

# Unified Information Access

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## Creating Information Synergy

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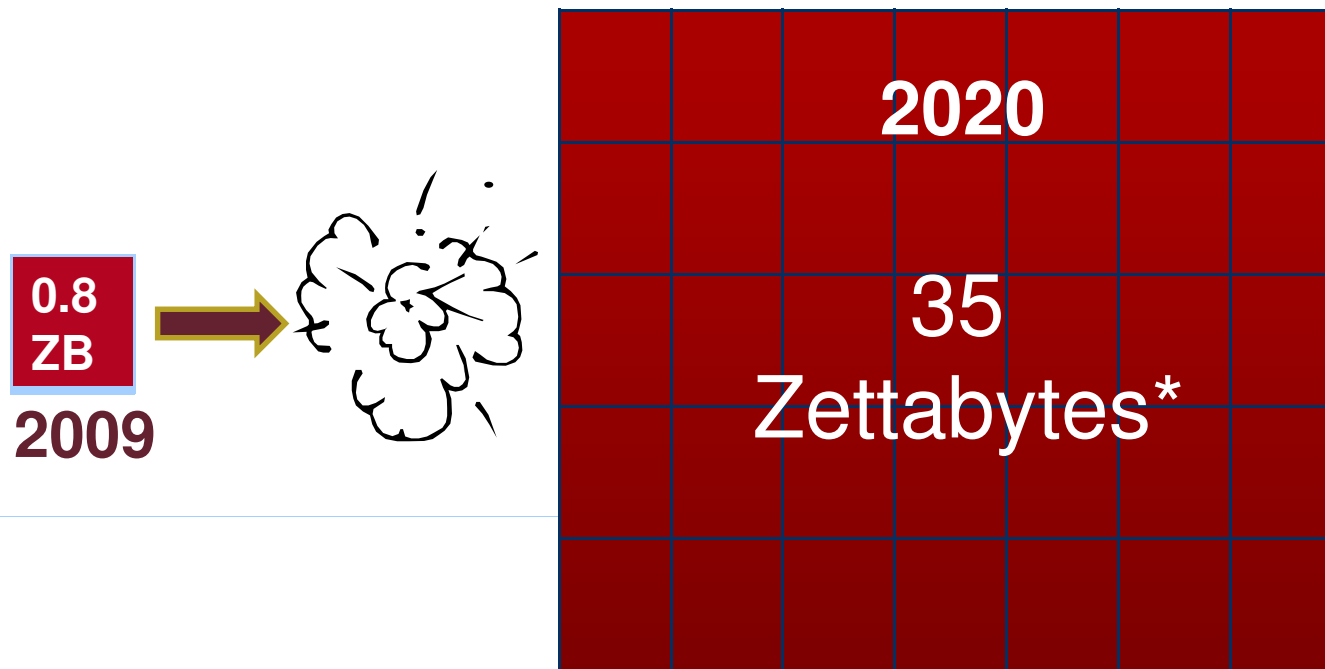
Sue Feldman  
Vice President, IDC  
Search and Discovery Technologies

- The information access quandary: for IT, for information workers, for the enterprise
- Unified information access defined
- Unified information access in depth
- Unified information access: Examples of uses, information synergies

