



Smarter Analytics Live 2013

Turning information and insight into actionable business outcomes.

Exploring the Known Unknowns

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Technical Lead

17/04/2013

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Smarter**Analytics**





Presentation Overview

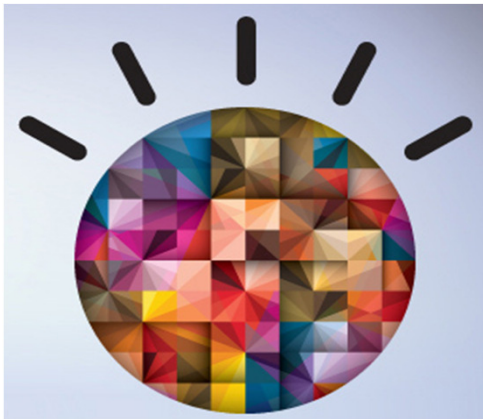
‘Increasingly, your knowledge workers are being challenged to develop business insight from unstructured enterprise content to help retain customers, reduce fraud and address new market opportunities. This session will enable business analysts to use a sophisticated yet easy to use technology that allows them to derive insight thru ad-hoc discovery of their structured and unstructured information anywhere.’



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Have you heard about BIG Data yet?



Volume – Big data comes in one size: large. Enterprises are awash with data, easily amassing terabytes and even petabytes of information.

Velocity – Often time-sensitive, big data must be used as it is streaming in to the enterprise in order to maximize its value to the business.

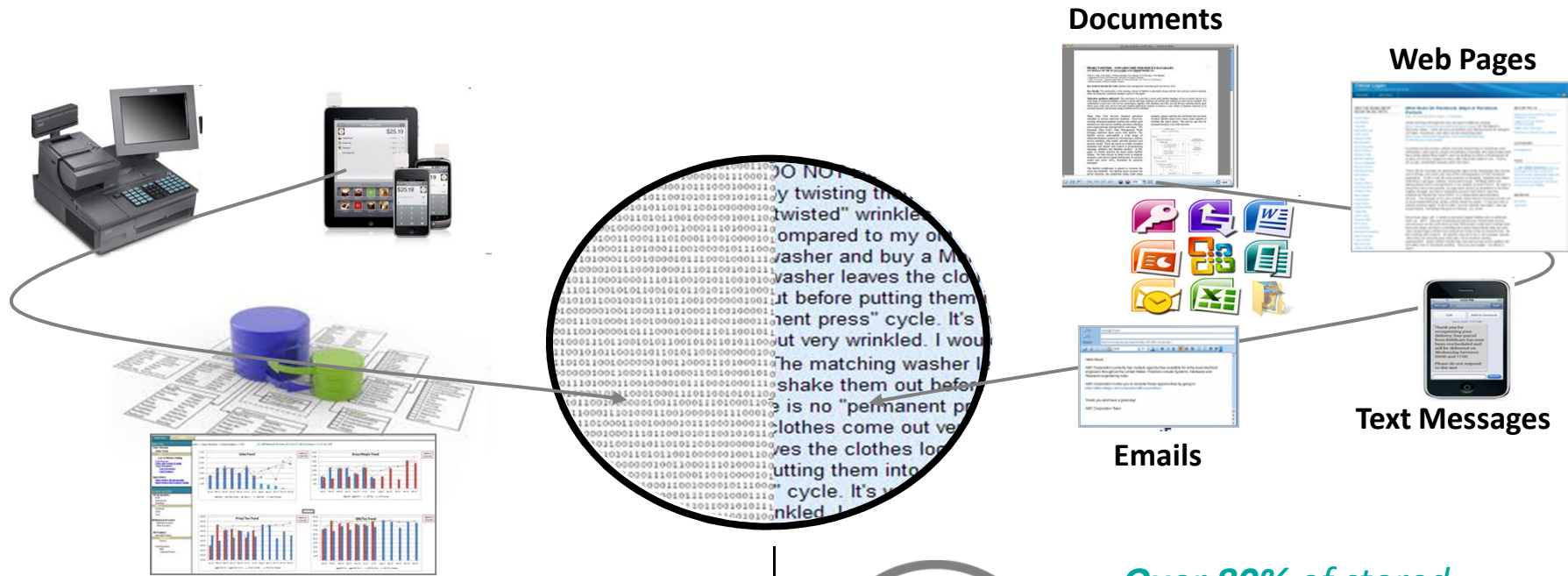
Variety – Big data extends beyond structured data, including unstructured data of all varieties: text, audio, video, click streams, log files and more.



