ISG Provider Lens™

Mainframes – Services and Solutions

A research report comparing provider strengths, challenges and competitive differentiators

Customized report courtesy of:

DXC TECHNOLOGY

QUADRANT REPORT | MARCH 2025 | U.S. AND BRAZIL

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The year GenAI transformed mainframe modernization and extended mainframe future

Generative AI (GenAI) has a dual effect in the mainframe modernization market. It accelerates migrations off the mainframe and provides clients with tools to extend their use of mainframes.

In the **Mainframe Optimization Services quadrant,** ISG observed a growing trend among clients to adopt DevOps, containers and APIs to enhance their application development and maintenance platforms. These clients recognize that their mainframes will continue operating for many more years, making investments in modernizing tools and processes essential. A significant demand many service providers report is integrating mainframe data with the public cloud. Changes in market regulations have also created new demands around security and compliance. Enterprises must update their legacy applications to meet these new requirements, and providers use GenAI's code inspection functionality to accelerate the discovery of changes and the modernization of legacy code.

However, to use DevOps, containers and GenAI with legacy languages, such as COBOL, enterprises must update their application development workbench, including testing automation, code repositories and version control. Once these functions are enhanced, enterprises realize their mainframes can exist longer, providing agile services and rapidly creating APIs to meet data integration demands.

In the **Application Modernization Services quadrant for the U.S.,** ISG observed that GenAI has opened new possibilities and elevated clients' trust in application modernization. Companies facing rising mainframe costs prefer replatforming their mainframes to the cloud to achieve savings quickly. However, GenAI has enhanced reengineering and rewriting processes with rich documentation and extended testing while reducing the time required to complete modernizations. This study finds that companies' preferences have shifted from replatforming to reengineering

GenAI **accelerates migrations** off the mainframe while **enhancing the tools to stay on the platform.**

methods, and the new demand comes with additional requirements. Until last year, typical clients expected providers to ensure full equivalence — a like-for-like behavior and outcomes — between the legacy and new applications. Today, more clients anticipate incorporating innovations into the new code to add business value to the transformation.

Providers can respond to these requests with GenAI, allowing clients to validate the assessment documentation and insert new requirements with GenAI, which checks dependencies and impact. A safe alternative is identifying intersection points to create APIs and microservices that add the required innovation.

GenAI can inspect code and explain how it works, reducing and sometimes eliminating the dependence on senior experts' knowledge, thus reducing the cost of maintaining legacy applications.

The **Application Modernization Services quadrant for Brazil** shows the same challenges and demands as the U.S. quadrant. Companies in Brazil are demanding more modernization, with new client cases emerging in the banking, insurance and retail sectors. In December 2024, Banco Itaú Unibanco, the largest retail bank in Latin America, announced at AWS re:Invent in Las Vegas its plan to complete its migration to AWS by the end of 2028. The bank serves more than 90 million clients and previously had the largest mainframe in Brazil, with over 300,000 MIPS just a few years ago. Many service providers in this quadrant are collaborating with Itaú Unibanco, and other large banks are also pursuing cloud migration. Open banking and the instant payment system Pix, operating in the cloud, have transformed the competitive landscape, along with digital banks running on AWS, such as Nubank and C6 Bank, with 100 million clients and 30 million clients, respectively.

The **Mainframe as a Service (MFaaS) quadrant** shows annual market growth of 5 percent. Most new deals are from clients who previously outsourced their mainframes and are seeking to modernize to a pay-as-you-go model, thereby freeing up capital spending for investment in other business opportunities. Another group of clients comprises companies that are outsourcing for the first time. The MFaaS is a stable market; it is uncommon to see clients switching providers. New clients should assess the level of automation offered and the speed at which providers upgrade their hardware and software to prevent obsolescence. Clients using obsolete technologies must agree to upgrade their systems to fully benefit from MFaaS.

New trends in the **Mainframe Operations quadrant** include replacing middleware to eliminate costly licenses and optimizing infrastructure based on industry standards and best practices. Custom solutions have become less viable as mainframes no longer provide business differentiation. Service providers are investing in automation and GenAI to improve CX and rapidly identify optimization opportunities.

While providers prepare for new IBM solutions related to AI and GenAI on mainframes, they report a lack of client demand for running AI on these systems. More common requests involve APIs and data virtualization services to integrate mainframes with cloud-native applications. The true value of GenAI in operations lies in its capacity to inspect applications for code-optimization opportunities, which can reduce MIPS consumption and improve application performance. Providers frequently encounter dead code, duplication and old programming methods that consume mainframe power without adding value, and GenAI quickly identifies these issues.

A new challenge in mainframe operations is related to security, as some providers reported that their clients fell victim to ransomware attacks, driving increased demand for security services and immutable storage solutions.

In the **Mainframe Application Modernization Software** quadrant, the major change is GenAI. Most vendors have adopted GenAI to enhance their modernization offerings. However, GenAI and conventional large language models (LLMs) have yet to fully grasp application architecture and software engineering to provide guidance on designing software architecture. Vendors in this quadrant offer robust toolsets to assess applications, map dependencies and refactor code bases. Writing new code is faster with these tools based on software engineering methods.

GenAI addresses several gaps in the modernization process, accelerating and mitigating risks associated with mainframe modernizations. In most mainframe migrations to the cloud, more than 70 percent of the time is spent on testing. GenAI significantly accelerates this process by generating testing scripts from the legacy source code and automatically running them on the newly created applications, ensuring speed and accuracy. In addition to accelerating testing, GenAI can pinpoint bugs in the code, facilitating quick fixing and improving quality. GenAI is also used as a human interface, enabling clients to inquire about the functionality of both old and new code, understand business rules and assess the impact of modifications. Other reported benefits include eliminating dead code, replacing code libraries and providing clean code for future maintenance.

Mainframe technology innovations offer marginal benefits compared to GenAI's impressive impact. GenAI accelerates migration off the mainframe by providing documentation and testing, which helps reduce reliance on senior experts. This documentation facilitates maintenance and supports the integration of microservices and APIs, extending the useful life of mainframe systems.

