IBM OmniFind Enterprise Edition 9.1

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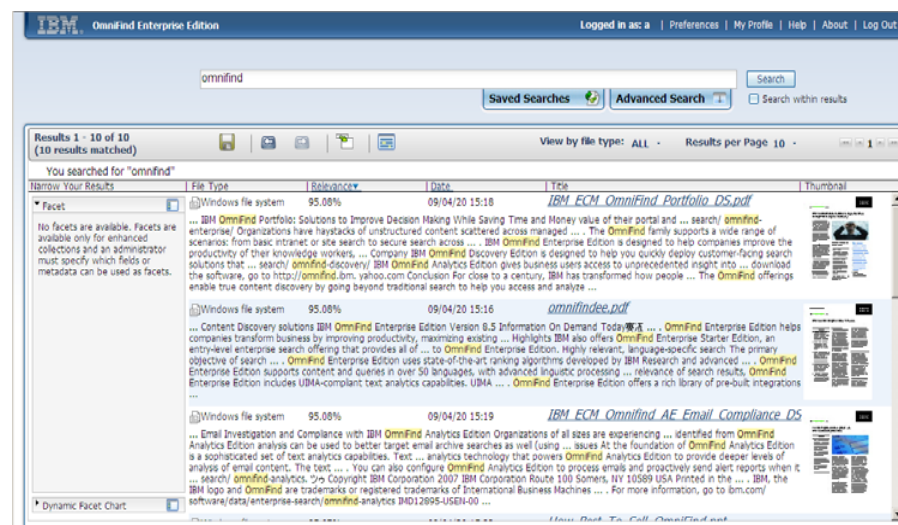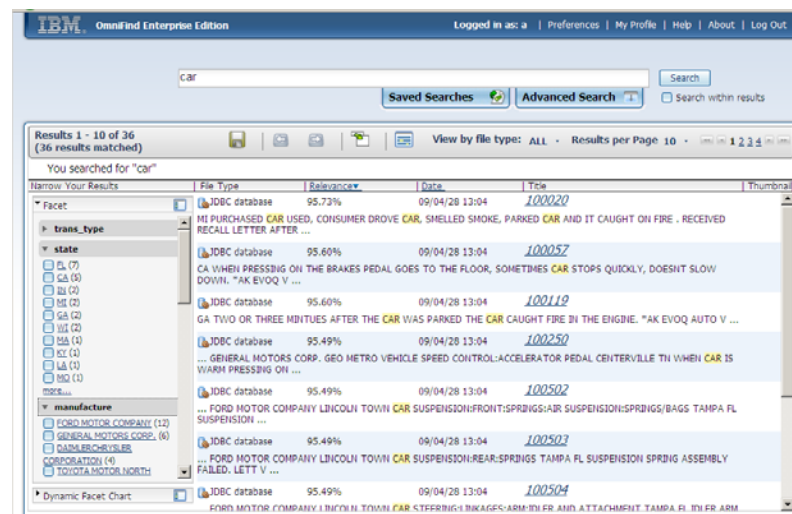Billy Chang
OmniFind Architect
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Did You Know

