



EXECUTIVE OVERVIEW

# 2018 Trends in Data Platforms and Analytics

PREVIEW

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The data platforms and analytics sector is in the midst of substantial transformation, driven by the changing economics of storing and processing data, the ongoing shift to the cloud, and the rise of artificial intelligence and machine learning. In 2017, the impact of these trends accelerated at a pace that looks set to continue into 2018 and beyond.



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Matt Aslett is a Research Director for the Data Platforms and Analytics Channel at 451 Research. Matt has overall responsibility for the data platforms and analytics research coverage, which includes operational and analytic databases, Hadoop, grid/cache, stream processing, search-based data platforms, data integration, data quality, data management, analytics, machine learning and advanced analytics. Matt's own primary area of focus includes data management, reporting and analytics, and exploring how the various data platforms and analytics technology sectors are converging in the form of next-generation data platforms.

# Key Findings

The democratization of business intelligence will take a big leap forward as users of analysis tools acquire more ways to interact with and analyze data without technical expertise.

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Increased adoption of machine learning-driven automation will give business intelligence professionals more free time to tackle complex and higher-level tasks.

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As an increasing volume of data is stored in cloud platforms, enterprises are looking for products and services that provide them with the ability to identify and manage data from across the data estate, including on-premises datacenters and multiple cloud providers.

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Many enterprises are starting to leverage the parallel processing power of GPUs for certain workloads that can be performed significantly faster there than on strictly CPU-based systems.

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Hybrid databases enable organizations to carry out analytics on incoming transactions, taking advantage of the 'transaction window,' which, if done right, could be incredibly lucrative.

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# Executive Summary

## INTRODUCTION

After several years of slowly building toward significant change, the data platforms and analytics sector has accelerated its pace of transformation. This year, five major trends stood out in the market, and all are likely to be high-impact – an indicator that the data platforms and analytics landscape is starting to rapidly grow in different directions.

One of the most prominent illustrations of that change is the increasing democratization of access to data. This means not just bringing more data to more people, which has already occurred, but making it easier for non-technical users to understand that data and create value from it. For instance, while natural language interaction with data – both speech and text – is nothing new, it is likely to reach much wider adoption in 2018, thanks in part to familiarity with natural language interfaces becoming commonplace in consumer devices from the likes of Apple, Amazon, Google and Microsoft. Users have quickly become accustomed to natural language interfaces – thanks to their ease of use and adoption – to the extent that they are already expecting similar functionality from their enterprise applications. Natural language processing (NLP) and generation (NLG) are not new to the business intelligence (BI) space, but functionality is improving quickly, while the ubiquity of consumer devices is likely to accelerate adoption.

We have also seen democratization in the data preparation space. However, it's still necessary to balance the flexibility of self-service approaches and the need for data stewards to retain control over data governance, particularly for privacy, security, regulatory and data quality reasons. This balance, combined with the expansion of self-service availability, is behind a growing need for organizations to manage, and provide access to, data across multiple locations – including on-premises datacenters and multiple cloud providers. Understanding what data resides in the enterprise estate, and how to manage and access it, is going to be imperative in terms of realizing its value.

Accelerating insight from data is also a key driver behind changes at the database layer. Hybrid approaches to combined operational and analytics processing are coming to the fore to enable analysis of data within the 'transaction window,' the fixed amount of time in which an organization can carry out any analytical actions. This real-time analysis supports operational intelligence use cases, such as recommendations, targeting and fraud analysis.

Faster time to insight provides momentum for the adoption of GPU databases, and we expect to see an increase in that adoption in 2018 as mainstream enterprises better understand how GPU databases can be used to augment and complement existing CPU-based data warehousing environments. Potential use cases include geospatial analysis, as well as machine learning (ML) and deep learning.

While ML techniques have potential for use in multiple areas, one of their most notable effects is lowering the barriers to insight. By automating BI tasks through smart data discovery, ML can free BI professionals to tackle more complex, higher-level issues.

## 451 Research's 2018 Cloud Transformation Trends

Source: 451 Research, 2017

	WINNERS	LOSERS
Natural Interactions With Data and Analysis Will Go Prime Time	Vendors that recognize that business intelligence (BI) users need more natural methods of interaction; providers that liberate the user from the keyboard	Companies that don't embrace new approaches to querying data; vendors that ignore how natural language processing and generation can augment traditional query approaches, dashboards and reports
Machine Learning Will Bring Automation to Some BI Tasks	Vendors that already have experience with smart data discovery and those that have baked it into their roadmaps with aggressive delivery schedules	Enterprises and vendors that believe all BI should be driven by humans; vendors that see the infusion of machine learning into BI as hype
The Ability To Manage Data Wherever It Resides Will Emerge as a Key Battleground	Vendors and service providers that can articulate the commercial value of multi-location and data management, plus identify opportunities to partner or acquire	Those that fail to recognize the strategic importance of giving users confidence that they can move their data between multiple locations
GPU-Powered Databases Will Rise in Adoption as Organizations Find Ways To Leverage Parallel Processing Capabilities	Organizations that have geospatial data or can obtain it, and those with appropriate queries	Companies that don't understand the differences between GPU and CPU processing; organizations that hold off on adopting GPUs until the market has fully matured
Adoption of Hybrid Operational and Analytical Systems Will Increase	Organizations that have learned to apply basic analytics or manage resources and skillsets effectively	Vendors that overstate the hybrid capabilities of their systems; organizations that jump too soon into applying complex of advanced analytical pipelines to transactions

## METHODOLOGY

Reports such as this one represent a holistic perspective on key emerging markets in the enterprise IT space. These markets evolve quickly, though, so 451 Research offers additional services that provide critical marketplace updates. These updated reports and perspectives are presented on a daily basis via the company's core intelligence service, 451 Research Market Insight. Forward-looking M&A analysis and perspectives on strategic acquisitions and the liquidity environment for technology companies are also updated regularly via Market Insight, which is backed by the industry-leading 451 Research M&A KnowledgeBase.

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