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
Accenture	Product Challenger	Leader	Leader	Not In	Product Challenger	Not In
Adaptigent	Not In	Not In	Not In	Not In	Not In	Contender
Astadia (Amdocs)	Not In	Not In	Not In	Not In	Not In	Leader
Atos	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Not In
Avanade	Not In	Product Challenger	Not In	Not In	Not In	Leader
AveriSource	Not In	Not In	Not In	Not In	Not In	Rising Star ★
AWS	Not In	Not In	Not In	Not In	Not In	Leader
BASE100	Not In	Not In	Not In	Not In	Not In	Product Challenger
BlueHill Data Services	Not In	Not In	Not In	Contender	Contender	Not In
BMC	Contender	Not In	Not In	Not In	Not In	Not In

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
BRQ	Not In	Not In	Product Challenger	Not In	Not In	Not In
Capgemini	Leader	Leader	Leader	Product Challenger	Leader	Not In
CloudFrame	Not In	Not In	Not In	Not In	Not In	Contender
Cognizant	Leader	Rising Star ★	Not In	Leader	Product Challenger	Not In
Compass UOL	Not In	Not In	Contender	Not In	Not In	Not In
CPT Global	Product Challenger	Contender	Not In	Not In	Not In	Not In
Deloitte	Product Challenger	Product Challenger	Product Challenger	Not In	Not In	Not In
DXC Technology	Leader	Leader	Leader	Leader	Leader	Not In
Ensono	Leader	Product Challenger	Not In	Leader	Leader	Not In
EvolveWare	Not In	Not In	Not In	Not In	Not In	Product Challenger

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
FNTS	Not In	Not In	Not In	Leader	Leader	Not In
FreeSoft	Not In	Not In	Not In	Not In	Not In	Contender
Fujitsu	Not In	Product Challenger	Not In	Not In	Not In	Not In
GFT	Contender	Contender	Leader	Not In	Not In	Not In
Google	Not In	Not In	Not In	Not In	Not In	Leader
HCLTech	Rising Star ★	Leader	Not In	Product Challenger	Product Challenger	Not In
Heirloom Computing	Not In	Not In	Not In	Not In	Not In	Leader
Hexaware	Not In	Leader	Not In	Not In	Not In	Not In
IBM	Not In	Product Challenger	Not In	Not In	Not In	Product Challenger
Infosys	Leader	Leader	Product Challenger	Product Challenger	Leader	Not In

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
Kyndryl	Leader	Leader	Rising Star ★	Leader	Leader	Not In
LTIMindtree	Product Challenger	Leader	Not In	Product Challenger	Product Challenger	Not In
LzLabs	Not In	Not In	Not In	Not In	Not In	Product Challenger
Maintec	Not In	Not In	Not In	Contender	Contender	Not In
mLogica	Not In	Not In	Not In	Not In	Not In	Product Challenger
MOST Technologies	Not In	Contender	Not In	Not In	Not In	Contender
Mphasis	Product Challenger	Leader	Not In	Not In	Product Challenger	Not In
NTT DATA	Not In	Product Challenger	Contender	Not In	Not In	Leader
PSR	Not In	Not In	Not In	Contender	Contender	Not In
Raincode	Not In	Not In	Not In	Not In	Not In	Contender

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
Recovery Point Systems	Not In	Not In	Not In	Contender	Contender	Not In
Rocket Software	Not In	Not In	Not In	Not In	Not In	Leader
SLK Software	Not In	Contender	Not In	Not In	Not In	Not In
TCS	Leader	Leader	Product Challenger	Not In	Leader	Product Challenger
Tech Mahindra	Product Challenger	Product Challenger	Contender	Product Challenger	Not In	Not In
TIVIT	Not In	Not In	Product Challenger	Not In	Not In	Not In
TmaxSoft	Not In	Not In	Not In	Not In	Not In	Leader
TSRI	Not In	Not In	Not In	Not In	Not In	Leader
T-Systems	Not In	Not In	Contender	Not In	Not In	Not In
Unisys	Product Challenger	Not In	Not In	Not In	Product Challenger	Not In

Provider Positioning

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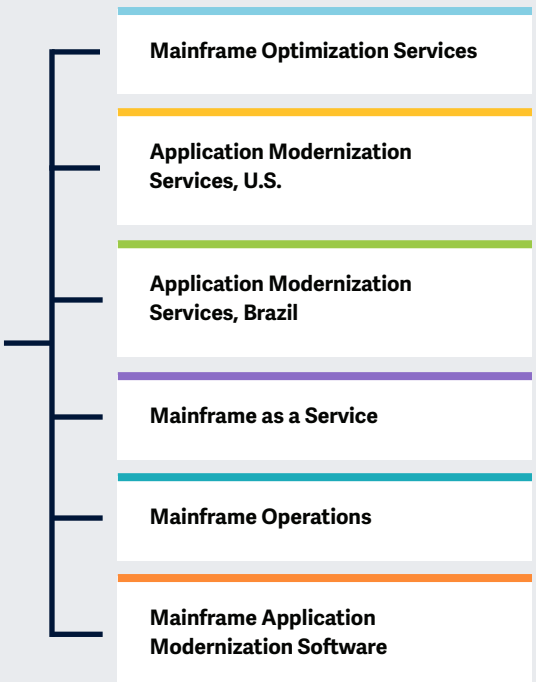
	Mainframe Optimization Services	Application Modernization Services, U.S.	Application Modernization Services, Brazil	Mainframe as a Service	Mainframe Operations	Mainframe Application Modernization Software
Updraft	Not In	Not In	Not In	Not In	Not In	Contender
UST	Contender	Product Challenger	Not In	Not In	Contender	Not In
Verang	Not In	Contender	Not In	Not In	Not In	Contender
Wipro	Leader	Leader	Leader	Leader	Leader	Not In

Key focus areas for Mainframes — Services and Solutions 2025.

Simplified Illustration Source: ISG 2025



Definition

This study assesses service providers and vendors offering mainframe optimization, outsourcing and mainframe as a service (MFaaS). It also evaluates system integrators and automation tool vendors for refactoring, rehosting, replatforming, rewriting and reengineering applications to migrate to the cloud. Generative AI (GenAI) solutions requiring access to mainframe data have accelerated modernization demand in the last two years. Clients seek mainframe modernization to reduce technical debt, enable AI technologies, improve business analytics and enhance compliance. New business resilience and carbon neutrality requirements are also pushing companies to rethink their data center strategies. Market consolidation and cloud innovation, including GenAI, continue to change the competitive landscape. Mainframe software licensing, particularly third-party software and middleware, drives mainframe budgets. Mainframe modernization aims to optimize resources and license costs while reducing or eliminating technical debt. While GenAI can read legacy languages and document applications, clients expect it to create new code to eliminate obsolescence. GenAI does not automate rewriting code. However, it is changing the performance and functionality offered by application modernization tool vendors. Mainframe outsourcing and MFaaS are common choices to reduce IT spending, increase automation, optimize performance and improve hybrid cloud integration. This study helps track how outsourcing is evolving in response to modernization, GenAI and new enterprise requirements.

