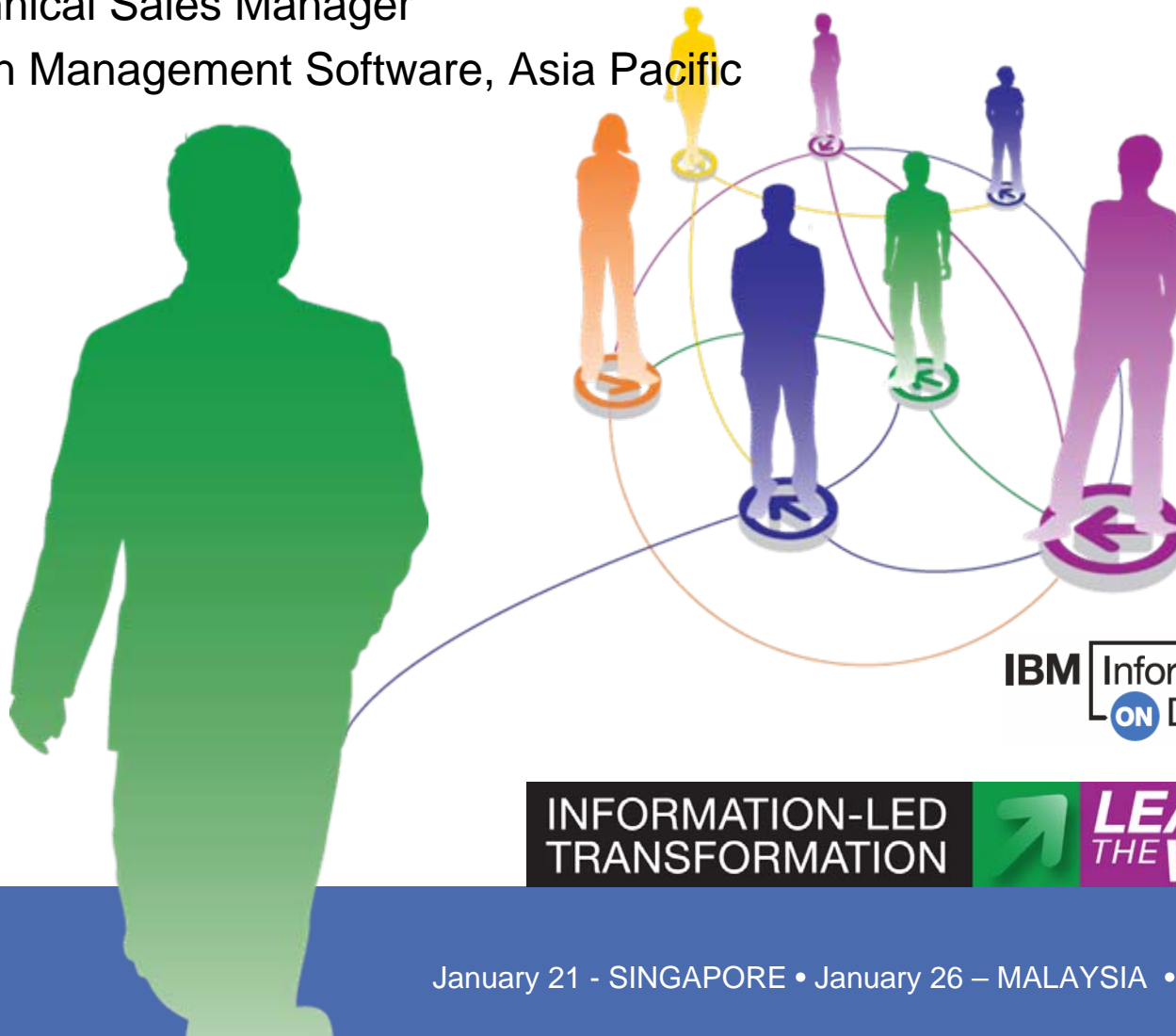


# *New Intelligence from Content: Content Analytics for BI and Assessment*

Presenter: Jason Ho

ECM Technical Sales Manager

Information Management Software, Asia Pacific



**IBM** Information  
**ON** Demand 2010

**INFORMATION-LED  
TRANSFORMATION**



**LEAD  
THE WAY**

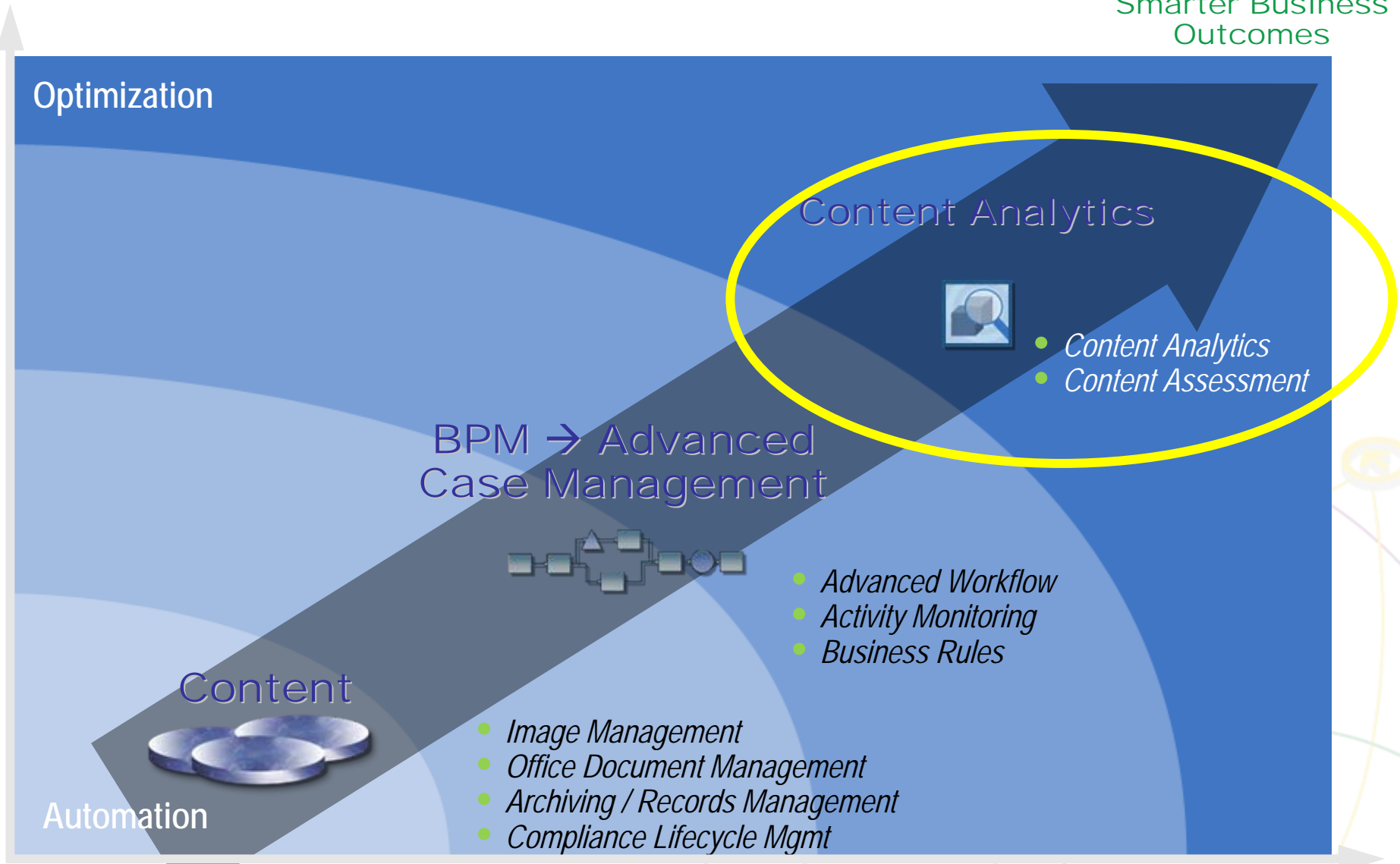


**IBM**

January 21 - SINGAPORE • January 26 – MALAYSIA • January 28 - THAILAND

# Analytics is Driving the Evolution of ECM

Smarter Business  
Outcomes



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# What our customers tell us...

1. **Keep too**  
because
  2. Can't **pin**  
hidden a
  3. Can't **trust**  
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issue
- because  
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"GO THRU THE FILES AND GET RID OF EVERYTHING THAT'S OVER TEN YEARS OLD.... BUT MAKE COPIES!"

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## IBM Cognos Content Analytics

- Evolving beyond the limited internal view of the business based only on structured transactions
- Unstructured content provides insight into the market view of the business based on employee, partner and consumer generated content
- Combining structured and unstructured leads to market driven decision making

