



Make Decisions In-Flight with Real-Time Monitoring

Harriet Fryman
Product Marketing
IBM Cognos Software

Business Analytics **Forum**



Topics for Today

- **Key business drivers for Real-time Monitoring**
- **Where Does Real-time Monitoring Fit?**
- **IBM Cognos Real-time Monitoring**
 - Benefits of Cognos RTM
 - Integration with Cognos 8 BI
 - Integration with Cognos 10
 - RTM Architecture
- **Customer Examples**
- **Demo**



Cognos 10: Intelligence Unleashed

Smarter Decisions. Better Results.



Freedom to **Think**,

Unified workspace,
All time horizons,
Progressive interaction.

Connect with Others

Decision networks,
Business context,
Accountability.

and Simply **Do**.

Mobile and Disconnected,
Integrated,
Real-time.



A revolutionary BI workspace
delivered on a proven platform
with seamless upgrade.



Simply Do

Actionable Anywhere

to bring insight to the point of impact

- IBM Cognos 10 delivers

Insight in mobile, real-time, and business processes giving organizations ability to **respond faster**:

- Adopt mobile to accelerate delivery of interactive analytics anywhere
- Address challenges of compressed decision cycles with real-time analytics
- Integrate analytics in everyday work and in workflow to inform business processes:

So organizations can: : Enable the organization to instantly respond to changing business conditions



C-Level Priorities – Real-time monitoring of business performance



Need for Information, Visibility & Control



Need for **access and transparency**- at all levels of the stack

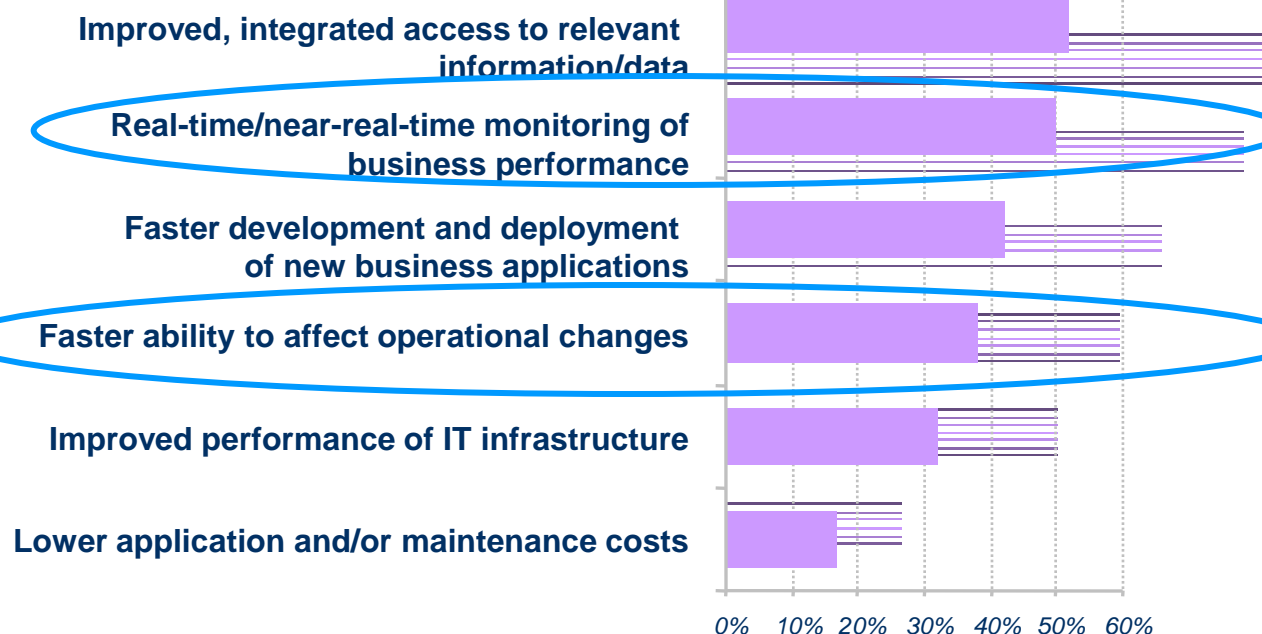
Business insight and performance **outcomes** all the way down to operations

Speed is of the essence

Anticipate and better **support change**

Q. What are the top 3 improvements that need to be made in your IT organization to better support your business?

(Top half of options shown)



