

## טכנולוגיית מיקרוסופט לאחזור מידע (ביג-דטה)

### מאור דוד

תקציר בעברית:

כיום, ארגונים נאבקים כדי לקבל תובנות עסקיות מההיקף חסר התקדים של נתונים המגיעים ממקורות פנימיים וחיצוניים, לרבות באתרי מדיה חברתיים. המטרה היא לכרות מידע בקלות, לעבד אותם ולנתח כמויות עצומות של מידע בלתי מובנה (כגון קבצים, תמונות, קטעי וידאו, בלוגים, הקלקות ונתונים גיאוגרפיים מרחביים) בזמן אמת, מבלי לדאוג להתקנה הנדרשת. ארגונים מחפשים פלטפורמה פתוחה וגמישה המאפשרת להם לפרוס את הפתרונות שלהם באופן מקומי או בענן.

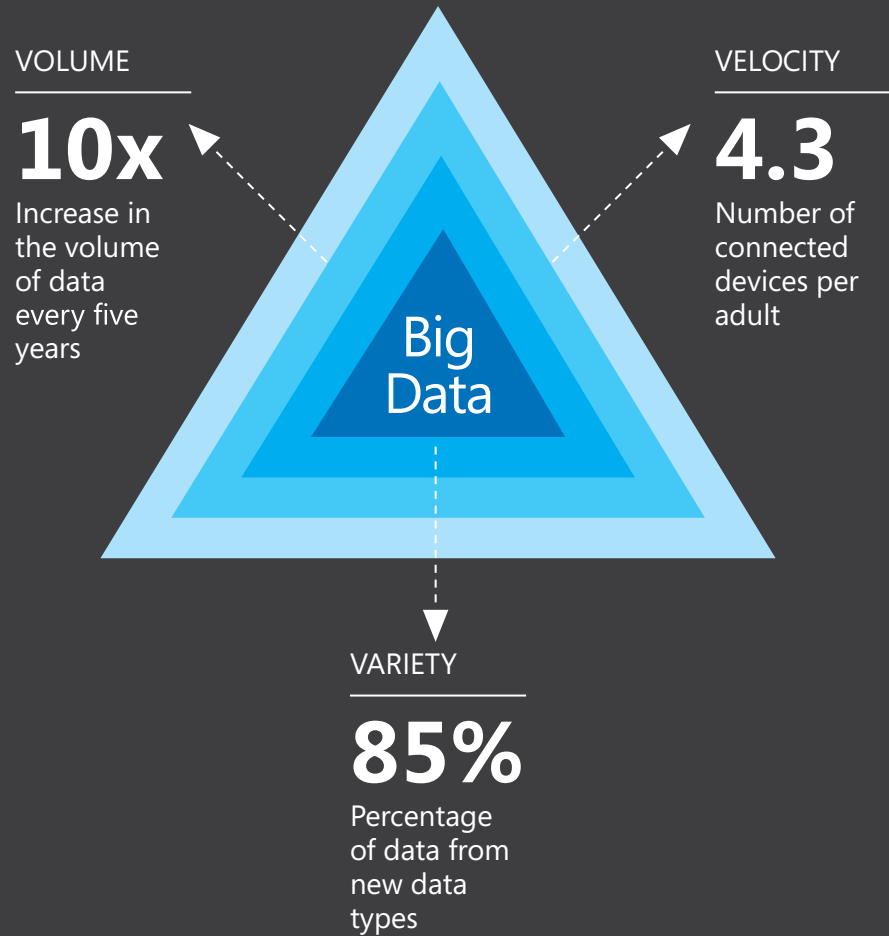
בהרצאה זו הוצגו פתרונות מבית מיקרוסופט הנותנים מענה לצרכים אלו.

# From Data to Insights

*with Microsoft Big Data*



**Microsoft**



## The increasingly large and complex data that is now challenging traditional database systems

YouTube videos, Facebook posts, credit card transactions, store inventory, your last grocery purchase. Trillions of pieces of information are being collected, stored, and analyzed almost daily with increasing speed. Big Data addresses one of the most critical issues facing business today: how to gain value from the growing reams of complex data.

