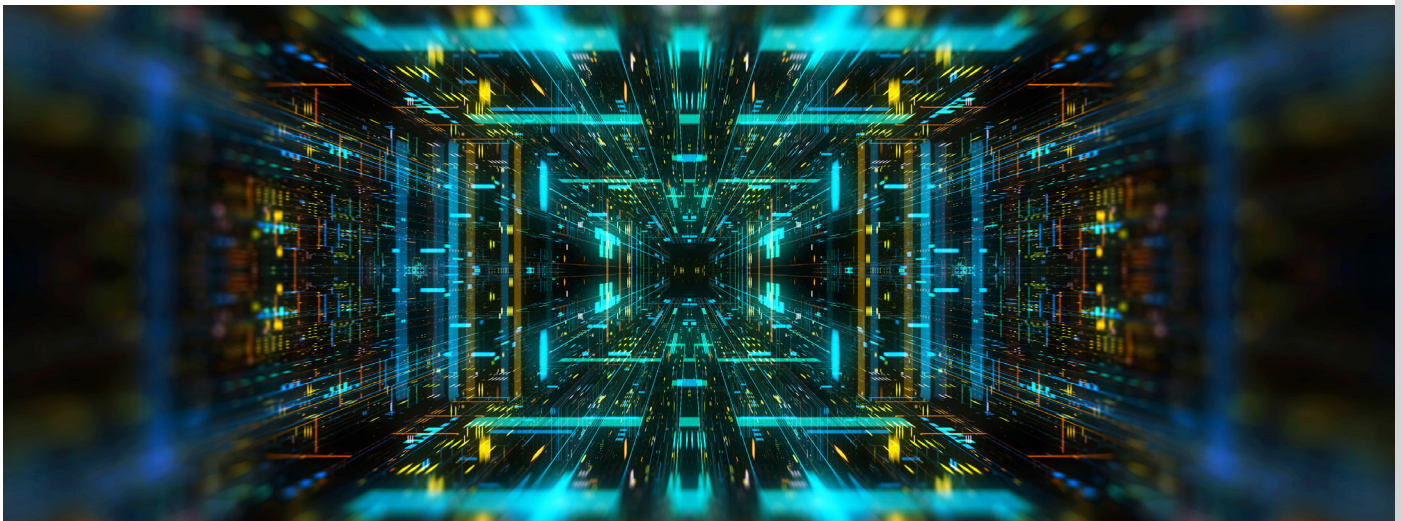


# Modernizing Your Data Architecture for Actionable Insights

A ROBUST DATA ARCHITECTURE IS A PILLAR OF A MODERN ENTERPRISE IT FOUNDATION — AND THE MOST EXPEDIENT ROUTE TO BOTTOM-LINE BUSINESS INSIGHTS.



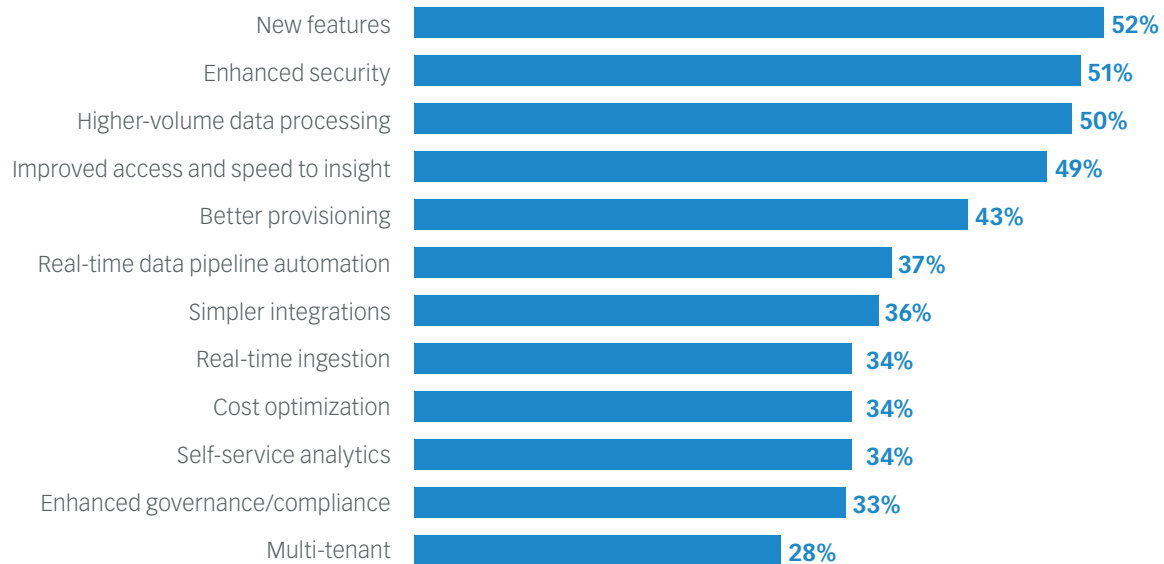
Many enterprises recognize the advantages of next-generation data architectures to drive agility and transform digital business processes. Smart IT leaders see that modernizing data architecture is crucial to a long-term roadmap, and that overcoming the complexity of upgrading and operational disruption are top priorities.