Source: IDC's Services and Software Leading Indicators 2008



InformationWeek

August 29, 2009

4 Technologies That Are Reshaping Business Intelligence

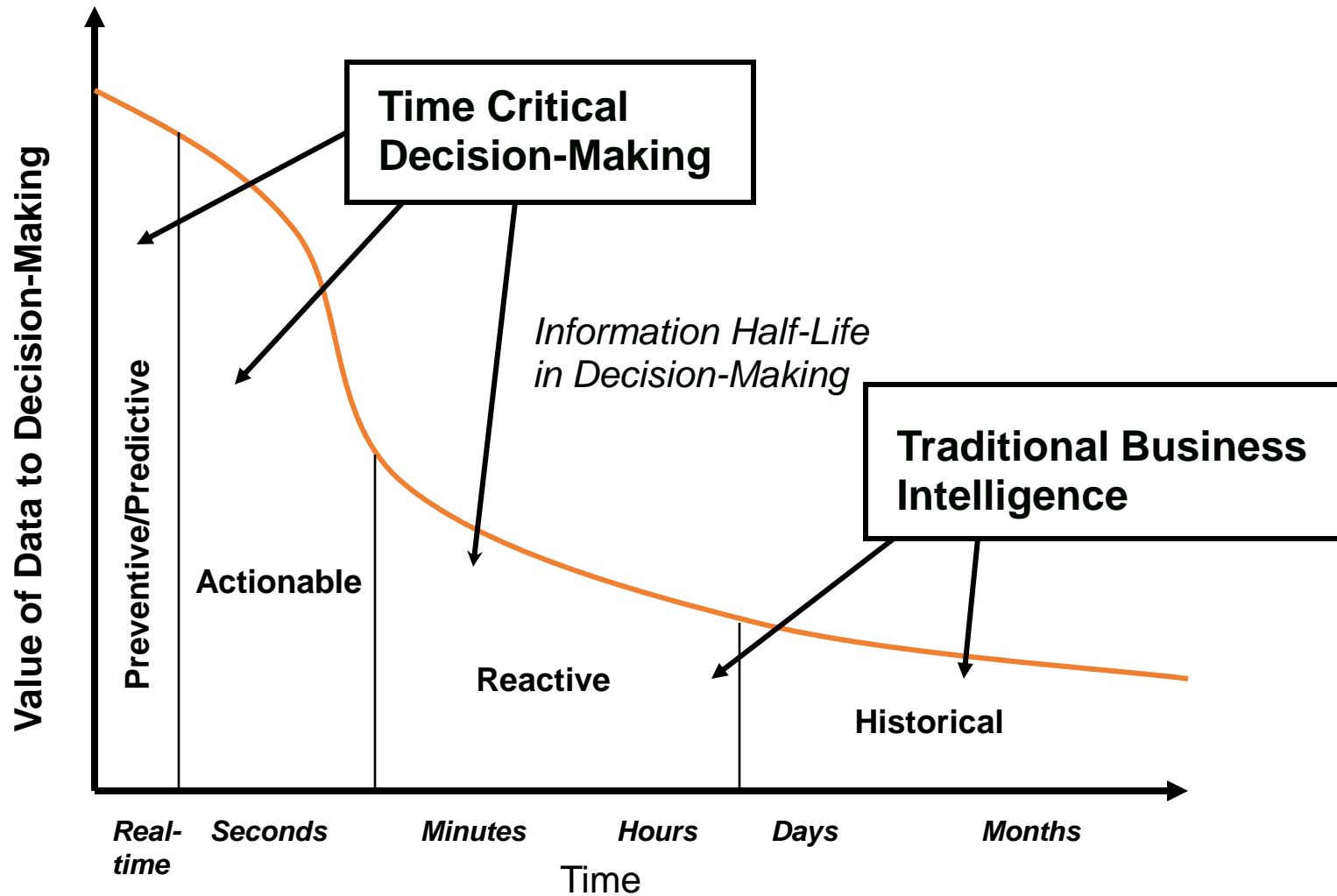
“Front-line managers and executives increasingly want to know what's happening right now--as in this second, not yesterday or even 10 minutes ago... “

“Real-time monitoring detects events or patterns of events as data streams through transactional systems, networks, or communications buses... stream processing technologies deliver sub-second insight that conventional BI can't touch.”





Faster Time To Action = Increased Value



Source: "Continuous Analytics: Stream Query Processing in Practice", Michael J Franklin, Professor, UC Berkley, Dec 2009





Where Does Real-time Monitoring Fit?

Cognos BI

Strategic BI

- Few decisions made quarterly, annually
- Senior audience including CEO, COO, business/financial analysts
- Financially oriented
- Monitored with scorecards and dashboards
- Understood with complex analysis and modeling
- Accurate, financially clean data
- Historical data
- Aggregate data sources

Tactical BI

- Daily, weekly, monthly decision support
- Mid-level management including director, VP level
- Manage by exception with alerting and collaboration
- Dashboards, reports, query and analysis
- Aggregate data sources, warehouse, operational
- Historical data; weekly, monthly
- Moderate data latency

Cognos RTM

- Driving 1000s of decisions on information now
- Broad audience of users across operational units
- Self service autonomy
- Take action with alerting and collaboration
- Dashboard, reporting against operating data
- Multiple, granular data sources
- Real time data inputs
- Low data latency





IBM Cognos Real-time Monitoring

Definition

- Continuous up-to-the-minute monitoring of operational metrics for front-line operational workers and managers

Solution Highlights

- In-memory streaming analytics
- Real-time events, alerts, and notifications
- Viewable within Business Insight

Drivers

- Long lag times waiting for information from data loads and reports
- Data is often stale or late for time-sensitive decisions
- Manual processes and actions lead to longer time to act