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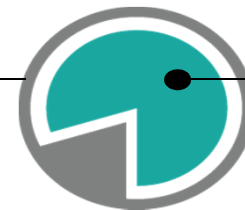
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The Information Divide



*Over 80% of stored information is unstructured**

** AIIM website, accepted industry percentage*



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Analytics is adapting from the Quantitative to Experiences, Behaviors, and Context



What

Sales missed due to out of stock inventory

20% customer attrition in the past year

Claims payouts over reserve by 8%

Increase in credit card transactions by Mr. Smith in the past 6 months joining online websites funded by terrorists groups

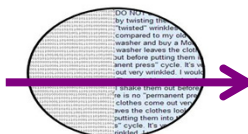
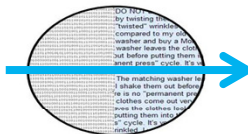
Why

Early indicators of **negative sentiment** when product is out of stock

Increased dissatisfaction with Smart phone plans and devices because overcharging for data access and “poor” battery life

Missed suspicious characteristics in description in 4% of claims submitted

Mr. Smith and Mr. Jared, webmaster of one of the terrorist-funded sites, **were both mentioned in the same email to organize assets** for an upcoming event



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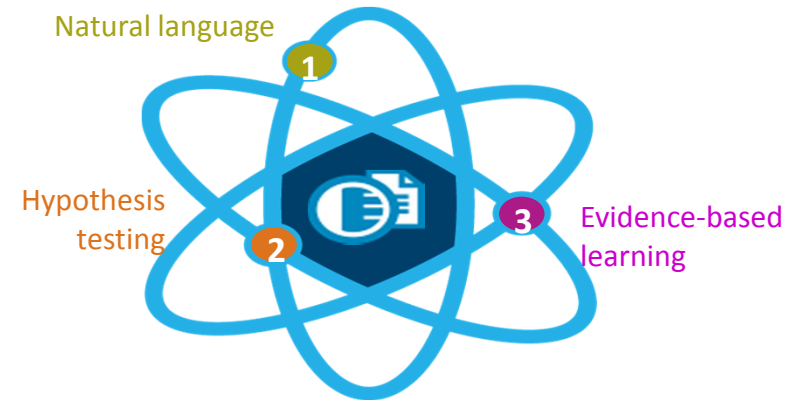
Derive new business insight rapidly by accessing, interpreting and analyzing unstructured content



- **Analyze** content to derive 360-degree visibility and insight into unstructured information
- **Search**, assess and analyze large volumes of text in order to understand and determine relevant insight quickly
- **Classify** content through contextual understanding
- Customize rapid insight to industry and customer specific needs



Only IBM brings together the technologies that define **the next generation of Smarter Analytics solutions** that can reason and learn



Moving your organization from search to discovery, from possibilities to probabilities, and from simple outputs to intelligent options

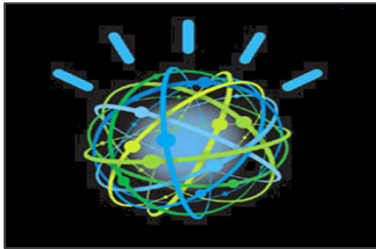


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Breakthrough **content analysis**

IBM Watson (Jeopardy)



“ ... an information seeking tool that’s capable of understanding your question to make sure you get what you want and then deliver’s that content through a naturally flowing dialog”

*Dr. David Ferrucci
Principal Investigator
Watson project*

Business Challenge

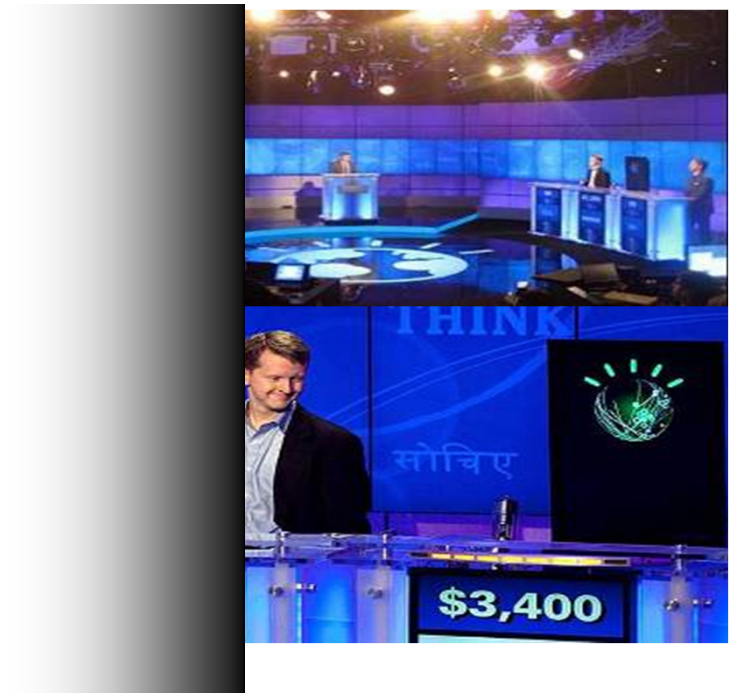
Advance the state of the art in broad domain Question Answer (QA) systems to enable breakthrough applications in many different industries.