## WHY NOW?

# Data is changing rapidly

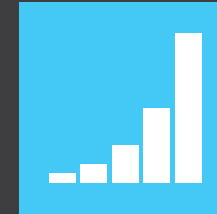
Data **volume** is exploding: In the last few decades computing and storage capacity have grown exponentially, driving down cost to near zero. The rise of new technologies like Hadoop is significantly changing the economics of large scale data processing by enabling customers to analyze petabytes of data with industry standard hardware. According to IDC the digital universe will grow to 35 zettabytes (i.e. 35 trillion terabytes) globally by 2020.<sup>1</sup>

1. IDC Digital Universe Study, sponsored by EMC, June 2010.

The **variety** of data is increasing. It's all getting stored and nearly 85 percent of new data is unstructured data. The real questions now are: How do you put all this captured and stored data to good use? How do you analyze it to make better decisions?

The **velocity** of data is speeding up the pace of business. Data capture has become nearly instantaneous thanks to new customer interaction points and technologies. Real-time analytics is more important than ever.

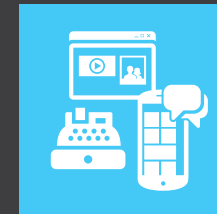
**Today is a world of now, and your business needs to be able to quickly analyze new data and take action.**



### GROWING VOLUME

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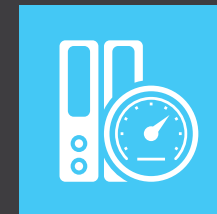
Due to declining hardware cost and new data sources like RFID, the web, and social media



### MORE VARIETY

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Spurred by a variety of information—text, blogs, videos, photos, names, addresses, and purchase history inventory, and more.