Benefits

- Reduced time to decision and action by accessing data with no latency
- Increased productivity among front-line workers with access to data for intraday decisions
- Improved productivity through proactive real-time notifications and workflow



Cognos RTM Enabling Technology: Stream Query Processing

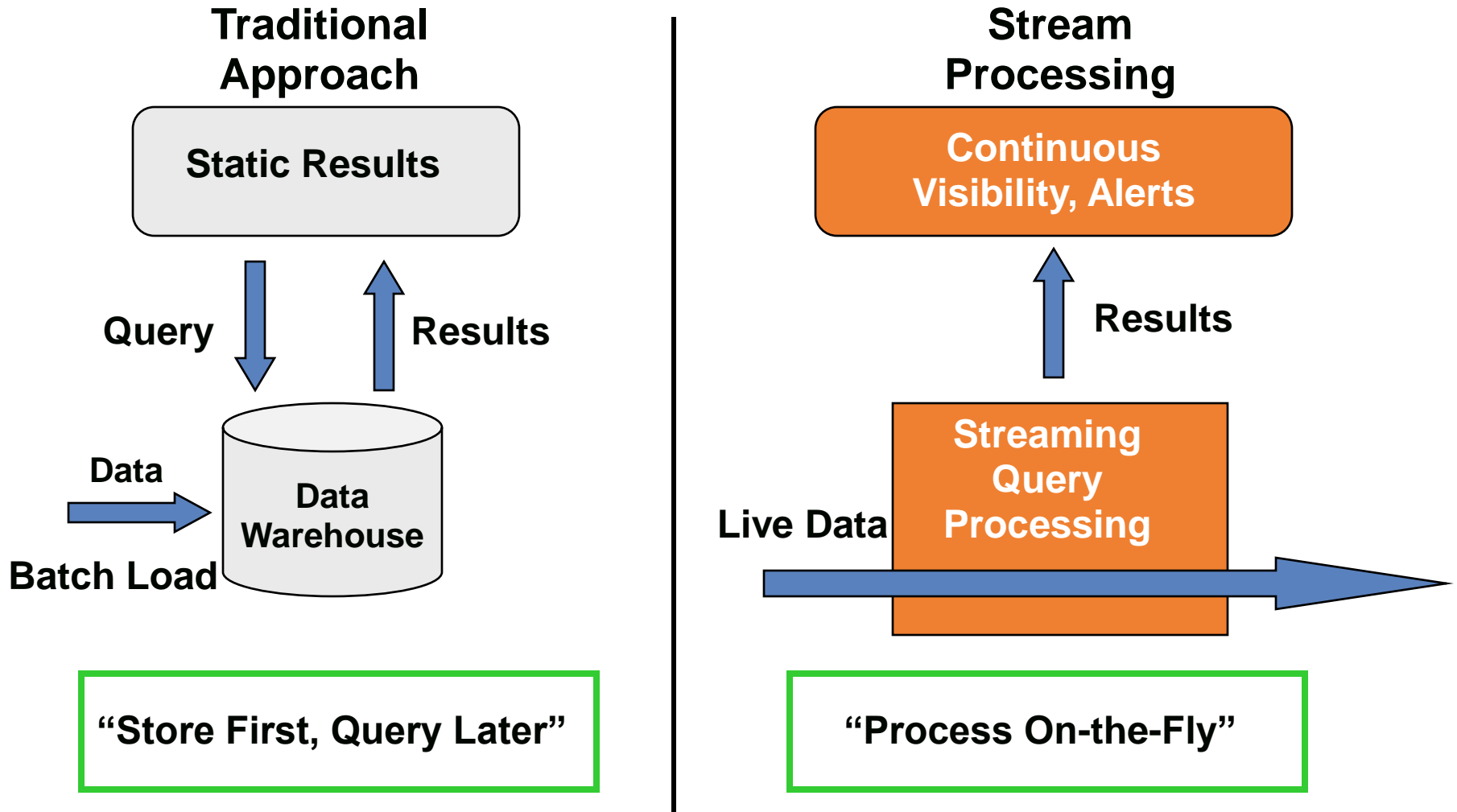


- What's a Stream?
 - Continuous, unbounded, rapid, time-varying streams of data elements
- Examples of Streams?
 - Sensor networks – RFIDs, wind power, ATMs
 - Telecom – call activity, service order requests
 - Financial applications – bank transactions, credit card transactions
 - Supply chain – manufacturing, distribution
 - Call center operations – inbound/outbound calls
- What is a Streaming Query Processing (aka: Streaming Data Store) ?
 - Supports continuous query processing (i.e. database-style query processing over on-the-fly data as they arrive)
 - Processes data in real time
 - Used for time-sensitive monitoring and alerting
- What is it not?
 - Not a permanent persistent data storage mechanism
 - Not designed for adhoc querying