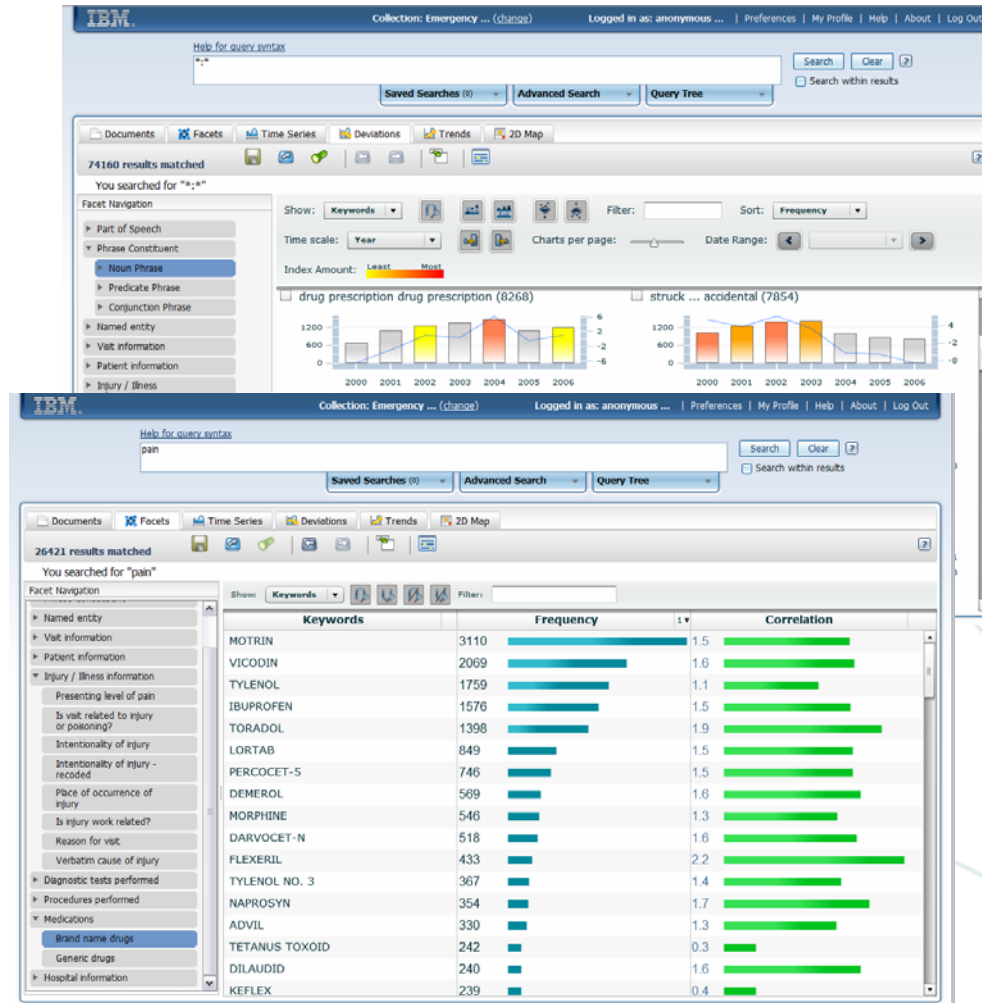


Evolving from Data Driven to Market-Driven decision-making.

# IBM Cognos Content Analytics

*Delivering a new class of analytics*

- IBM Cognos Content Analytics delivers new business understanding and visibility from the content and context of unstructured information
  - Trend and pattern detection and anomaly highlighting for focused research
  - Pre-built and customizable entity extraction and visualization
  - Combines content access, entity and context extraction, analysis and categorization with exploratory mining and operational reporting
  
- Integration point for structured and unstructured content
  - Integrates with and delivers analytics to Cognos 8 BI, InfoSphere Warehouse, IBM ECM, WebSphere Portal, and custom-built solutions
  - Provides ETL interface for unstructured content
  - Enables content integration between applications, systems and processes



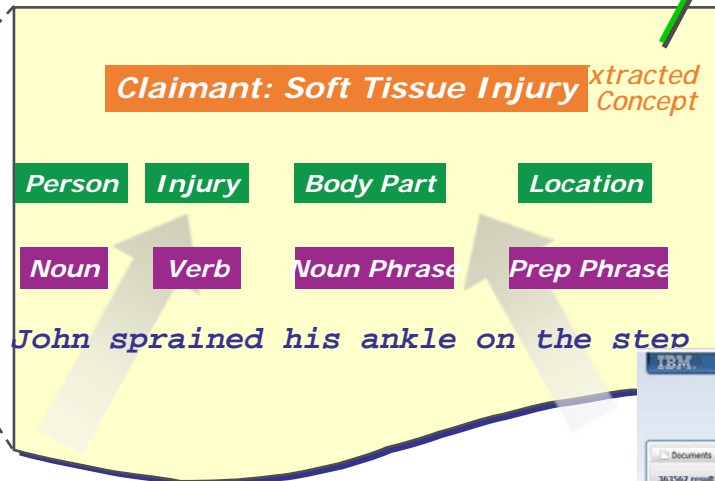
# Expand the scope to analyze unstructured content

## IBM Cognos Content Analytics

Pre-built and customizable entity extraction and visualization



Source Info  
(ECM, File, Web, DBMS, ...)



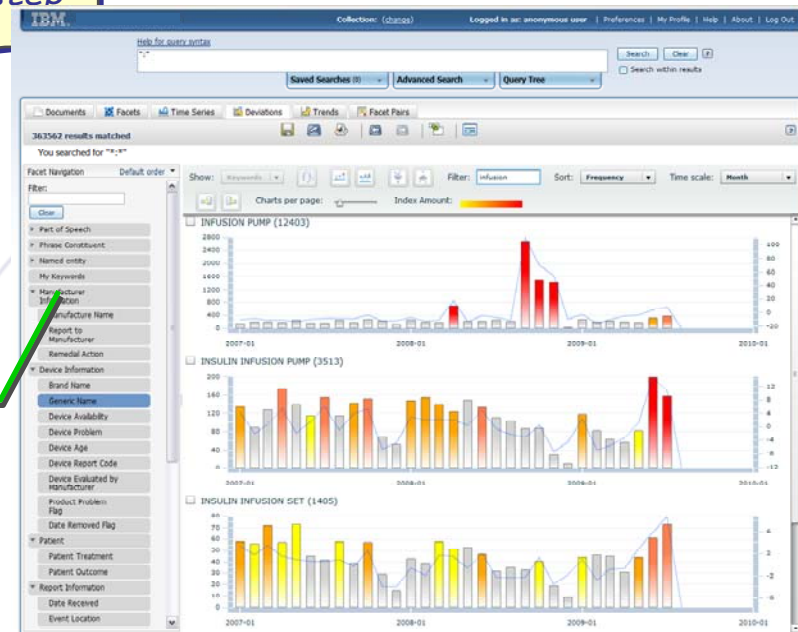
Analyzed Documents  
with identified concepts