- **IBM powers search for more than 600 companies worldwide**

- **IBM has more than 200 R&D staff focused on search technologies**
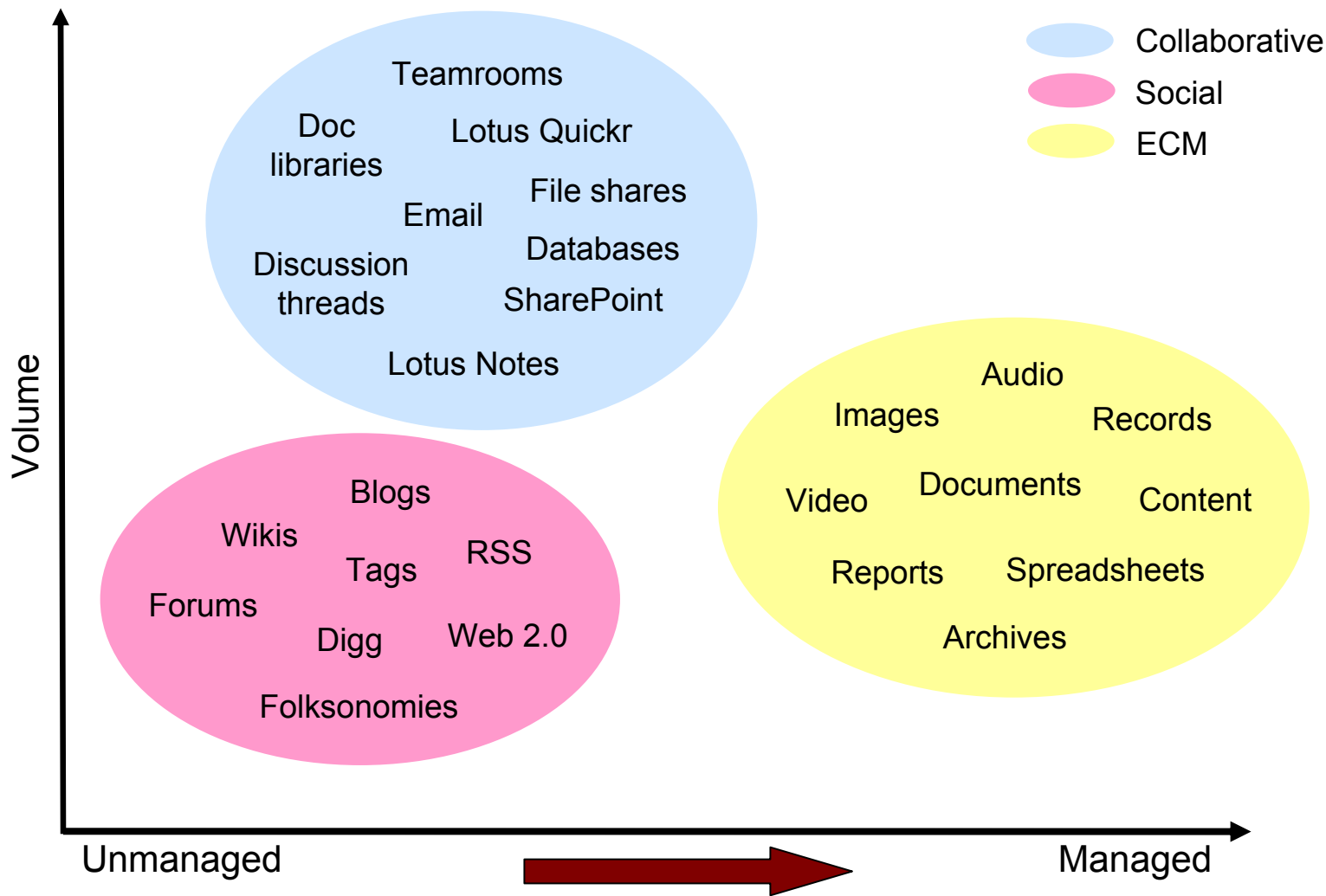
- **IBM is a leader in search patents**

OmniFind Enterprise Edition 9.1
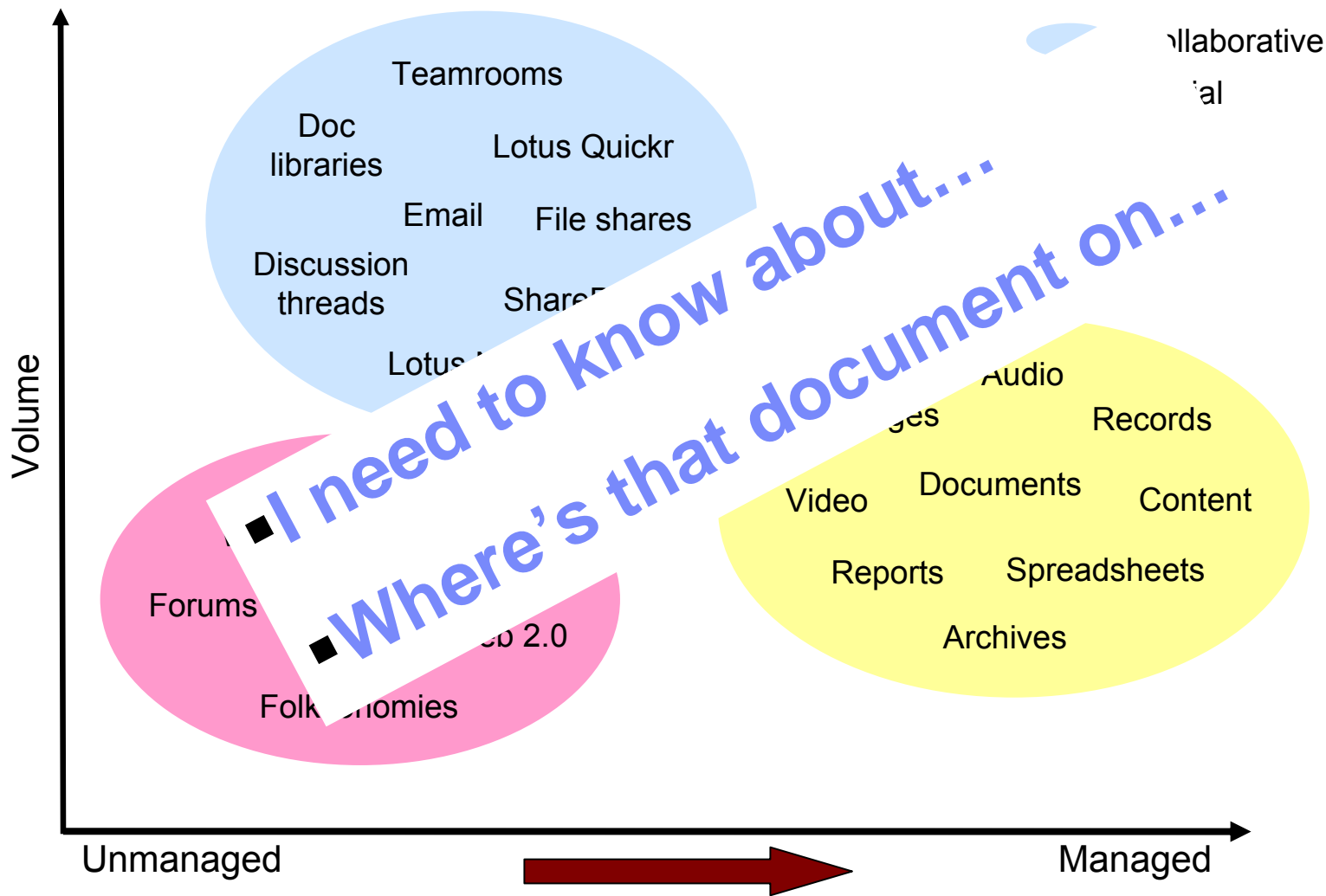*Defining and Delivering Knowledge-Driven Search*