With data architecture modernization, companies can rapidly transform data into actionable insights that can help counter growing complexity, demand for personalized and hyper-responsive customer experiences, and a continuously shifting competitive landscape.

In the financial sector, companies are seeking to leverage data effectively to detect fraud patterns and unlock cross-selling opportunities. Healthcare companies are striving for data insights to improve and personalize patient outcomes while lowering the cost of care. And manufacturers are seeking insights that optimize production while enabling preventative and predictive maintenance.

This quest for data-driven decision-making and optimized business outcomes can be hampered by a variety of issues. According to an IDG survey conducted for Cloudera<sup>1</sup>, nine out of 10 organizations have large data-architecture challenges.

<sup>1</sup> Dell-Cloudera MarketPulse Research, conducted by IDG, March 2021

FIGURE 1 **Benefits of Upgrading Current Data Platform**

SOURCE: IDG

At the top of the list are:

- Data quality (**62%**)
- Security risk/data privacy (**57%**)
- Securing of data from multiple sources (**53%**)

Despite these challenges, the survey found that 41% of companies see significant bottom-line benefits to upgrading data platforms.

Becoming data-driven rests in large part on bringing artificial intelligence (AI) and machine learning (ML) to production at scale, which allows for the maturing of analytics (from descriptive to prescriptive and predictive). In addition, ML alone is not enough; data ingestion and preparation must happen first.

### A LONG LIST OF BENEFITS

These companies recognize that becoming data-driven rests in large part on bringing artificial intelligence (AI) and machine learning (ML) to production at scale, which allows

for the maturing of analytics (from descriptive to prescriptive and predictive). They also know that ML alone is not enough; data ingestion and preparation must happen first.

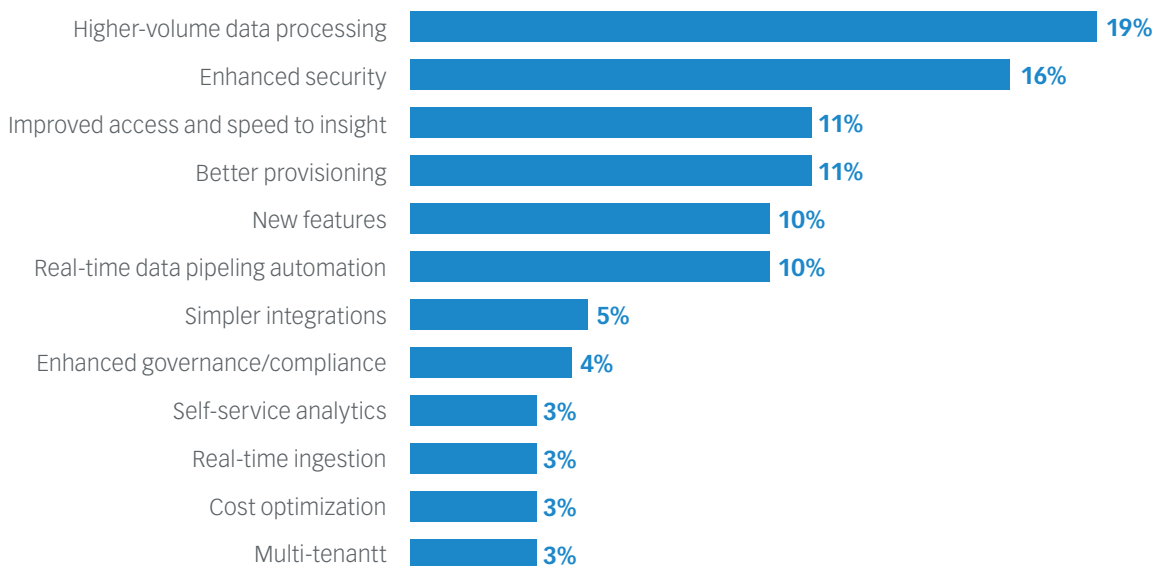
With a modern data architecture capable of ingesting, integrating, and managing diverse data and generating insights at scale, companies can transform business processes and execute on new business models. They can synthesize and act on data from connected assets such as industrial wind turbines and autonomous vehicles to improve performance or proactively initiate maintenance procedures to avoid costly downtime. And these modern systems can help them create connected ecosystems for data sharing and collaboration.