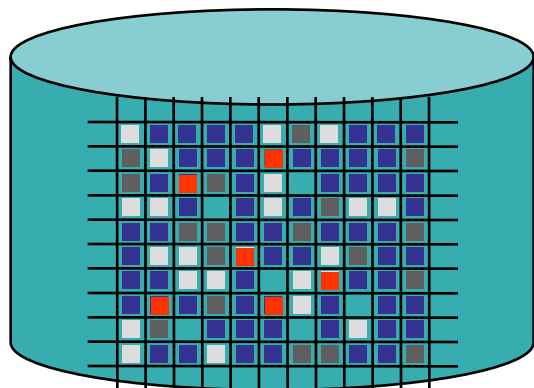
Stream Query Processing: The Basic Idea



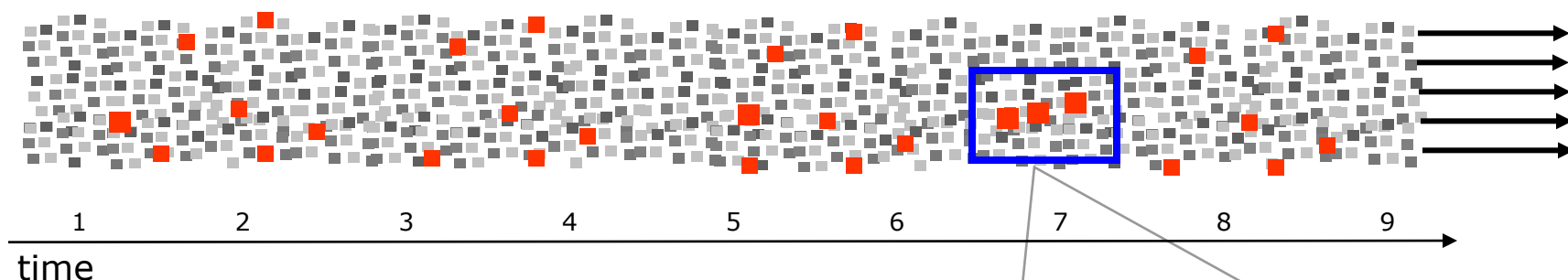
Source: “Continuous Analytics: Stream Query Processing in Practice”, Michael J Franklin, Professor, UC Berkley, Dec 2009



Database vs. Stream Query Processing Answer Different Questions



Database (Data at Rest): “How many new checking accounts did we open in our California branches last week?”



Streaming Data (Data in Motion): “When 3 credit card authorizations for the same card occur in any 5 second window in 3 different locations, deny the request and initiate security process for fraud.”





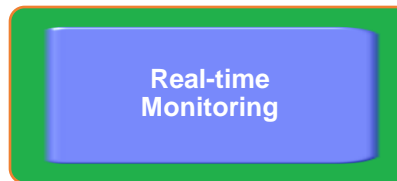
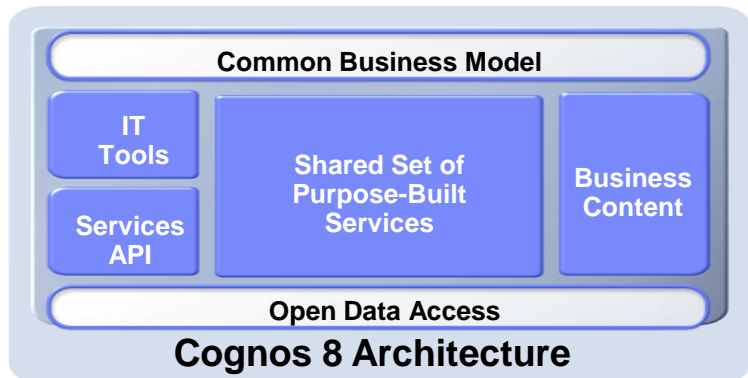
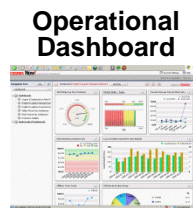
IBM Cognos 8 BI Integration

IBM Cognos 8 BI



Scorecard, Dashboard, Reports, Portal, Mobile

IBM Cognos Real-time Monitoring



Alerts
BPM Execution

Real-time OLAP cube



Operational Event Data

Message Sources, Streams



Aggregated real-time data persistence

Historical & Master Data





IBM Cognos 8 BI Integration

- IBM Cognos 8 BI can natively access IBM Cognos Real-time Monitoring cubes reflecting real-time in-memory data
- IBM Cognos Real-time Monitoring data can be persisted in a DB/DW and accessed via IBM Cognos 8 BI for historical and operational reporting & analysis
- Seamless out-of-the box support for single sign-on and LDAP between IBM Cognos 8 BI and IBM Cognos Real-time Monitoring



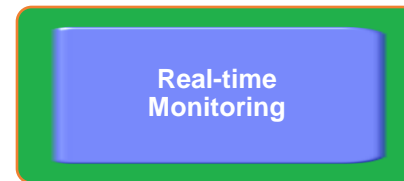
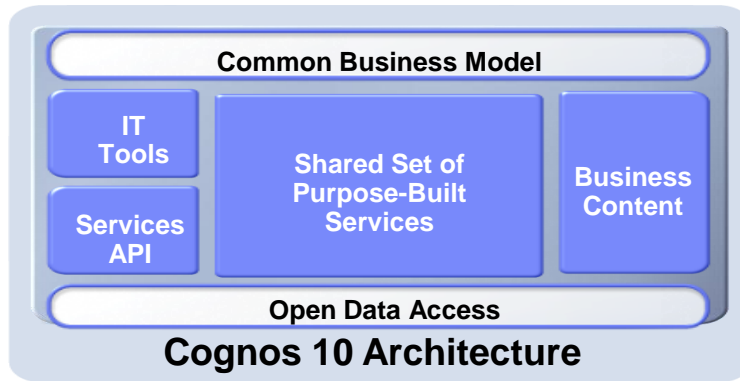