What’s Smart?

Uses IBM Content Analytics in conjunction with other technologies to read, analyze and understand vast sources of unstructured content. Runs many algorithms in parallel to create, compare and determine confidence in candidate answers. Presents answers with a confidence level attached.

Smarter Business Outcomes

Will deliver value in limitless applications starting with clinical healthcare, customer care, government intelligence and beyond.



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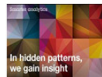


Solution Areas



Smarter Industry Solutions

Smarter Analytics



Advanced analytics capabilities to address critical business challenges and maximize business outcomes

Smarter Healthcare



Transform healthcare by revealing insights in the high impact overlap between clinical and operational – enabling low cost accountable care

Smarter Commerce



Better visibility into supplier relationships and new insights into customer demand

Smarter Cities



Better information sharing, allowing city leaders to prioritize and utilize resources more effectively and help increase public trust

Content Analytics Solutions

Customer Care



Analyzing Call center logs, emails, online media for buyer Behavior, churn prediction to improve Customer satisfaction and retention, marketing campaigns, find new revenue opportunities

Automotive Quality Insight



Analyzing tech notes, call logs, online media for warranty analysis, quality assurance to reduce warranty costs, improve customer sat, marketing campaigns

Crime Analytics



Analyzing case files, police records, 911 calls for rapid crime solving & crime trend analysis to provide safer communities & optimized force deployment

Insurance Fraud



Analyzing insurance claims for detecting fraudulent activity & patterns to reduced losses, faster detection, more efficient claims processes



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IBM is helping to transform customer care



Revealing product or service issues and understanding the **root cause** to take action for improvement – **reducing customer churn**

IBM Content Analytics for Voice of Customer

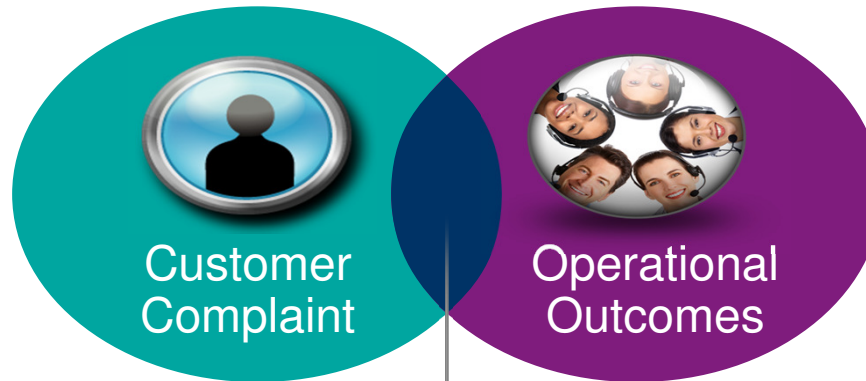
*Complaint
Categorization*

Trend identification

Root cause analysis

Sentiment Analysis

*Product / Service issue
identification*



Service Improvement

*Customer Churn
Prevention*

Risk Reduction

*Product Recall
Reduction*

- ✓ Improved customer care
- ✓ Identify and Resolve issues to reduce cost and save brand
- ✓ Improved product quality and service



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IBM is helping to reduce incidents



Revealing issues leading up to and around on site incidents **root cause** to take action for improvement – **improving safety and productivity of staff**

