unstructured content
- Agent-based scanning on unstructured content
- Query-based and continuous retrieval on unstructured content
- Filtering and manual and automated classification on unstructured content

Content Management Portals Support: (Two)

- posting and broadcasting content
- Integrating information useful for information management
- portal interface integration - incremental
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, BI Reports, text, and word processing


Collaborative Portals Support:
Query-based searching and retrieving
Planning
Project Management
Distributed Expertise
Problem-solving
Work Flow
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Collaborative Portals Support: (Two)

- posting and broadcasting content
- Integrating information useful for information management
- portal interface integration - incremental
- Work Flow-based Integration
- Business process types or combinations

DP/CM Portals Support:

- Structured Data Management (OLTP Packaged, ERP, ODS, legacy and Data Management Apps; DSS Data Mining, Packaged Analytical, Modeling and Simulation Apps; Batch Data Management and Processing, Computer Simulation, and Statistical Estimation Apps)
- Unstructured Content Management (Query and agent-based searching, agent-based scanning, Query-based and continuous retrieving, filtering and manual, automated, Bayesian, and fuzzy classification)

DP/CM Portals Support: (Two)

- Unstructured Content Management (text mining including semantic network development, text abstracting, full-text indexing, concept network creation in response to querying, concept tagging and metadata w/XML, and non-XML concept tagging)
- posting and broadcasting content
- Integrating information useful for information management
- portal interface integration - incremental

DP/CM Portals Support: (Three)

- Data federation-based Integration
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, XML, BI Reports, text, e-mail, HTML, and word processing

Advanced Collaborative Portals Support

- All Structured Data Management and Unstructured Content Management Features of DP/CM portals
- Collaborative Prioritization, Planning, Project Management, Expertise, Work Flow
- Knowledge Production (Individual and Group Learning, Information Acquisition, and Knowledge Claim Formulation)
- posting and broadcasting content

Advanced Collaborative Portals Support: (Two)

- Information Management (Leadership, Building External Relations, Information Production, Information Integration, Changing Info Processing Rules, Crisis Handing, Allocating Resources, Negotiating Agreements)
- Work flow-based and portal application integration -- incremental

Advanced Collaborative Portals Support: (Three)

- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, XML, BI Reports, text, e-mail, HTML, and word processing

Structured Information Management Portals

- All Structured Data Management Features of DP/CM portals
- Query and Agent-based searching
- Collaborative Work Flow
- posting and broadcasting content
- All Information Management Features of Advanced Collaborative Portals

Structured Information Management Portals

- Structured Application Integration -- incremental
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, XML, BI Reports, text, , HTML, and word processing

Structured Knowledge Processing Portals Support

- All Structured Data and unstructured Content Management features of Structured Information Management Portals
- Collaborative Prioritization, Planning, Project Management, Problem-solving, Knowledge Production and Work Flow
- All Information Management Features of Structured Information Management Portals

Structured Knowledge Processing Portals Support (Two)

- Knowledge Processing (Info Acquisition, I & G Learning, Knowledge Claim Formulation, Knowledge Claim Validation, Broadcasting, Searching/Retrieving, Teaching, and Sharing)
- Knowledge Management (Leadership, Building External Relationships, Knowledge Production, Knowledge Integration, Changing Knowledge Process Rules, Crisis Handling, Allocating Resources, Negotiating Agreements)

Structured Knowledge Processing Portals Support (Three)

- Structured Application Integration -- incremental
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, XML, BI Reports, text, , HTML, e-mail, SGML, and word processing