Entity and context extraction, analysis and categorization

Automatic Visualization  
Concepts and tagged source information are visualized in UI

Trend and pattern detection, anomaly highlighting, analysis and categorization with exploratory mining and reporting

Based on UIMA, the open, industry-standard architecture for text analysis pioneered by IBM and now an OASIS standard and Apache open-source project

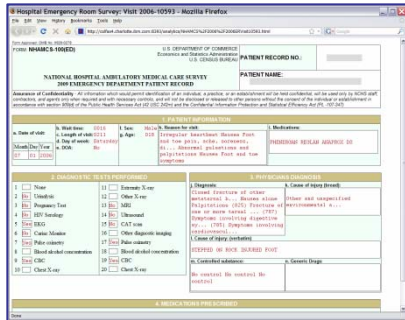


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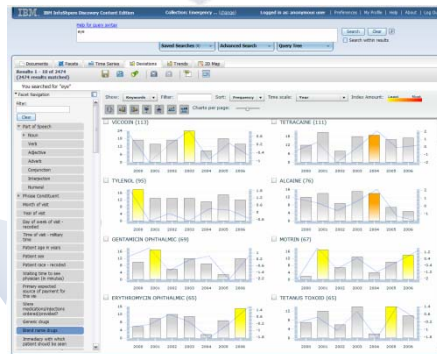
# Interactive Text Analytics

- Find facts and trends and make predictions across unstructured content and its associated metadata
  - Business analyst wants to use CCA text mining UI to find facts and trends and make predictions across unstructured content and its associated metadata
- Data (structured and unstructured) is wholly contained in CCA, uses CCA UI
- The analyst may need to bring in structured data to CCA to complement text data. This can be done one of these ways:
  - Combine the sources using ETL to create a new document
  - Use a crawler plug-in to take a metadata field and retrieve more data to create more metadata
  - Use a custom annotator to take an extracted field annotation and retrieve more data to create another annotation

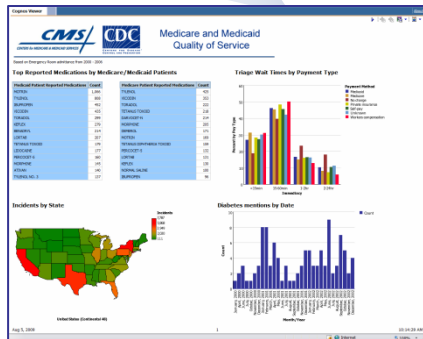
# Optimizing Healthcare



**Source Content**  
(ex: medical treatment record)



**Interactive Discovery**  
(ex: trend & outlier analysis)



**Operational Reporting**  
(ex: BI dashboard including content metrics)

- ➔ Content Analytics over patient care records provides **insights for business optimization**, such as:
  - Cross-provider comparisons of care effectiveness/efficiency for key conditions enables better provider management
  - Analysis of drug prescription patterns identifies opportunities for efficiency
  - Verification of patient compliance to home-care protocols helps optimize coverage models for efficiency
- ➔ Highlights best-practice pattern for effective **performance management** with content analytics
  - **Discovery**: exploratory analysis by business analyst to identify issues, opportunities, and content KPIs
  - **Tracking**: key content-derived metrics operationalized in BI reports, scorecards, dashboards, alerts
  - **Action**: organization is measured on operationalized metrics, driving action and closed-loop response