IBM Content Analytics for Incident Management

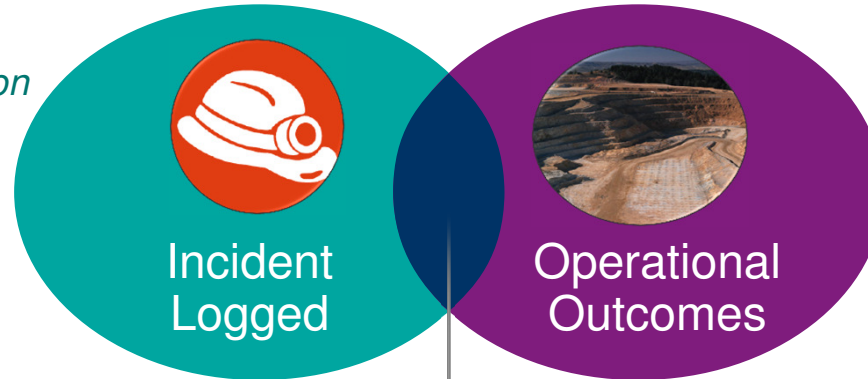
Incident Categorization

Scenario Analysis

Site Safety

Triage Provision

Best Practice



Site Safety Improvement

Improved Productivity

Reduced Risk

Best Practice Improvement

Lessons Learnt

- ✓ Improved employee safety
- ✓ Reduced employee downtime
- ✓ Improved product quality and service

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IBM is helping to transform Insurance



Revealing fraudulent and concerning patterns in claims - **reducing claims leakage**

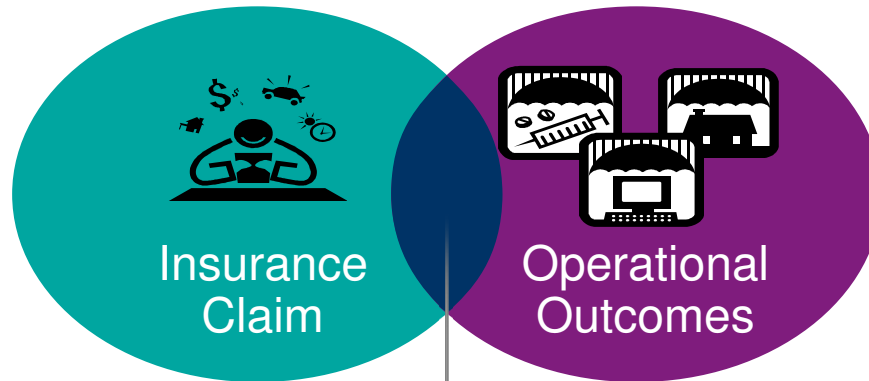
IBM Content Analytics for Insurance

Identify Fraudulent Claims

Spot issues with service providers

Identify PDS issues

Identify trends in demographics



Reduce Claims Leakage

Attract more customers with better products

Improved Brand

Reduced customer churn

- ✓ Reduce Claims Leakage
- ✓ Enhanced patient care with optimized outcomes



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IBM is helping to transform healthcare



Revealing clinical and operational insights in the **high impact overlap** between clinical and operational – **enabling low cost accountable care**

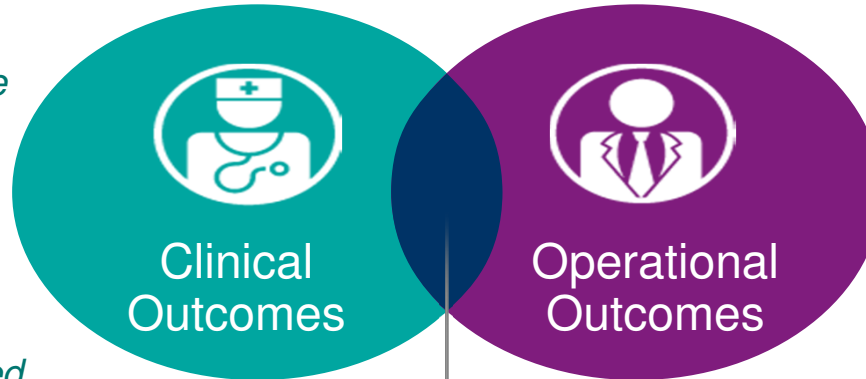
IBM Content and Predictive Analytics for Healthcare

Diagnostic assistance

Clinical treatment effectiveness

Critical care intervention

Research for improved disease management



Readmission prevention

Claims management

Fraud detection and prevention

Voice of the patient

Patient discharge and follow-up care

- ✓ Improved patient satisfaction at lower costs
- ✓ Enhanced patient care with optimized outcomes



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Text Analytics is the basis for Content Analytics



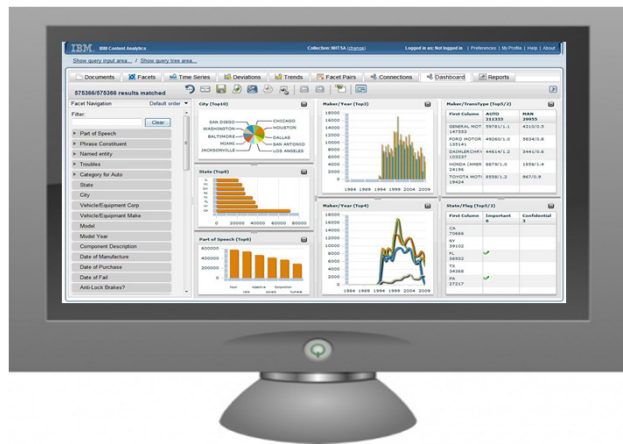
What is Text Analytics?