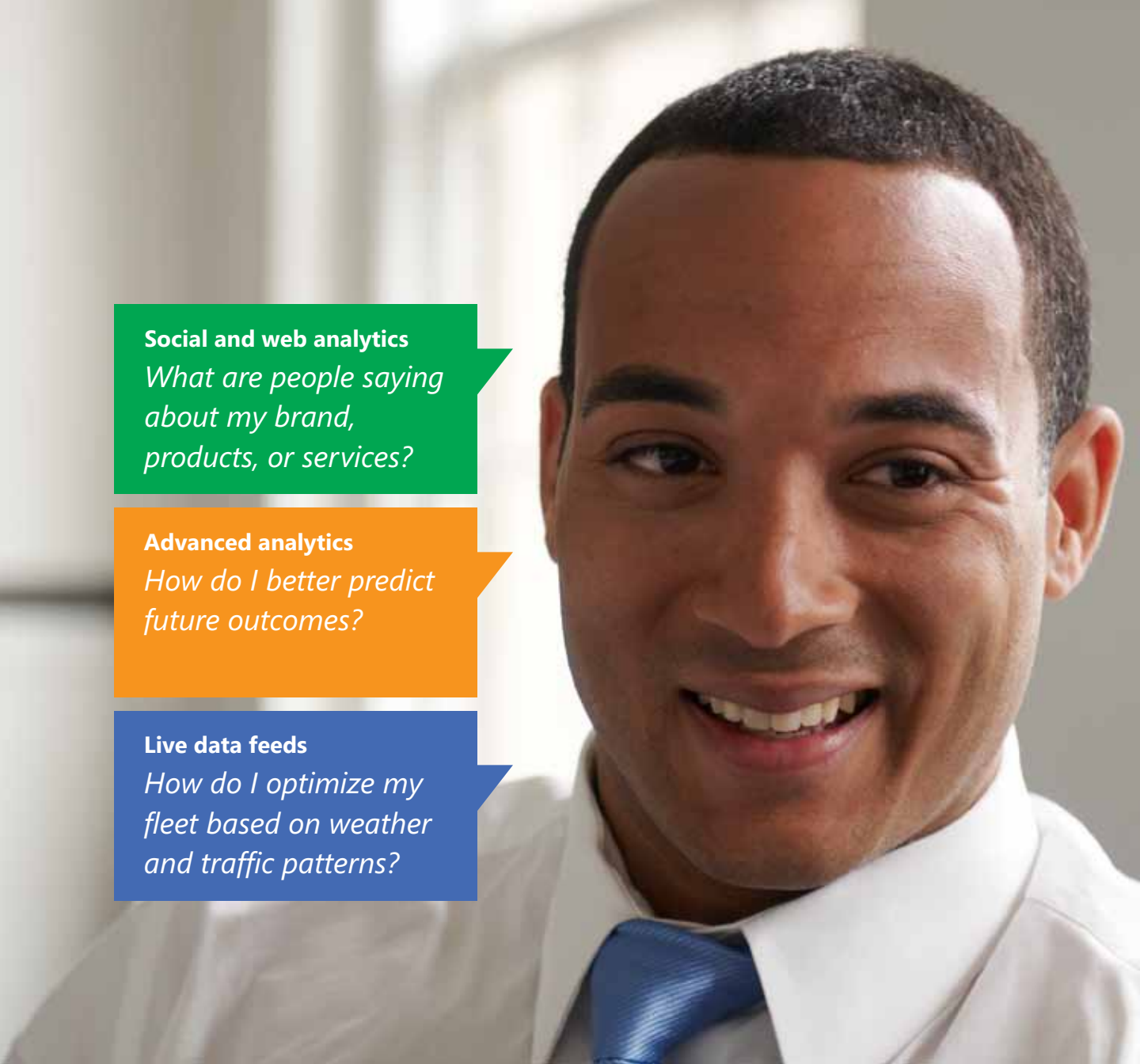


### RAPID VELOCITY

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Fueled by real-time data capture from websites, ATMs, point-of-sale devices, and other sources

Big Data gives you the tools to make sense of it all, and make effective business changes as a result.



**Social and web analytics**

*What are people saying about my brand, products, or services?*

**Advanced analytics**

*How do I better predict future outcomes?*

**Live data feeds**

*How do I optimize my fleet based on weather and traffic patterns?*

BIG DATA LETS YOU

## Ask a new set of questions of the business

By asking and answering these questions you are preparing your business to reap the benefits of Big Data, whether that means revenue growth, cost savings, or entirely new business models.

*"By 2015, organizations integrating high-value, diverse, new information types and sources into a coherent information management infrastructure will outperform their industry peers financially by more than 20%."*

- Regina Casonato et al., Gartner<sup>1</sup>

1. "Information Management in the 21st Century", Gartner - Regina Casonato, Anne Lapkin, Mark A. Beyer, Yvonne Genovese, Ted Friedman, September 2011"

## An end-to-end approach

Traditional data management technologies are not equipped to handle the requirements of Big Data. This new world of data calls for a new approach that gives you the power to effectively manage, enrich, and gain insight from any data. For the first time, financial performance is directly tied to your investment in technologies that can handle the sheer volume, variety and velocity of Big Data.

The best platforms for harnessing the power of Big Data are open and flexible. They also blend the right technologies, tools, and features to take you from data compilation to data insight. A holistic Big Data solution includes the following:

- Flexible data management layer supporting virtually **all data types**.
- **Enrichment layer** for discovering, transforming, sharing, and governing data.
- Compelling **suite of tools** for gaining insight from analytics.
- A marketplace that combines your data with data from **external sources**.

### INSIGHT



Self-service  
Collaborative  
Mobile  
Real-time



### DATA ENRICHMENT



Discover  
and recommend



Transform  
and clean



Share  
and govern

### DATA MANAGEMENT



Relational



Non-Relational



Streaming



## Klout creates new business model with Big Data

Klout is a start-up with the goal to help everyone understand and leverage their influence. It uses Big Data to unify the social web with social networking activity, along with data to generate a Klout score and enable analysis, targeting, and social graphs.

## Klout helps

Consumers, brands and data partners alike all benefit from Klout. For example, a leading hotel chain uses Klout scores, in addition to its customer rewards program, to determine which customers to upgrade to a better room during their stay.

*“When it comes to business intelligence, Microsoft SQL Server 2012 demonstrates that the platform has continued to advance and keep up with the innovations that are happening in big data.”*

*- David Mariani,  
Vice President of Engineering*

## Klout Solution

Klout pulls more than 1 billion signals across 15 leading social networks, including Facebook, to generate ‘Klout’ scores. SQL Server Analysis Services plays a key role in Klout’s Big Data solution helping the company to boost efficiency, reduce expenses, expand insight, and support innovation.