- **Enhanced End-User Experience**
  - High-performance faceted navigation
  - Saved searches
  - Search profiles
  - Document previews
  - And more…

- **Enhanced Administrative Experience**
  - Scalability improvements
  - Incremental indexing support
  - Reduced resource requirements
  - More flexible scale-out & HA
  - New relevancy tuning options
  - And more…

- **Lucene & UIMA based platform**
  - Shared technology base with eDiscovery, Content Analytics and other IBM products

The Problem: A fragmented content landscape

Collaborative

Social

ECM

Volume

Teamrooms

Doc libraries

Lotus Quickr

File shares

Email

Databases

Discussion threads

SharePoint

Lotus Notes

Blogs

Wikis

Tags

RSS

Forums

Digg

Web 2.0

Folksonomies

Audio

Images

Records

Video

Documents

Content

Reports

Spreadsheets

Archives

Unmanaged

Managed

The fragmented content landscape

Volume

Teamrooms

Doc libraries

Lotus Quickr

Email   File shares

Discussion threads

Lotus

llaborative

al

Audio

Records

Video   Documents   Content

Reports   Spreadsheets

Archives

Forums

Web 2.0

Folk nomies

■ I need to know about…

■ Where's that document on…

Unmanaged   Managed

Enterprise Search Matters Because…

- **Workers are disconnected from content**

  - Knowledge is required to succeed, connecting users to knowledge is hard

- **Organizations are dynamic, content is dynamic and knowledge is dispersed**

  - Enterprise search is needed to bridge and unify this dynamic environment

**Enterprise search succeeds
when users are driven to the knowledge they seek**

The *Knowledge-Driven Search* Imperative

- **Knowledge Driven Search**
  - Delivering enriched search capabilities and advanced content findability for knowledge workers

- **The Five Pillars of Knowledge Driven Search:**
  - <u>Dynamic</u> – Guides users to relevant content through business understanding, and alerts when new relevant content is found
  - <u>Tailorable</u> – Finds content the way the business works, and how users expect to find it
  - <u>Supportable</u> – Works with the systems in place today, requiring no special infrastructure to access & index structured or unstructured business content
  - <u>Secure</u> – Enforces the business security requirements for information regardless of source
  - <u>Scalable</u> – Scales to the needs of the enterprise

Customer Examples

- **VanMarke leverages OmniFind to search across structured Master Data Management information and unstructured enterprise content**

- **For the City of Karlsruhe, OmniFind provides Internet facing search for city provided services and information**

- **Haldor Topsøe A/S uses OmniFind to support 1,300 users searching Lotus Notes, Intranet sites and file shares**

- **Global media company uses OmniFind to improve knowledge sharing and search on 5 Terabytes of Lotus Domino content**

Introducing OmniFind Enterprise Edition 9.1

- **Enables Knowledge Driven Search to:**
  - accelerate time to knowledge
  - provide greater accuracy
  - deliver business context with enterprise search

