INFOSYS SAP DATA ESTATE MODERNIZATION ON AMAZON WEB SERVICES

Abstract

Seamlessly combine structured SAP data and unstructured data into an organized and accessible data source to apply artificial intelligence/machine learning (AI/ML) and improve business intelligence.

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Improving data quality and availability with data estate modernization

The speed of innovation has significantly changed with the availability of hyperscalers to manage compute, networking, and data services at scale. With the growth of AI/ML technologies, the ability to analyze and transform data into valuable insights is a critical competitive driver. At the same time, the need to perform and scale AI with embedded analytics is driving a push to modernize data storage to make it more accessible for analytics.

Data estate modernization is a data management process that connects structured and unstructured data and helps democratize data for better visibility and deeper insights. While data estate modernization can be impactful for organizations of all types, enterprise SAP customers who manage multiple ERP systems can expect modernization to be particularly beneficial. A significant amount of the data SAP customers use for strategic decisions on a daily basis can be limited to what is stored in their SAP and SAP S4/HANA environments. The ability to generate insights by integrating SAP data with external sources and applying advanced analytics is key, but limitations in existing landscapes can become blockers for organizations using legacy systems.

Using data estate modernization helps organizations manage all corporate data sources, integrating disparate structured SAP S/4HANA data with unstructured data into a single data warehouse for optimized accessibility.

Market and technology pressures are driving business transformation

As SAP customers modernize their existing systems, they are learning that cloud migration does not automatically eliminate existing enterprise data silos. This is especially true for organizations who do a lift-and-shift migration.

With the impending 2027 SAP S/4HANA deadline, organizations who have not yet migrated need to accelerate their efforts, i.e. understanding and investing in their data landscape modernization. In-house data modernization can be a years-long project, requiring specialized skillsets and tooling, due to the complexity of SAP systems and the business-critical data that reside in those systems.

As organizations evaluate their options to begin the SAP migration journey, the need for modern, scalable data storage is an incentive for organizations to look to Amazon Web Services (AWS) to host and manage business-critical data across multiple sources.

Benchmarks for success: enhanced business value, scalable architecture, and reduced costs

The overarching goal of data estate modernization is to enable better informed, data-driven decision making. As organizations embark on their modernization journey, the key factors for transformation success are:

- **Enhanced business value:** Broader access to data is a critical result of data estate modernization. Better data-driven decisions come from complete data access and analytics, requiring secure, seamless access to organization-wide data from anywhere to anywhere.

- **Scalable architecture:** As the amount of data generated from business-critical tasks grows, the landscape in which it is stored also needs to grow. Data estate modernization uses modern and scalable methods to expose, interpret, and democratize data, making it available to anybody in the organization who needs it.

- **Cost reduction:** A successful data estate modernization enables users to quickly access data, reducing the time spent looking for, processing, and analyzing it, which helps cut costs. This allows teams to focus more on driving the business strategy forward and less time managing infrastructure.

Infosys Data Estate Modernization uses AWS to scale quickly and lower customer costs

Infosys Data Estate Modernization is part of Infosys Cobalt portfolio of offerings. Cobalt is a set of over 14,000 cloud assets and over 200 industry cloud solution blueprints that help enterprises accelerate their cloud journey. Infosys developed the modernization and reference architecture to help organizations manage all corporate data, combining structured and unstructured data from SAP, legacy systems, and front-office systems. In building this solution, Infosys significantly invested in tools and accelerators with SAP customer needs in mind, allowing organizations to reduce implementation timelines and effort by as much as 80%*.

Using AWS as the foundation for Infosys Data Estate Modernization, Infosys combines AWS tools and services, such as Amazon Simple Storage Service (Amazon S3) and Amazon RedShift, with Infosys Cobalt cloud migration solutions, resulting in a high performance reference architecture, combining SAP and non-SAP data.

* Infosys internal research

Why AWS for SAP?

Over 5,000 organizations are running SAP on AWS with over half running an SAP HANA-based solution. AWS has years of experience migrating, modernizing, and transforming SAP landscapes, enabling organizations to unlock a new realm of possibilities with their SAP data.

The AWS compute power, performance, and scalability combined with end-to-end services such as IoT, analytics, and AI/ML can help organizations gain deeper insights for better decision making and enhanced innovation. Running SAP on AWS delivers cost savings and helps IT change its focus from infrastructure management to projects that accelerate productivity and improve customer service.

Since 2011, AWS and SAP have jointly innovated to develop hardware purpose-built for the most demanding SAP S/4HANA workloads, including Amazon Elastic Compute Cloud (Amazon EC2) X1, X1e, and high-memory instances for data-intensive applications.