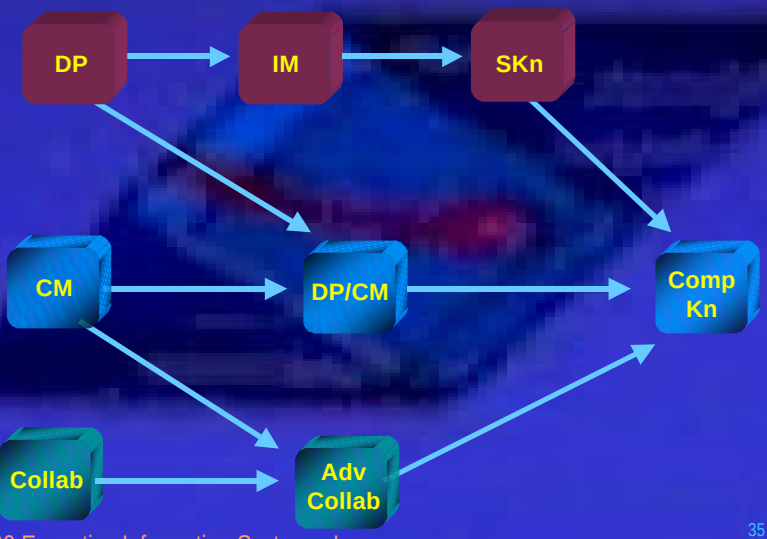
Comprehensive Knowledge Processing Portals Support:

- All Structured Data and Unstructured Content Management Features of Advanced Collaborative Portals
- Collaborative Prioritization, Planning, Project Management, Expertise, Training, Problem-solving, Knowledge Production and Work Flow
- All Knowledge Production, posting and broadcasting, Information and Knowledge Management Features of Structured Knowledge Processing Portals

Comprehensive Knowledge Processing Portals Support: (Two)

- Portal Application Integration -- incremental
- Business process types or combinations
- Content and data sources include relational, OODBMS, flat file, multidimensional, XML, BI Reports, text, , HTML, e-mail, SGML, and word processing

Pathways of Portal Evolution



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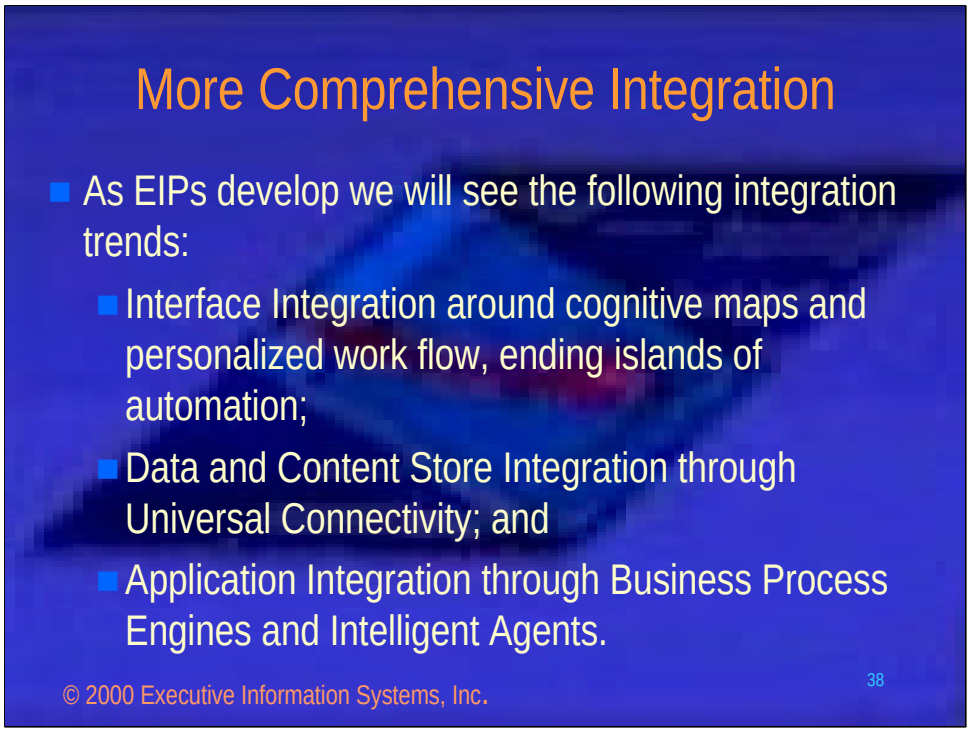
Other Trends

- Structuring unstructured content through XML
- More comprehensive EIP systems integration; and
- An increasingly common focus on knowledge processing and knowledge management

Structuring Unstructured Content Through XML

- A basic distinction among EIPs at present is whether they support structured data management or unstructured content management. Some portal vendors currently emphasize their ability to handle XML and to use it to structure content
- In the future, EIPs will increasingly support text mining and conversion of documents to XML for the purpose of transforming unstructured to structured content. Once everything is structured all content will be open to analytical applications.