- **OmniFind delivers on the Five Pillars of Knowledge Driven Search:**
  - <u>Dynamic</u> – Delivers complete dynamic facet capabilities, type-ahead search, query saving and result exporting, and is reactive to search-led content exploration
  - <u>Tailorable</u> – Delivers business adjustable relevancy and UIMA standardisation
  - <u>Supportable</u> – Delivers search on 5 platforms, connects to 30+ repositories
  - <u>Secure</u> – Delivers enforced security across content repositories
  - <u>Scalable</u> – Lucene-based index for enterprise level scalability

New Search UI

New Search UI

Type ahead search:
1. Suggests queries based on index content and past queries
2. Shows estimated results count as part of suggestion
3. Customizable by Search Administrators

New Search UI

**Save your search
and re-execute saved queries**

New Search UI

New Search UI

New Search UI

1 – Toggles on and off document properties such as filesize
2 – Allows users to set individual results display preferences

New Search UI

Automatic query expansion suggestions and spell check

Did you mean: **analytic**

New Search UI

Thumbnail view for first page of documents in results page

Dynamic

New Search UI

Faceted search provides drill-through capabilities out-of-the-box and customizable by the business

Numeric and Date Range Facets

Relevancy Tuning

- **Static Score Tuning**

  - Ratio of static score contribution in the ranking algorithm is adjustable

- **URL Pattern Matching**

  - Boost factor based on specific URL patterns

- **Boost Word Dictionaries**

  - Automatic term boosting for words specified in custom dictionary

- **Query Term Boosting**

  - Query term boosting based on query syntax

REST API

- **Custom Search and Admin applications can be implemented by REST API**

- **Language independent**

- **Provides all required functions for creating a search UI**
  - Search navigation
  - Facet navigation
  - Search functions
    - Faceted search
    - Fetch content, thumbnails and previous document
    - List spell correction, synonym expansions and type-ahead suggestions
    - And more…

- **Provides required functions for administrating search**
  - Managing collections
  - Controlling and monitoring components
  - Adding documents to a collection

REST API Examples

- **List available collections**

  - http://localhost:8394/api/v10/collections

- **List available facets on specified collection**

  - http://localhost:8394/api/v10/browse?collection=sample

- **Search documents on specified collection**

  - http://localhost:8394/api/v10/search?collection=sample&query=*:*&facet={"id":"date|directory|extension|filename|filepath|filesize"}

- **Fetch document on specified collection**

  - http://localhost:8394/api/v10/document/content?collection=sample&uri=file:///C:/Program+Files/IBM/es/docs/en_US/OmniFindEnterprise_910_qst.pdf

Search Customizer

- **Administrator can modify major search UI configurations thru customizer GUI**

- **Customization Points**

  - Server Configuration

    - Search server's hostname, port, and timeout…

  - Appearance

    - Displayed application name, logo image, show/hide links, data source icons…

  - Default value for search UI preference

    - Search page, facets, top results, results, result columns

- **No need to restart the search session**
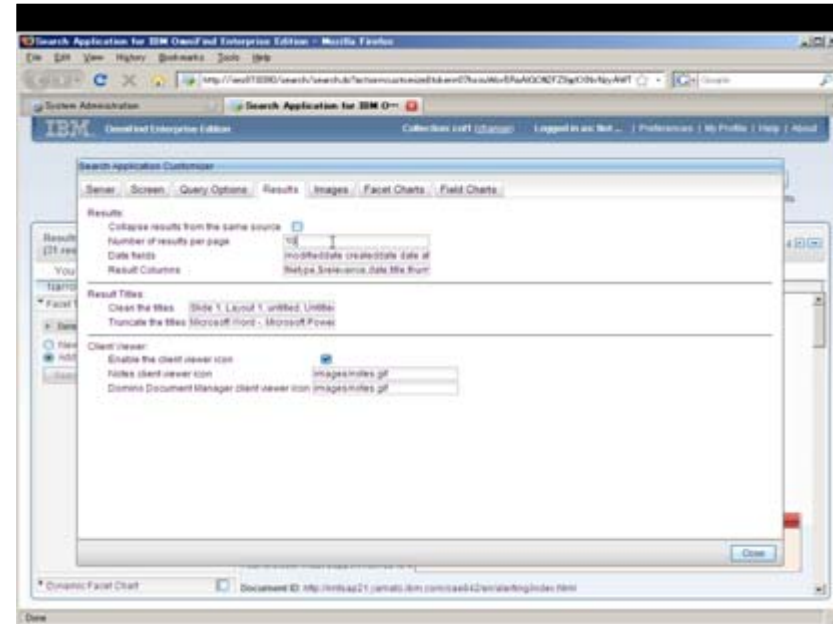
Search Customizer – Examples