Text Analytics (NLP*) describes a set of linguistic, statistical, and machine learning techniques that allow text to be analyzed and key information extraction for business integration

Not only was the pick-up line at the **counter** very long, but I waited **30 minutes** just to talk to a rude **representative** who gave me a **car** that smelled like **smoke**, had **stained** floor mats, a **dented** fender, and only **half a tank of gas**



where	counter
time	30 minutes
person	representative
vehicle	car
issue 1	smoke
issue 2	stained
issue 3	dented
issue 4	half a tank of gas



What is Content Analytics?

Content Analytics (Text Analytics + Mining) refers to the text analytics process plus the ability to **visually identify and explore trends, patterns, and statistically relevant facts** found in various types of content spread across internal and external content sources

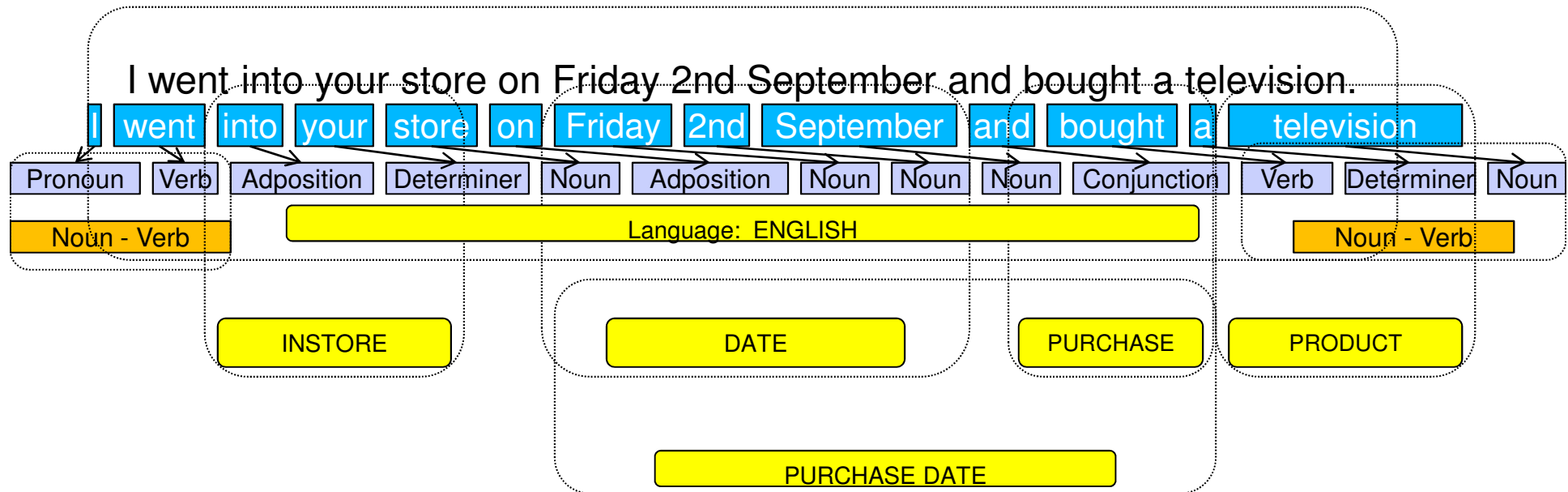


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* Natural Language Processing

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Text Analytics is the basis for Content Analytics



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Deeper contextual analysis with IBM Content Analytics



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Pickup/Delivery
Speed of Service
Counter

