WHITE PAPER

Innovation Is Essential— and Database Modernization Makes It Possible

EXECUTIVE SUMMARY

The amount of data that organizations generate is exploding—and IT and business leaders are looking for ways to improve the way they analyze and extract insights from that data to meet business objectives, serve customers more efficiently, and drive innovation.

But many organizations have a data management problem: They are still using legacy nonscalable databases that are no longer cost-efficient, cannot keep up with the needs of today's data analysts and scientists, and do not scale in support of digital transformation initiatives.

Increasingly, IT leaders who realize the business value of database modernization are migrating from legacy technology to modern database platforms as well as modernizing Microsoft SQL Server workloads.

This white paper explores the benefits of a modern data strategy and examines how Amazon Web Services (AWS) and IBM can help smooth the database modernization journey.

The Business Imperative for Database Modernization

Data is central to business strategy today. Organizations know that data—in addition to data access—holds the keys to innovation, because of the critical nature of analyzing and using data to make better, more informed decisions across the business.

Because data is so critical to business, some enterprises have been hesitant to move off of the proprietary relational database management systems that have lived in their data centers for 30-plus years. But as these legacy platforms age, they become far less effective. As they have grown over time, they have become more complex to maintain and use, require too many tools to manage, and are increasingly isolated from other platforms across the organization. The complexity and lack of integration have led to several challenges that constrain IT teams, including:

- High licensing and maintenance costs
- Operational inefficiency
- Lack of data availability during planned or unexpected downtime
- Challenges with upgrades and configurations of outdated technology
- Lack of agility and scalability

To address these challenges, IT leaders are getting more aggressive in modernizing their database infrastructure, which increasingly involves moving database workloads to the cloud.

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The benefits of migrating to a cloud-based data and database model include:

- Dynamic scalability
- Agility in provisioning compute or storage resources
- More reliable performance, particularly during a disaster
- Faster rates of innovation
- Affordable, predictable pricing
- Functionality on a global scale
- Flexibility to deploy and move workloads among availability zones

Importantly, modern database management frees up IT teams to focus on higher-value activities, versus manual, time-intensive tasks such as patching, securing, and scaling databases.

How AWS and IBM Enable Data-Driven Innovation

Innovation is essential for staying competitive. Key to innovation is a modern approach to data. Data is now one of the most valuable assets of a business, and it can open up multiple opportunities to improve processes, serve customers, and deliver on new ideas and strategies.

The World Economic Forum refers to data as "the new gold." The global organization estimates that data and other intangible assets constituted 84% of S&P 500 company value. By 2025, over 80% of data worldwide will reside within private control of enterprises.

This data provides an enormous opportunity for organizations to innovate and generate top-line value. To capture that value, business leaders must invest in digital transformation initiatives, including cloud technologies, that will enable them to compile data from many disparate sources, provide access to multiple stakeholders across the organization, and help these stakeholders use the information to draw valuable insights and make better business decisions.

Business and IT leaders are mindful of this opportunity. Gartner, in its top strategic technology trends report for 2021, predicts that 80% of midsize to large enterprises will change their culture to accelerate their digital transformation. Of the 11,000+ respondents to the survey covered in the IDC Planscape: Cloud Adoption Strategy, 70% identified themselves as having a "cloud-first" IT strategy either today or for the future.

Forward-thinking businesses that integrate data from multiple sources and systems will enable teams to do their best work, streamline existing operations, possess a more customized view of the customer, and improve customer experience overall.

To succeed, IT and business leaders are partnering with leading providers such as AWS and IBM, which provide technology, services, and expertise to help organizations modernize their data infrastructure.

Why AWS

IT leaders must ensure that they have the right tools for their organization's data management needs moving forward, and therefore it's critical to evaluate how cloud-native database management systems address those needs.

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SOURCE: IDC Planscape: Cloud Adoption Strategy

Organizations have been running workloads on AWS for over a decade and increasingly rely on the long history of experience in running database and other applications on the AWS Cloud. For example, IDC research finds that organizations that run Windows workloads on the AWS Cloud see significant improvements in performance, efficiency, and security, including twice the performance for SQL Server on Windows compared to the next-largest cloud provider.

In a deeper look at this demonstrated advantage, AWS ran a performance analysis with comparable-instance type and storage configurations. This recent blog reports that the benchmark running SQL Server on AWS delivered 2 times better performance. This analysis also uncovered a price/performance advantage showing that AWS was 62% less costly than Microsoft Azure.

The benefits are clear, and the results are proven through a concrete analysis of running workloads on AWS. But organizations often lack the skill sets to quickly design, build, and deploy these robust cloud solutions, leading them to choose solutions that may not meet all of their business requirements. Enter IBM Garage.

Why IBM Garage

IBM Garage is an end-to-end engagement model that includes industry and technology best practices to help organizations co-create modernization solutions with a multidisciplinary IBM team. The Garage approach offers enterprises the experience and proven methodology to grow skills as they design, deploy, and manage innovative solutions, with decreased time-to-value and reduced risk.