# The Digital Universe, 2009-2020



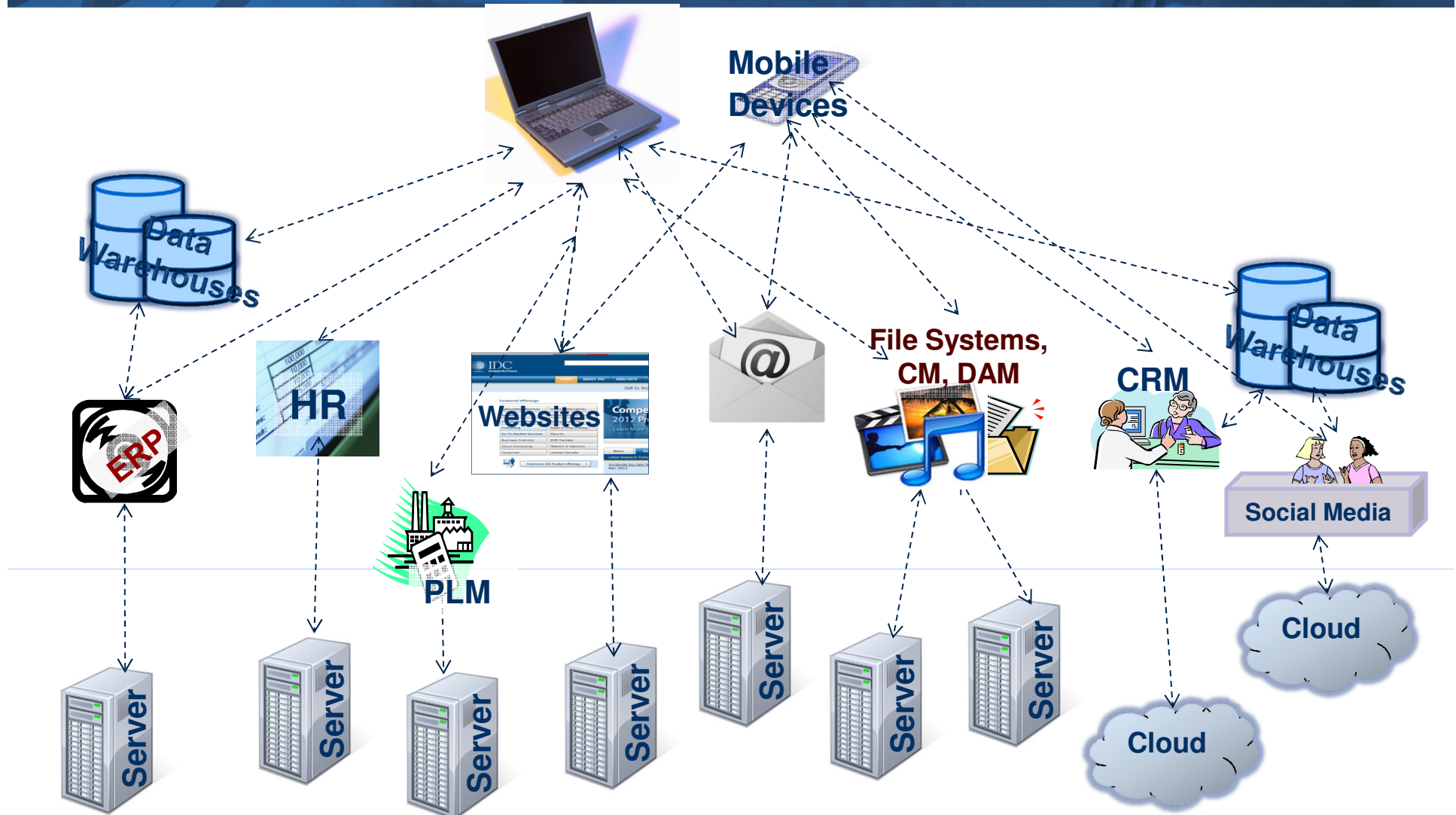
- Digital information will grow by a factor of 44, to 35 ZB in 2020
- 25 quintillion files or records



**\* Zettabyte: 1,000,000,000,000,000,000 bytes**  
( 1 trillion gigabytes)

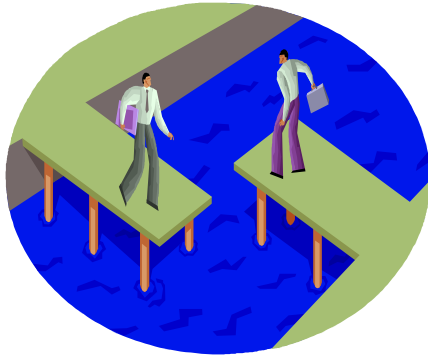
[www.emc.com/collateral/demos/microsites/idc-digital-universe/iview.htm](http://www.emc.com/collateral/demos/microsites/idc-digital-universe/iview.htm)

# Challenge for IT: Complex IT Environment



# Challenges for Information Workers

## No integration



- Multiple applications
- Multiple repositories
- Multiple interfaces and protocols
- Terminologies and schemas that don't match
- Expectations for ease of use from Web.

**Risk**



**Time wasted**



**Information Overload**

**Misinformation,**

**Old Information**

**Missed information**

# Uses of Search and Discovery, 2011



Top 4 reasons to invest in search and discovery technologies	%
Lower the cost of managing and analyzing information	39.5
Unify access to all of our information sources—both structured and unstructured (Provide a comprehensive view of our information across email, file servers, applications)	34
Provide faster, easier access for more users to structured data in our legacy systems	34
Decision support and management	25
Normalize information across repositories (ETL for content) to gather all the related information from different sources	22.5
Understand our customers by mining email, call center interactions, etc.	18.5
Unweighted Valid N	200
	100.0

Source: Unified Access to Information: Less Seeking, More Finding, IDC#227780, April, 2011

# Requested Features: BI + Search



What features or user experience do your users most often request or demand on a scale of 1 to 5?	Rating
Access to more information	4.08
Ability to make business intelligence more dynamic, to simplify BI queries and also the business intelligence process	3.89
Monitor customers across multiple channels (call center, email, Internet forums, etc.)	3.88
Ability to monitor and visualize information for competitive intelligence or business analysis	3.81
Browsing by categories or facets	3.80
Single access to multiple repositories	3.79
Automatic categorization and tagging of documents	3.75
Reporting features like charts and graphs	3.72
Unweighted Valid N	200
	100.0

Source: Unified Access to Information: Less Seeking, More Finding, IDC#227780, April, 2011

# Information Centered Computing: Why Now?



- Complexity: beyond LOB and IT to manage and understand with traditional tools
- Market demand for tools that manage information overload, provide decision support, automate business processes
- Technology advances: cloud, big data, new, scalable architectures, robust, scalable software for information access and analysis of all types of information, enhanced and less expensive storage
- New delivery models (cloud, mobile, mixed platform)
- New business models: subscription, ad supported, revenue sharing
- Synergy of content and technology: e.g., Factual, Watson, Wolfram Alpha