IBM Cognos 10 Integration

IBM Cognos BI
Scorecard, Dashboard, Reports, Portal, Mobile

IBM Cognos Real-time Monitoring

Operational Dashboard



Alerts

BPM Execution

Real-time OLAP cube



Operational Event Data

Message Sources, Streams

Aggregated real-time data persistence

Historical & Master Data





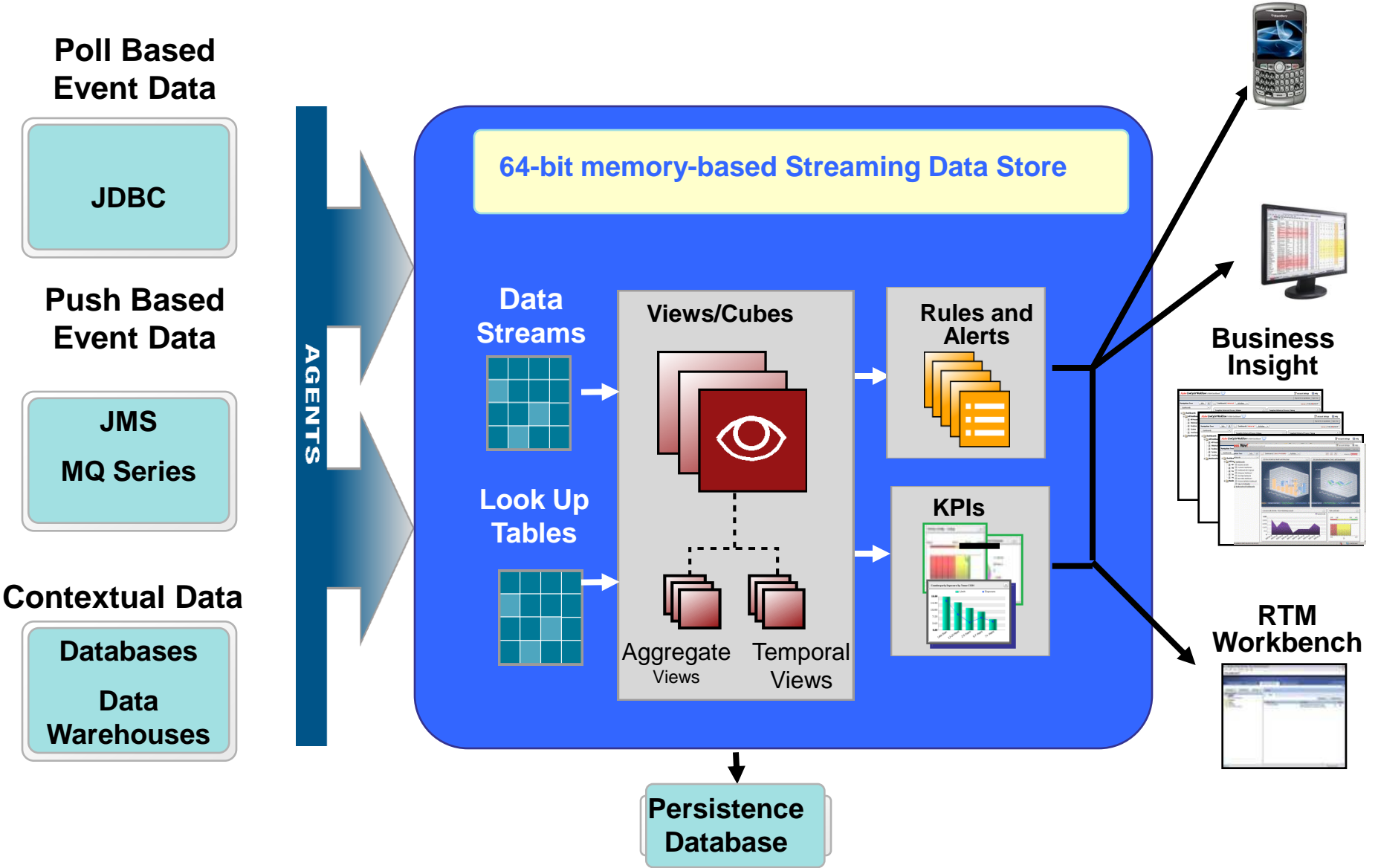
IBM Cognos 10 BI Integration

- Everything with IBM Cognos 8...and more!
- IBM Cognos 10 can natively access Cognos Real-time Monitoring cubes reflecting real-time in-memory data
- IBM Cognos Real-time Monitoring dashboard objects can be viewed inside Business Insight and Cognos 10 Reports
- RTM data can be persisted in a Database or Data warehouse and accessed via IBM Cognos 10 for historical and operational reporting & analysis
- Seamless out-of-the box support for single sign-on and LDAP between IBM Cognos 10 and IBM Cognos Real-time Monitoring





IBM Cognos RTM Architecture





A BI workspace that is the start of your day

Intuitive and easy to use it is the single place that you go to find and do your work.