Scope of the Report

In this ISG Provider Lens™ quadrant study, ISG includes the following six quadrants: Mainframe Optimization Services, Application Modernization Services, U.S., Application Modernization Services, Brazil, Mainframe as a Service, Mainframe Operations and Mainframe Application Modernization Software.

This ISG Provider Lens™ study offers IT-decision makers:

- Transparency on the strengths and weaknesses of relevant providers
- A differentiated positioning of providers by segments
- Focus on U.S. and Brazil market

This ISG Provider Lens™ study offers IT-decision makers: Our study serves as the basis for important decision-making in terms of positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their existing provider.

Provider Classifications

The provider position reflects the suitability of providers for a defined market segment (quadrant). Without further additions, the position always applies to all company sizes classes and industries. In case the service requirements from enterprise customers differ and the spectrum of providers operating in the local market is sufficiently wide, a further differentiation of the providers by performance is made according to the target group for products and services. In doing so, ISG either considers the industry requirements or the number of employees, as well as the corporate structures of customers and positions providers according to their focus area. As a result, ISG differentiates them, if necessary, into two client target groups that are defined as follows:

- **Midmarket:** Companies with 100 to 4,999 employees or revenues between $20 million and $999 million with central headquarters in the respective country, usually privately owned.
- **Large Accounts:** Multinational companies with more than 5,000 employees or revenue above $1 billion, with activities worldwide and globally distributed decision-making structures.

The ISG Provider Lens™ quadrants are created using an evaluation matrix containing four segments (Leader, Product & Market Challenger and Contender), and the providers are positioned accordingly. Each ISG Provider Lens™ quadrant may include a service provider(s) which ISG believes has strong potential to move into the Leader quadrant. This type of provider can be classified as a Rising Star.

- **Number of providers in each quadrant:** ISG rates and positions the most relevant providers according to the scope of the report for each quadrant and limits the maximum of providers per quadrant to 25 (exceptions are possible).

Provider Classifications: Quadrant Key

Product Challengers offer a product and service portfolio that reflect excellent service and technology stacks. These providers and vendors deliver an unmatched broad and deep range of capabilities. They show evidence of investing to enhance their market presence and competitive strengths.

Leaders have a comprehensive product and service offering, a strong market presence and established competitive position. The product portfolios and competitive strategies of Leaders are strongly positioned to win business in the markets covered by the study. The Leaders also represent innovative strength and competitive stability.

Contenders offer services and products meeting the evaluation criteria that qualifies them to be included in the IPL quadrant. These promising service providers or vendors show evidence of rapidly investing in products/ services and a follow sensible market approach with a goal of becoming a Product or Market Challenger within 12 to 18 months.

Market Challengers have a strong presence in the market and offer a significant edge over other vendors and providers based on competitive strength. Often, Market Challengers are the established and well-known vendors in the regions or vertical markets covered in the study.

★ **Rising Stars** have promising portfolios or the market experience to become a Leader, including the required roadmap and adequate focus on key market trends and customer requirements. Rising Stars also have excellent management and understanding of the local market in the studied region. These vendors and service providers give evidence of significant progress toward their goals in the last 12 months. ISG expects Rising Stars to reach the Leader quadrant within the next 12 to 24 months if they continue their delivery of above-average market impact and strength of innovation.

Not in means the service provider or vendor was not included in this quadrant. Among the possible reasons for this designation: ISG could not obtain enough information to position the company; the company does not provide the relevant service or solution as defined for each quadrant of a study; or the company did not meet the eligibility criteria for the study quadrant. Omission from the quadrant does not imply that the service provider or vendor does not offer or plan to offer this service or solution.

Mainframe Optimization Services

Who Should Read This Section

This report is valuable for providers offering mainframe optimization services in the U.S. to understand their market position and for enterprises looking to evaluate these providers. In this quadrant, ISG highlights the current market positioning of these providers and examines how each addresses key regional challenges.

CIOs

Should read this report to understand the strengths and weaknesses of providers, including the way they harness latest technologies to deliver reliable offerings.

CTOs

Should read this report to understand the mainframe optimization service capabilities of providers to achieve suitable technology integration into products, services and business administration.

Technology leaders

Should read this report to understand providers competing in the mainframe market in terms of offerings, innovations and talent.

This quadrant assesses providers of mainframe **optimization services** for clients that continue to run on mainframes, including **software** upgrades, **performance** improvements, **DevOps** implementation, **data** integration and **hybrid cloud** design.

Pedro L. Bicudo Maschio

Definition

Providers in this quadrant offer mainframe optimization, modernizing its technology and applications while maintaining programming languages, such as COBOL. Innovation may include GenAI to document legacy code, automate version control and repositories such as GitHub, improve DevOps integration and automate code and security testing to optimize agile delivery.

Clients aim to optimize their mainframe operations to control costs and avoid obsolescence. A consistent modernization and optimization program will help them upgrade mainframes in the future. During optimization, clients expect providers to help replace middleware with new tools and improve configurations to enhance performance and reduce MIPS consumption.

Providers assess clients' application portfolios and deliver modernization plans, advising on which applications should remain on the mainframe platform and which should be transformed or migrated to other platforms to optimize cost and performance.

Eligibility Criteria

1. Present modernization **case studies** around IBM Z®, IBM AS/400, IBM iSeries, HP, Bull or Unisys mainframe applications
2. Include **DevOps tools integration** in case studies
3. Enable legacy programming languages to build and deploy mainframe applications in line with modern **continuous integration** practices (e.g., COBOL CI/CD pipeline implementation)
4. Provide **portfolio and application assessments** as part of services
5. Plan for phased modernization with robust testing and **quality assurance**
6. **Decouple applications,** develop APIs and integrate with applications outside the mainframe environment
7. Offer guidance for future-state application **governance**
8. Demonstrate adequate **COBOL expertise** and proficiency in other mainframe programming languages among employees

Observations

Mainframe clients accelerated their modernization projects in 2024, focusing on preparing mainframes to share data with analytics and GenAI . Most integrations use conventional batch to extract, transform and load (ETL) data on repositories, but data virtualization tools gained traction to integrate CICS and reduce data access latency.

GenAI has transformed this market by offering faster application assessments that identify and resolve application bugs and document legacy code. Other benefits include testing automation, code modernization and rewriting Easytrieve, Assembler and other deprecated programs into COBOL. However, the major long-term impact is that GenAI can explain legacy systems to new programmers, dramatically reducing the risk of knowledge loss when senior programmers retire.

A key observation this year is that GenAI can extend the lifespan of mainframes and alleviate the risks associated with obsolescence and skills shortages in IT.

Enterprises have gained more time to decide when and how to exit mainframe platforms.

