

TURNING DATA INTO PROFIT WITH TERADATA UNIFIED DATA ARCHITECTURE

Researchers say that the hypothesis-generating power of big data is changing the way science is done.¹ And commerce leaders say that big data is as fundamental to business as land, labor, and capital.² It's no wonder that big data appears on just about every analyst's list of top technology trends for the coming year.

But what exactly is big data, and why is it so important? For starters, big data refers to more than just vast quantities of data. Data now comes in a variety of forms, and big data encompasses them all—in addition to the processes of accessing, analyzing, and extracting value from that data. This even includes data types never encountered before such as those gleaned from social media, streamed from GPS systems, and captured in sensors embedded in industrial equipment.

Big data is big news—there's no doubt about it—but here's the interesting part: Even though just about any business executive will tell you that it's past time to begin extracting value from all of this data, the majority of their companies have made little headway in doing so. In fact, only 14 percent of respondents to a recent IDG Enterprise survey said that their enterprises had already deployed big data activities, while 44 percent reported their organizations to be in the planning or implementation stage.³ The reason for this is that with this explosion of data has come an explosion of complexity, and most organizations have simply not yet acquired the technology or expertise required to tame it much less leverage its full potential.

THE PROMISE

With most organizations just beginning to understand the value of their data—let alone extract and analyze it all—there is still enormous competitive advantage to be gained from unlocking this complex cache of data. Indeed, research shows that by collecting new data and unearthing previously unavailable data, companies can increase productivity and profits exponentially.

According to one such study, an increase of just 10 percent in data accessibility can lead to a \$65.67 million increase in annual net income for the average Fortune 1000 company.⁴ What's more, such benefits can be seen across industries and in organizations large and small.

For example:

- ~ Top retailers have seen their operating margins increase by 60 percent through monitoring customers' in-store movements and combining that data with transaction records to determine optimal product placement and mix as well as appropriate pricing.⁵
- ~ The U.S. healthcare industry stands to add \$300 billion in revenues by leveraging big data.⁶
- ~ Financial institutions are reducing customer churn by using data analytics to evaluate consumer and criminal behavior—and then quickly alert tellers and bank managers to actions that threaten an account or prompt account closure.

THE CHALLENGE

If there's so much to be gained from slicing and dicing the vast amount of data being collected in the Web 2.0 world, why aren't more companies further along in their efforts to exploit their data? In a word: *complexity*. Today, semi-structured data such as web logs, XML, JSON, social profiles, and Twitter feeds join the structured or relational data found in typical databases. And unstructured data types such as images, audio, text, and PDF documents further complicate the mix. What's more, because big data is generated at high velocity and collected at frequent intervals, there's a lot more of it.

A staggering 85 percent of executives surveyed reported facing significant obstacles in dealing with big data, including security issues, a shortage of trained staff, and the need to develop new internal capabilities—all of which link back to the complexity of the data itself.⁷

Clearly, traditional databases and data warehouses alone are not up to the task of managing all of this data. Businesses need to unlock their data from silos and gain a holistic view of it so that they can make unique associations and ask important questions about customers and products. They need a technology solution that integrates their data stores, identifies behavior patterns, and draws meaningful associations and inferences.

“The second act of big data is about action. This time intelligence will go beyond reporting. It will live at the heart of the organization, not at the edges. It will involve moving from historical insight to predictive information, enabling managers to make smarter decisions.”

—Hollie Moore Haynes,
Managing Director, Silver Lake⁸

THE SOLUTION

Teradata Unified Data Architecture™ provides that solution. Integrating the Teradata analytics platform, Teradata Aster discovery platform, and Hadoop technology into a cohesive and transparent fabric, Teradata Unified Data Architecture™ bridges the gap between the business language of SQL, the extreme processing power of MapReduce, and the big data residing in Hadoop to provide a unified, high-performance big data analytics system for the enterprise.

Because Teradata Unified Data Architecture™ lets business users ingest and process data without defining the schema in advance, it makes it easy to gain valuable insights from massive data sets. Users can ask any question at any time to unlock new and valuable business insights. The net result: higher productivity, lower costs, and a broadening of new opportunities.

To learn more about how you can use Teradata Unified Data Architecture™ to gain rapid insight into never-before-examined data, visit Teradata.com or call your Teradata representative.

ENDNOTES

1. “The Promise of Big Data,” Harvard School of Public Health, <http://www.hsph.harvard.edu/news/magazine/spr12-big-data-tb-health-costs/>
2. <http://www.capgemini.com/news-and-events/news/capgemini-report-shows-rising-impact-of-big-data-on-decision-making/>
3. <http://www.idgenterprise.com/press/big-data-initiatives-high-priority-for-enterprises-but-majority-will-face-implementation-challenges>
4. <http://www.forbes.com/sites/ciocentral/2012/07/09/will-big-data-actually-live-up-to-its-promise/2/>
5. <http://www.truaxis.com/blog/12764/big-profits-from-big-data/>
6. <http://www.information-management.com/news/big-data-ROI-Nucleus-automation-predictive-10022435-1.html>
7. Ibid.
8. “Investing in Big Data’s Second Act,” December 2012; <http://finance.fortune.cnn.com/2012/12/26/invest-big-data/>



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