

Big Data Predictions 2017

We're seeing new connections everywhere. Smartphones. Laptops. Sensors on machines, vehicles, and appliances. All of those connections are generating massive amounts of data. For companies that can transform and manage it, data represents a huge opportunity as a source of competitive advantage and should be leveraged as such.

Big data is touching every industry and every individual in some way, from IT professionals and business leaders to the customers they serve.

- Retail shoppers can receive discounts or store directions delivered to their smartphone as they browse a boutique

- Online consumers can get personalized offers tailored just for them
- Manufacturers are measuring the success of their new products in days instead of weeks
- And drivers can take advantage of easier access to on-street parking based on real-time data and smarter devices

Big data and cloud are the two technologies driving some of these kinds of dramatic transformations. Join us as we look ahead to what might happen in 2017. Be ready to react and take advantage of important new trends and technologies. Make sure that you, and not your competitors, come out ahead next year.



One

The era of ubiquitous machine learning has arrived.

Machine learning is no longer the sole preserve of data scientists. The ability to apply machine learning to vast amounts of data is greatly increasing its importance and wider adoption. We can expect a huge increase in the availability of machine learning capabilities into tools for both business analysts and

end users—impacting how both corporations and governments conduct their business. Machine learning will affect user interaction with everything from insurance and domestic energy to healthcare and parking meters.

Machine learning is finally here for all to leverage.



Overview:
[R Technologies from Oracle](#)



Two

When data can't move, bring the cloud to the data.

It's not always possible to move data to an external data center. Privacy issues, regulations, and data sovereignty concerns often preclude such actions. Sometimes, the volume of data is so great that the network cost of relocating it would exceed any potential benefits. In such instances, the answer is to bring the cloud to the data.

In the future, more and more organizations will need to develop cloud strategies for handling data in multiple locations.



Video
[A New Era of Choice: Oracle Cloud at Customer](#)



Three

Applications, not just analytics, propel big data adoption.

Early use cases for big data technologies focused primarily on IT cost savings and analytic solution patterns. Now, we're seeing a wide variety of industry-specific, business-driven needs empowering a new generation of applications dependent on big data.

Increasingly, applications are driving big data adoption.



eBook:
[Oracle Cloud Platform for Big Data Can Help You Transform Your Business](#)



Four

The Internet of Things will integrate with enterprise applications.

The Internet of Things is for more than inanimate objects. Everything from providing a higher level of healthcare for patients to enhancing customer experience via mobile applications requires monitoring and acting upon the data that people generate through the devices they interact with. The enterprise must simplify IoT application development and quickly integrate this data with business applications.

By blending new data sources with real-time analytics and behavioral inputs, enterprises are developing a new breed of cloud applications capable of adapting and learning on the fly.

The impact will be felt not only in the business world, but also in the exponential growth of smart city and smart nation projects across the globe.



White paper:
[The Convergence of Big Data and the Internet of Things](#)

Five

Data virtualization will light up dark data.

Data silos proliferate in the enterprise on platforms like Hadoop, Spark, and NoSQL databases. Potentially valuable data stays dark because it's hard to access (and also hard to find). Organizations are realizing that it's not feasible to move everything

into a single repository for unified access, and that a different approach is required.

Data virtualization is emerging as a means to enable real-time big data analytics without the need for data movement.



Six

Businesses board the bus to ride the data highway.

Apache's Kafka technology is already building momentum, and looks set to hit peak growth in 2017. In case you've not encountered it, Kafka is a means of seamlessly publishing big data event topics, ingesting data into Hadoop, and distributing data to enterprise data consumers. Kafka employs a traditional, well-proven bus-style architecture pattern, but with very large data sets and a wide variety of data structures. This makes it ideal for bringing data into your data lake and providing subscriber access to any events your consumers ought to know about.

Kafka looks set to be the runaway big data technology of 2017.



Video
[Oracle Big Data SQL: One Fast Query on All Your Data](#)



Video
[Big Data Cloud: Hadoop and Real-Time Streaming Cloud Service](#)



Seven

A boom in prepackaged integrated cloud data systems.

Increasingly, organizations are seeing the value in data labs for experimenting with big data and driving innovation. But uptake has been slow. It isn't easy to build a data lab from scratch—whether on premises or in the cloud. Prepackaged offerings including integrated cloud services such as analytics, data science, data wrangling, and data integration are removing the complexity of do-it-yourself solutions.

Expect a boom in prepackaged, integrated cloud data labs throughout the year.



Video
[Path to Innovation: Data Lab with Oracle Big Data Discovery](#)



Eight

Cloud-based object stores become a viable alternative to Hadoop HDFS.

Object stores have many desirable attributes: availability, replication (across drives, racks, domains, and data centers), DR, and backup. They're the cheapest, simplest places to store large volumes of data, and can directly accommodate frameworks like Spark. We see object storage technologies becoming a repository for big data as they get more and more integrated with big data computing technologies and will provide a viable alternative to HDFS stores for a lot of use cases.

All exist as part of the same data-tiering architecture.



White paper:
[Oracle Storage Cloud Services: Enabling Enterprises to Go Beyond the Box](#)

Nine

Next-generation compute architectures enable deep learning at cloud scale.

The removal of virtualization layers. Acceleration technologies, such as GPUs and NVMe. Optimal placement of storage and compute. High-capacity, nonblocking networking. None of these things is new, but the convergence of all of them is. Together, they enable cloud

architectures that realize order of magnitude improvements in compute, I/O, and network performance.

The result? Deep learning at scale, and easy integration with existing business applications and processes.



Find out more
[Bare Metal Cloud Services](#)



Ten

Hadoop security is no longer optional.

Hadoop deployments and use cases are no longer predominantly experimental. Increasingly, they're business-critical to organizations like yours. As such, Hadoop security is nonoptional.

You can expect to deploy multilevel security solutions for your big data projects in the future.



White paper:
[Develop a Secure Big Data Strategy with Oracle and Intel®](#)





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