IBM Cognos Business Insight

Solution Highlights

- Pre-assembled workspace content
- Search assisted authoring
- Drag and drop assembly
- Dynamically filter
- Quicker and deeper insight in to data
- Seamless graduated experience

Search for content

Pre-assembled BI Workspace

Slider to filter workspace information

Revenue Dashboard

Select a cost range: 2,000,000 to 18,000,000. Current range: 3,129,979.949955 - 17,818,700

Select values:

- (Select All)
- Distribution
- Marketing
- Production
- Raw Materials

Select years: 2008 - 2010

Labour Cost		2010	2008	2009	Total
Alpha	Reduced	\$356,239	\$386,063	\$620,341	\$1,370,643
	Standard	\$7,204,701			
	Overtime	\$2,659,336			
	Total	\$10,220,276			
Charger	Reduced	\$407,688			
	Standard	\$6,940,266	\$4,796,696	\$6,860,343	\$18,597,306
	Overtime	\$280,748	\$1,209,116	\$618,680	\$2,114,544
	Total	\$7,634,703	\$6,190,953	\$7,869,625	\$21,695,282

Becky Smith
Sep 6, 2010 12:08:38 PM
Filter applied
\$2,659,336 - Investigating spike in overtime costs
Show

Key Customer Challenges driving need for Real-time Insights



- Long lag times waiting for information from data loads and reports
- Data is often stale or late for time-sensitive decisions
- Difficult to combine and aggregate data from multiple disparate sources, real time
- Manual processes and actions lead to longer time to act
- Reliance on IT and other specialists to custom build or code for real time





Customer Examples – Call Center Operations

Key Business Requirements

- Needed real time consolidated view of customer service health/sales agent utilization rates/SLA performance
- Needed a single view of customer care performance throughout the organization in real time
- Difficulty tracking time sensitive SLA performance by 000s of customers
- Needed immediate and ongoing visibility of KPIs aggregated from 7+ data sources, quick deployment



Key Metrics (real-time)

- Calls in queue
- Calls answered in service (today)
- Call abandonments
- Agent response time
- Agent call handling time
- Agent resolution time

Solution

- Provided consolidated real time views of customer service health within the organization from multiple disparate source systems.

Results

- Ease and speed of deployment
- Clear line of sight for customer care mgmt
- Ability to adjust agent utilization immediately



Operations Center





Leading Canadian Bank – Intraday Payment Monitoring

Key Business Challenges



- Needed to track and monitor payment reconciliation in real time
 - Meet bank’s payment group’s service level objectives and required payment times to external parties
 - Establish a single vendor for historical reporting and real time monitoring
 - Architectural synergies between Cognos 8 BI and Cognos Now!
 - Real time alerting for exception notifications – out of bounds processing times, bottleneck occurrences, customers at risk, service disruptions

Key Metrics (real time)	Solution	Results
<ul style="list-style-type: none"> ▪ Real time monitoring of high value payments process flow ▪ Payments within and outside cutoff limits ▪ Customer cutoff identification ▪ Process flow by time/by customer 	<ul style="list-style-type: none"> ▪ Providing consolidated real time view of payments process flow by vendor/time/\$\$ value ▪ Alerting to appropriate team members for out of bound payments, bottlenecks or customer at risk 	<ul style="list-style-type: none"> ▪ Maintain established service levels ▪ Better insight into process bottlenecks decreasing time to act ▪ Improve straight-through processing rates ▪ Reduce service disruptions and operating costs





Shopping Network Distribution Center Monitoring

Key Business Challenges

- Needed to ensure that customers received shipments within guaranteed timeframes
 - Must monitor delivery status to correct distribution and supply chain problems in real-time
 - Reduce extra-shipping costs that would be incurred without remediation intraday



Key Metrics (real time)

- Monitors fulfillment process status end-to-end
- Alerts generated on exception conditions found in delivery processes
- Individual worker productivity
- Shipping and supply chain management- minute-by-minute

Solution

- Streaming of complex fulfillment process through revised supply chain management system
- Correlates forecast information with real-time data management to provide granular visibility into warehouse activities

Results

- Real-time metrics based on multiple event sources keep the fulfillment system running at peak efficiency (166 million units/year)
- Management can intervene immediately to avoid additional shipping costs while retaining customer satisfaction





Insurance.com – Leveraging RTM with BI



- Counts 800 000 policyholders in its ranks
- Processes 1 million comparison quotes annually
- 150 sales center agents, 80 on a 24/7 basis
- Cognos BI is leveraged at all levels in the organization
- Real-time technology was implemented to deliver operational views to continuously monitor key performance indicators and operational metrics from disparate data sources within the business
- Cognos cubes are allowing business users to gain insight into the business, some just minutes behind production

“...the new system provides up-to-date, actionable intelligence for rapid, fact-based decision-making, especially key for Insurance.com's line operations ..”