Consequently, ISG has observed an increase in enterprises adopting mainframe DevOps, continuous integration and testing automation. All service providers evaluated in this quadrant leverage GenAI to accelerate their modernization and optimization capabilities.

From the 54 companies assessed for this study, 20 qualified for this quadrant, with eight being Leaders and one Rising Star.

Capgemini

Capgemini has a robust mainframe organization focusing on managed services and applications. Optimization is included in its ongoing services to continuously improve client satisfaction.

cognizant

Cognizant has extensive experience in the mainframe market in the U.S., supporting large and leading enterprises and providing them with industry expertise to support clients' decisions around optimization and investments in new technologies.

DXC TECHNOLOGY

DXC Technology (DXC) has deep mainframe expertise, including professional services to optimize applications, operating systems and middleware configuration. It supports all the mainframe stack, from facilities to sophisticated application performance management.

ensono

Ensono focuses on acquiring new clients and expanding its mainframe footprint, making it a competitive player in the market. The company works closely with IBM through a partnership that helps clients get priority access to innovations.

Infosys

Infosys has a strong presence in the U.S. as a large global mainframe organization. It offers onshore, nearshore and offshore services, specializing in application modernization to enhance performance and agility.

kyndryl

Kyndryl operates the largest mainframe infrastructure globally, facilitating its access to all mainframe technologies and solutions to build and maintain a robust best practice library. Its consulting business continues to grow by supporting clients in their modernization efforts.

TCS offers extensive mainframe services based on a solid partnership with IBM. It offers mainframe resources to run pilot projects and experiment with innovations. TCS focuses on innovating clients' environments to improve business results.

Wipro adopts a fabric approach to streamline operations, empowering clients through automation and portfolio optimization. It strongly focuses on application modernization and is committed to offering outcome-based deals.

HCLTech (Rising Star) works closely with IBM to help clients explore watsonx and improve their application development workbench. It offers extensive services tailored to meet clients' specific requirements.

Leader

"DXC Technology has extensive expertise in supporting a vast number of legacy applications and operating systems. It combines mainframe and cloud technologies into a comprehensive hybrid platform, enabling clients to leverage the best of both."

Pedro L. Bicudo Maschio

DXC Technology

Overview

DXC Technology is headquartered in Virginia, U.S. It has more than 127,200 employees across over 130 offices in 65 countries. In FY24, the company generated $13.7 billion in revenue, with Global Infrastructure Services as its largest segment. The U.S. accounts for 29 percent of DXC's revenue. The company operates through two service segments: Global Business Services (GBS) and Global Infrastructure Services (GIS). DXC offers MFaaS, managed mainframe services and mainframe modernization with more than 3,000 experts managing clients' mainframe applications.

Strengths

Talent organization: DXC employs experienced experts and continuously invests in training and education, offering a clear career path for each employee. As a result, DXC can support niche mainframe technologies, such as mainframe assembler, zTPF, VSE, z/TPF OS and other industry-specific solutions for the airline and insurance industries.

Focus on agility: DXC streamlines application development processes with tooling, standards and best practices. It uses GenAI to enhance quality engineering and empower developers to implement changes more rapidly rather than simply adding more resources. DXC improves agility with automation, tooling and expertise, all while enhancing quality and security.

Emphasis on client choices: DXC combines mainframe and cloud services to create robust hybrid infrastructures that enable clients to operate on the most efficient platform. The company optimizes legacy applications, upgrading programming languages and introducing DevSecOps and automation. There have been many cases of legacy applications replatforming to zLinux to reduce operating costs while improving clients' investment value in their mainframes.

Caution

DXC services were designed to handle large and complex mainframe environments. The company can deliver modernization and optimization to midmarket clients, but its scale of operations delivers better value to large enterprises.

Application Modernization Services, U.S.

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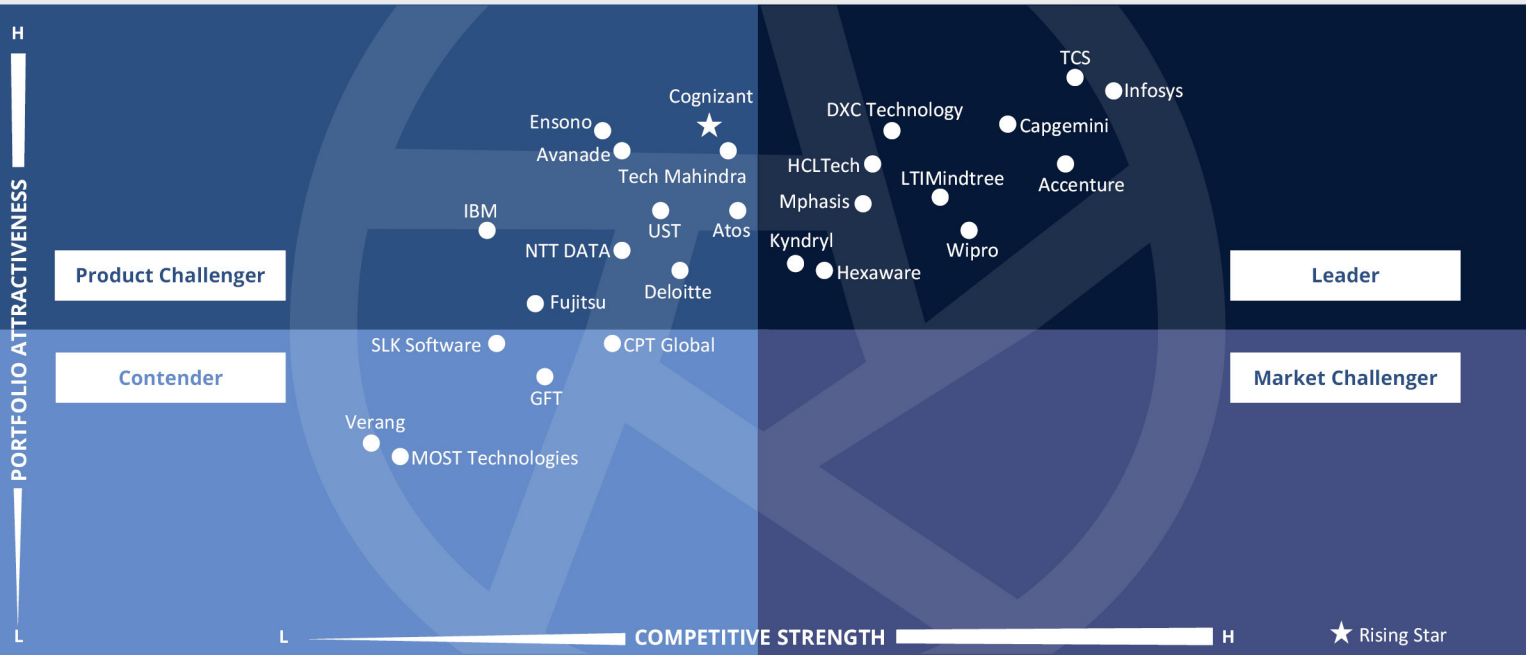
ISG Provider Lens™

Source: ISG RESEARCH

Mainframes — Services and Solutions
Application Modernization Services

U.S. 2025



This quadrant assesses the providers of **application modernization** services that transform applications and databases to **migrate mainframes to the cloud** in the U.S., offering replatforming, rehosting, reengineering and rewriting applications.