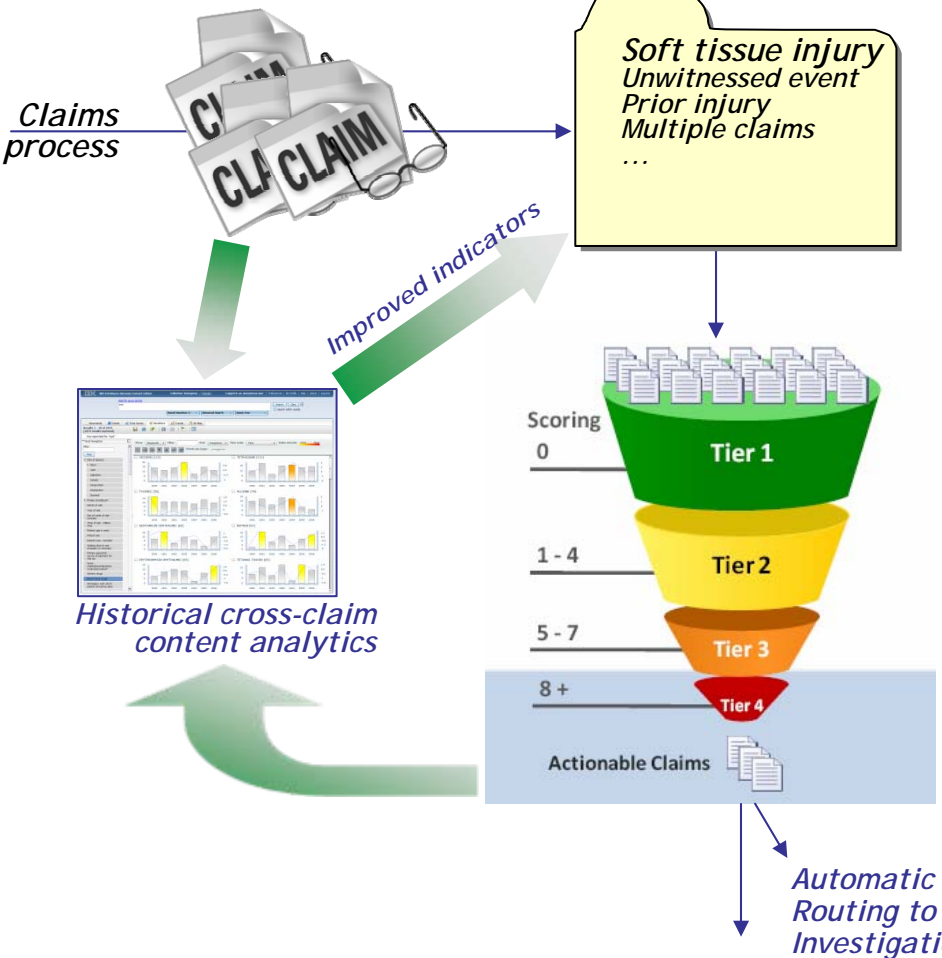
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# Smarter Insurance : Reducing Claims Fraud

*Content-analytics- based  
Predictive Fraud  
Indicators:*

*Soft tissue injury  
Unwitnessed event  
Prior injury  
Multiple claims  
...*



- Content analytics helps **optimize claims processing** through automated fraud detection
  - Automatic predictive analytics to identify and act on likely fraudulent claims
  - Analysis and reporting of fraudulent claim patterns for closed-loop improvement
- Typical results
  - Optimization of claims admin process
    - Increase automation of fraud handling
    - Expose inconsistencies in fraud examiners' procedure, driving training to improve quality
  - Reduce costs of paying fraudulent claims by 10% or more
  - Improve regulatory compliance via faster fraud detection & investigation

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# IBM Cognos Content Analytics for Consumer Insight

## *Hearing the Voice of the Customer*

### → The Opportunity

- Explosion of consumer feedback generated by social media
- Brand / Corporate Reputation and Product buying decisions are increasingly influenced by this feedback
- Companies that pro-actively monitor and manage this feedback can gain significant and sustainable competitive advantage

### → Consumer Insights solution:

- Filters news and social media to cull relevant feedback
- Analyzes feedback for mentions of brand, products and key topics and correlates with sentiment
- Provides a unique search based exploratory user interface combined with sophisticated Cognos reporting capabilities