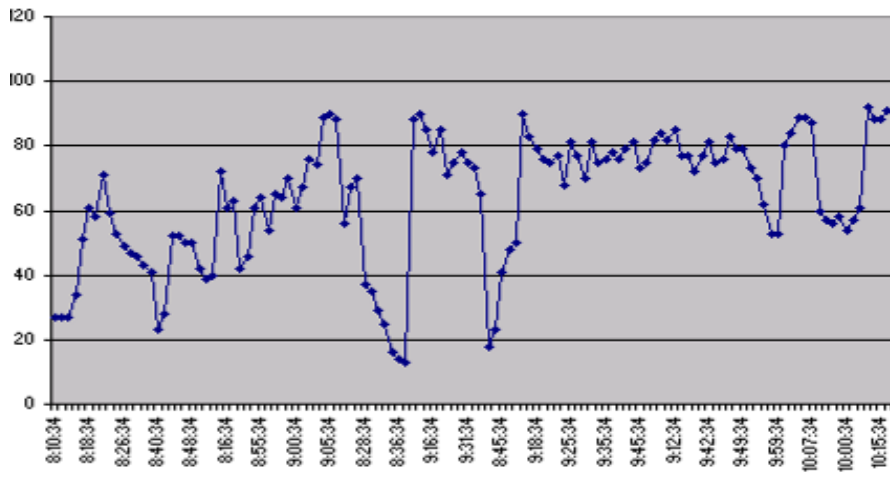
Insurance Networking News, November 1, 2009
http://www.insurancenetworking.com/issues/2008_67/insurance_call_center_technology_Insurance_com_customer_service-23522-1.html



