

# A New Business Calculus from IBM Software Group

## *CIMdata Commentary*

### *Key takeaways:*

- *IBM, one of America's oldest and most storied companies, is known for transforming itself to survive and thrive—today is no different, and the IBM Software Group is leading the charge to address three strategic imperatives reshaping the world: data, cloud, and people-centered engagement*
- *Huge investments in cloud, cognitive systems like Watson and next generation cloud-based collaboration and software development offerings position IBM to capitalize on this new business calculus*
- *IBM is investing heavily in the Internet of Things, a topic related to all three strategic imperatives, and one that companies invested in PLM as makers, and often operators, of smart things must increasingly address*

CIMdata had the pleasure of attending the 2014 IBM Software Group Analyst Insights (#SWGAI) event on November 12-13 at the Hilton Stamford, CT, a venue right-sized for the 200 attendees, including about 100 analysts. IBM Software Group is a huge business in its own right, with revenues of nearly \$26 billion in IBM's last fiscal year, about 25% of total IBM revenues. Steve Mills, Senior Vice President and Group Executive for Software & Systems, bookended the event; he welcomed the crowd and conducted a closing Q&A session. Mr. Mills claimed that SWGAI started 13 years ago to bring people together to sum up the many aspects of IBM's business. IBM recognizes that most analysts have a focus, but this broader event provides a higher-level view of IBM's business and what they are trying to accomplish. Given the breadth of the event, this commentary can only cover part of what was offered in the 36-hour agenda.

The audience was abuzz during the opening session, asking questions about several recent moves once again transforming IBM's business, like announcing the sale<sup>1</sup> of its chip fabrication businesses to GLOBALFOUNDRIES, just after the sale<sup>2</sup> of their x86 server business to Lenovo. In his 41 years at IBM Mr. Mills has experienced many of IBM's transformations, and claimed that IBM is in a state of constant change. Yes, IBM wants to grow, but that growth has to be profitable, a statement that puts these recent divestments in the right perspective. His key message, one that was echoed throughout the event, was that three strategic imperatives are reshaping the world: data, the cloud, and people-centric engagement. Over the next day and a half, IBM executives, business partners, and customers tried to drive home this message.

Robert LeBlanc, IBM SVP for Software and Cloud Solutions, claimed that data is the world's new natural resource, one that is transforming industries and professions. How might that transformation occur? Mike Rhodin, SVP of IBM Watson, spoke about how we are in the third era of computing: the Tabulating Systems of the 1900s gave way to Programmable Systems in the 1950s, and in about 2011 we entered the era of Cognitive Systems, represented by IBM Watson. IBM sees these new systems, termed *Systems of Insight*, mediating between the *Systems of Engagement* and *Systems of Record* that Geoffrey Moore has defined, to power that transformation. IBM has bet big on insight, with their recent announcements on

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<sup>1</sup> <http://www-03.ibm.com/press/us/en/pressrelease/45110.wss>

<sup>2</sup> <http://www-03.ibm.com/press/us/en/pressrelease/44588.wss>

Watson investments layered on top of their longtime spending on analytics. IBM is building out their infrastructure to leverage this new natural resource, digesting data from multiple sources for the benefit of current and future customers.

This reshaped world requires new ways of working, including adding critical new partners. Watson gets smart by digesting information. IBM's recently announced partnership with Twitter<sup>3</sup> will provide an ever-expanding corpus of Twitter data to help power Watson Analytics. In this reshaped world, engagement means mobile. IBM also recently announced a partnership with Apple,<sup>4</sup> to provide Apple's ecosystem with the IBM MobileFirst Platform for iOS, for mobile application development. Because Apple believes developers should be able to conceive, deploy, and dispose of an app in 90 days, IBM will have to adapt their development platform (and practices) to churn out analytics faster than they did before, and will have to become plug-and-play with other common solutions. When things don't go the way IBM planned with these younger firms, Mr. Mills claimed that IBM is often "the oldest company in the room, so we try to act that way," taking the adult role in the relationship.

The cloud has increasingly become part of the business calculus across many industries, and IBM has been moving fast to be ready. After their 2013 acquisition of SoftLayer Technologies,<sup>5</sup> IBM plans to spend \$1.2 billion on building out the remaining data centers, at a cost of \$80-100 million per center (a number contrasted with the much higher costs of IBM's cloud competitors). Mr. LeBlanc believes that the SoftLayer acquisition is one of IBM's most strategic acquisitions ever. Completing the data center build-out is essential because customers and prospects mostly want clouds originating in (legally) acceptable locations based on local and regional laws. But even with all this investment, Mr. LeBlanc claimed that we are only in the "third inning" of the "cloud game," with a lot more innovation to come.

IBM is also using the cloud to reshape how development is done, with Bluemix, the company's open cloud development platform announced earlier this year. Bluemix runs on the SoftLayer infrastructure, and leverages IBM's strengths in middleware to enable a scalable agile development model. According to Daniel Sabbah, IBM's CTO, and General Manager for Next Generation Platform, "cloud provides developers with instant access to the APIs, services, and infrastructure they need to launch their ideas into the present." With the advent of the "API economy," building new applications is more about composition, and developers can choose from an increasing list of Bluemix services: DevOps, Big Data, Mobile, Cloud Integration, Security, Internet of Things, Watson, Business Analytics, Database, Web, and application. With Bluemix, IBM is practicing what they preach: Bluemix is on a continuous development cycle, delivering new services every month. CIMdata is impressed with the breadth of forward-looking capabilities that IBM is providing to the new software development economy.