- **Show fields as a result table column**

- **Change the order of columns in results pages**

- **Add or remove custom fields**

Default

Customized

Apache UIMA
The industry standard for content processing

OASIS **APACHE**

- **OASIS Standard as of March 2009**
- **Enables interoperability of different analytics solutions and enterprise applications**
- **Provides an SDK for building and composing text analytics**
- **Defines a common interface for integrating text analysis modules**
- **Enables development of new and re-use of existing components for analysis**

Identify Relevant Entities → Build Structure
- People, places, organizations, relationships
- Parts, problems, conditions
- Topics, products, interests, sentiment
- Times, events, threats, plots, associations

Text → Identify Language → Find Words & Roots → Categorization → Named-entity extraction → Identify Relationships → Extracted Metadata and Facts → Search Index / Database / Applications

Text Analysis Modules – aka "Annotators"

4 Click Installation

Click 1: Select Language
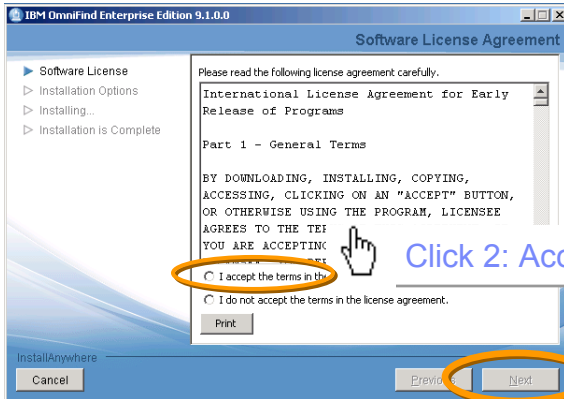
Click 2: Accept license

Click 3: Next
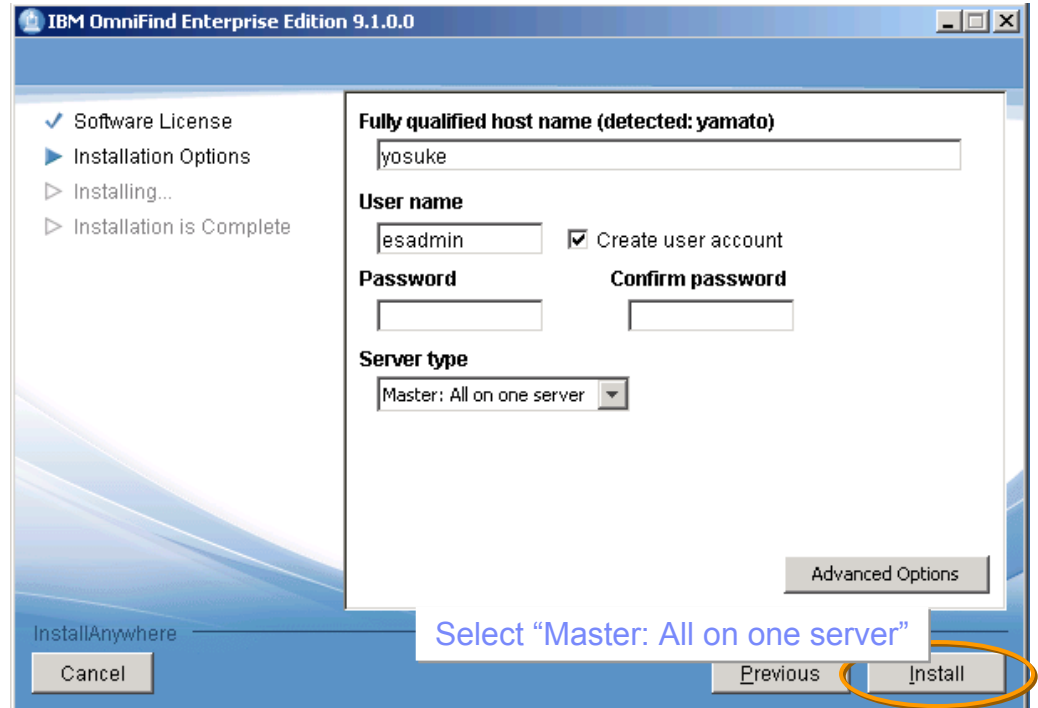
Select "Master: All on one server"

Click 4: Install

Extending Platform Support

- **Leveraging existing infrastructure to deliver Enterprise Search**

- **IBM AIX V5.3 & 6.1 (64 bit)**

- **Microsoft Windows Server 2003 (32 bit), 2008 (64 bit)**

- **SUSE Linux 10 & 11 (32 & 64 bit)**

- **Red Hat AS 5.0 (32 & 64 bit)**

- **Oracle Solaris 10 (SPARC)**

- **New z/Linux**

Rich Support for IBM Collaboration Products

- **Ongoing collaboration within IBM to optimize OmniFind search for WebSphere and Lotus**