Attitude/Helpful/Friendly
Odor
Interior Cleanliness

Body Damage
Fuel Level

Deeper contextual analysis with IBM Content Analytics



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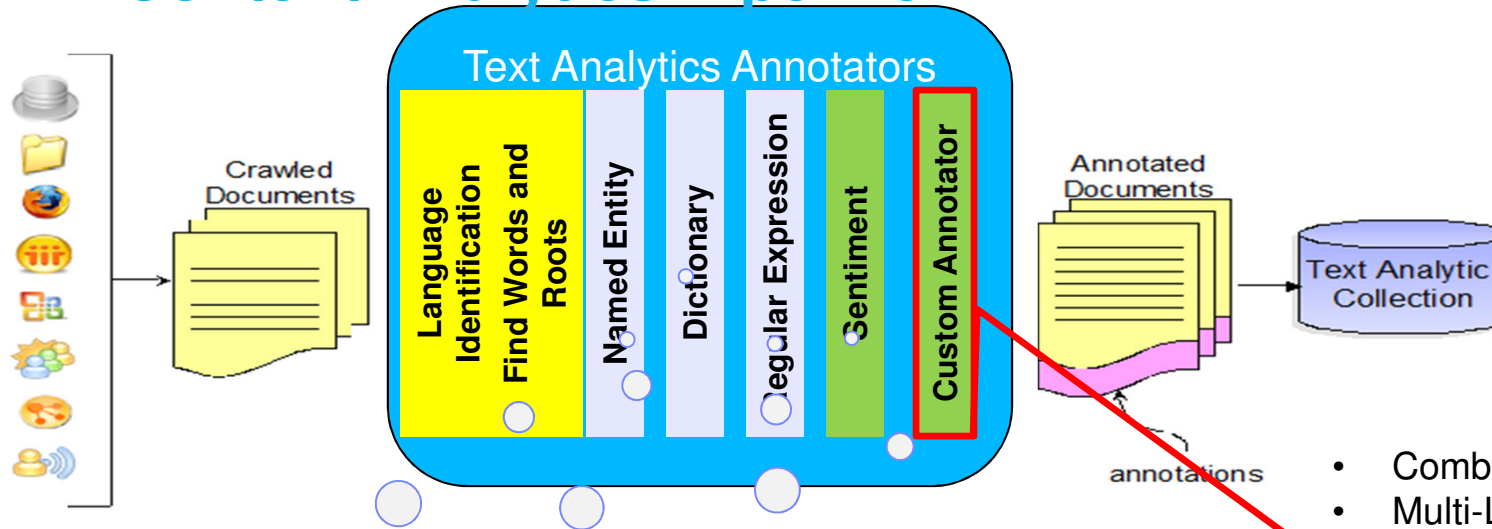
Fuel Level



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IBM Content Analytics Pipeline



Annotations extracted from documents:

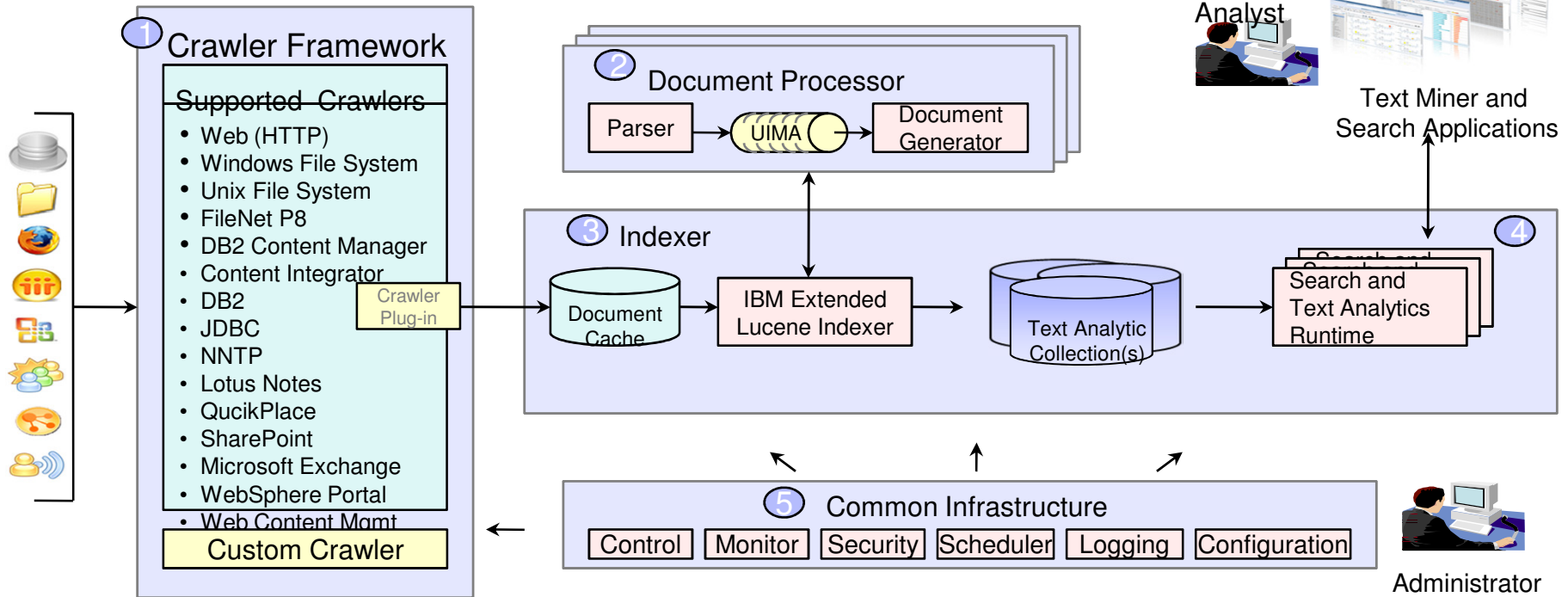
- People, Locations, Organization
- Equipment, Minerals, Injury
- Dates, Times, Cust. Acc. M
- Positive, Negative, Ambivalent

