

Big Data : IBM développe de nouvelles expériences client et renforce son portefeuille d'offres

Paris - 05 nov. 2013: A l'occasion de l'édition 2013 du Information on Demand Forum (IOD Forum), IBM a annoncé de nouvelles collaborations en matière d'informatique cognitive et d'analyse prédictive :

- IBM et le Denihan Hospitality Group, groupe familial propriétaire de 14 hôtels à travers les Etats-Unis, ont annoncé leur collaboration dans le cadre d'un projet Big Data. Grâce aux technologies analytiques IBM, de multiples aspects stratégiques et clés de ce groupe hôtelier seront améliorés tels que l'expérience client, la personnalisation des campagnes de marketing, la productivité des équipes...
- IBM a également annoncé une collaboration avec le Memorial Healthcare System qui utilise ses solutions IBM Big Data Analytics et Smarter Content Management pour lutter contre la fraude et réaliser des économies de plusieurs millions de dollars.
- L'Emory University Hospital utilise aussi des solutions IBM dans le cadre d'un projet de recherche de pointe. Ce projet a pour finalité d'instaurer un flux continu de données sur des patients afin d'aider les médecins dans leur diagnostic en particulier sur la détection des premiers signes critiques (niveau 3).

Lors de l'IOD Forum 2013, IBM a également dévoilé trois nouveaux logiciels qui permettront aux entreprises d'analyser très rapidement - en quelques minutes seulement - des informations extraites des données et de mettre en place des actions suite à ces analyses, sans compétence particulière. IBM continue également d'aider ses clients à exploiter de très grandes quantités de données avec un nouveau logiciel d'analyse à haut débit via l'expansion de la solution IBM Blu Acceleration.

IBM Expands Big Data Portfolio with New Predictive Intelligence Software

Extends Leadership with Software Designed to Speed Analytics Deployments

LAS VEGAS - 04 Nov 2013: Today, at [Information on Demand Forum](#) (#IBMiod), IBM (NYSE: [IBM](#)) announced a variety of new offerings that leverage [cognitive computing](#) and [predictive analytics](#) technologies to help companies more easily predict and respond to opportunities and [challenges hidden in data](#). IBM is also helping clients to harness massive amounts of data with new high speed analytics software by expanding [IBM's BLU Acceleration](#) portfolio.

New software will enable clients to apply foundational elements of cognitive intelligence throughout their information technology (IT) infrastructure. This will enable employees to gain insights from [Big Data](#) instead of

focusing on how to cope with its sheer volume. Such insights can help predict and prevent IT downtime, improve productivity and generate cost savings.

Today, organizations are increasingly faced with [managing a complex IT system](#) of servers, networks and applications. Combined with the proliferation of mobile and cloud computing environments, these systems can generate more than 1.3 terabytes of data per day, including log files, software error alerts, IT service tickets and network configuration updates. This can result in more than one million “events” or system alerts per day, some of which are critical to performance and others that are irrelevant, which can bog down systems administrators.

These are [IBM's latest Big Data technologies](#) to help organizations transition to a new era in computing where systems can learn, reason, sense, predict and enhance decision making. [Cognitive systems](#), such as IBM's [Watson](#), can “understand” the context within users’ questions, uncover answers from Big Data, and improve performance by continuously learning from experiences.

*“As the value of data continues to grow, the differentiator for clients will be around predicting what could happen to help transform their business with speed and conviction,” said **Steve Mills, senior vice president and group executive, software and systems at IBM.** “IBM’s latest set of solutions allow clients to help predict customer behavior and outcomes with speed and ease, all delivered from the cloud.”*

Cognitive Computing and Predictive Analytics Soar into the Cloud

Organizations typically discard or archive IT operations data, preventing them from tapping a valuable business resource. Now with [IBM SmartCloud Analytics - Predictive Insights](#), they can sift through terabytes of IT operations data in real time, spotting only the trends that are critical to IT network performance. The software’s cognitive computing capabilities learn, reason and sense an organization’s IT systems. As business and performance conditions change, the software adapts, updating settings and eliminating inadvertent but costly errors caused by poor system configuration. This new technology will run on the SoftLayer infrastructure, which will be the foundation of IBM's cloud portfolio.