- **Supports the latest Lotus protocols, frameworks and product releases sooner than competing products**

- **Designed to unlock the full value of Portal and Collaboration investments**

Lotus Notes   **Lotus Domino**   **Lotus Quickr**   **Lotus Connections**   **Lotus Sametime**

Connectors to Enterprise Repositories

- **Lotus Web Content Management 6.1, 6.1.5**
- **Microsoft Exchange 2000, 2003**
- **Microsoft SQL Server Enterprise 2005, 2008**
- **MySQL 5.0**
- **Network News Protocol Newsgroup (NNTP)**
- **Open Text Livelink Enterprise Server 9.6, 9.7, 9.7.1**
- **Oracle 9i, 10g, 11g**
- **QuickPlace 6.5.1, 7.0**
- **SharePoint Server 2003 SP2, Sharepoint Server 2007**
- **Software AG Adabas 7.1**
- **Sybase 11.9.2, 12.0, 12.5.x**
- **UNIX file systems**
- **VSAM for z/OS 1.4**
- **Web servers (HTTP or HTTPS)**
- **WebSphere Portal 6.0, 6.0.1, 6.1, 6.1.5**
- **Windows 2000, 2003, 2008 Server**
- **Workplace Web Content Management 2.5, 2.5.1, 6.0, 6.0.1**

- **DB2 Enterprise Server Edition 8.1, 9.1, 9.5, 9.7**
- **DB2 Express Edition 8.1, 9.1, 9.5, 9.7**
- **DB2 for iSeries 5.4 and 6.1**
- **DB2 for z/OS 8.1 and 9.1**
- **DB2 Workgroup Server Edition 8.1, 9.1, 9.5, 9.7**
- **Domino Document Manager 6.5.1, 7.0**
- **Domino R7, R8, R8.5**
- **EMC/Documentum 6.0, 6.5**
- **FileNet P8 CM 4.0, 4.5, 4.5.1**
- **Hummingbird DM 5.1.0.5, DM 6.0.4 with SR6**
- **IBM Content Manager 8.4, 8.4.1, 8.4.2**
- **IBM IMS 10, 11.01**
- **Informix Dynamic Server Enterprise Edition 11.10, 11.50**
- **Lotus Connections 2.0, 2.0.1, 2.5.01**
- **Lotus Notes R6.5, 6.5.1, R7, R8, R8.5**
- **Lotus QuickPlace 6.5.1 and 7.0**
- **Lotus Quickr Services for Domino 8.0, 8.1, 8.2**
- **Lotus Quickr Services for WebSphere Portal 8.0.0.2, 8.1**

WebSphere Portal Integration

- **OEE V9.1 provides Knowledge-Driven enterprise search capabilities to WebSphere Portal and related products**

  - Provides new search portlet and ESSearchPortlet (for classic search collections)

  - Provides service for search center

  - Provides search bar integration
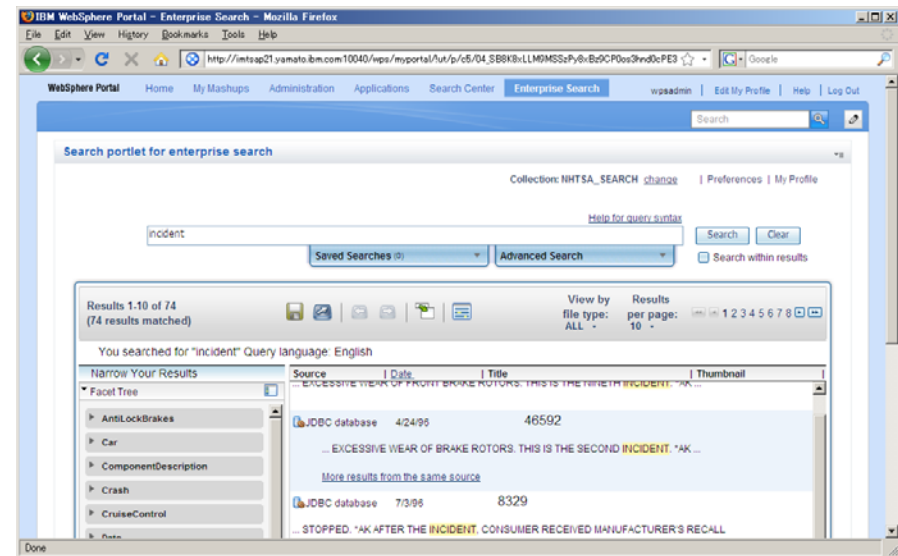
Query Statistics

- **Query statistics UI shows:**

  - Time transition of

    - Number of queries, number of users, average response time (ms), worst response time (ms)