Pedro L. Bicudo Maschio

Application Modernization Services, U.S.

Definition

This quadrant evaluates application service providers that use advanced modernization methodologies to assess and rewrite legacy programming language applications. These providers partner with tool vendors to automate code writing, data conversion, database and cloud migration.

Typical legacy applications use COBOL, RPG, Easytrieve, PL/1, Natural and other languages that traditionally run on mainframes. The capacity to cover many legacy languages contributes to the service provider rating. Thus, providers that use more vendor tools and GenAI may have better appraisals.

Providers may also use emulators and compilers to replatform rather than rewrite (without converting the source code), which does not impact their rating.

A provider's neutral approach to selecting vendor tools can improve its position. A complete transformation should include UI translation services that can eliminate green screens while introducing a modern UI for a better UX.

Eligibility Criteria

1. Reverse engineer legacy applications to provide application logic **documentation**
2. Use **automation for rewriting, reengineering, refactoring and rehosting** applications (excluding providers that manually write new code)
3. Include application **assessment, decoupling,** system **architecture, API development** and future-state application governance in services
4. Offer phased transformation with **robust project management,** testing and **quality assurance**
5. Enable the enterprise client to operate **agile development and maintenance** with CI/CD automation
6. Support legacy platforms, including IBM Z, AS/400, HP, Cray, Fujitsu and Unisys mainframes

Observations

GenAI has largely impacted application modernization service providers. ISG has observed broad GenAI utilization this year, in contrast with last year's study, in which only a few providers were using it extensively. For the most part, GenAI does not replace the automated code conversion tools that existed earlier. However, GenAI has accelerated some steps of the modernization program and added more testing and quality assurance capacity.

The Mainframe Application Modernization Software quadrant covers the automated code reengineering and rewriting tools. These tools are based on software engineering technology, including preset application architecture and frameworks, coding best practices, programming and data manipulation methods. GenAI does not have such engineering capacity. However, to write new code, conventional tools use code libraries to translate a COBOL function to a Java method, while GenAI can translate programming languages without libraries. The conventional rewriting tools are fast but do not explain how the old and the new applications work, even if testing can confirm consistent results. In contrast, GenAI can explain how the legacy and the new code work and show business rules, but it does not ensure that the code produces consistent or tested results. As a result, GenAI and conventional tools are complementary to each other.

Service providers in this quadrant use GenAI across the development process using different methods. With GenAI, providers can test more and rapidly eliminate errors, improving quality while reducing the time required for modernization. The market has also accelerated as GenAI has given clients more confidence that modernization is possible.

From the 54 companies assessed for this study, 26 qualified for this quadrant, with 11 being Leaders and one Rising Star.

accenture

Accenture leverages key partnerships with hyperscalers to migrate large account clients to the public cloud. The company's extensive scale of operations enables it to support large and complex modernizations.

Capgemini

Capgemini leverages an advanced GenAI platform to accelerate modernizations while ensuring automated testing and code quality. Its approach includes application operations after migration.

DXC TECHNOLOGY

DXC Technology (DXC) has extensive experience in application modernizations, using its proprietary toolset and supplementing it with niche vendors when necessary.

HCLTech

HCLTech has a comprehensive portfolio with proprietary and partner tools, enabling it to support almost all legacy technologies. The company has many successful modernization cases.

HEXAWARE

Hexaware is nimble in finding applications that offer better business results and ROI, offering robust ROI estimations. Its fabric approach facilitates effective transformations.

Infosys

Infosys is prepared to deal with large portfolios that require many resources. Its application modernization tools include planning and project controls for assertive execution.

Kyndryl leverages its deep technology expertise and robust mainframe business to gather best practices and manage complex projects with many modernization partners.

LTIMindtree has a fabric approach and mature methodology to integrate the best partner tools into its robust modernization management platform.

Mphasis offers self-funded modernization in application managed service deals, combining portfolio optimization and modernization to save on costs and eliminate obsolescence.

TCS focuses on service automation with its MasterCraft™ platform, providing end-to-end modernization that uses partner tools when necessary.

Wipro focuses on business-driven, outcome-based deals. It engages in large modernization and can commit resources to risk-sharing engagements.

Cognizant (Rising Star) has increased the number of client cases and is experiencing growth in the mainframe modernization market. The company uses GenAI throughout its modernization programs to accelerate results.

Leader

"DXC Technology uses proprietary and partner tools to optimize and modernize legacy applications. Clients can operate on mainframes and the cloud simultaneously, exploiting the best each platform can offer."

Pedro L. Bicudo Maschio

DXC Technology

Overview

DXC Technology is headquartered in Virginia, U.S. It has more than 127,200 employees across over 130 offices in 65 countries. In FY24, the company generated $13.7 billion in revenue, with Global Infrastructure Services as its largest segment. The U.S. accounts for 29 percent of DXC's revenue. DXC's Global Business Services (GBS) portfolio includes application services and modernization. The company has proprietary tools to optimize and modernize applications, enabling a paced or partial application migration strategy. It offers mainframe as a service (MFaaS), mainframe platform modernization and cloud migration.

Strengths

Robust toolset: The DXC Modernization Studio platform uses GenAI to accelerate modernization. DXC's recursive AI method provides intelligent code and application portfolio analysis with full automation for all legacy and target technology stacks. Its toolset includes Quick Transformation Engine (QTE), custom GNU COBOL compiler, CA Gen conversion, TPF and IMS DB/DC migration solutions. The company can use partner tools to complement transformations where appropriate.

Smooth transitions: DXC experts can modernize mainframe applications with APIs and DevOps, standardizing cloud-native and mainframe development processes and tools. The company's clients can manage their modernization speed from mainframes to Java on zLinux or any modern language on the public cloud. DXC partners with AWS, Microsoft Azure, Oracle (OCI) and Google Cloud, including Google Dual Run.