Working with IBM, [Consolidated Communications](#), a leading telecommunications company, expects to save \$300,000 annually in reactive costs alone by analyzing IT operations data. The company sets and monitors more than 80,000 performance standards, such as connectivity speed and television frequency levels for each of its 500,000 clients. The cognitive intelligence in the IBM software learns and predicts normal usage and performance standards, automatically setting and monitoring the metrics that are the most important for each client. The intelligent software also helps the company recognize minute yet critical abnormalities amid massive volumes of data, spotting potential network problems before they occur.

*“By working with IBM to apply cognitive technologies to our IT operations data, we are able to learn what defines good service for each customer’s connection and then determine instantly when critical deviations happen, no matter how small,” said **Chris Smith, director of network tools and automations, Consolidated Communications.** “With the IBM software, we are able to tailor our services to individual clients, improve overall network efficiency and spot and stop issues before they happen.”*

IBM is also applying machine learning and analytics to storage with a new version of [SmartCloud Virtual Storage Center](#). Now, organizations can save time and money by automating complex storage tiering decisions and moving to cloud storage. By analyzing data usage patterns, this intelligent software identifies the type of storage best suited for an organization's data, and automatically makes the change without interruption to the user or applications. The software learns key usage patterns over time, adapting and shifting data as business needs change. IBM deployed this automated storage tiering capability at its own Boulder, Colorado data center and reduced per terabyte of storage costs by nearly 50 percent.

IBM SmartCloud Analytics--Predictive Insights is one of the 100-plus IBM software-as-a-service (SaaS) offerings that infuse analytics into line of business and IT operations that will be supported by SoftLayer infrastructure in the near future. SoftLayer is fast becoming the foundation of IBM's cloud portfolio, adding more than 1,000 new clients since IBM acquired the company in July, 2013.

IBM Expands Big Data Portfolio

IBM is also announcing an expansion of its BLU Acceleration portfolio to help clients harness Big Data and analytics. IBM is introducing an early access preview of BLU Acceleration for Cloud (bluforcloud.com), a solution that will offer IBM's advanced technologies powered by BLU Acceleration in-memory database and business analytics technologies, for powerful, agile warehousing delivered with cloud simplicity. This offering provides fast and simple self-service insight for business analysts and technical professionals. This news comes on the heels of the recently announced [IBM BLU Acceleration Solution - Power Systems Edition](#) which exploits POWER7+ processor-based technology for 8x to 25x faster reporting and analytics and 10x storage space savings. IBM is also delivering BLU Acceleration capabilities as part of its IBM PureSystems family of [expert integrated systems](#). The new IBM Business Intelligence Pattern with BLU Acceleration (BI-BLU) makes it simple and fast for organizations to benefit from high speed analytics using advanced in-memory technologies.

Additional new technologies announced as part of the IBM Big Data portfolio include:

- New Big Data exploration capabilities for [InfoSphere Data Explorer](#), a search-based Big Data exploration tool that helps clients distinguish different forms of data through data exploration and discovery, and helps clients visualize structured and unstructured data from multiple diverse sources.
- The first commercial search offering designed to keep pace with today's Big Data and cloud-based systems, while still delivering information from traditional enterprise systems such as relational databases, enterprise content management and customer relationship management solutions. InfoSphere Data Explorer brings Big Data out of the lab and onto the desktops of front-line employees, allowing organizations to enhance the customer experience.
- [InfoSphere Data Privacy for Hadoop](#) allows clients to anonymize data in [Hadoop](#), NoSQL and relational systems. With data activity monitoring capabilities, the technology can also help organizations prevent unauthorized access of confidential information stored in Hadoop systems.
- Enhancements to the [IBM PureData System for Hadoop](#) portfolio simplifies Hadoop systems by allowing

users to get up and running in hours, rather than days or weeks. Built-in archiving tools, simplified administration and higher levels of security than open-source systems are also included. In an audited benchmark conducted by STAC, the Securities Technology Analysis Center, InfoSphere BigInsights for Hadoop has been found to deliver an approximate 4X performance advantage on average over open source Hadoop. This is a critical milestone for clients in a variety of industries who are looking to visualize, access and analyze Big Data to stay competitive.