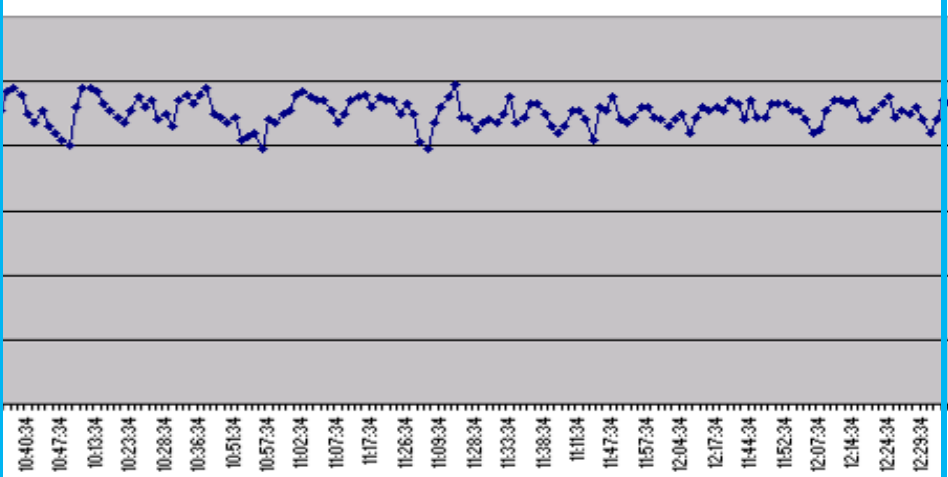
Business Impact



Monitoring Turned Off



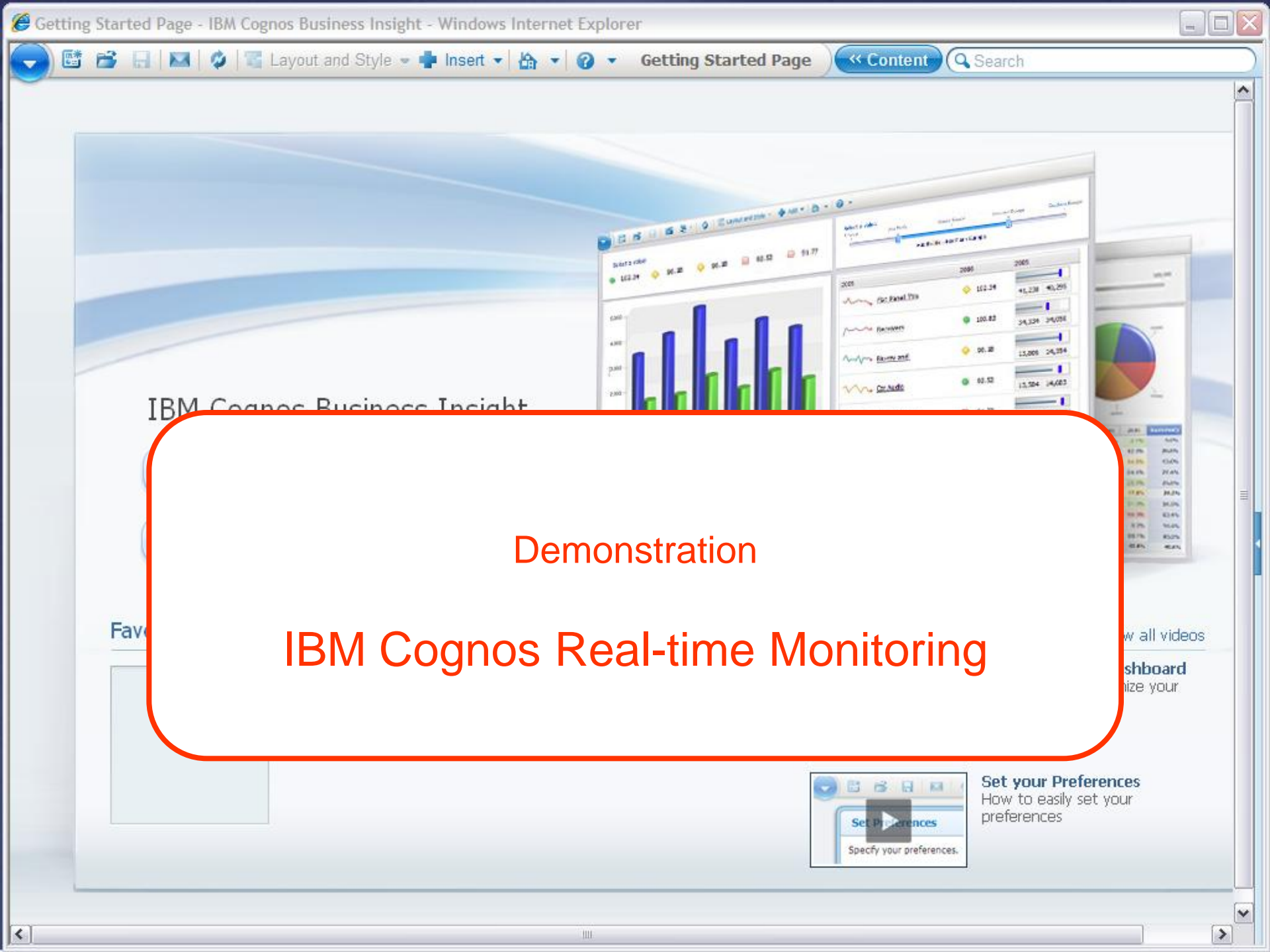
Monitoring Enabled



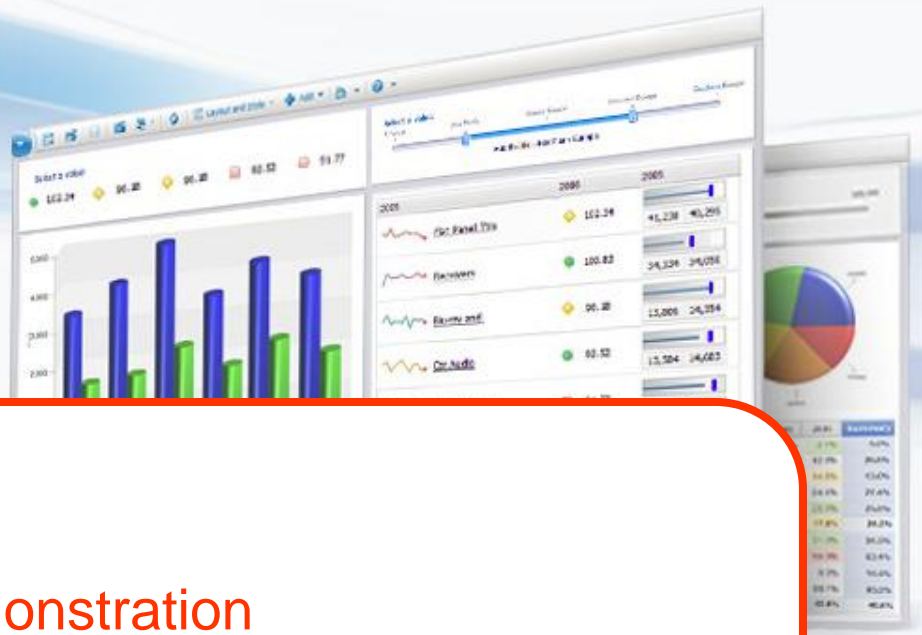
- Incorrect allocation of inbound availability vs. outbound activity
- \$240 - \$360 of wasted agent cost per hour

- Managers actively notified and taking corrective action
- Throttle agent activity
- **44% increase in deal close rates** when utilization between 88 - 94%





IBM Cognos Business Insight



Demonstration

IBM Cognos Real-time Monitoring

Fav

View all videos

Dashboard
customize your



Set your Preferences
How to easily set your preferences

Cognos 10: Intelligence Unleashed

Smarter Decisions. Better Results.



Freedom to **Think**,

Unified workspace,
All time horizons,
Progressive interaction.

Connect with Others

Decision networks,
Business context,
Accountability.

and Simply **Do**.

Mobile and Disconnected,
Integrated,
Real-time.



A revolutionary BI workspace
delivered on a proven platform
with seamless upgrade.



WIN *an Apple[®] iPad*

Please remember to complete your session evaluation online at the Communication Station or point your Smart Phone browser to:

www.spss.com/goldcoast



For a chance to win an Apple[®] iPad





Thank You

Business Analytics **Forum**