Data Automation in Action

Modernization and the Operation of Hybrid Data Ecosystems

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper
Prepared for TimeXtender

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September 2019

EMA™
IT & DATA MANAGEMENT RESEARCH, INDUSTRY ANALYSIS & CONSULTING

EXECUTIVE SUMMARY

MODERNIZATION AND HYBRID DATA ECOSYSTEMS

The speeds of disruption and innovation create a competitive climate that requires continual advancement of analytics and data management technology. The failure to keep up with competitors' analytic prowess can have drastic consequences. Modernization is the continual advancement of analytics and data management technology necessary to attain and sustain competitive advantage.

Part of modernization is the expansion of Hybrid Data Ecosystems (HDEs), the full set of various platforms managed by an entity. HDEs come with challenges and benefits of their own. Most organizations operate two to eight different platforms. For large organizations, critical platforms like analytical databases can have more than 700 instances.

To overcome the complexity and cost of managing HDEs, mature organizations are turning to automation for their data lakes, data warehouses, data integration, and data preparation. Recent EMA research, "Modernization and the Operation of Hybrid Data Ecosystems" identifies thought leadership trends and best practices for the move to automation.

AUTOMATION IN ACTION

AUTOMATING YOUR EXPANDED HYBRID DATA ECOSYSTEM

EMA discovered that 61% of participants selected "business requirements" as the top driver for expansion of their HDE. Supporting this assertion, the second-highest choice among participants was "new analytic requirements," with 50%. Since most analytics are business-driven, line of business leaders are in the driver's seat for HDE expansion.

46% of participants are using data warehouse automation to manage the complexity of expanding hybrid data ecosystems.

EMA also asked participants how they were handling the increased complexity of HDEs. Top answers included data warehouse automation tools at 46%, modern data integration tools at 47%, and artificial intelligence (AI) at 46%. AI is what drives automation in analytics and data management tools. Both mentioned toolsets utilize AI and machine learning to automate repeated tasks. Therefore, automation is a top priority for anyone with multiple platforms under management.

AUTOMATING BIG DATA PLATFORMS AND MODERN DATA WAREHOUSES

Since organizations continue to expand their HDEs, it is important to understand where that expansion is taking place. EMA research revealed that many organizations are adding data lakes, like Azure Data Lake, and new data platforms, like Apache Hadoop and Spark, to their technology environments. In addition, high adoption of data warehousing and analytics platforms continues to drive the use of advanced analytics and machine learning.

EMA asked, "Which of the following capabilities are most important to your data warehouse and big data programs?" The #1 answer was "automation." Data warehouse modernization has been in motion since the late 2000s. Since then, the traditional data warehouse merged with data lakes and simple storage to optimize cost without compromising performance. Data warehouse and data lake automation top the list as the most important aspect of modernization in 2019, with support from both business and IT.

Automation is the #1 priority for modernization in data warehousing and big data platforms.

AUTOMATING YOUR DATA INTEGRATION PLATFORMS

The data integration category has changed drastically since its inception in the mid-1990s, when it was primarily ETL with limited sources and limited targets. Modern data integration includes the integration of data and APIs, data cleansing, data preparation, and the integration of data from machines, sensors, and applications in near-real time.

As part of the modernization journey, the number-one priority for data integration is the cloud, followed by the automation of repeated tasks. Data integration and preparation continue to be the most time-consuming aspects of any analytics project, making automation critical to the success of these aspects of data management.

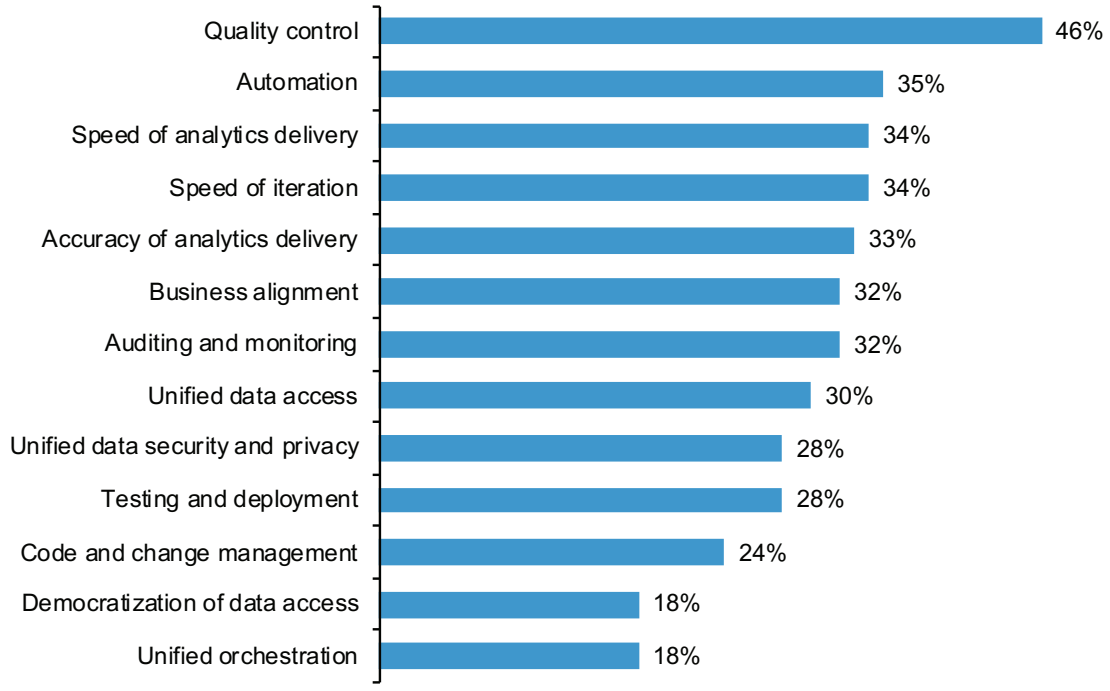
AUTOMATING YOUR DATA OPERATIONS (DATAOPS)