## Klout Case Study:

<http://www.microsoft.com/casestudies/Microsoft-SQL-Server-2012-Enterprise/Klout/Data-Services-Firm-Uses-Microsoft-BI-and-Hadoop-to-Boost-Insight-into-Big-Data/710000000129>



Yahoo! is using Big Data to drive higher advertiser ROI by processing 3.1 billion events per day.

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MICROSOFT  
BIG DATA

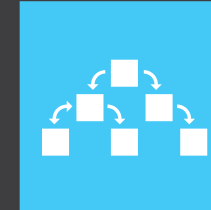
## Enables you to unleash actionable insight from your data

Without the right tools, your company is adrift in a sea of data. You need the ability to unleash the wave of new value made possible by Big Data. Microsoft's Big Data solution gives you the power to manage virtually any data, regardless of size or location; add value to your data by enriching it with external input; and enable anyone in your organization to easily glean insight from your data so they can make smarter decisions. ***This is the power of Microsoft Big Data.***



## Enables you to manage virtually any data

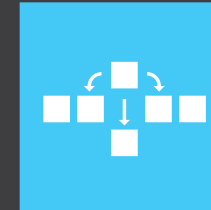
It's all data and you should be able to easily monitor and manage all of it regardless of type or data structure. That's why Microsoft offers an end-to-end Data Platform for nearly all data and easy-to-use tools to analyze it. Regardless of data type, location (on-premises or in the cloud), or size, Microsoft gives you the power of familiar tools coupled with high-performance technologies.



### STRUCTURED DATA

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Microsoft SQL Server 2012 and the SQL Server Parallel Data Warehouse appliance manage large scale structured data.



### UNSTRUCTURED DATA

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The Hadoop-based distribution on Windows Azure and Windows Server will let you process petabyte scale unstructured data.



### STREAMING DATA

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SQL Server StreamInsight manages streaming data and provides near real-time analysis.