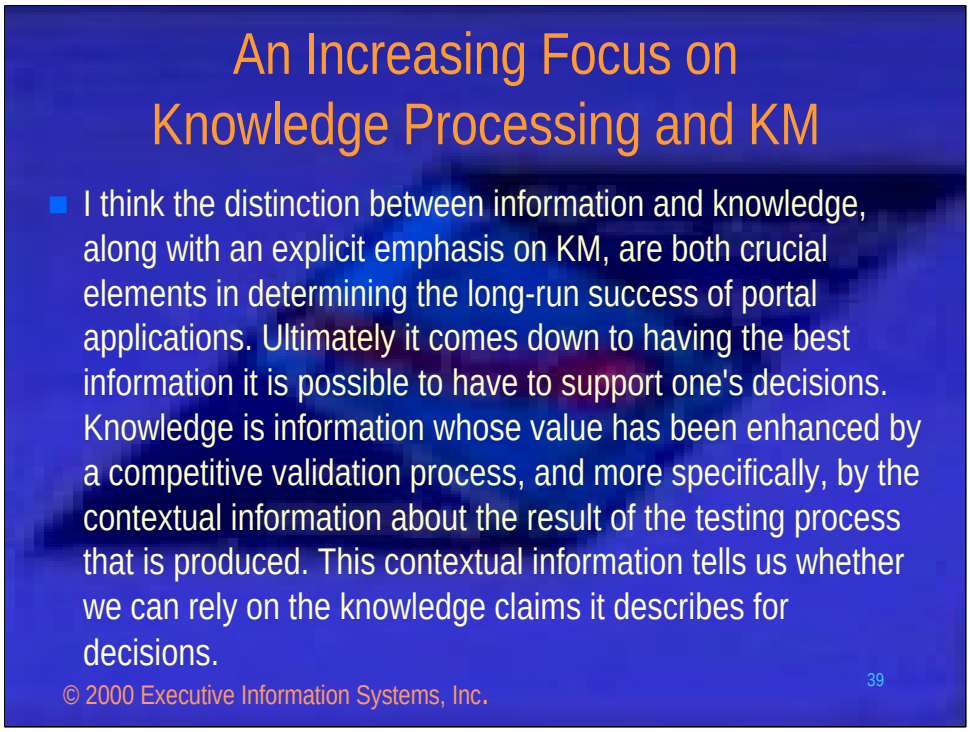
As EIPs develop we will see the following integration trends:

Interface Integration around cognitive maps and personalized work flow for islands of automation;

Data and Content Store Integration through Universal Connectivity; and

Application Integration through Business Process Engines and Intelligent Agents.

When these trends have run their course, EIP applications will have evolved into virtual enterprise applications solving both of the "islands problems," and integrating both the user's window on the virtual enterprise, every data, content, information, and knowledge store, and every application in the modern enterprise..