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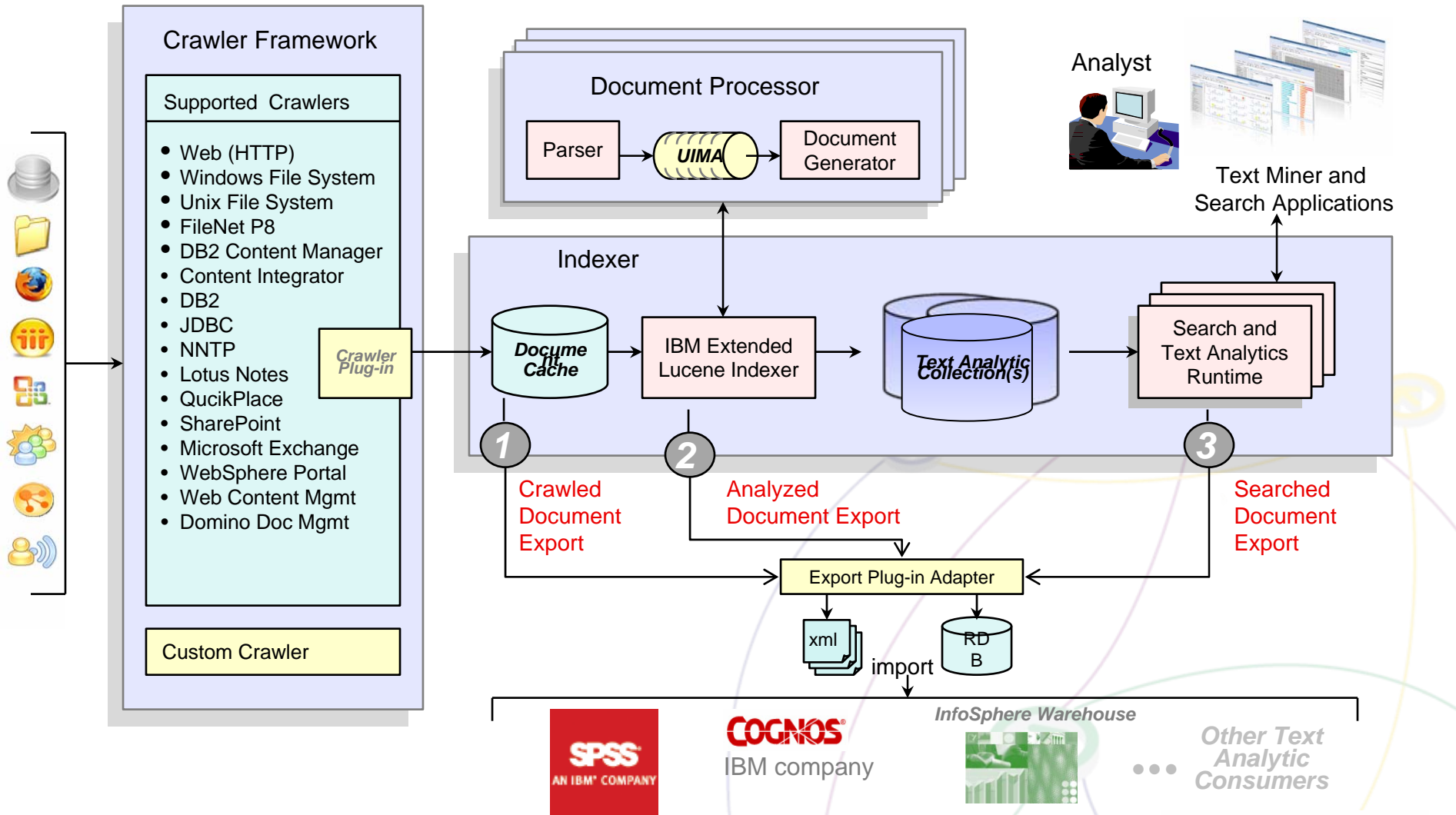
Cognos.  
software

ON Demand 2010

# Use it as Business Intelligence (BI) input

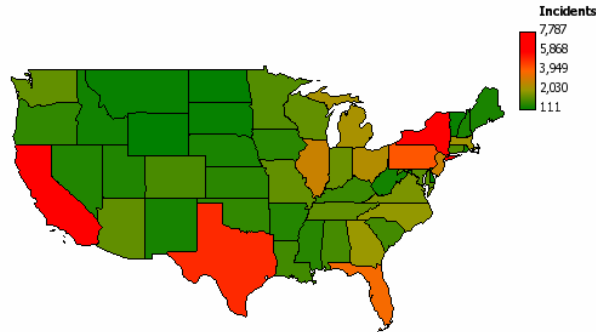
- CCA used as a preprocessing text analytics discovery tool for input to conventional BI tools
- CCA output exported to external data store (e.g., RDBMS)
  - Star schema for Cognos reporting and analytics UI dashboard
  - Triple store RDBMS for deeper data relationship analysis
- Scenarios:
  - Analyst at a customer wants to answer roll-up / BI questions spanning structured+unstructured data (show me this year's total revenue to date for all customers expressing negative sentiment during customer service interactions, rolled up by state)
  - Medical research using CCA data in BI env (MVZ Clotten has existing warehouse, use OFEE now to find documents and manually review). Must be able to incorporate i.e., MESH ontology, Snowmed