IBM has a wide range of assets, but is mostly known for its success with big clients. How did IBM change their own business calculus to greatly expand their addressable market? By changing the way they engage with just about everyone, while still leveraging their traditional strengths in building thriving ecosystems. In some sense IBM was going from Big Blue to "Big Bro," with excellent outreach programs tailored to this new reshaped world. As of this writing, IBM has held over 650 Bluemix days, a hands-on workshop attended by 35,000+ attendees from 4000+ companies. When those motivated attendees looked for help they found an

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<sup>3</sup> <http://www.ibm.com/big-data/us/en/big-data-and-analytics/ibmandtwitter.html>

<sup>4</sup> <http://www.apple.com/pr/library/2014/07/15Apple-and-IBM-Forge-Global-Partnership-to-Transform-Enterprise-Mobility.html>

<sup>5</sup> <http://www-03.ibm.com/press/us/en/pressrelease/41191.wss>

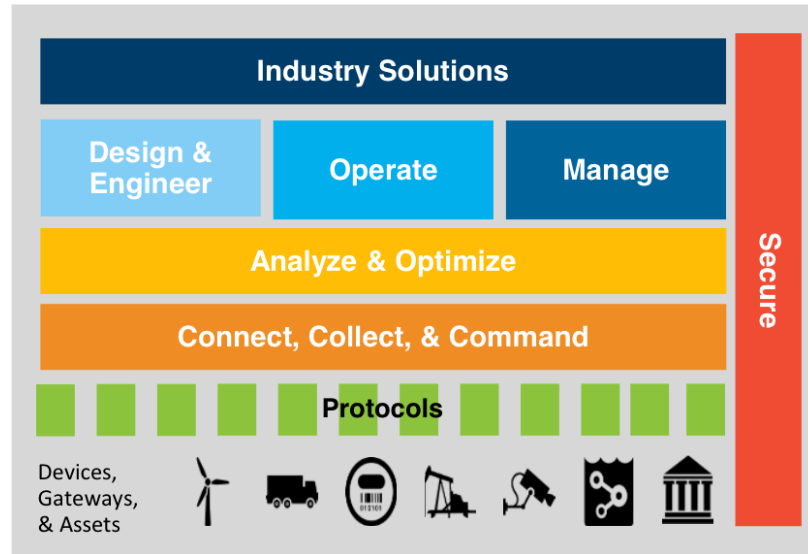
invigorated *IBM developerWorks* online community resource, with over 40,000 tutorials on products from IBM and many other non-IBM products and open technologies, illustrating just how open IBM's offering can be. Hackathons brought in new audiences. Their first "Bluemix Garage" opened in San Francisco, where IBM staffers are co-located with 41 startups. London is next and they currently envision five locations, but they could do the same thing at any SoftLayer data center location. To further encourage trial and adoption, on November 10 IBM announced a new program for cloud-based startups<sup>6</sup> that offers \$120,000 in software usage credits for qualifying entrepreneurs. IBM claimed that in the first three hours after the announcement they got more applications from new startups than IBM typically does in a month. IBM is further nurturing such firms through "David and Goliath" dinners where the best small companies mix with IBM's best retail clients. These events greatly benefit both sides, and of course IBM by extension.

IBM is also well positioned to support another trend reshaping with world: the Internet of Things (IoT). As in other high technology domains, IBM was early to IoT, launching their Smarter Planet initiative in 2008. Their research organizations saw a more instrumented world, with Moore's Law continually driving down the cost of chips, and putting interconnected, intelligent devices easily within reach for product companies. In his session, John R. Thompson, IBM VP for Internet of Things used a well-known aerospace example: Pratt & Whitney instruments their engines for 4,500 variables, and can generate half a terabyte of data per flight. This is one engine out of a fleet of more than 4,000 commercial engines, graphically illustrating the data explosion from IoT. Fortunately through analytical modeling, IBM showed Pratt & Whitney that less than 40 variables are required to predict needed maintenance actions to prevent inflight shutdown or delays and cancellations with an accuracy close to 100%, reducing the data management burden. (Armed with this knowledge, companies can design instrumentation and data collection more prudently.) Mr. Thompson went on to claim that IoT is not new. By his estimation, it is about 70% reuse of existing technologies that overlap with IBM intellectual property and expertise, covering most of the IoT reference model shown below. But, he goes on to say, if IBM does not get the other 30% right they will fail. What is that other 30%? It includes handling the different things or devices, which range from automobiles to HVAC systems. These many devices often do not follow traditional protocols. They also might require a different type of analytics, for example, to handle time series and cyclical data. Most importantly, success in IoT will require new specialized partners, many of whom have skills not known to the CIO and the IT side of the house.

How does IoT affect the business calculus? The equation here is simple, reiterated during a breakfast one-to-one with Bret Greenstein, VP of IBM Rational Continuous Engineering. In this smart world, you are either a maker or an operator. Many industries that care deeply about PLM will be at least makers, creating smart, connected products. These same companies are often operators too, particularly if they care about servitization, the trend toward delivering products as a service. These same companies will also often be the ones that care about systems engineering—an IBM Rational strength. This positions IBM well in this reshaped world to contribute to deploy PLM strategies across many industry segments.

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<sup>6</sup> <https://www-03.ibm.com/press/us/en/pressrelease/45345.wss>



IBM Internet of Things Reference Model

In conclusion, this commentary covered only part of IBM's efforts to address the three strategic imperatives that are reshaping the world: data, cloud, and engagement. While clearly the oldest dog in the fight, Business has been IBM's middle name since 1924 (much better than Tabulation in the former Computing-Tabulating-Recording Company). IBM has proven nimble and innovative in leveraging their strengths, acquiring critical technologies, and creating new engagement and business models for this reshaped world. Their global reputation, vast financial and intellectual assets, and broad-based ecosystem make them a force to be reckoned with in just about any conceivable future. Given what they presented last week, this is particularly true today.

### About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.