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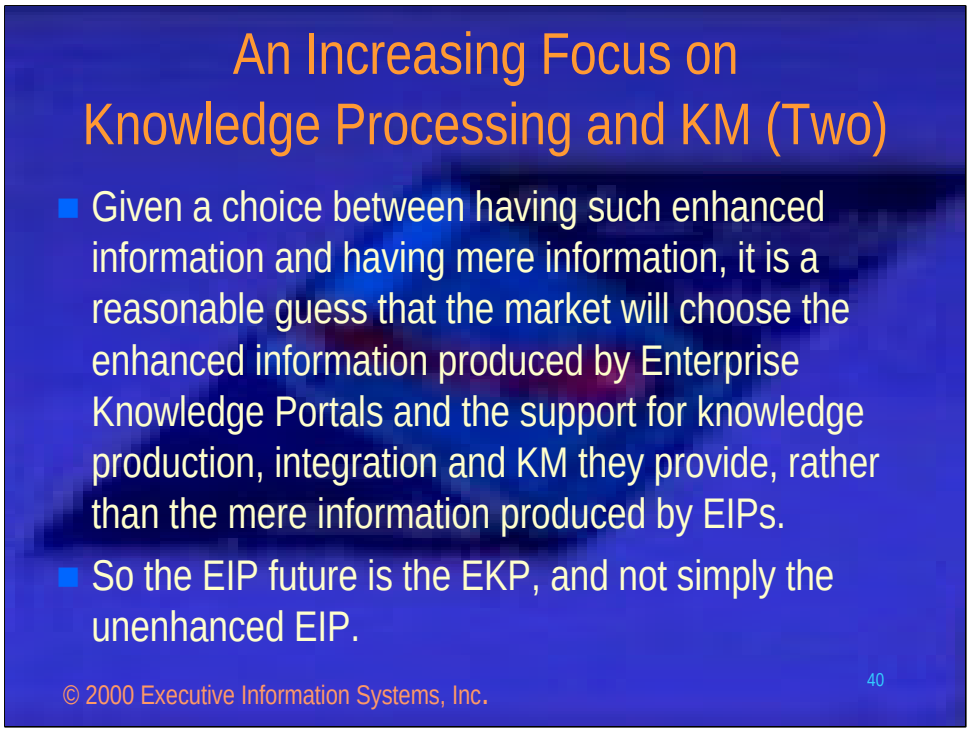

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The End
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Back-up Slides
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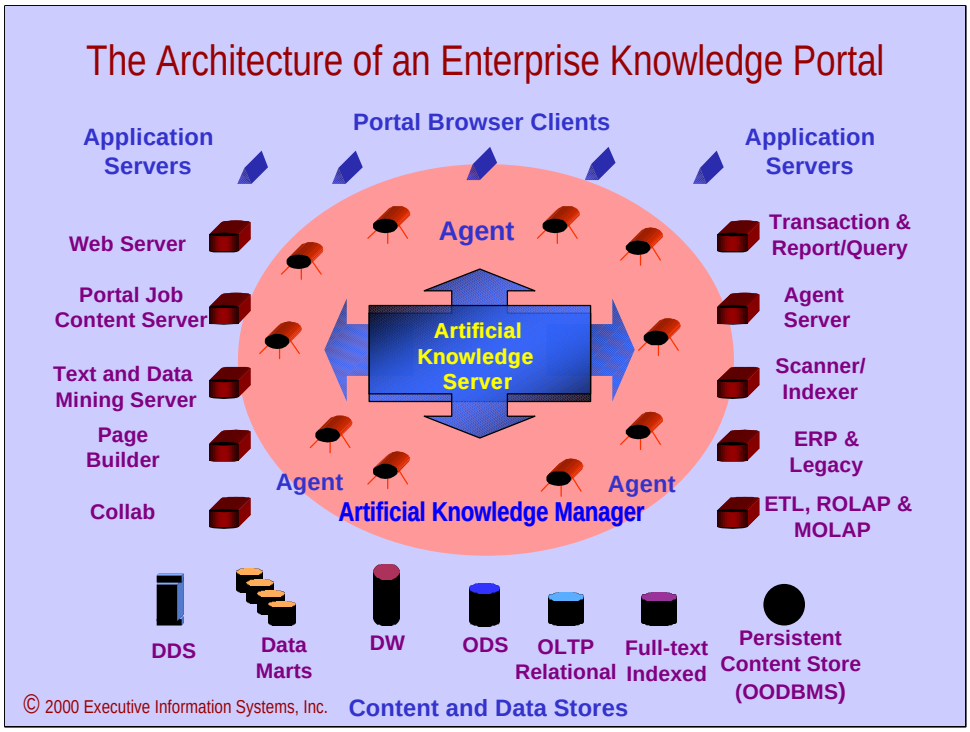
The Architecture of an Enterprise Knowledge Portal
Application Servers
Portal Browser Clients
Application Servers
Web Server
Portal Job Content Server
Text and Data Mining Server
Page Builder
Collab
Agent
Artificial Knowledge Server
Agent
Agent
Artificial Knowledge Manager
Transaction & Report/Query
Agent Server
Scanner/ Indexer
ERP & Legacy
ETL, ROLAP & MOLAP
DDS
Data Marts
DW
ODS
OLTP Relational
Full-text Indexed
Persistent Content Store (OODBMS)
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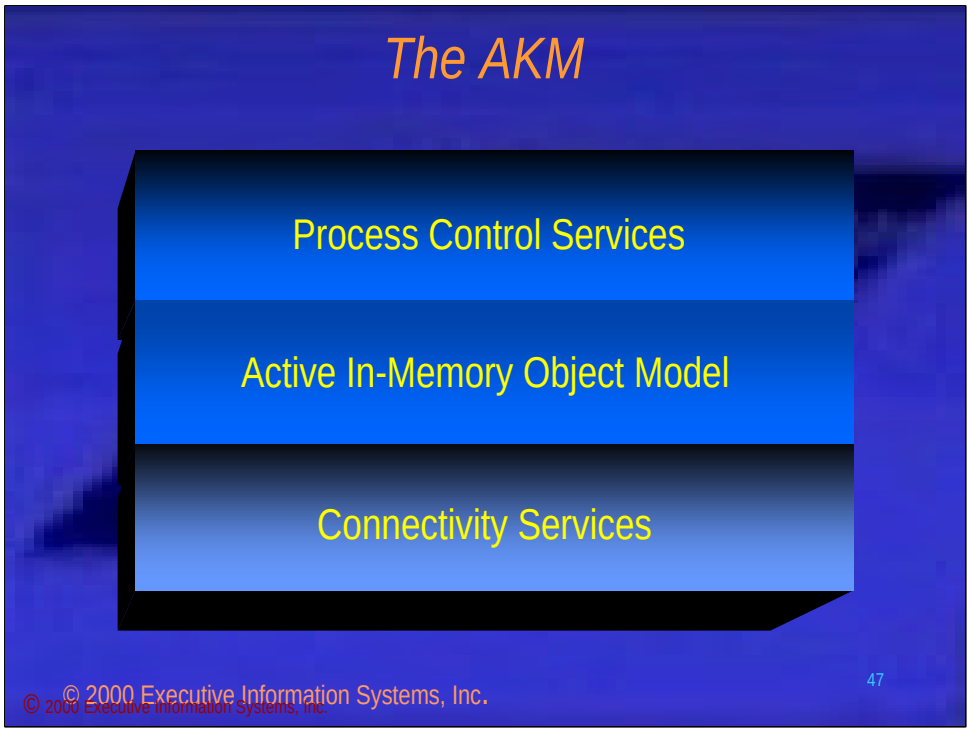
Content and Data Stores