# Document and Analytics Export Capability

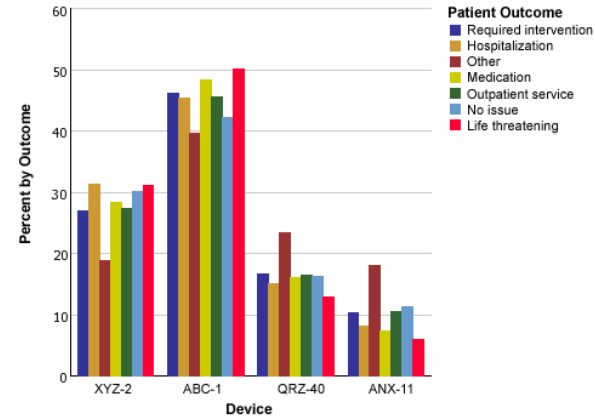


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Incidents by State



Patient Outcomes by Device

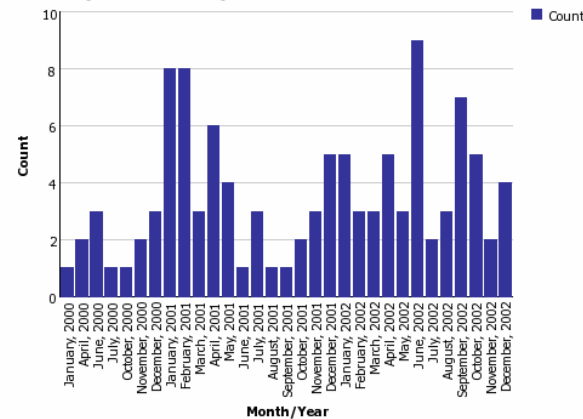


Top correlated medications reported by device

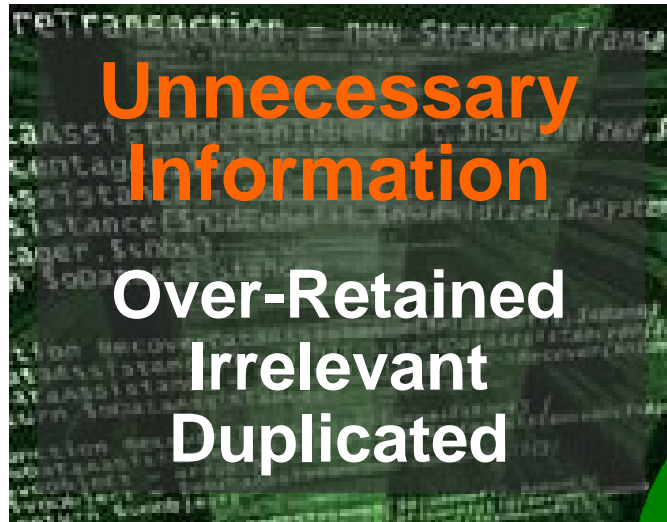
Top medications for XYZ-2		Top medications for ABC-1	
Medication	Count	Medication	Count
MOTRIN	1,066	TYLENOL	425
TYLENOL	808	VICODIN	353
IBUPROFEN	452	TORADOL	222
VICODIN	435	TETANUS TOXOID	218
TORADOL	299	DARVOCET-N	214
		MORPHINE	205
			171
			169
			159
			132
			131
			130
			100
			96

Through Cognos Content Analytics OLAP/Star Schema export ability, Cognos BI reports and dashboards can be created using any mined text, making it possible to operationalize the uncovered insights.

Battery mentions by Date

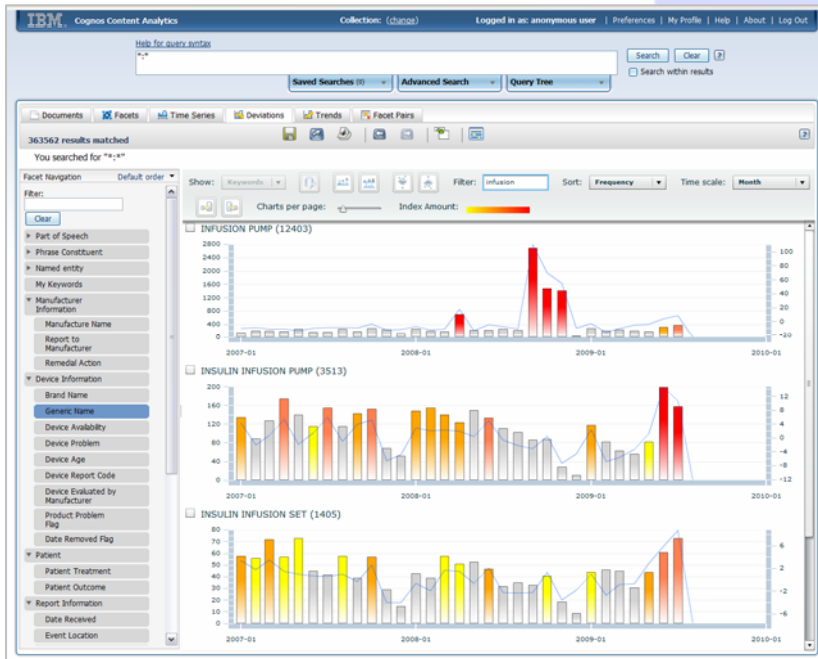


# Unnecessary Information Eclipses Necessary Information



*How much of your information is unnecessary?  
70%? 80%? 90%?*

# Content Assessment Enables Content Decommissioning



**Bloated Production Systems  
with Inefficient Storage**

**Content Based Systems  
Needing Retirement**

**Content In The Wild**



*Content Decommissioning helps  
gain control by eliminating  
unneded content and content  
systems while preserving  
valued content*

**One customer found 1200 copies of the same  
policy document, including 5 different versions,  
distributed across enterprise file servers**

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# IBM InfoSphere Content Assessment

*Leveraging Content Analytics to:*

1

**Dynamically Analyze** what you have

Aggregate, Correlate, Visualize and Explore your enterprise information in new ways to understand virtually all content types from multiple sources. Make rapid *decisions* about business value, relevance and disposition.

2

**Decommission** what's unnecessary

Save cost and reduce risk by eliminating obsolete, over-retained, duplicate, and irrelevant content – and the infrastructure that supports it.

3

**Preserve and Exploit** the content that matters

Collect valued content to manage, trust and govern throughout its lifespan in an enterprise-grade ECM platform. Uncover new business value and insight by integrating with solutions for eDiscovery, case management, master data management, business intelligence, predictive analytics and more.