- The release of an [Information Governance Dashboard](#), which displays confidence levels in data sources in a business-friendly interface. Decision-makers can see confidence levels in their data visualized in a user-friendly way, such as governance policies and data lineage, which fosters trust and greater usage of data and insights.
- A new, smaller configuration for [IBM PureData System for Transactions](#) for continuously available transactional databases. The new model offers the same leading performance and appliance simplicity for a fully active, highly available and scalable database platform for the Big Data era.

About IBM Big Data & Analytics

Each day we create 2.5 quintillion bytes of data generated by a variety of sources -- from climate information, to posts on social media sites, and from purchase transaction records to healthcare medical images. At IBM we believe that data is emerging as the world's newest resource for competitive advantage, and analytics is the key to make sense of it. IBM is helping clients harness Big Data & Analytics to provide insights needed to make better decisions, create value, and deliver that value to customers and society. IBM has the world's deepest and broadest portfolio of Big Data & Analytics technologies and solutions, spanning services, software, research and hardware.

For more information about IBM Big Data & Analytics, visit <http://ibm.co/bigdataanalytics>.

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For more insights on Big Data & Analytics visit IBM's [Smarter Planet blog](#).

Made in IBM Labs: New Data Discovery and Visualization Capabilities Help Business Users Uncover Hidden Patterns via the Cloud

LAS VEGAS - 04 Nov 2013: At the [IBM Information On Demand](#) conference (#IBMiod), IBM (NYSE: [IBM](#)) today announced three new data discovery and visualization software capabilities that are changing analytics for the masses. The new solutions will help line-of-business employees engage, experience and gain actionable insights from data in a matter of minutes.

According to [market research firm Gartner](#), the “Visualization and Data Discovery” market segment is the fastest growing area of Business Intelligence and will increase 30 percent by 2015. In addition, a recent [IBM Institute for Business Value study](#) focused on analytics found that the largest skills gap is the ability to combine analytic skills with business knowledge. One-third of respondents cited the lack of skills to analyze and interpret data into meaningful business actions as the top business challenge impeding better use of analytics within their organizations.

IBM is introducing new data discovery software that enables business users to visually interact with and apply advanced analytics to their data without specialized skills, so they can get deeper insights into their business. The new software will help close the analytics skills gap that makes current data discovery tools inaccessible for the everyday business user. It makes it possible to go from raw information to answers hidden deep within structured and unstructured information in minutes.

Today's data discovery solutions can be challenging for everyday business users and don't provide deep, meaningful insights that are immediately actionable. Most solutions still require data modeling and do not have any built-in [predictive analytics](#). In addition, current offerings on the market require deep technical skills to interpret visualization and uncover a single insight.

IBM Labs created software dubbed “Project Neo” to help users better engage with their data. Rather than forcing business users to learn analytics, without any specialized skills or knowledge, they can apply the Project Neo software to raw data sets. The software uses a simple interface, interactive visualizations and advanced analytics to automatically surface hidden insights and patterns and guide the business users to answers deep within their data, and can be hosted on the cloud. Project Neo will be available as a Beta program in early 2014.

For example, a marketing manager can ask a question in plain English, input raw data into the software and immediately discover through visualizations and guided analytics what is causing sales to fall in a particular quarter. The manager can then quickly share the findings with other employees, asking for additional input from her team, who will immediately see the alert and contribute suggestions via their laptops or mobile devices. Additional technological advancements, such as [IBM's Rapidly Adaptive Visualization Engine](#) (RAVE) are driving highly flexible and interactive visualizations that empower users from human resources, marketing and sales departments to leverage analytical graphics on any of their devices to find answers in ever increasing amounts and varieties of data.