EKP Generic Application Components

- Browser and e-mail clients
- The Avatar -- a client-based intelligent agent
- The portal application server(s),
- The access management system
- Knowledge Claim Objects
- The enterprise Artificial Knowledge Server(s) (AKSs),
- Complex adaptive system (cas) mobile intelligent agents
- The formal knowledge production application server(s) and its associated clients supporting analytical and statistical modeling, KDD and Data Mining, Simulation, impact analysis and forecasting,
- The collaborative processing application server, and
- A persistent storage component.

Knowledge Claim Objects

- An important class of objects in the EKP system is the knowledge claim object (KCO)
- A KCO is distinguished from an ordinary business object by the presence of validity metadata encapsulated in the object
- Such metadata compares the KCO to alternative, competing KCO's, and may be expressed in many different forms. The "metadata" may be qualitative or quantitative or it may be in the form of textual content. In relatively infrequent but important special cases, the metadata may involve quantitative ratings of a knowledge claim compared to its competitors.
- When the KCO is accessed by a user, data, metadata, and methods are all available, so the user can evaluate the KCO as a basis for decision against competing KCOs. This capability is not available in EIPs, which express knowledge claims as data or business objects only.



Process Control Services:

- In-memory proactive object state management and synchronization across distributed objects
- Component management and Workflow Management
- Transactional multithreading
- business rule management and processing, and
- metadata management.