## Value from data



COMMUNITY DATA



PERSONAL DATA



ORGANIZATIONAL DATA



WORLD DATA

## Enables you to enrich virtually any data

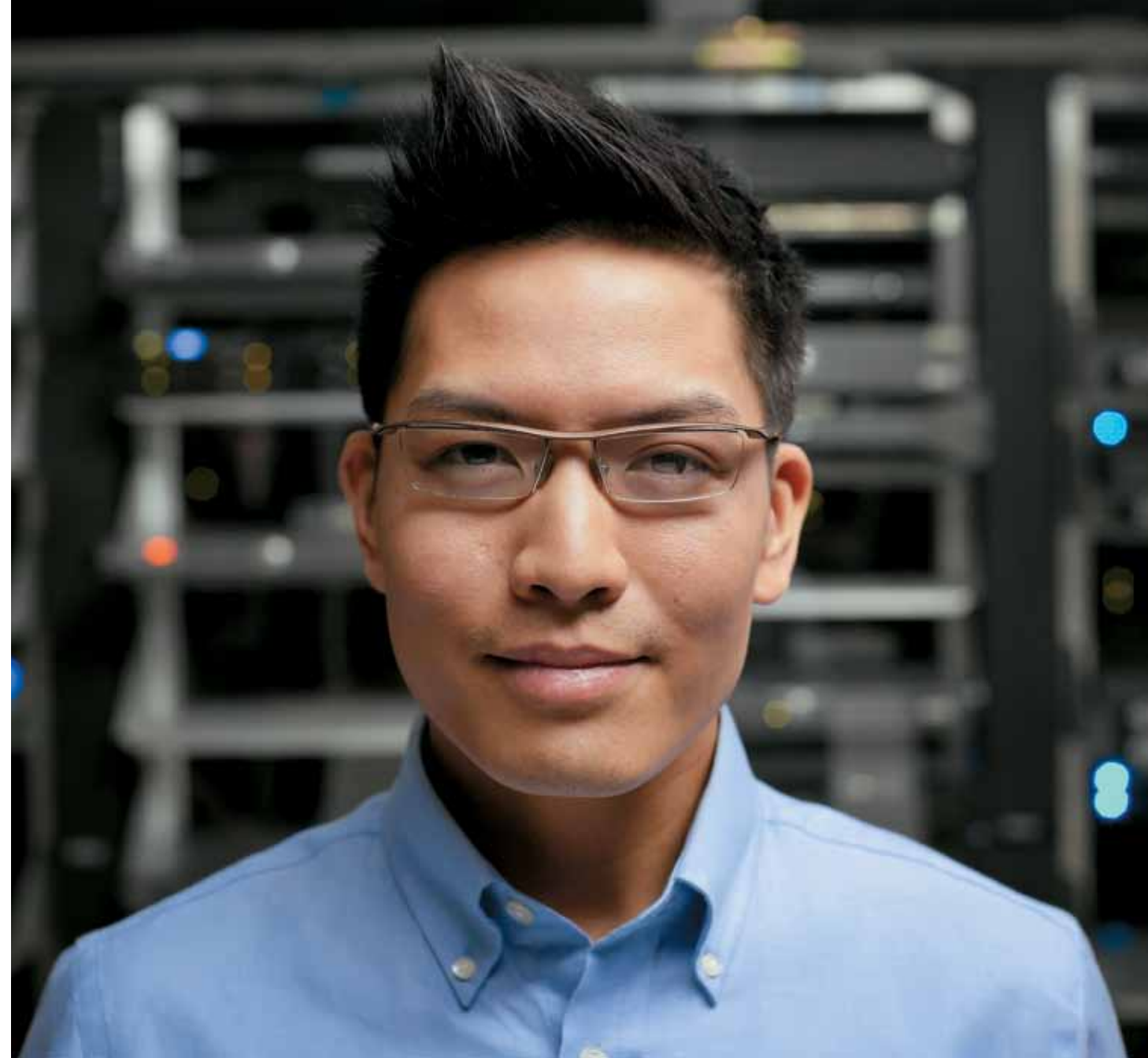
Today it's hard enough to find the right dataset within your organization, let alone outside it. And the time spent by your data analysts trying to surface the right data and source for your precise needs is costly. By connecting to external data sources you can begin to answer new types of questions and deliver new value in ways that previously were not possible.

- **Discover data** with the Azure Marketplace Data Market for third-party data sources; the Data Explorer Azure lab tool for dataset recommendations; and the Data Hub lab for creating private data markets.
- **Combine data** by using the Azure Marketplace to connect with data, smart mining algorithms, and others outside of your organization's firewall.
- **Refine data** by converting your raw data into credible consistent data by enriching data through Microsoft SQL Server 2012 enterprise information management and advanced analytics.

## Enables you to gain insight from virtually any data

You cannot begin realize the value of Big Data until you can deliver new insights from all types of data—structured, unstructured, previously archived or discarded. The benefits of Big Data are not limited only to business intelligence experts or data scientists. Nearly everyone in your organization can analyze and make more informed decisions with the right tools.

- PowerPivot for Microsoft Excel and Power View for SharePoint give nearly all users a view into **structured data**.
- With the Hive Add-in for Excel and Hive ODBC Driver, almost anyone in your organization can directly access **Unstructured Hadoop data** from end-user tools like Excel, PowerPivot and Power View.
- Hadoop simplifies programming for developers with JavaScript for MapReduce jobs. The **JavaScript** implementation can also reduce your code by up to 10 times compared to Java.



# Microsoft Big Data



## Transform your organization with Big Data

The world of data is changing in a big way, and customer expectations are changing right along with it. Big Data gives you the tools to make sense of all your collected data. It challenges you to view your business in new ways. And it gives you a basis to power innovation.

Microsoft Big Data gives you the power to take action. You can gain a flexible platform and accessible tools to discover, connect, and deliver new insight. Big Data is here today, within your reach. Isn't it time to get started?

LEARN MORE

Learn more about the Microsoft Big Data solution and how to get started at [www.microsoft.com/bigdata](http://www.microsoft.com/bigdata).

Learn more about Windows Azure at <http://www.windowsazure.com/en-us/home/scenarios/big-data/>

### ***TRY NOW***

Preview the Hadoop-based service for Windows Azure at <https://www.hadooponazure.com>

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