In the last 9-12 months, the growth of DevOps spilled over into the data world. To orchestrate, operate, and optimize hybrid data ecosystems made up of data warehouses and data lakes, mature organizations are now instituting DataOps. EMA research looked at 13 of the goals typically associated with DataOps.

According to research participants, automation is a high priority for DataOps. Thirty-five percent of participants indicated that "automation" is an important aspect of operating hybrid data ecosystems. Every analytics and DataOps leader should be adopting automation and measuring the time saved by automating repetitive tasks typically done manually by people in the organization. The goal of automation is always to do more with less, speed delivery, condense iteration cycles, and drive innovation.

Quality control was in the top position with 46%, indicating that data leaders are tired of the inordinate amount of time their teams are spending on break-and-fix incidents. Automation is one of the most effective ways of addressing quality control issues, especially for those tools that have self-healing capabilities.

Which aspects of DataOps are important to the operation of your hybrid data ecosystem?

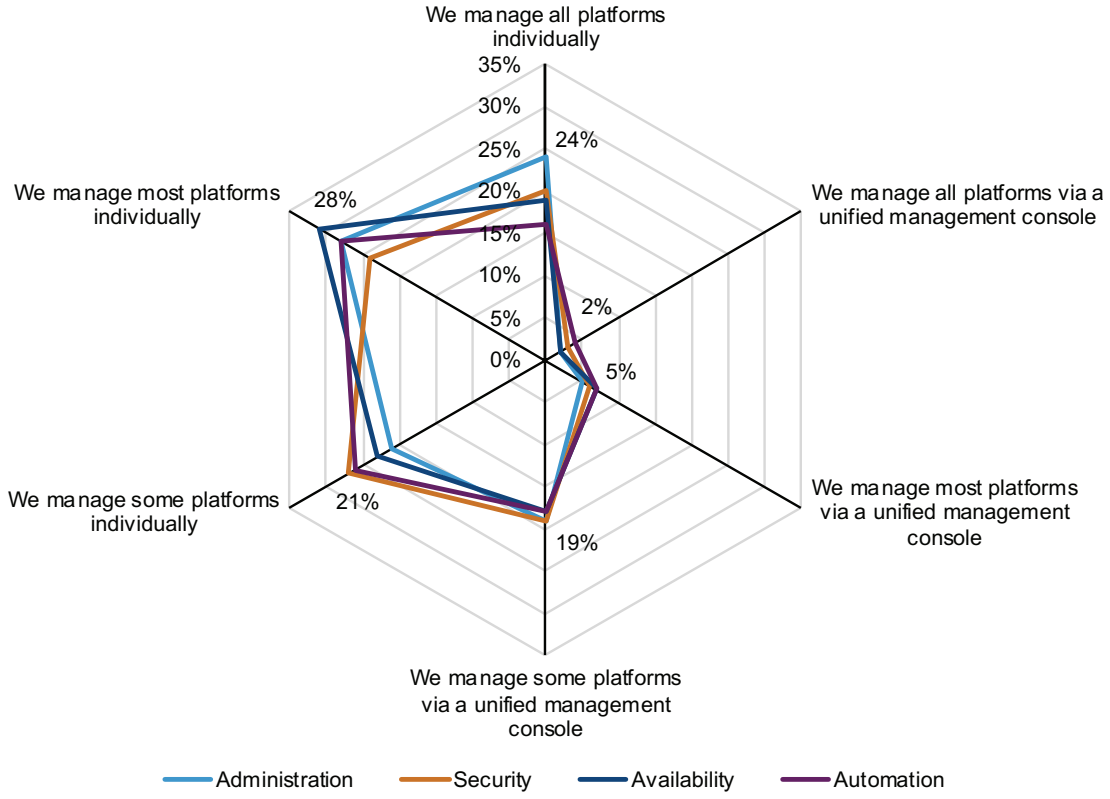


AUTOMATION TIME IS NOW

Finally, EMA research concludes that the automation of hybrid data ecosystems is currently in its infancy. Most organizations continue to add data platforms to their ecosystem and manage them as separate systems. As a result, they also continue to incur high management costs and resource shortages, and have difficulty connecting and finding data in their diverse systems. Traditional investments in integration technology provide some help, but they do not provide the speed necessary to run a digital business.

In the following spider chart, maturity is indicated on the right side of the chart. Maturity in the operation of hybrid data ecosystems is clearly in the beginning stages, with only 7% of participants managing most or all of their platforms in a unified manner. Because businesses are in the early days of automation maturity, now is the time to begin implementing aggressive automation programs to gain and maintain a competitive advantage. Companies seeking to automate functions in data management for hybrid data ecosystems should seek technologies and vendors who provide data automation and management or DataOps capabilities that include automation.

Which of the following best describes how you currently manage different platforms and tools in your data ecosystem?



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Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on Twitter, Facebook, or LinkedIn.

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