In-memory Active Object Model/Persistent Object Store is characterized by:

- Event-driven behavior
- EKP-wide model with shared representation
- Declarative business rules
- Caching along with partial instantiation of objects
- A Persistent Object Store for the AKS and
- Reflexive Objects

Connectivity Services are:

- Language APIs: C, C++, Java, CORBA, DCOM
- Databases: Relational, ODBC, OODBMS, hierarchical, network, flat file, etc.
- Wrapper connectivity for application software: custom, CORBA, or COM-based.
- Applications connectivity including all the categories mentioned above, whether these are mainframe, server, or desktop - based.

The Artificial Knowledge Server

- The distributed AKS provides Process Control Services, an Object Model of the EKP system, and connectivity to all enterprise information, data stores, and applications
- Process Control Services provide:
  - In-memory proactive object state management and synchronization across distributed objects
  - Component management and Workflow Management
  - Transactional multithreading
  - business rule management and processing,
  - KCO management and processing and
  - metadata management
- In-memory Active Object Model/Persistent Object Store is characterized by:
  - Event-driven behavior
  - EKP-wide model with shared representation

The Artificial Knowledge Server (Two)

- Declarative business rules
- Caching along with partial instantiation of objects
- A Persistent Object Store for the AKS and
- Reflexive Objects and KCOs
- Connectivity Services are:
  - Language APIs: C, C++, Java, HTML, XML, CORBA, DCOM
  - Databases: Relational, ODBC, OODBMS, hierarchical, network, flat file, XML, etc.
  - Wrapper connectivity for application software: custom, CORBA, or COM-based
  - Applications connectivity including all the categories mentioned above, whether these are mainframe, server, or desktop - based

What is Knowledge Management?

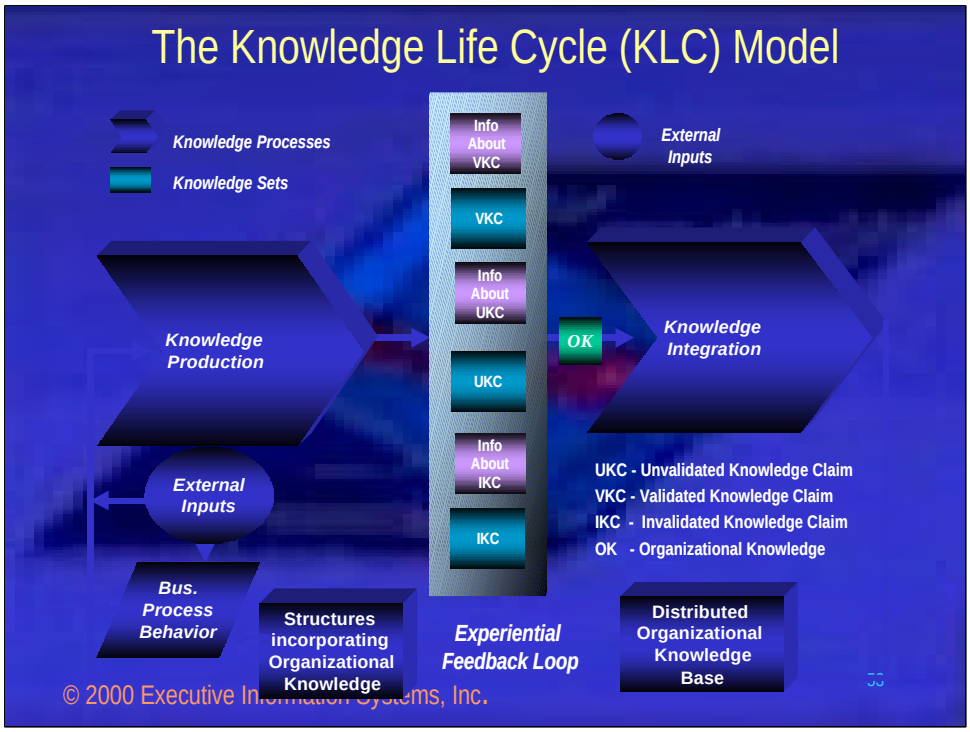
- It is handling, directing, governing, controlling, coordinating, planning, and organizing agents, components, and activities participating in the basic knowledge processes (knowledge production and knowledge integration)
- That is, it is managing the KLC -- its processes and its products (outcomes)
- Such management occurs through a range of activities