# Definition: Unified Information Access Platforms

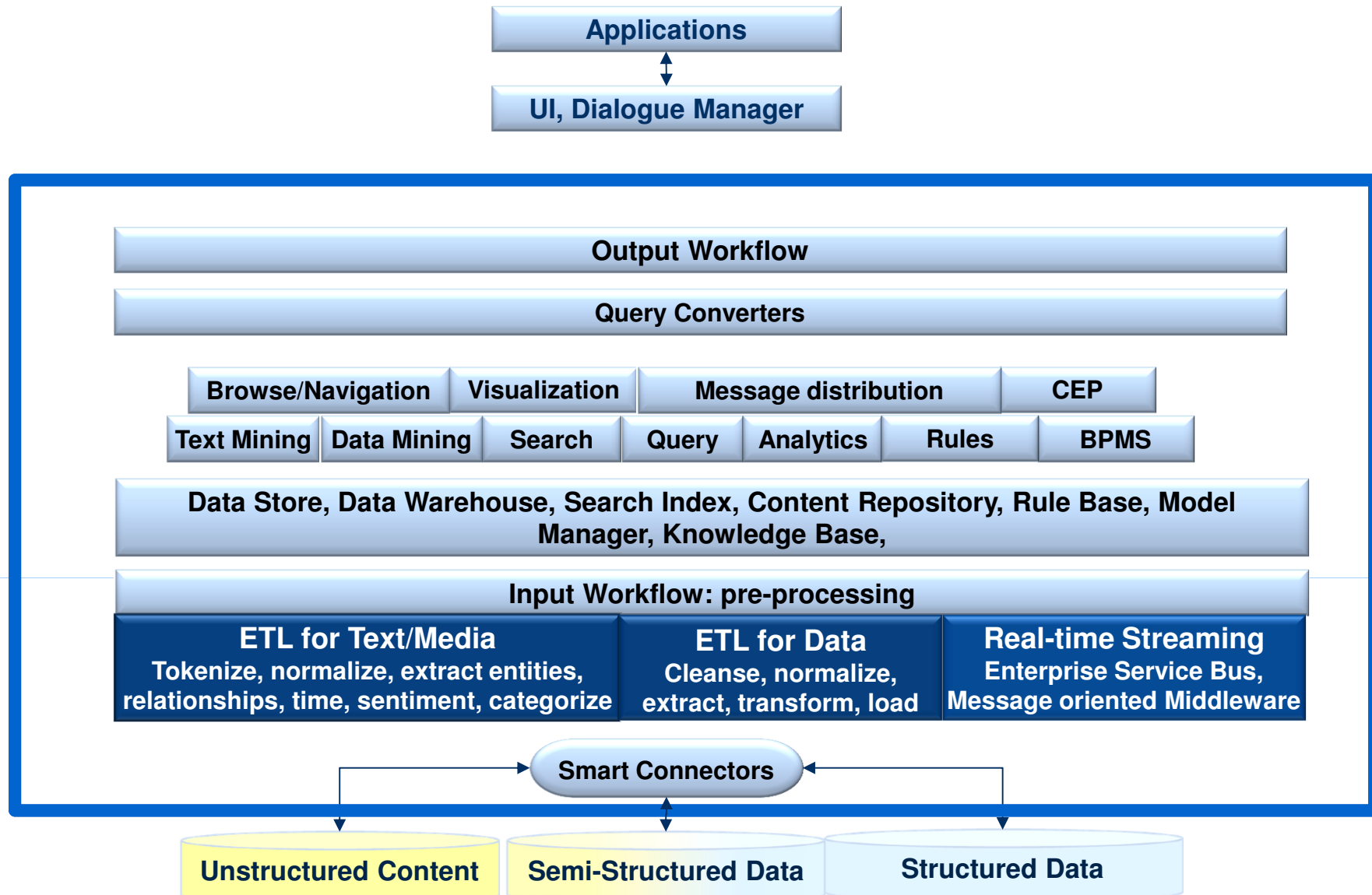


*Unified information access platforms provide a single point of access that integrates and finds relationships in information across multiple heterogeneous sources of information. These platforms:*

- Integrate access to unstructured, semi-structured, and structured information.
- Combine features of database, business intelligence, and search technologies in a single architecture
- Provide a modular, well-integrated set of tools and services to normalize, index, search, query, present, visualize, analyze and report information
- Create a single platform for information gathering, analysis, and decision support.
- Accommodate quickly changing information through real-time or near-real-time updating and analytics
- Are highly scalable
- Provide a platform for building search based applications that support specific industries, tasks and workflows

The market is just beginning to evolve

# Unified Information Access Architecture



# Definition: Intelligent Workspaces Search Based Applications



***Intelligent workspace:*** *an application that provides a specialized, integrated information work environment that is specific to a process or task*

- Based on the task, not the technology
- Combines multiple technologies and tools
- Integrates information from multiple sources
- Incorporates knowledge bases for specialized workflows, terminology
- Hides complexity below an easy, compelling UI

# Hot areas for Unified Information Access



## Decision Support

Listening platforms: (Voice of Customer, Reputation monitoring)

Early product warning

Churn prevention

Social business

Finance and investing  
(Market trend analysis and trading)