Scale of operations: DXC supports complex, enterprise-scale transformations with more than 86,000 application experts globally. It completed over 200 mainframe migrations, representing approximately 370,000 MIPS eliminations. DXC executes a holistic assessment to recommend the best modernization methodology. Its toolset provides clients with factual data to support their decisions.

Caution

DXC Technology should improve its marketing message to attract new clients. More case studies around mainframe migration to the cloud and joint go-to-market with partner tool vendors and hyperscalers could improve the company's market penetration.

Application Modernization Services, Brazil

Who Should Read This Section

This report is valuable for providers offering application modernization services in Brazil to understand their market position and for enterprises looking to evaluate these providers. In this quadrant, ISG highlights the current market positioning of these providers and examines how each addresses key regional challenges.

CIOs

Should read this report to understand the strengths and weaknesses of providers, including the way they harness the latest technologies to deliver reliable offerings.

CTOs

Should read this report to understand the application modernization capabilities of providers to achieve suitable technology integration into products, services and business administration.

Technology leaders

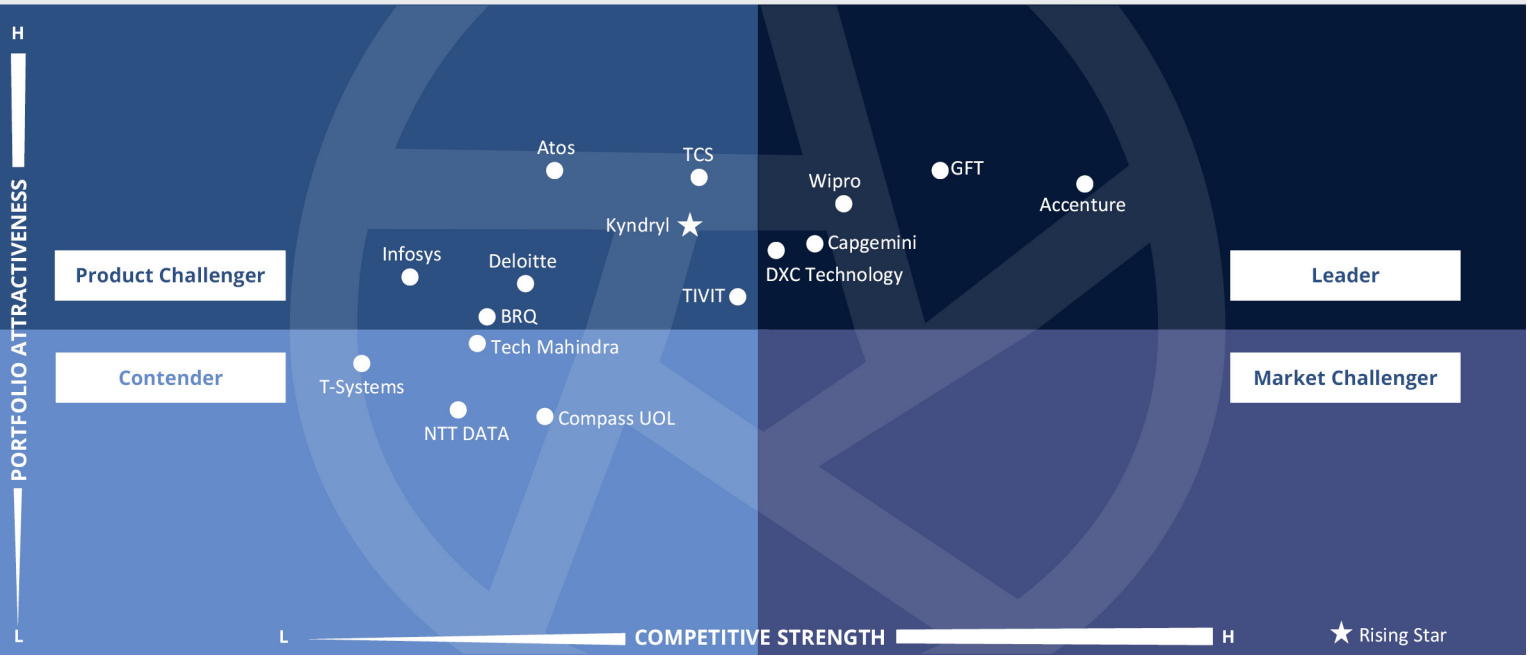
Should read this report to understand the providers competing in the mainframe market in terms of offerings, innovations and talent.

ISG Provider Lens™

Source: ISG RESEARCH

Mainframes — Services and Solutions
Application Modernization Services

Brazil 2025



This quadrant assesses the providers of **application modernization** services that transform applications and databases to **migrate mainframes to the cloud in Brazil,** offering replatforming, rehosting, reengineering and rewriting applications.

Pedro L. Bicudo Maschio

Application Modernization Services, Brazil

Definition

This quadrant evaluates application service providers that use advanced modernization methodologies to assess and rewrite legacy programming language applications. These providers partner with tool vendors to automate code writing, data conversion, database and cloud migration.

Typical legacy applications use COBOL, RPG, Easytrieve, PL/1, Natural and other languages that traditionally run on mainframes. The capacity to cover many legacy languages contributes to the service provider rating. Thus, providers that use more vendor tools and GenAI may have better appraisals.

Providers may also use emulators and compilers to replatform rather than rewrite (without converting the source code), which does not impact their rating.

A provider's neutral approach to selecting vendor tools can improve its position. A complete transformation should include UI translation services that can eliminate green screens while introducing a modern UI for a better UX.

Eligibility Criteria

1. Reverse engineer legacy applications to provide application logic **documentation**
2. Use **automation for rewriting, reengineering, refactoring and rehosting** applications (excluding providers that manually write new code)
3. Include application **assessment, decoupling,** system **architecture, API development** and future-state application governance in services
4. Offer phased transformation with **robust project management,** testing and **quality assurance**
5. Enable the enterprise client to operate **agile development and maintenance** with CI/CD automation
6. Support legacy platforms, including IBM Z, AS/400, HP, Cray, Fujitsu and Unisys mainframes

Observations

This year, ISG has noted an increase in modernization projects in Brazil. This quadrant assesses providers with offices and experts in Brazil who are capable of understanding regulations and market complexities. Large enterprises, such as banks, insurance companies and retailers, have begun their mainframe migration to the cloud. ISG has identified collaborations with AWS, Microsoft Azure, Google Cloud, IBM Cloud, Oracle Cloud and Huawei Cloud. With the technical support and commercial interest of hyperscalers, modernization challenges are addressed quickly, providing clients with greater confidence that cloud migration is achievable.