Problems and Solutions in the Enterprise

- Every individual, team, or group within the enterprise encounters problems in the course of the work day
- Every problem has alternative solutions
- And every alternative solution is subject to criticism and to replacement if it performs less well than its competitors.
- The best problem solution is the competitive alternative that best survives criticism

The Enterprise is a “Swirl” of Knowledge-related Interactions

- The set of problem-solving interactions in an enterprise constitutes a continuous, dynamic “swirl” from which knowledge is produced and integrated with the business processes of the enterprise
- For a given problem, it is useful to abstract from the swirl and to conceptualize an iteration of a knowledge life cycle targeted on solving that problem.


The Knowledge Life Cycle (KLC) Model
Knowledge Processes
Knowledge Sets
Info About VKC
VKC
Info About UKC
UKC
Info About IKC
IKC
External Inputs
Knowledge Production
OK
Knowledge Integration
External Inputs
Bus. Process Behavior
Structures incorporating Organizational Knowledge
Experiential Feedback Loop
Distributed Organizational Knowledge Base
UKC - Unvalidated Knowledge Claim
VKC - Validated Knowledge Claim
IKC - Invalidated Knowledge Claim
OK - Organizational Knowledge
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Structures Incorporating Organizational Knowledge
Business Processes
Organizational Culture
Organizational Strategy
Organizational Teams
Formal Org. Sub-divisions
Individuals
Policies
Procedures
Products
Services
Codified Organizational Knowledge
Information Systems
Paper documents
Images
Art
Other Organizational Cultural Artifacts
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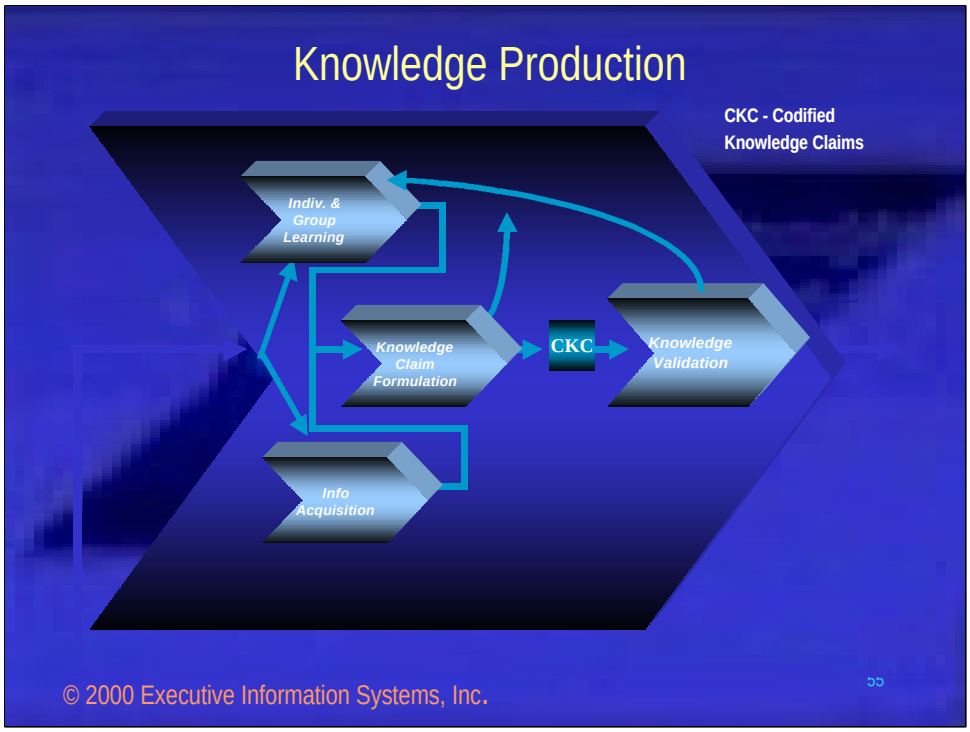
Knowledge Production
CKC - Codified Knowledge Claims
Indiv. & Group Learning
Knowledge Claim Formulation
CKC
Knowledge Validation
Info Acquisition
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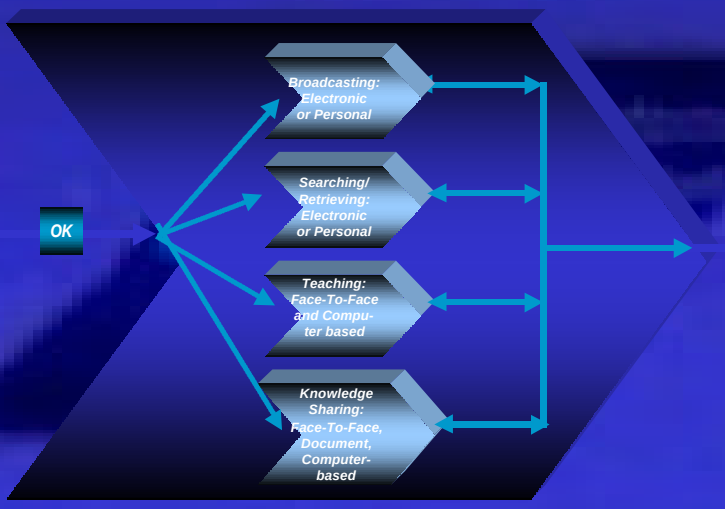
Knowledge Integration