Drug development

Master Data Management

Multilingual Discovery

## Healthcare

Government intelligence

Fraud detection

Terrorist detection

Real time, targeted  
recommendations, ads

Emergency services support  
(information overload)

Question answering

R&D Innovation Platforms

# Unified Access: Vertical Uses



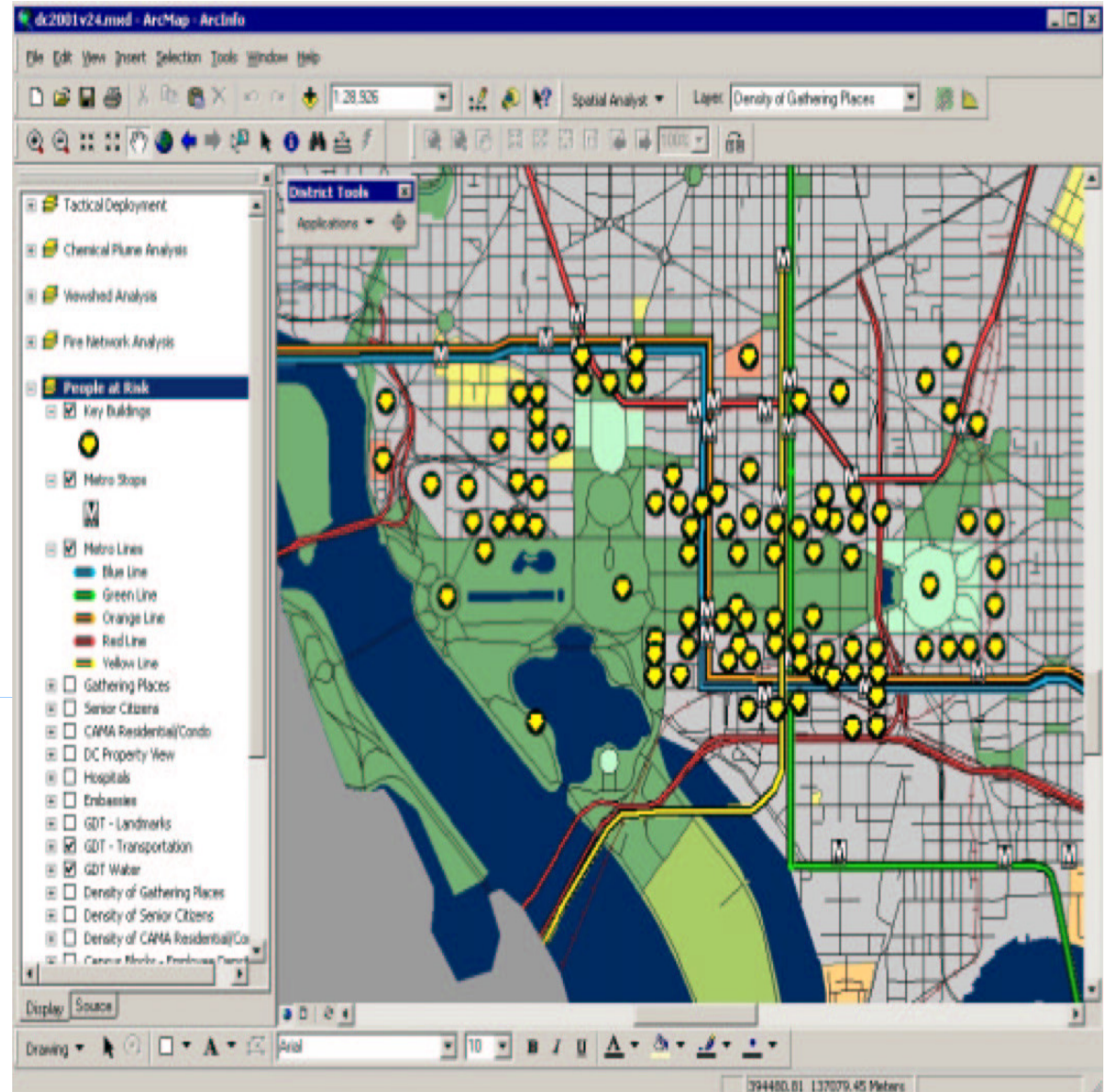
- Publishing: Smart content
  - Manufacturing: Voice of the customer, social media monitoring
  - Marketing and politics: social media monitoring
  - Government: Fraud and terrorist detection; voice of the citizen, emergency event monitoring
  - Healthcare: Diagnosis support, predict recurrence of hospital visits, fraudulent claim detection
- 
- Finance: Fraud detection, voice of the customer, upsell and cross sell with predictive analytics, trend spotting for investment bankers
  - Pharmaceuticals: Drug discovery, cause and effect for treatments, finding influencers

## PREPARE

Knowing the norms for:

- The community
- Infrastructure and transportation
- Resources and supplies
- Population and movements
- Blockages and impasses
- Weather access and planning
- Local news access
- Police, EMS, fire calls and dispatch
- What hospitals are refusing?