- Combination of:
- Multi-Level Dictionaries
- Text Expressions
- Spelling
- Phrase, and Document level parsing rules
- Normalization
- Custom Java

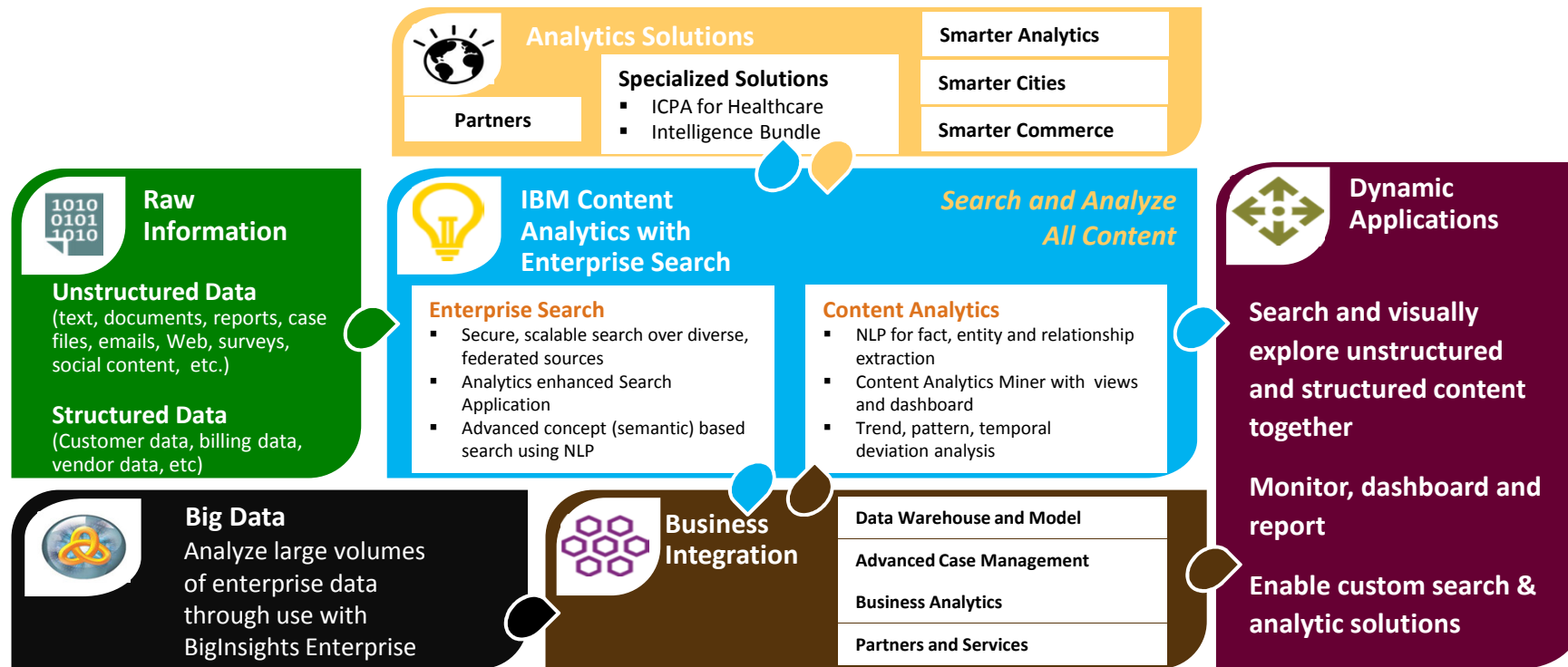
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Architecture Overview