Right-Time Decision Making

Another example of virtualization technology is IBM Concert on Cloud which offers business users who are inundated with information but often lack contextual insight the collaborative tools to make the best decisions. IBM Concert on Cloud is a mobile-ready, social analytics platform that helps organizations make better decisions

through collaboration. The real-time cloud analytics platform enables users to easily view, understand and interact with specific performance insights and more easily determine when they need to take action. Remote employees can contribute and update data immediately via mobile devices, improving accuracy and providing real time planning and forecasting.

IBM Concert on Cloud is one of the 100-plus IBM software-as-a-service (SaaS) offerings that will infuse analytics into line of business supported by SoftLayer infrastructure in the near future. SoftLayer is fast becoming the foundation of IBM's cloud portfolio, adding more than 1,000 new clients since IBM acquired the company in July, 2013.

Extensible Visualization: Always the Right Visualization

Beyond Project Neo, IBM continues to provide rich and innovative visualization capabilities to business analyst and line of business users across the [Cognos Business Intelligence](#) portfolio. New extensible visualization capabilities are being introduced to unleash report authors and business users from a static library of charts. No longer are users locked into only the in-product visualization options. Now they can easily augment reports, both general and active reports, with a growing collection of visualizations to meet data and insight requirements. With the new IBM Cognos Visualization Customizer, visualizations can be edited, including changing fonts, colors or even icons to meet the most specific requirements.

Through the [Visualization Marketplace on IBM Analytics Zone](#), users can chose from more than 30 visualization options, from radar charts to heatmaps and area charts. New visualization options will be consistently added to the Marketplace.

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IBM Big Data and Analytics Translates into Big Hotel Room Bookings for Denihan Hospitality Group

Leading Hotel Owner and Operator Gains 300 Percent Return on Investment While Boosting Guest Satisfaction and Achieving Smarter Business Insight

NEW YORK, NY - 04 Nov 2013: IBM (NYSE) and Denihan Hospitality Group, a nationally recognized owner and operator of boutique hotels across the U.S., today announced that they are collaborating on a Big Data project by applying advanced analytics technologies to enhance strategic planning. This impacts multiple aspects of the business, from improving the guest experience, and personalizing marketing campaigns, to boosting productivity of the revenue management team across Denihan's 14- hotel portfolio.

Denihan's portfolio includes unique properties operated under The James and Affinia Hotels brands, as well as luxury independents The Surrey and The Benjamin, and several affiliates. Each brand and hotel is strategically designed to appeal to a specific customer segment. Throughout its 50 years in the hospitality business, family-owned and operated Denihan has prided itself on an individualized approach to customer service.

For Denihan, marketing and booking the right room for the right customer at the right time -- and very importantly, at the right rate -- is critical to the bottom line. Denihan places a great emphasis on personal customization across its brands, in order to continuously drive preference and customer loyalty.

*"Personalized customer service and seeking deep business insight have always been top priority for Denihan," said **Menka Uttamchandani, Denihan's vice president of business intelligence**. "By leveraging new and existing data sets IBM's analytics technology allows us to extract insightful information enabling us to take smart, calculated risks in our business. Every company has massive amounts of data; it is what one does with that data - such as providing relevant dashboards, click through deep dive actionable reporting and analytical insight that can foster a competitive edge."*

With the continued growth of hotel rating websites, travel blogs and social media, customer service and pricing are more critical than ever for the hotel industry, allowing a hospitality business to either secure or lose a customer in seconds. According to a 2012 Forrester study, the financial impact of customer service on hotels is \$1.36 billion, with roughly \$825 million of that revenue sparked by churn reduction, or efforts to keep guests from choosing other hotel brands.

By applying IBM's analytics technology to Big Data, Denihan can now sift through massive amounts of information -- from customer feedback to room price, length of stay and more -- to understand why customers choose their hotels and why they choose to return. By taking the pulse of guests' likes and dislikes, Denihan can also fine-tune its marketing campaigns to engage customers on an individual basis, reinforcing this notion of

the ["era of you"](#) in the hospitality industry.