Slides courtesy of FAST & BULL Services



# Bull Services: Unified Access for Command & Control Automation



## RESPONDING

Knowing:

WHO

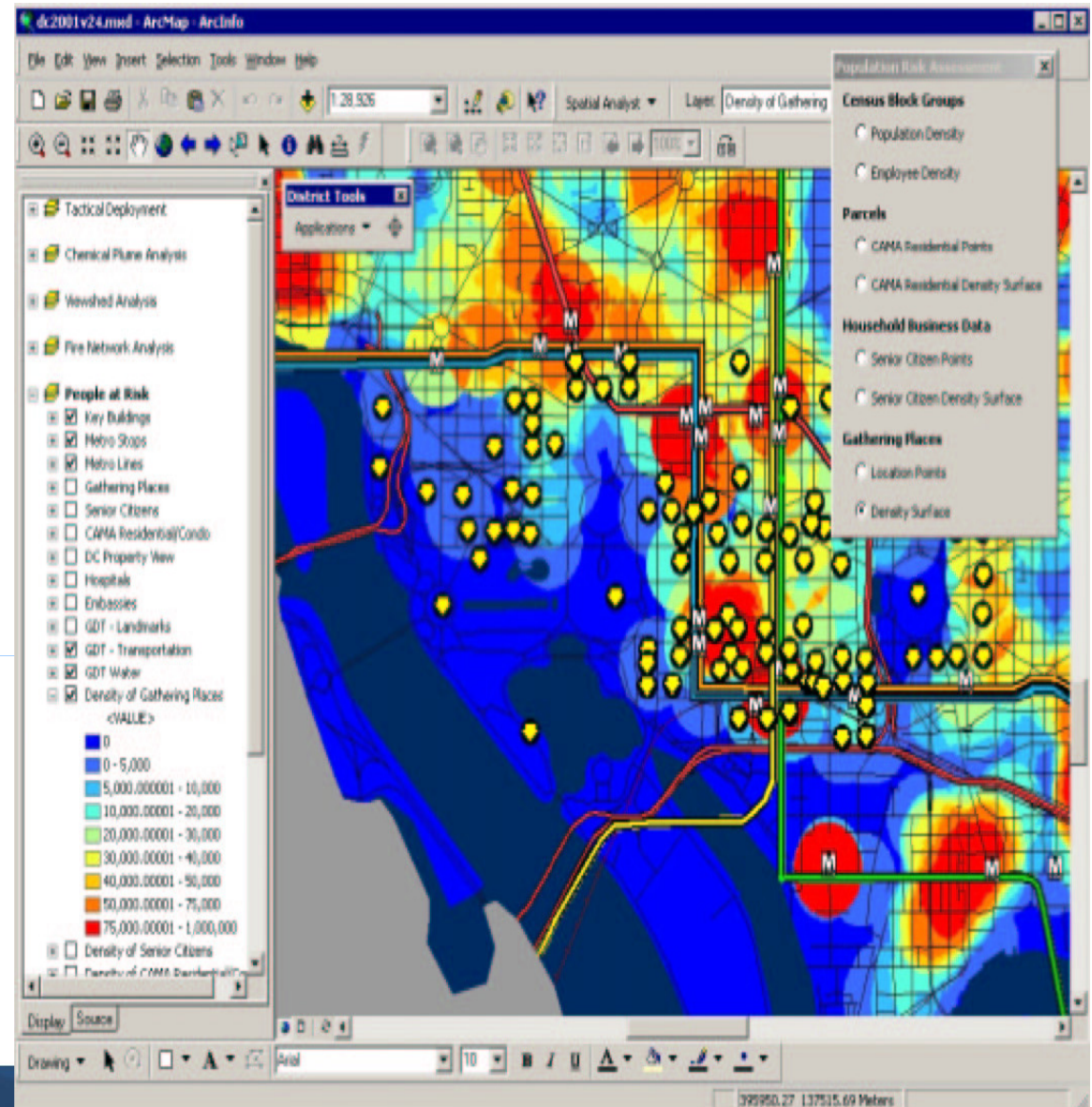
WHAT

WHEN

WHERE

HOW

HOW MANY



**fast** FAST Data Search

# Google Disease Alert Map: Presents data for quick understanding



[English](#) | [Español](#) | [Français](#) | [Русский](#) | [中文](#)

[About](#) | [Blog](#) | [Donate](#) | [Store](#) | [Feedback](#)

### Feeds

Select: [all](#), [none](#)

- ProMED Mail
- ProMED MBDS
- World Health Organization
- EuroSurveillance
- Google News
- Moreover Technologies
- Wildlife Disease Node
- ProMED Español
- Google News Español
- ProMED Français
- Google News Français
- ProMED Русский
- Google News Русский
- Google 资讯

### Diseases, last 30 days

Select: [all](#), [none](#), [info](#)

- Avian Influenza (455)
- Salmonella (273)
- Cholera (176)
- Not Yet Classified (129)
- Dengue Fever (123)
- Influenza (107)
- Measles (62)
- Meningitis (59)
- Other Animal Disease (39)
- Foot and Mouth (38)
- Listeriosis (38)
- Rabies (38)

### Alerts by country

Zoom to country:  
[United States \(344\)](#)  
[China \(152\)](#)

Zoom to: [N. America](#) | [S. America](#) | [Europe](#) | [Africa](#) | [Mideast](#) | [Asia](#) | [Australia](#) | [World](#)