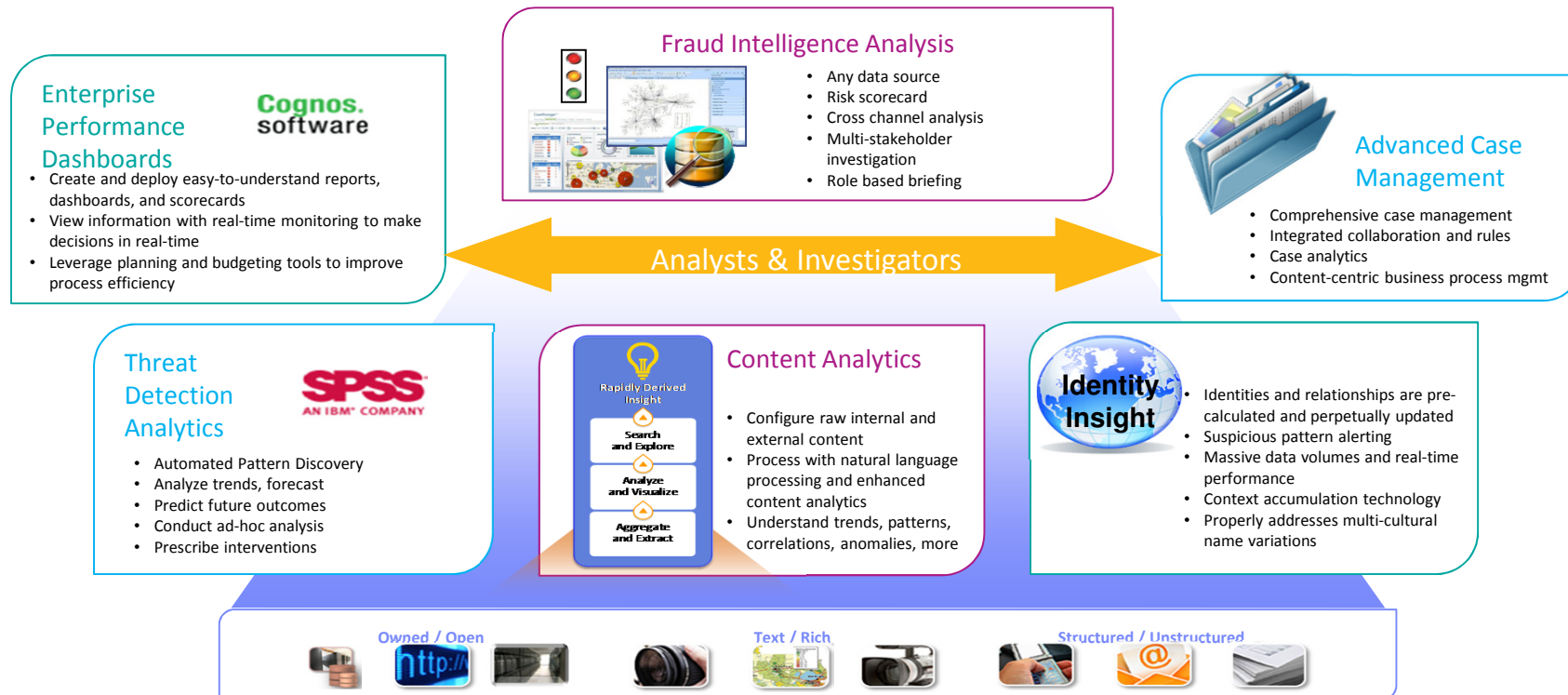
IBM Content Analytics – An Integrated Picture



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Intelligent Investigation Manager



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In Summary

- Transform raw information into **business insight quickly** without building models or deploying complex systems.
- Derive insight in **hours** or **days** ... not weeks or months.
- **Easy to use** for all knowledge workers to **search** and **explore** content.
- **Flexible** and **extensible** for deeper insights.



External and Internal Content (and Data) Sources including Social Media and More

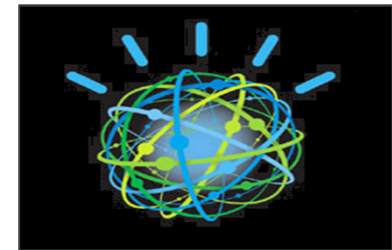


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Thank
You



adrian.barfield@au1.ibm.com

Join me to play
against Watson!



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