At Affinia Manhattan, Denihan utilized IBM analytics to dissect guest feedback and guest profile data that uncovered varied comments on what guests wanted in their guest rooms. Affinia Manhattan is located in an area popular with both tourists and business travelers, and guests' feedback reflected the need for flexible spaces that can be used for a variety of different needs. As a result, Denihan remodeled each of the hotel's rooms to create a relaxation zone, a work zone and a sleep zone. Denihan then made a point of using flexible and comfortable furniture throughout the new guestroom design, adding such pieces as convertible sofas and mobile ottomans that can be moved by the coffee table or by the bed depending on the need. In addition, feedback from women and family travelers revealed a desire for more storage in the bathroom, and in response, Denihan changed the vanity design to accommodate extra counter and shelving space and additional drawers. The hotel has several rooms with kitchenettes, and with data indicating the need to enhance the kitchen product and experience, Denihan added several items to the kitchens during recent renovations, eliciting much positive feedback from guests.

*"Nearly every organization is looking at how to manage Big Data to stay competitive," said **Erick Brethenoux, Director Business Analytics, IBM.** "What Denihan has done is not only look at massive amounts of data and different data sets, but acted on those insights quickly to provide a personalized experience for their clients that makes them want to return. Denihan has been able to connect their data in a way that helps them create a unique guest experience, be smarter in how they do business, while more effectively using their resources to target growth areas to enter new markets."*

How Big Data Enables Big Bookings

In an effort to further their success in the business and leisure travel sectors, Denihan was looking for a way to harness big data at a magnitude that would transform the company's strategic direction. They wanted a solution that would not only sustain business during periods of vulnerability, such as non-peak seasons, but boost revenue during positive economic times, as well.

However, to increase revenue, reduce costs and improve customer experiences, they first needed to build an analytics culture within the ranks of their employees. The objective: place user-friendly analytics tools into the hands of its guest facing employees, including hotel management and corporate support teams. This has enabled Denihan to:

- **Increase Revenues** – Denihan's revenue management team is now able to anticipate the most beneficial type of business to book at a given time and understand precisely how far in advance it would do so. They can also estimate what the room rate trend will be, through what channel it will be booked, and for what length of stay. This kind of information allowed one of Denihan's New York City properties to outperform at double the room rate during a recent United Nations Assembly Week, one of the most profitable times of the year for New York City hotels. Such ready reporting is available daily, providing a 40% productivity boost for their teams

whose counterparts in many hotels can spend up to half a day finding and collating data.

- **Better Manage Expenses** – Having detailed insight into all expense categories and occupied room metrics, Denihan realized a significant cost savings allowing more resources to be put towards innovative renovations and product offerings that enhance the guest experience. The company is also able to analyze data such as payroll trends and employee overtime in the context of forecasted vs. actual occupancy.
- **Guide Strategic Direction** – The key to guest retention and advocacy is understanding and delivering on customer preferences. Guests surveys that obtain feedback on why guests choose their hotels, why they return, and how they make their booking decisions not only gives strategic insight into guest behavior, but provide valuable attitudinal knowledge for longer term planning. And, by quickly tapping into daily individual stay guest comments, management is able to easily identify what guests like about a stay and where they might wish to see improvement. For example, outside noise was the number one challenge across the company's 11 New York City hotels. In response, Denihan management launched a "Put NYC on Mute" campaign, providing earplugs in nightstand drawers in all guestrooms, an action that has greatly improved guest feedback.

Analytics provides a win-win for both Denihan and its guests. Through a win-back program that encourages valuable guests to return, the company has produced over 30 times the revenue it invested, while greatly increasing the loyalty of those customers. Additionally, Denihan can now target the right offer to the right customer based on past customer data and feedback, and the predicted value they can bring in the future. For example, a guest who has spent \$40,000 in the past would receive a different offer than one who had spent \$1,000. While Denihan wants both to return, the offer becomes both customized and measureable.