GenAI has significantly expanded the possibilities for application modernization. The Mainframe Application Modernization Software quadrant covers automated code reengineering and rewriting tools. These tools utilize software engineering technology, including preset application architecture and frameworks, coding best practices, and programming and data manipulation methods.

While GenAI lacks such engineering capacity, conventional tools employ code libraries to translate COBOL functions to Java methods. In contrast, GenAI can translate programming languages directly without relying on libraries. Conventional rewriting tools are fast but do not provide explanations of how the old and the new applications function, even though testing can confirm consistent results. In contrast, GenAI can explain how the legacy and the new code work and show business rules. However, it does not guarantee that the code produces consistent or tested results. As a result, GenAI and conventional tools serve as complementary solutions in the code modernization process.

From the 54 companies assessed for this study, 16 qualified for this quadrant, with five being Leaders and one Rising Star.

accenture

Accenture has a broad client base and many mainframe clients. It leverages partner tools and hyperscalers' expertise to deliver robust modernizations with innovation.

Capgemini

Capgemini extended its mainframe modernization capacity to Brazil to support leading banks demanding modernization. It leverages GenAI across all steps of the modernization journey.

DXC TECHNOLOGY

DXC Technology (DXC) leverages a global application modernization platform to ensure consistency and quality results. The company uses proprietary and partner tools.

GFT

GFT has deep expertise in mainframe applications in Brazil, with numerous accelerators custom-made for the Brazilian market. Its robust GenAI platform ensures quality and speed in service delivery.

wipro

Wipro has end-to-end automation to accelerate modernization with GenAI. It leverages a global service platform to support banking clients in Brazil.

kyndryl

Kyndryl (Rising Star) has a large mainframe client base in Brazil, which demands modernization and cloud migration. It uses leading partner tools to modernize applications.

Leader

"DXC Technology has many years of mainframe expertise. The company uses ultra-modern AI automation tools to migrate mainframes to the cloud, providing application quality assurance and the possibility to run mainframe and cloud simultaneously (dual run)."

Pedro L. Bicudo Maschio

DXC Technology

Overview

DXC Technology is headquartered in Virginia, U.S. It has more than 127,200 employees across over 130 offices in 65 countries. In FY24, the company generated $13.7 billion in revenue, with Global Infrastructure Services as its largest segment. DXC has three delivery centers and a security operation center (SOC) in Brazil. The company has proprietary tools to optimize and modernize applications, enabling a paced or partial application migration strategy. It offers mainframe platform modernization and cloud migration.

Strengths

Comprehensive offering: DXC's recursive AI method provides intelligent code and application portfolio analysis with full automation for all legacy and target technology stacks. The DXC Modernization Studio with GenAI accelerates modernizations, orchestrating other tools, such as Quick Transformation Engine (QTE), custom GNU COBOL compiler, CA Gen conversion, TPF and IMS DB/DC migration. The company can use partner tools to complement transformations where appropriate.

Paced modernizations to lower risk: DXC experts can modernize mainframe applications with APIs and DevOps, standardizing cloud-native and mainframe development processes and tools. Clients can manage their modernization speed from mainframes to Java on zLinux or any modern language on the public cloud. DXC partners with AWS, Microsoft Azure, Oracle (OCI) and Google Cloud, including Google Dual Run.

World-class services: DXC has more than 86,000 application experts globally and has completed more than 200 mainframe migrations, migrating approximately 370,000 MIPS to the cloud. DXC takes a holistic approach, including detailed assessments to select the best modernization methodology. Its toolset provides clients with factual data to support their decisions.

Caution

DXC operates mainframes in Brazil and has completed several modernizations. However, the company does not have a clear go-to-market to attract new clients. The company should leverage its partnerships with cloud providers to accelerate its application modernization practice.

Mainframe as a Service

Who Should Read This Section

This report is valuable for providers offering MFaaS in the U.S. to understand their market position and for enterprises looking to evaluate these providers. In this quadrant, ISG highlights the current market positioning of these providers based on the depth of their service offerings and market presence.

CIOs

Should read this report to understand the strengths and weaknesses of providers, including the way they harness latest technologies to deliver reliable offerings.

CTOs

Should read this report to understand the capabilities of providers offering MFaaS to achieve suitable technology integration into products, services and business administration.

Sourcing and procurement specialists

Should read this report to understand their outsourcing needs and have an improved understanding of the consulting and transformation landscape for mainframes.

This quadrant assesses the providers of **infrastructure, facilities, hardware, software** and managed services related to **shared mainframe** infrastructure in the **pay-per-use** or MFaaS model.

Pedro L. Bicudo Maschio

Definition

This quadrant assesses infrastructure service providers that offer shared IBM mainframes under a pay-per-use contract model. The provider ensures continuous infrastructure upgrades and capacity expansion to support clients' growth and avoid infrastructure obsolescence.

Typically, MFaaS is offered on the provider's data center facilities. However, colocation partners are also considered if they provide a cloud-like experience, and clients should not have to check or audit the underlying infrastructure. Providers typically offer application migration services to onboard clients, and the default scope includes providing high availability and disaster recovery.

To provide a cloud-like experience, providers offer clients a self-service portal with service catalogs and GenAI assistants, covering approval workflows, security, compliance and automated service provisioning, enabling clients to increase and decrease their utilization.

Eligibility Criteria

1. Include facilities, hardware, connectivity, mainframe network management, operating system and subsystems, licensing and tools in the MFaaS scope. **Provide all hardware and operating system maintenance services required to keep mainframes running** and meet the expected performance metrics established upfront.
2. Offer **secure data centers** with high performance and availability
3. Include job scheduling automation, performance optimization, customer information control system (CICS), batch processing, backup, restore, system upgrades, security patches and other typical **mainframe operations** in services
4. Demonstrate proven MFaaS infrastructure **disaster recovery** effectiveness
5. Provide **low-latency connections** (e.g., Direct Connect) to clients' locations and the public cloud, with a preference for carrier-neutral data centers
6. Demonstrate **financial capacity** to invest in and expand mainframe operations
7. Implement a **hiring and training program** to ensure future skills availability
8. Support platforms, including IBM Z and IBM Power Systems (AS/400 and iSeries)

Observations

MFaaS is a well-stablished market that is attracting more clients and service providers. Clients that recognize the benefits of a pay-as-you-go model are moving from conventional outsourcing, that typically includes sophisticated SLA mechanisms and complex contractual terms and conditions, to a modern MFaaS model with standardized SLAs, pricing and contractual terms.

The modernization in this market comes from automation, using AI analytics to automate service execution, offering clients a self-service catalog and GenAI assistants. In the last three years, more clients are choosing MFaaS to standardize their operations, adopting the providers' management tools to eliminate obsolete tools and middleware.