KM Task Clusters and Task Patterns

- There are three KM task clusters: interpersonal behavior; knowledge processing behavior; and decision making
  - Interpersonal behavior includes three task patterns:
    - figurehead,
    - leadership, and
    - external relationship-building activity.
  - Knowledge processing behavior includes two task patterns:
    - KM knowledge production; and
    - KM knowledge integration.

KM Task Clusters and Task Patterns (TWO)

- Decision Making includes four task patterns:
  - changing knowledge process rules;
  - crisis handling;
  - allocating KM and knowledge processing resources; and
  - negotiating agreement with representatives of other business processes.

Decision Processing Portals will evolve into Structured Information Management or into combined Decision Processing/Content Management Portals

- This is the most likely immediate development path. DP portal vendors began by incorporating BI and DW capabilities into their products. Now they are incorporating access to SAP, PeopleSoft, Baan, and other OLTP sources. Also, DP vendors such as Viador, and Computer Associates are rapidly moving to incorporate CM capabilities into their products

Content Management Portals will evolve into combined Decision Processing/Content Management Portals or into Advanced Collaboration Portals

- The leaders in CM portals, such as Plumtree, are rushing to integrate DP capabilities into their offerings or at least to provide the means of integrating third party DP capabilities into their frameworks.
- On the other hand, IntegrationWare, now Practicity, while claiming the first knowledge portal, is actually using a strong integrative architecture to unite CM and collaborative capabilities while also integrating some DSS capabilities.

Basic Collaboration Portals will evolve into Advanced Collaboration Portals

- This trend is already observable in Intraspect's attempt to integrate its collaborative capabilities with SAS's structured IM capabilities and in Practicity's content management and structured data management capabilities

Structured Information Management Portals will evolve into Structured Knowledge Processing Portals

- This will occur naturally as the distinction between information and knowledge portals enters industry consciousness, and software companies figure out what needs to be done to incorporate formal knowledge production and validation, KM processes, and validity information into their portals.

Combined DP/CM Portals will evolve into Comprehensive Knowledge Processing Portals

- To do this they need to add Advanced Collaborative Capabilities and incorporate formal knowledge processing and KM capabilities. It will be a half year to a year before any software company approaches this synthesis, and that assumes they're thinking about it right now.

Advanced Collaboration Portals will evolve into Comprehensive Knowledge Processing Portals With KM capabilities

- ACPs need to add knowledge processing and KM capabilities to evolve into Comprehensive Knowledge Processing Portals. Again it will be at least six months to a year before we see the first of these products.

Structured Knowledge Processing Portals will evolve into Comprehensive Knowledge Processing Portals

- This requires incorporating collaborative and content management capabilities. Provided a company is at this stage to begin with, and has previously made the more difficult transition from information processing and management to knowledge processing and management, this change should not be difficult. Particularly since by this time content management and collaborative processing capabilities should be widespread in the portal space.