  - Query popularity

  - History of submitted queries

- **Query Statistics enables you to:**

  - Export history data to CSV file

  - Change time range, collection or user ID

  - Change display of charts or a table

  - Refresh data automatically
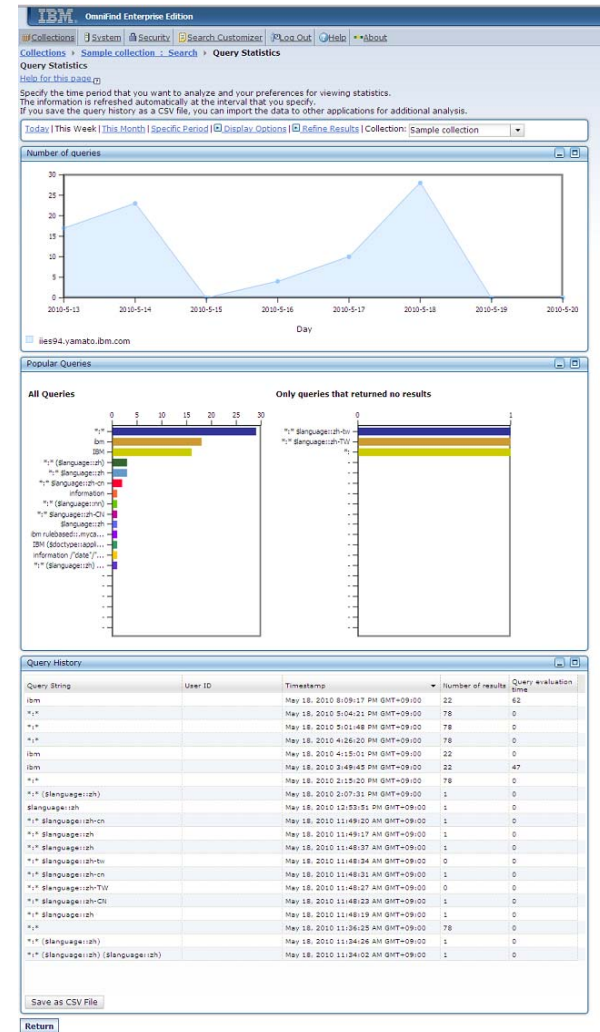
Information Security Is Critical

- **Not all users are allowed to search all corporation information**

- **OmniFind supports both early binding and late binding to achieve maximum security while maintaining optimum search performance**

**Pessimistic security
ensures information confidentiality**

Document Level Security
Users only see what they're authorized to see, every time

1 At indexing, extract and index the ACLs or static tokens

2 At search time, get the user credentials (SSO, LDAP, LTPA)

3 At search time, pre-filter results against indexed tokens/ACLs

4 Post-filter results against the secure data source; return results
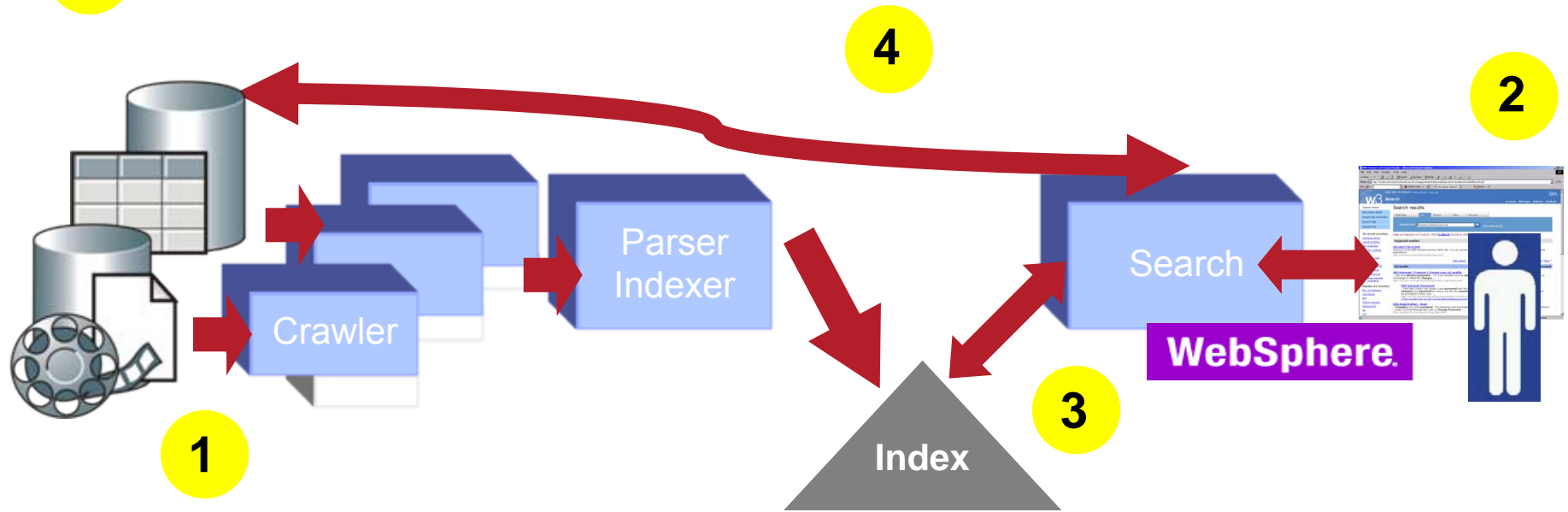
Flexible Multi-Server Configuration