[Full Screen](#)



Date range: 19 Jan - 17 Feb



### Latest alerts

- [Aquantum Announces Solutions for Recent Outbreak of Salmonella at ...](#)
- [Pide MSF ayuda urgente de la comunidad por la epidemia del ...](#)
- [Медики: часто пациенты симулируют болезнь для распития алкоголя \(...\) - ...](#)
- [Salmonella Outbreak forces Food banks to throw out food - WNDU-TV](#)

### Legend

- Country level
- Province or local level
- Heat Index:



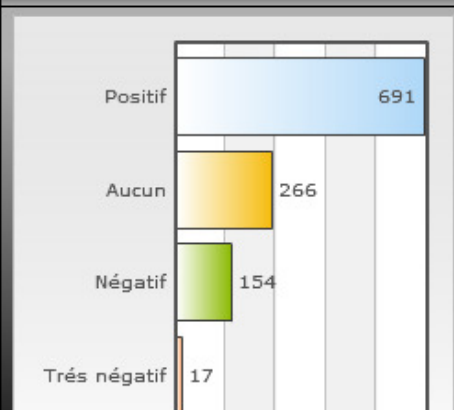
### CONCEPTS ASSOCIÉS

demande de résiliation  
facture de résiliation  
résiliation du contrat  
courrier de résiliation  
résiliation de contrat  
facture de solde  
prélèvement prévu  
état des lieux  
compteur numéro  
facture de clôture

### ENTREPRISES ENERGIE

EDF	919	X
Gaz de France	65	X
GDF	45	X
EDF-GDF	36	X
Direct Energie	19	X
Poweo	3	X
Electrabel	1	X
GEG	1	X

### SENTIMENTS (TEXTE)



Conversation (1000) Analytics (1000)

04/02/2010 08/02/2010 12/02/2010 16/02/2010 20/02/2010 24/02/2010 28/02/2010 04/03/2010 08/03/2010 12/03/2010 16/03/2010

Evolution temporelle sur l'expression 'résiliation'



# Temis: Social graph for exploration



luxid
Overview
Dashboards
Search
Discoveries
Knowledge Browser
Welcome dmayer (Admin)
Profile
Log out
Help
About
obama

Alerting
Shared dashboards
My shared dashboards
0 doc
Last update date: 15 Jan 2010
Force update

**Politics**

Documents by date

Daily

Day

Documents

Statistics on People Names

4330 docs 1801 new docs since...

Chart: Stacked bar Sort by: Documents

Top >> Person

Barack Obama	2K	2K
John McCain	2K	422
George W. Bush	939	765
Sarah Palin	618	72
Joseph Biden	411	35

Proximity around Barack Obama, Person : Search obama in all sections and their descriptors, containing Person , containing 11 - politics

3311/4296 docs 1783 new docs since... Min. sentences 200 Advanced OK

Found 3311 docs and 9573 sentences

Search obama in all sections and their descriptors, containing Person , containing 11 - politics

4296 docs 1783 new docs since... Nb by page: 10 1 2 3 4 ... 428 429 430 > Hid

**Obama names Gibbs press secretary**

US president-elect **Barack Obama** has named his former ... communications director **Robert Gibbs** as his White House press secretary, **Obama's** transition office said in a statement Saturday. **Obama's** traveling spokesman ... presidential campaign, **Gibbs** gained a reputation as ... while also advising **Obama** on key strategic matters. ksh/ch

Top descriptors : Barack Obama, Obama, Secretary, Robert Gibbs, Traveling Spokesman, Senate, United States

# Endeca: Dynamic reporting

## COMMODITY & SUPPLIER ANALYSIS

[ADD BOOKMARK](#) | [MY BOOKMARKS](#)

DASHBOARD
SPEND
SUPPLIERS
COMMODITIES
PROGRAM MANAGEMENT

[GO](#)

**APPLIED FILTERS** [\[clear all\]](#)

Geographic Division: [\[edit\]](#)  
x AsiaPac

Geographic Division: [\[edit\]](#)  
x AsiaPac

Geographic Division: [\[edit\]](#)  
x AsiaPac

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**FILTER BY**

Commodity Info

Part Info

**Program Info** [\[lock\]](#)

Model Year

Brand

Program Code

Geographic Division

Product Line

---

Supplier Info

Range Filters [\[lock\]](#)

Target Cost (USD) [\[dropdown\]](#)

><<  and

80

0

[apply](#)

Total Number of Parts: 
Number of Suppliers: 
Total Spend:

Spend [\[dropdown\]](#) by [Geographic Use Division](#) [\[dropdown\]](#)

Geographic Use Division	Percentage
AsiaPac	45.11%
Canada	15.12%
Mexico	15.05%
USA	12.76%
Europe	11.97%

Spend [\[dropdown\]](#) by [Supplier Country](#) [\[dropdown\]](#)

Supplier Country	Percentage
UNITED KINGDOM	62.31%
POLAND	8.31%
UNITED STATES	6.3%
NETHERLANDS	6.27%
CHINA	4.42%
MEXICO	3.49%
CZECH REPUBLIC	2.7...
NORWAY	1.39%
CANADA	0.96%
KOREA, REPUBLIC OF	0.47%
ARGENTINA	0.47%
INDIA	0.48%
ROMANIA	0.45%
JAPAN	0.43%
MONACO	0.26%
SLOVAKIA (Slovak Re...	0.12%
FRANCE	0.12%
TURKEY	0.11%
BELGIUM	0.06%

Spend [\[dropdown\]](#) by [Function](#) [\[dropdown\]](#)

Function	Percentage
Unclassified	11.56%
Engine	11.44%
Seating	8.15%
Body Structure	7.8...
Suspension	7.03%
Driveline	5.66%
Core Electrical	5...