Combined with AI/ML and analytics capabilities, this makes AWS an ideal environment for SAP data estate modernization.

Infosys Data Estate Modernization delivers on three critical objectives to unify and democratize previously disparate data:

- Well-developed reference architecture and data integration framework using AWS data ingestion, processing, storage, and analytics tools.

- Modern and simplified data management platform for improved business-critical insights to help make data-driven, strategic decisions.

- End-to-end data integration and orchestration process that cannot be easily developed in-house.

Using pre-configured, industry-specific solutions and more than 50 use cases to choose from, Infosys accelerates the deployment of a modernized data estate, reducing the timeline from years to months. These configurable solutions cover a breadth of AI/ML use cases such as business forecasting and intelligent searching. After determining the primary use case or use cases, the solution accelerators can be customized to each organization's unique needs, enabling them to gain more value from their data.

The major outcome of Infosys Data Estate Modernization is a fully democratized data landscape that provides broader accessibility and enables end users within the organization to pull, ingest, and analyze business-critical data for deeper insights. At the core of the Infosys Data Estate Modernization, organizations have access to leading machine learning models through AWS AI/ML and analytics solutions to train and analyze the data that drives their business forward. Data estate modernization accelerates the adoption of AI/ML within an organization, opening new opportunities to understand market and business needs and to accelerate product development.

Why choose Infosys for SAP data estate modernization

- Self-service enablement: Through the creation of a foundational analytics layer and business rules, Infosys enables end users to create and define business KPIs.

- Ready to deploy: Infosys streamlines data exploration timelines to reduce design and implementation turn-around times using various metadata generation tools.

- Reduced implementation costs: Infosys works with organizations to define an optimized data management architecture, leveraging AWS to manage the infrastructure and lower costs.

- Pre-configured, industry-specific solutions: To accelerate the de- ployment process, customers can leverage over 50 industry-specific use cases.

- Democratization of data: With an innovative architecture and near unlimited scalability, organizations can deploy business scenarios quicker and deliver valuable data to users.

Vertical application benefits of data estate modernization

- Data objects: Optimize data management and standardization.

- Reporting: Direct access to visualization tools.

- Real-time accessibility: Process structured and unstructured data.

- Social media: Analyze text sentiment from streaming feeds.

- IoT devices: Improve the responsiveness of streaming data.

- Retail: Image processing for product cataloging.

- Utilities: Monitor meter data.

A phased approach to data estate modernization

Using the data estate modernization process and SAP experience, Infosys provides consulting to create a unique architecture that meets each individual organization's needs, delivering enhanced business value and lower TCO. Once the architecture has been established, the Infosys team will continue to look for areas to optimize, modernize, and simplify. The goal for Infosys Data Estate Modernization is full integration and orchestration of both structured and unstructured data to create a unified data warehouse for quick, streamlined analytics.

From a customer's perspective, data estate modernization is completed in three steps:

- Engage in a data architecture strategy development workshop: The workshop objective is to gain a full understanding of the customer's data landscape management approach, from structured SAP S/4HANA data to unstructured data. The initial workshop phase typically includes the customer's SAP architect, senior SAP BASIS (system administration), analytics specialists, and developers. During this process, Infosys will develop an assessment of the data landscape and analytics methods, including design of a data warehouse plan to connect and organize disparate data. Infosys also identifies future organizational data management and migration needs.

- Receive a data estate program plan: Before implementation, the customer receives a comprehensive evaluation of the data landscape. This includes a review of data management practices as well as a business intelligence (BI) roadmap. An evaluation of the customer's technical debt condition, a detailed plan for the BI execution, and how AI/ML will be used to manage SAP and non-SAP data are also provided. Infosys leverages pre-configured

solutions and the industry-specific use cases mentioned earlier to design the core reference architecture thereby streamlining the modernization.

• **Expand innovative data engineering and orchestration:** Infosys works with the customer to deploy a comprehensive platform that yields valuable data-driven insights. After the initial engagement, Infosys will continue to identify additional opportunities to deliver value.

How it works

The foundation for the Infosys Date Estate Modernization reference architecture relies on AWS services and tools along with Infosys Cobalt-based cloud assets. The scalable architecture on AWS incorporates enterprise-grade data management resources including SAP-specific services, data storage, accelerators, provisioning, and data orchestration tools. The reference architecture below details a data estate modernization on AWS.

First, systems of records are discovered and defined. These systems can include any data source, structured or unstructured across the organization, such as SAP, legacy systems, and front office systems. Data is then ingested through a number of tools:

• **AWS IoT solutions** collect and ingest IoT sensor and machine data, typically within manufacturing organizations.