Denihan has an aggressive growth strategy with plans to double the size of its hotel portfolio in the next three to four years. With plans to take their analytics capabilities to a new level with predictive analytics, the company remains confident that enhanced analytics will allow it to increase profitability even further, supporting Denihan's position as a sought after hotel development partner.

About Denihan Hospitality Group

Denihan Hospitality Group is a privately-held, full-service hotel management and development company that owns and/or operates 14 boutique hotels in major urban markets in the U.S. Over the past 50 years, the Denihan family has built a world-class lodging investment platform within the boutique hotel space, creating value by acquiring, repositioning and managing independent hotels.

The Denihan portfolio includes properties operating under The James and Affinia Hotels brands, as well as Manhattan luxury independents, The Surrey and The Benjamin, and additional independent affiliates in New York City. Denihan's hotels include an impressive list of chef-driven restaurants and bars, including Iron Chef Geoffrey Zakarian's *The National Bar and Dining Rooms* at The Benjamin; *David Burke Kitchen* at The James New York; Daniel Boulud's *Café Boulud* at The Surrey; David Burke's *Primehouse* at The James Chicago; and Art Smith's *Art and Soul* at the Liaison Capitol Hill, an Affinia hotel in Washington, D.C.

More details can be found at www.denihan.com.

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For more information about IBM Big Data and analytics, please visit: <http://www.ibmbigdatahub.com>

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For additional information about IBM's Big Data and analytics initiatives, please visit: <http://www.ibm.com/big-data/us/en/>

Memorial Healthcare System Taps IBM to Prevent Vendor Fraud, Reduce Operating Costs

Big Data Analytics and Smarter Content Management contribute to millions in cost savings and increased vendor transparency

LAS VEGAS, November 4, 2013: IBM (NYSE: [IBM](#)) today announced that [Memorial Healthcare System](#) is using IBM Big Data analytics and Smarter Content management capabilities to prevent fraud and reduce costs across its extensive third party vendor network.

With its new vendor vetting system, the second largest public healthcare network in the U.S. not only minimizes the potential for fraud, but also reduces vendor invoice cycles by better understanding its vendor community and identifying potential conflicts of interest.

Headquartered in Hollywood, Fla., Memorial Healthcare System provides more than 1,900 licensed beds in six hospitals at multiple locations throughout the south Broward county area. Memorial Healthcare manages approximately 6,000 vendors and processes about 300,000 invoices annually. These vendors provide such products and services as facilities management, construction, lab testing and related capital equipment,

specialized nursing care, and janitorial work.

According to the [National Health Care Anti-Fraud Association](#), the U.S. health care system spends \$2.3 trillion dollars and generates billions of claims a year from hundreds of thousands of health care service and product providers. Further, financial losses due to healthcare fraud are estimated to range from \$70 billion to \$236 billion annually, with significant losses tied to vendor billing schemes.

Combining a [content](#) management system for consolidating accounts payable processes with an intelligent analysis system that checks vendor data against more than 800 internal and external databases, Memorial Healthcare unlocks new insights that manage potential vendor risks, including conflict of interest and even criminal behavior. In one case, the analytics revealed that three vendors were colluding to price rig a proposal.

*"As we gained transparency into the vendor vetting process, the staff moved from a clerical role to an analytical role," said **David Alexander, vice president of finance, Memorial Healthcare System**. "We now have a fraud management platform across the entire hospital network that reduces risk and [enterprise content management](#) simultaneously speeds up invoice processing saving millions in the process."*

The vendor vetting system, known as VETTED, was built based on Memorial Healthcare System's existing enterprise content management platform from IBM and business partner [Information Management Consultants](#) (IMC). By adding IBM [i2](#) analytics capabilities, Memorial Healthcare now has greater visibility into its vendor community and accounting staff can complete vetting activities within a few hours. The system's analytics connect the dots among vendor companies and between individuals, vendor companies and physicians to help uncover potential fraudulent behavior.

The ECM application automatically routes invoices through a verification process that uses a hierarchy of people responsible for ensuring that the hospitals deliver products and services according to contract. The system has an audit trail to indicate that the appropriate person signed each invoice. Memorial Healthcare can control when they pay specific vendors and the process is auditable. Faster invoice processing has led to vendor discounts of more than \$2 million.