Spend [\[dropdown\]](#) by [Core Commodity](#) [\[dropdown\]](#)

Core Commodity	Percentage
Consoles and Light...	...
Assembly Wheel Tyre...	...
Check Engine Comput...	...
Subframe Rear > Ass...	...
Console Component C...	...
Complete Transfer C...	...
Gear Steering > Ass...	...

# Linguamatics - Safety/Toxicity

Compound

Potential safety issues

In the liver

At this dosage

Pharmacologic Substance	Safety issues	Tissue	Dosage	Doc	Hit
Cyclosporine	Safety issues	Kidney	15 mg/kg/day	6 <a href="#">17497475</a>	11 ... of hyperbaric oxygen on cyclosporine-induced nephrotoxicity and oxidative stress in rats... : a control group, a cyclosporine group (15 mg/kg/day intraperitoneally for 14 days)...
Mycophenolate Mofetil	Safety issues	Kidney	2 g/day	2 <a href="#">16041270</a>	3 ... /day of everolimus or 2 g/day of MMF, plus full-dose cyclosporine (... Concerns over nephrotoxicity led to a protocol amendment ...
Amphotericin B	Safety issues	Kidney	0.4 mg/kg/day AMB	2 <a href="#">15761070</a>	8 Low nephrotoxicity of an effective amphotericin B ... for 10 consecutive days with 0.4 mg/kg/day AMB in the form of traditional ...
Everolimus	Safety issues	Kidney	everolimus 1.5 mg/day	3 <a href="#">16041270</a>	3 Concerns over nephrotoxicity led to a protocol amendment ... loss to follow-up) were everolimus 1.5 mg/day, 33.7% (65/...
Lamivudine	Safety issues	Liver	100 mg/day	5 <a href="#">17283489</a>	1 Lamivudine (100 mg/day) was continued throughout the ... Liver Transplantation adverse effects
Alcohol	Safety issues	Liver	20 g/day	1 <a href="#">15553597</a>	7 Insulin sensitivity and hepatic steatosis in obese subjects with ... analyzed 86 obese patients whose alcohol intake was less than 20 g/day and who showed no signs ...
Gentamicin	Safety issues	Kidney	100 mg/kg/day	2 <a href="#">14748758</a>	6 ... 4-hydroxy tempo) on gentamicin-induced nephrotoxicity in rats. ... The rats were given gentamicin (100 mg/kg/day, i.p., once a ...
Sirolimus	Safety issues	Kidney	1 mg/day	2 <a href="#">16364861</a>	2 ... primary immunosuppressant in calcineurin inhibitor-induced nephrotoxicity. ... Sirolimus was started at 1 mg/day with titration over 2 weeks ...
		Liver	sirolimus 2 mg/day	1 <a href="#">15899725</a>	2 ... a 6-mg loading dose of sirolimus, participants received sirolimus 2 mg/day for at least 7 days... dropped out because of trimethoprim-sulfamethoxazole-related hepatotoxicity.
Indinavir	Safety issues	Kidney	IDV/r 800/100 mg bid	1 <a href="#">17263634</a>	4 ... started zidovudine plus lamivudine plus IDV/r 800/100 mg bid. ... was a surprising lack of nephrological side effects during the 6 months of ...
Atorvastatin	Safety issues	Liver	10 mg/day	2 <a href="#">17473378</a>	3 ... a potential role in statin-related adverse events, and withdrawal of ... in patients developing myotoxicity or liver toxicity. ... Twenty-six patients with hypercholesterolemia received atorvastatin at 10 mg/day for 3 months.
			atorvastatin 10 mg/day	1 <a href="#">16731999</a>	1 ... benefit beyond that afforded by atorvastatin 10 mg/day in patients with stable coronary ... in the rates of treatment-related adverse events and persistent elevations in liver enzymes.
			atorvastatin 80 mg/day	1 <a href="#">16731999</a>	1 ... that intensive lipid-lowering therapy with atorvastatin 80 mg/day provides significant clinical benefit beyond ... in the rates of treatment-related adverse events and persistent elevations in liver enzymes.
Acetaminophen	Safety issues	Liver	1000 mg/kg/day	1 <a href="#">15027815</a>	7 ... inhibitors in the prevention of hepatotoxicity after paracetamol overdose in rats... The appropriate doses of paracetamol (1000 mg/kg/day) and the 'inhibitor ...