# Typical Savings from Content Decommissioning

Content decommissioning, dynamic collection for eDiscovery lead to measurable ROI

## Cost Drivers

### Production System Tangible Costs

- Email / File / SharePoint Storage
- Production System Servers
- Backup

### Production System Productivity Costs

- Production System Administration
- End-User Administration / Classification

### eDiscovery Costs

- Data Spoliation (fines, lost or settled cases)
- Labor costs of providing the information

## Savings After Deployment

### Storage Management Tangible Savings

- 50%-80%
- 40%-60%
- Cost of backup media and storage

### Storage Management Productivity Savings

- 20% to 80%
- 70% to 90%

### eDiscovery Cost Avoidance

- Up to 100%
- Hours vs. Days

# Content Analytics enables Many Solution Opportunities

## Retail Banking Customer Care



- **Analyzing:** Call logs, online media
- **For:** Buyer Behavior
- **Benefits:** Improve Customer satisfaction, marketing campaigns, find new revenue opportunities

## Retail Customer Care



- **Analyzing:** Call logs, online media
- **For:** Brand Reputation Management
- **Benefits:** Improve customer sat, marketing campaigns

## Crime Analytics



- **Analyzing:** Police records, 911 calls...
- **For:** Rapid crime solving & crime trend analysis
- **Benefits:** Safer communities & optimized force deployment



## Healthcare Analytics



- **Analyzing:** Care records
- **For:** Clinical analysis; treatment protocol optimization
- **Benefits:** Better management of chronic diseases; optimized drug formularies; improved patient outcomes

## Automotive Quality Insight



- **Analyzing:** Tech notes, call logs, online media
- **For:** Brand Reputation Management
- **Benefits:** Reduce warranty costs, improve customer satisfaction, marketing campaigns

## Telco Customer Care



- **Analyzing:** Call center logs and emails
- **For:** Churn prediction and FAQ generation
- **Benefits:** Improved customer retention & customer satisfaction

## Insurance Fraud



- **Analyzing:** Insurance claims
- **For:** Detecting Fraudulent activity & patterns
- **Benefits:** Reduced losses, faster detection, more efficient claims processes

...and more!

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## New Intelligence from Content Summary

Deliver new insight from content assets by:

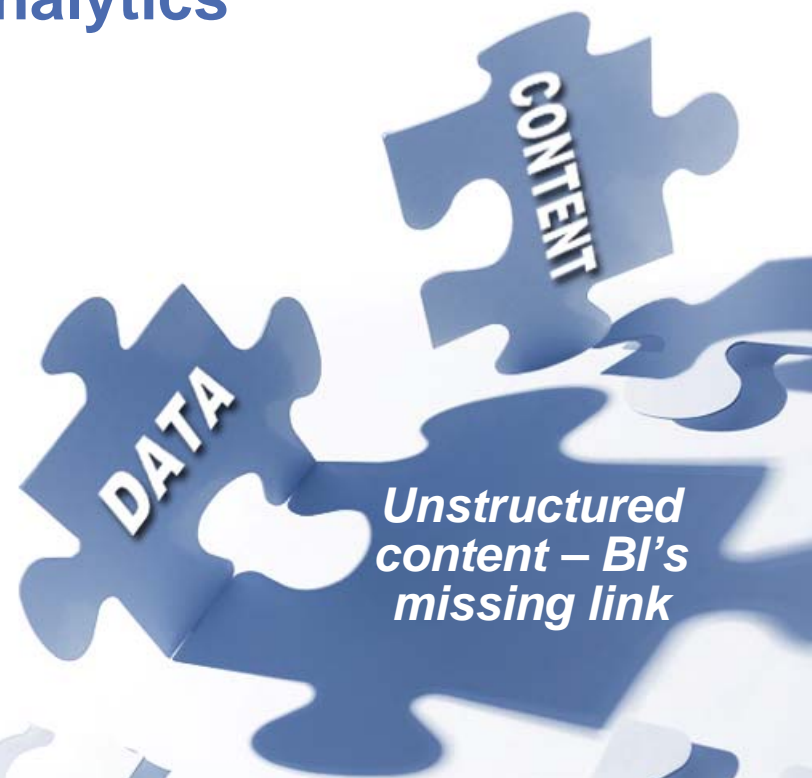
→ *Knowing* your content by dynamically analyzing it to make rapid decisions about it, to cut costs and optimize storage

→ *Trust* content to create more complete, in-depth single version of the truth as encapsulated in organizations' master data for customers/citizens

→ *Leveraging and exploiting* content to spot issues and important trends that may fall outside of the normal business reporting channels and deliver new insights to business users across the organization.

## Summary: IBM Cognos Content Analytics

- Evolving beyond the limited internal view of the business based only on structured transactions
- Unstructured content provides insight into the market view of the business based on employee, partner and consumer generated content
- Combining structure and unstructured leads to market driven decision making



Evolving from Data Driven to Market-Driven decision-making.

Thank  
YOU

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