• **AWS Glue** extracts, transforms, and loads data within a centralized data integration catalog, making it easy to access any type of data.

• **Amazon Kinesis** collects, processes, and analyzes streaming data in real time.

• **SAP Data Services** capture and ingest real-time SAP application data.

Once the data is ingested, it is sent to an enterprise data lake for storage and processing. Often, the initial storage repository is in Amazon S3, where data is processed and cataloged before being sent to Amazon Redshift, where data can be queried and analyzed. Amazon Redshift

enables organizations to save the results of their queries to Amazon S3, delivering redundant backups for business-critical data. After processing, data can be sent to AWS and third-party analytics tools for deeper insights. For organizations leveraging AI/ML, data can be streamlined to Amazon SageMaker to train machine learning models and gain valuable insights that were previously unattainable.

During the final phase, the data and insights can be consumed by end users and leveraged by business analysts, data analysts, and data scientists to better understand the performance of internal processes, which helps stakeholders make more informed, data-driven optimizations.

The foundation of the reference architecture is built with core AWS solutions focused on data orchestration, data management and governance, data security, and DevOps.

Infosys Cobalt AWS enterprise data platform

Reference architecture
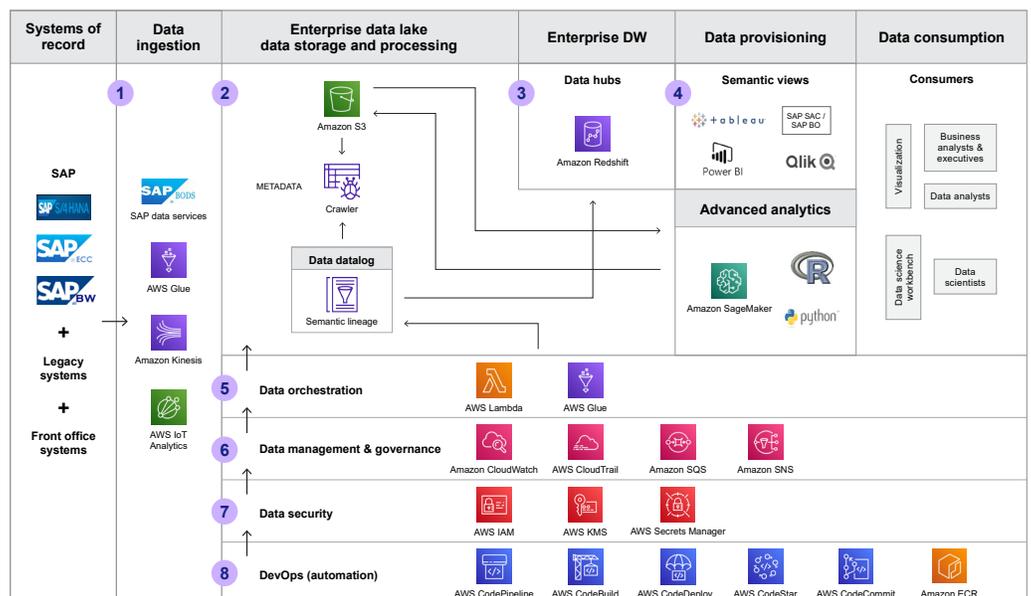
Infosys and AWS

Infosys delivers next-generation digital services and consulting, enabling customers in more than 50 countries to navigate their digital transformation. In addition, Infosys provides software development, maintenance, and independent validation services to companies in multiple industries.

Infosys is an APN Premier Consulting Partner and SAP Global Services Partner using proprietary knowledge, methodologies, tools, and accelerators to enable successful SAP migrations to AWS through SAP Migration Factory. Infosys holds seven AWS competencies and 3000+ AWS certifications.

Leveraging SAP on AWS, Infosys provides joint customers with a number of cloud-focused solutions, from consulting and platform engineering to optimizations and data democratization. Infosys SAP experience spans several industries, including retail, manufacturing, healthcare and life sciences, financial services, and energy and utilities.

Getting started

Find out how your organization can unify SAP and non-SAP data into a single, centralized data warehouse for better accessibility and improved analytics. Get started on your data estate modernization journey to fully democratize your data and gain insights to grow and maintain your competitive edge.

Learn more about Infosys Data Estate Modernization or register for a preliminary workshop.

Infosys Cobalt is a set of services, solutions and platforms for enterprises to accelerate their cloud journey. It offers over 14,000 cloud assets, over 200 industry cloud solution blueprints and a thriving community of cloud business and technology practitioners to drive increased business value. With Infosys Cobalt, regulatory and security compliance, along with technical and financial governance comes baked into every solution delivered.

For more information, contact askus@infosys.com

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