# Autonomy: Sentiment, browsing, clustering



AutonomyExplore

Contact Center Review ▾



Home Search Analyze Snapshot Automate Administer

"Uh Oh, Is Apple's iPhone 4 A Lemon? (AAPL)" ... "The reception issues all

## Watched Topics

### iPhone Breaking Topics

Breaking topics for: iPhoneComplaintsBlogsW620

End Date: 6/24/2010 ▾

Start Date: 6/23/2010 ▾

- ▶ Bad reception, electronic issue, fix
- ▶ iPhone, Apple, Display, Shortage
- ▶ Antenna Issue, Drop calls, duct tape
- ▶ Bad reception, antenna, problem
- ▶ Refund, New phone, Long line

### iPhone - Hot Topics

Clusters for: iPhoneComplaintsAllData



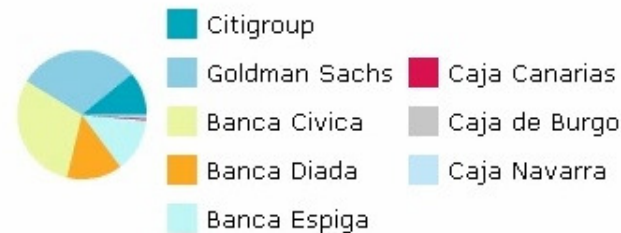
### Bank Stress Test Cloud View

Past 6 months, Relative totals

Banca Diada | Banca Espiga |  
Caja Canarias | Caja Navarra | Caja  
de Burgo | Cajas Regional |  
**Failed** | Passed |  
**Spanish Banks**

### European Bank Stress Test

Past 3 months, Relative totals



## Quick Start

### Activity

- ▶ Snapshots (4)
- ▶ Favorites (5)
- ▶ Tagged (11)
- ▶ Hidden (4)

### Quick Search

### Saved Searches

- 27" Imac
- All Brands
- Autonomy Explore
- EarlyIndicators722-23
- European Bank Stress Test
- EuropeanBankStressTestD
- Financial Services

### Topics

- ▶ Autonomy
- ▶ Contact Center
- ▶ Custom Topics
- ▶ Customer Examples
- ▶ Financial Services
- ▶ Investment Bank
- ▶ My Custom Topics

# Basis Technology: Multilingual Discovery

Cross Language Search for entities found in documents  
Search in English...

Odyssey INFORMATION NAVIGATOR

Rosette Linguistics Platform Rosette Name Indexer

Rosette Name Indexer ( cross-language fuzzy name search )

Iran Search

BASIS TECHNOLOGY

Home > Search for [ Iran ]

Page: 1 of 8

Current Search Filters

Person  
Mahmoud Ahmadinejad X

Filter Results By

Language

- ENGLISH 17
- PERSIAN 2
- ARABIC 2
- URDU 2

Person

- Hussein Moussavi
- Ali Khamenei
- Mohammad Khatami
- Mehdi Karroubi

Location

- Iran 68
- Tehran 43
- Greenwich 29
- Mir 23
- Israel 15

Results 1 - 10 of 71

BBC فارسی - ایران - ... مرکز غنی سازی ایرا ...  
23:18 گیتس: مرکز غنی سازی ایران را از نزدیک زیر نظر داشتیم - ایران - فارسی BBC  
چونینگرگ  
2010-02-06T17:17:04.506Z

نامہ 202  
باشند و برای ارتقای سطح کیفی و کمی و اجرای برنامه  
جمهوری اسلامی ایران  
276.30.71:71160-20-0102

Op-Ed Contributor - Lebanon's Triumph, Iran's Trav ...  
Op-Ed Contributor - Lebanon's Triumph, Iran's Travesty - NYTimes.com Op-Ed  
Contributor Lebanon's  
2010-02-06T17:01:38.989Z

Al Jazeera English - Middle East - Iran minister f ...  
Al Jazeera English - Middle East - Iran minister fired over fake PhD Tuesday, November  
04, 2008

Document Preview

BBC فارسی - ایران - ...  
مرکز غنی سازی ایران را از  
23:18 نزدیک زیر نظر داشتیم  
ریماتپمہ 26 مینشد - چونینگرگ  
1388 رهمہ 04 - 2009  
ناربا ی زامسی نغد زکرم: سبتیگ  
وا جہتشد رظنہ ریزک یدزد زا ار  
ہک درک لیکاتہ لہاہ نیع رد  
یہاہ نامزاسی پایزرا مجیتند  
Basis Technology

Find entities in many languages

Filter results by language and extracted (translated) names

# Trends in Information Access Today



- Aggregation
- Filtering and personalization
- Analytics on everything: content, users, actions, trends, events
  - For navigation, browsing and discovery, question answering, trending, location-based services, advertising, and marketing.
- New technologies and automation techniques for:
  - Information collection
  - Data normalization and relationship mining
  - Analysis across sources and data types
  - Visualization
  - Reporting and alerting
  - Collaboration and social business tools

# Unified Information Access



- Foundation for new information management and access stack for the enterprise
  - May replace data warehouses if application requires quick ad hoc access to large collections of heterogeneous information
  - Will replace, through evolution, the traditional enterprise search engine
  - Foundation for merging data plus content in big data applications
- 
- Center for emerging ecosystems of search based applications.
  - Platform vendors will gain adoption through search based applications



# Contact Information



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