Given these benefits, it's no surprise that 45% have a data platform upgrade on their IT roadmaps. These respondents realize that a robust data architecture is a pillar of a modern enterprise IT foundation and the most expedient route to agile business insights.

"Big data gives us the ability to see the big picture and make improvements where needed," one survey respondent said. "That, in turn, directly affects working strategies, the customer experience, and the bottom line."

Armed with the right strategy and solution partners, organizations can upgrade their data platforms and get

FIGURE 2 Top-Rated Data Platform Upgrade Benefits



SOURCE: IDG

results while avoiding migration headaches and performance concerns. Respondents to the IDG survey see plenty of benefits from upgrading their existing platforms (see chart above):

- Access to new features (52%)
- Enhanced security (51%)
- Higher-volume data processing (50%)

*“Big data gives us the ability to see the big picture and make improvements where needed. That, in turn, directly affects working strategies, the customer experience, and the bottom line.” – Survey respondent*

When asked which benefits are most important (see chart above), respondents again pointed to enhanced speed and security.

Containerization and virtualization are becoming mainstream practices — another indicator that companies are moving in the right direction — despite the fact that fewer than half of respondents (40%) said they do both.

Embracing virtualization and containerization is an important step in preparing data and analytics workloads for a modern data architecture, experts note.

**DATA ARCHITECTURE UPGRADES FUEL AI/ANALYTICS WORKLOADS**

As companies power up AI and analytics workloads, the need for next-generation data platform capabilities becomes even more apparent. According to the IDG survey, virtualization is more prominent with on-premises AI/ analytics applications (31%) than containerization at 24%, and containerization is unlikely to have been fully adopted for all AI/data analysis workloads. In addition, those companies that have integrated some of these practices for AI/data analytics workloads are most likely to have omitted real-time processes (60%) from the modernization roadmap. There are some concerns about transitioning to a next-generation hybrid cloud platform for AI/data analytics workloads. Primarily, respondents voiced concerns about:

- Monitoring and security issues (54%)
- Lack of required functionality for containers and virtualization technologies (48%)
- Lack of budget (45%)



### Different Benefits for Different Industries

Upgrading a data platform delivers different benefits to different sizes of organizations.

- **Smaller shops** (fewer than 10,000 seats) are more likely to reap the rewards of a multi-tenant model (**33%**) than their larger counterparts.
- **Large shops** (10,000+ seats) are primed to take advantage of optimized provisioning (**48%**).

There are also varying benefits based on industry.

- **Financial entities** are interested in the benefits of new features (**58%**) and enhanced security (**59%**) of data platform upgrades.
- **Healthcare companies** see value in better provisioning (**51%**).

The right vendor partnership, however, can help pave the way for data platform modernization.

The Cloudera/Dell Technologies/Intel partnership creates a moderate and cost-efficient path to cloud-enabling a modern data architecture while minimizing upgrade risks. This single-platform approach enables fast, rich insights, data-driven decision-making, and optimum business outcomes.

Dell EMC Ready Solutions, powered by Intel processors and persistent memory technology, deliver architectures optimized for the Cloudera Data Platform (CDP) to support a range of data workloads and use cases, whether batch or in real time. They can serve as data warehouses or data integration hubs, and they support the ingestion of streaming data. The solutions are also optimizing the

efficiency and security of data-intensive AI and ML workloads both on- and off-premises, ensuring organizations meet compliance mandates.

As part of their integrated approach, Cloudera, Dell Technologies, and Intel offer a range of consulting services and best-practice engagements. These include ensuring compliance, implementing the latest storage technologies, and integrating and validating the latest upstream releases of CDP applications such as Hive and Spark. The partners also formulate roadmaps for a hybrid approach to data platform modernization and help companies ease into containerization and virtualization strategies via Dell EMC Ready deployment and design guides.

### THE BOTTOM LINE

Data-driven enterprises are ready to reap the rewards of agile decision-making and transformative business models. To fulfill the promise, smart enterprises are accelerating their data architecture modernization plans, aligning with partners and platforms that shift migration into overdrive without unnecessary cost and risk.

[For more information, click here.](#)

### About the Survey

IDG conducted an online survey on behalf of Dell, Cloudera, and Intel to understand customer objections, concerns, and hesitations with migrating from legacy data platforms to upgraded data platforms. Respondents included 202 participants with titles of IT manager or above.

To qualify for this survey, respondents were required to work for a company in healthcare/life sciences or banking/financial services/investment with 1,000 or more employees and \$1 billion+ annual revenue. These organizations utilize hybrid and/or multicloud structures and have a data lake/Hadoop or data platform as part of their big-data architectures.