IBM Cloud Migration Factory uses the IBM Garage Methodology and tools to accelerate Windows migration, leveraging a unified, squad-based, full-life-cycle, global delivery model along with "born in the cloud" methods, core automation, and other foundational services to deliver a differentiated value proposition and customer experience.

According to research from Forrester, benefits customers report from their experiences with IBM Garage include:

- **Decreased time-to-market:** With IBM's experience and expertise in developing enterprise solutions in the cloud, organizations can significantly accelerate deployment of solutions on AWS.
- **Faster design and development:** IBM Garage Methodology can reduce solution design time by 75%.
- **Innovation boost:** IBM Garage clients benefit from a tenfold increase in innovative ideas generated.
- **Measurable success:** IBM Garage clients slashed 67% off delivery timelines and pushed six times as many projects into production, with an 102% average ROI.

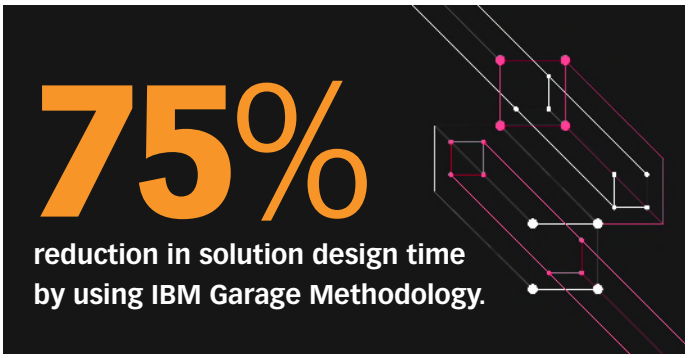
IBM Garage leverages a proven, iterative approach to solution development, working as an integrated team with employees.

Use Case: Automotive Company Sees Marketing Data Clearly

In this use case illustrating the benefits of modernization, an automotive client—a mechanical service repair company that manages more than 100 automotive dealerships—needed a marketing analytics platform that provided a consolidated view of its customers' purchasing trends across the dealerships.

The client wanted to initiate a journey to a modern cloud-based enterprise data architecture while implementing a "household service" as the first use case for the available data. But the client had siloed data that could not be used in its current state to drive business value. It was cumbersome, error-prone, and problematic to combine data from multiple sources. Deriving insights from on-premises data was also slow, as the database had to be repeatedly scanned for compatibility and often had to undergo conversion processes before migration.

The IBM solution helped the client implement a flexible cloud environment to consolidate data from multiple sources into a single environment. Through the work with IBM, the company was able to extend the AWS Cloud environment with the consolidated data, which provided additional value by creating a foundation for business insight reporting and alerting capability, such as business dashboards and customer reports.



The company implemented a bespoke and secure database migration service (DMS) between the on-premises source SQL Server database and the target AWS platform, and the AWS Schema Conversion Tool (SCT) was used to automate the conversion of the source database schema into the target format, reducing repetitive manual efforts.

Modernization Benefits to the Automotive Company

The AWS Pricing Calculator played a crucial role in providing deep insights to the client for building a business case in favor of AWS migration, as the client was able to compare pricing across different use cases and models and make an informed selection for development and production environments.

The client also now benefits from:

- **Rationalized marketing spend:** The client converted random data to a consolidated household view, helping reduce mailing costs and improve customer satisfaction.
- **Easy identification of top customers:** The client is able to quantify engaged customers and prospects to engage each household appropriately.
- **Marketing effectiveness:** The client is benefiting from dramatically improved awareness and understanding of customer needs. Now it is able to proactively communicate the right message at the right time to its customers.

Conclusion

In the digital era, data, analytics, and insights are top priorities for meeting business objectives, serving customers more efficiently, and driving innovation. To create and execute a data-first strategy, IT and business leaders need to examine their current data management infrastructure and accelerate migration to a modern, scalable, flexible model to keep pace with the needs of today and the unknowns of tomorrow.

Legacy databases can no longer keep up with the pace of decision-making and immediate access to data that enterprises require. Legacy platforms are no longer cost-efficient, and their outdated design cannot support the requirements of today's data analysts and scientists.

Future-ready IT leaders are looking to cloud-native database management platforms that can offer all the benefits of a modern database, including a quick and efficient way to draw on data from multiple sources and find its value for multiple use cases.

AWS offers proven benefits when it comes to the performance, efficiency, security, and performance of database applications and workloads. IBM Garage provides complementary skill sets and deep expertise to help organizations co-create modernization solutions with a multidisciplinary IBM team.

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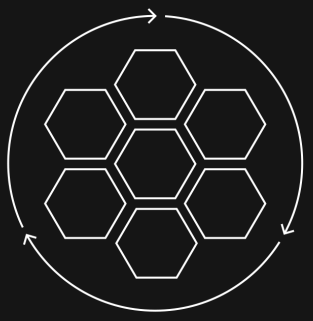
IBM cloud experts collaboratively support the modernization and migration of your core Windows database workloads and applications to the AWS Cloud. IBM uses a combination of cocreation using the IBM Garage Methodology, coupled with a factory-based delivery model to delivery the right solution at speed, while integrating next-gen intelligent workflows powered by data, AI, and automation. For more information, visit **here**.



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