- **Support scalable and flexible configuration**
  - Multiple Document Processing Nodes
  - Multiple Search Runtime Nodes
  - HA Cluster for Crawler and Document Processing & Indexer
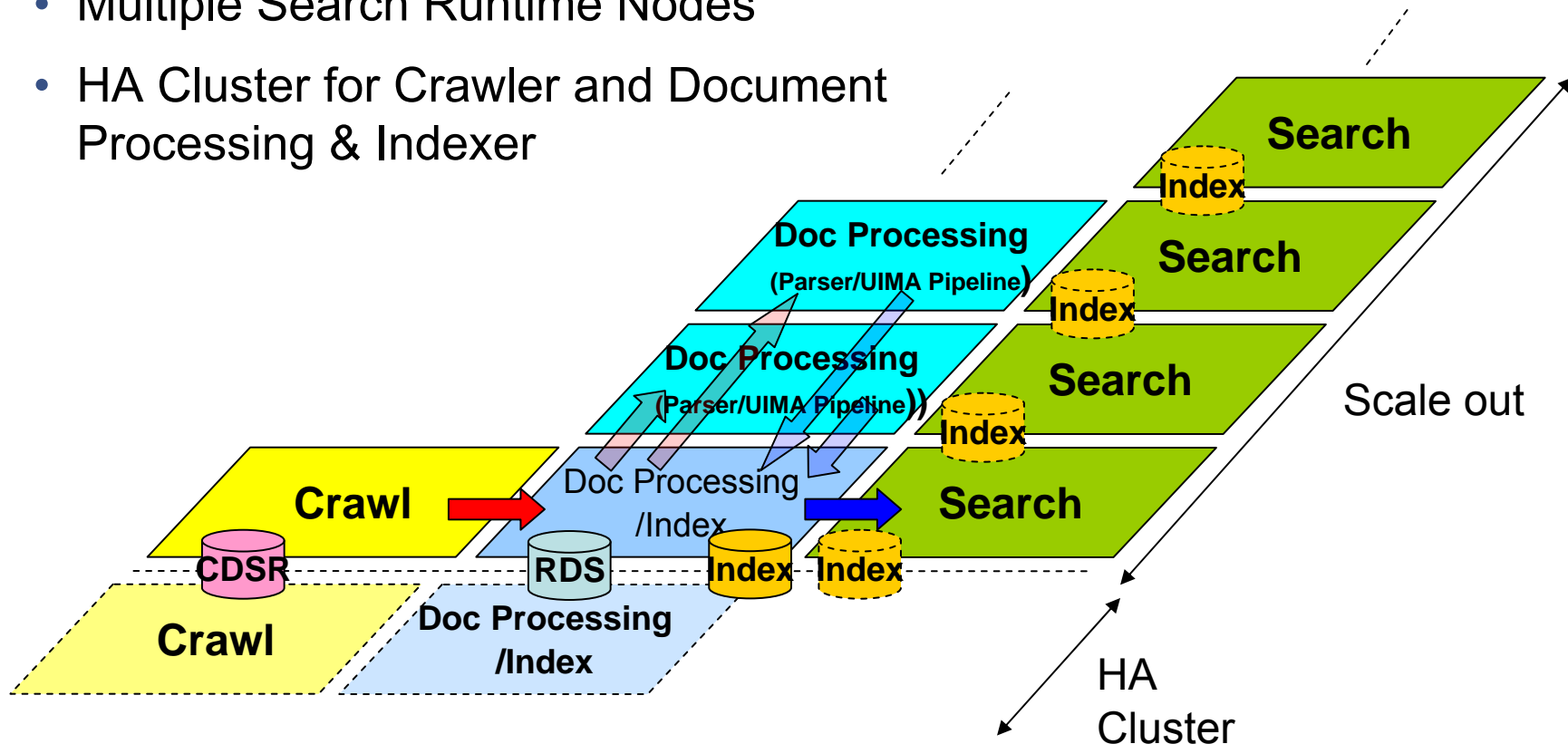
Live Demo

- **Billy Chang – IBM OmniFind Architect**

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