*"Memorial Healthcare is at the forefront of hospital systems seeking to reduce administrative costs and in doing so has also reduced the potential for fraud," said **Robert Griffin, vice president, Industry and Counter Fraud Solutions at IBM**. "With big data analytics and effective content management, they have greater visibility into their vendor community where trusted relationships are established, payments are processed faster and malfeasance is eliminated."*

Memorial Healthcare System relies on IBM Content Manager and the IBM i2 Intelligence Analysis [Platform](#).

IBM was again named a leader in Gartner's Magic Quadrant for Enterprise Content Management, authored by Mark R. Gilbert, et al. on September 23, 2013 for its completeness of vision and ability to execute. Read Gartner's insights on Enterprise Content Management: <http://www.gartner.com/reprints/ibm-v8-v7?id=1-1KPJFOM&ct=130923&st=sb>

For more information on IBM and Big Data, see www.ibm.com/bigdata

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Emory University Hospital Explores 'Intensive Care Unit of the Future'

Hospital to Study How Bedside Data May be Streamed in Real-Time and Enable Doctors to Spot Early Warning Signs in Critically Ill Patients

Armonk, N.Y. and Atlanta, GA - 4 Nov. 2013: Emory University Hospital is using software from IBM (NYSE:[IBM](#)) and Excel Medical Electronics (EME) for a pioneering research project to create advanced, predictive medical care for critical patients through real-time streaming analytics.

Emory is testing a new system that can identify patterns in physiological data and instantly alert clinicians to danger signs in patients. In a typical ICU, a dozen different streams of medical data light up the monitors at a patient's bedside – including heart physiology, respiration, brain waves and blood pressure. This constant feed of vital signs is transmitted as waves and numbers and routinely displayed on computer screens at every bedside. Currently, it's up to doctors and nurses to rapidly process and analyze all this information in order to make medical decisions.

The new system that Emory is exploring will enable clinicians to acquire, analyze and correlate medical data at a volume and velocity that was never before possible. The research application developed by Emory uses IBM's streaming analytics platform with EME's bedside monitor data aggregation application to collect and analyze more than 100,000 real-time data points per patient per second. The software developed by Emory identifies patterns that could indicate serious complications like sepsis, heart failure or pneumonia, aiming to provide real-time medical insights to clinicians.

*"Accessing and drawing insights from real-time data can mean life and death for a patient," says **Tim Buchman, MD, PhD, director of critical care at Emory University Hospital.** "Through this new system we will be able to analyze thousands of streaming data points and act on those insights to make better decisions about which patient needs our immediate attention and how to treat that patient. It's making us much smarter in our approach to critical care."*

Advancing the “ICU of the Future”

A variety of industries have adopted information technology innovations to transform everything from weather forecasting to predicting the outcomes of presidential elections. Emory's vision of the “ICU of the Future” is based on the notion that the same predictive capabilities possible in banking, air travel, online commerce, oil and gas exploration and other industries can also apply in medicine.

The system being piloted at Emory uses EME's BedMasterEX, [IBM InfoSphere Streams](#) and Emory's analytics to collect and analyze physiological patient data in real time.

For example, patients with a common heart disorder called atrial fibrillation (A-fib) often show no symptoms, but it is a common and serious condition that can be associated with [congestive heart failure](#) and strokes. Using the new research system, Emory clinicians can view a real-time digital visualization of the patient's analyzed heart rhythm and spot A-fib in its earliest stages.

Currently in the research phase, streaming analytics could one day be common practice across ICUs and other medical settings worldwide.

*“As the medical community increasingly embraces the power of technology to help improve health outcomes for patients, predictive medicine is finally becoming reality,” says **Martin S. Kohn, MD, chief medical scientist at IBM.** “The ability to pull actionable insights from patient monitors in real-time is truly going to transform the way doctors take care of their sickest patients.”*

Learn more about IBM Smarter Healthcare at www.ibm.com/smarterhealthcare

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