GenAI impacted the application market, making it easier for clients and providers to assess COBOL and other legacy application code to reduce technical debt, automate testing and facilitate cloud integrations.

All MFaaS providers offer private direct links to the public cloud, offering fast and secure connections that do not transit over the public network. Networking and integration provide additional cost savings to new clients, especially for those moving from on-premises to MFaaS.

All providers in this quadrant use GenAI and AIOps but differentiate by the level of automation they can provide. Clients using custom tools might not benefit from providers' automation but those that adopt their standard tools will find it very attractive.

From the 54 companies assessed for this study, 16 qualified for this quadrant, with six being Leaders.

cognizant

Cognizant offers industry consulting services to help clients prioritize their modernization goals. It also supports clients in optimizing their operations by improving performance and application management with innovative commercial models.

DXC TECHNOLOGY

DXC Technology has a broad mainframe portfolio and a long tenure in the mainframe outsourcing market. The company leverages its deep expertise to address diversity in several industries and offers shared or dedicated mainframe hosting, along with the MFaaS model.

ensono

Ensono is well recognized for its MFaaS offering by managing more than 1 million MIPS in the U.S. It is backed by robust operational capabilities and strategic partnerships with technology vendors, enabling clients to manage their IT infrastructure efficiently.

fnts

FNTS enters the Leader quadrant owing to its capacity to support new clients with strict security and compliance needs. Leveraging a team of experienced experts in the U.S. and robust service delivery capabilities, FNTS provides clients with round-the-clock support to manage their operations efficiently.

kyndryl

Kyndryl continues to lead with the largest MIPS footprint, offering significant operational scale and capacity to meet diverse client needs. Its MFaaS portfolio, featuring IBM Z and IBM i platforms, is designed to support computing demands with mainframe experts.

wipro

Wipro offers flexible engagement models within its MFaaS offering and can optimize resources for modernization initiatives. It uses an AI-led automation platform for mainframe management, enabling remote observability and efficient delivery.

Leader

"DXC Technology's robust infrastructure, combined with a focus on skill development and client-centric adaptability, empowers enterprises to address complex mainframe challenges while delivering transformative business outcomes."

Pedro L. Bicudo Maschio

DXC Technology

Overview

DXC Technology is headquartered in Virginia, U.S. It has more than 127,200 employees across over 130 offices in 65 countries. In FY24, the company generated $13.7 billion in revenue, with Global Infrastructure Services as its largest segment. DXC has 6,000 experts in managing mainframe infrastructure and supports IBM workloads running on diverse operating systems, such as z/OS, z/VM, z/VSE, z/TPF and z/Linux. The company has 43 mainframe data centers across 14 countries to support the application modernization practice, leveraging a vast partner ecosystem, including software vendors and hyperscalers.

Strengths

Outstanding capacity: DXC manages more than 1 million MIPS globally in 135 IBM Z series mainframe platforms, providing the scale to handle complex and large-scale mainframe workloads for enterprises. It helps U.S. clients manage mainframe infrastructure and applications by delivering dedicated and shared infrastructure options backed by standardized tools and processes. This approach maximizes business outcomes with a strong emphasis on cost reduction.

Focus on skills: DXC focuses on comprehensive skill development in mainframe technologies through its GenSpark training program, which offers hands-on training in z/OS-based mainframe systems. This initiative ensures robust ongoing support with highly skilled mainframe professionals, delivering rapid disaster recovery and expert guidance for complex mainframe operations. As a result, U.S. clients benefit from continuous services and support.

Proven business outcomes: DXC continues to address mainframe challenges and is flexible in addressing specific requirements, enabling MFaaS as a preferred solution for its clients. For a U.S. banking client, it integrates MFaaS with a proprietary system to deliver a comprehensive solution that combines security, data center management and pay-per-use infrastructure. This integration reduces complexity, allowing the client to focus its resources on customer service rather than IT management.

Caution

DXC has made significant strides in integrating AI-driven tools into modernization approaches. However, further expansion of its GenAI capabilities, particularly in advanced automation for complex workloads, could enhance its competitiveness.

Mainframe Operations

Who Should Read This Section

This report is valuable for providers offering services for mainframe operations in the U.S. to understand their market position and for enterprises looking to evaluate these providers. In this quadrant, ISG highlights the current market positioning of these providers based on the depth of their service offerings and market presence.

CIOs

Should read this report to understand the strengths and weaknesses of providers, including the way they harness the latest technologies to deliver reliable offerings.

CTOs

Should read this report to understand the mainframe operations capabilities of providers to achieve suitable technology integration into products, services and business administration.

Sourcing and procurement specialists

Should read this report to understand their outsourcing needs and have an improved understanding of the consulting and transformation landscape for mainframes.

This quadrant assesses **managed service** providers of **mainframe outsourcing** that operate clients' mainframes **on-premises, on colocation** data centers or within the **providers' facilities,** encompassing operations, support and backup services.

Pedro L. Bicudo Maschio

Definition

This quadrant assesses traditional outsourcing providers with extensive mainframe service experience. Providers usually employ experienced practitioners to operate legacy mainframe technologies and recent mainframe releases.

Providers can deliver services to any hosting facility, such as clients' data centers, colocation and provider-owned facilities. Managed services include job scheduling, performance optimization, CICS, batch processing, backup, restore, system upgrades, security patches and other typical mainframe operations. The capacity to deploy GenAI services for user support, AIOps and cloud integration is expected but not required for inclusion.

Multiple options exist for hardware and software ownership, upgrades and modernization responsibilities. A typical deal structure includes clear service levels and a responsibility matrix. Services can be delivered remotely and onsite, which include staff augmentation.

Eligibility Criteria

1. Demonstrate strong mainframe **operation capacity**
2. Implement a **hiring and training program** to ensure future skills availability
3. **Monitor operations,** including CPU, memory, database and operating system
4. Offer **professional services** to install and replace hardware, software and tools
5. Include **patching** operating systems, middleware and applications, **system upgrades,** data center **security** and network configuration in professional services
6. Enable clients' access to **management dashboards,** including utilization reports, performance indicators, chargeback and other **reporting functionality**
7. Comply with **ITSM best practices**
8. Support outsourced platforms, including IBM Z, AS/400 and iSeries, HP, Cray, Fujitsu and Unisys mainframes

Observations

The scope of mainframe operations stayed the same over decades, with similar backup, disaster recovery, job scheduling and capacity plan processes. GenAI has not changed these processes but enhanced application services. With GenAI, service providers can rapidly inspect application portfolios to identify dependencies and cross-check them with mainframe performance. This enables analysts and system operators to easily determine an application's functions and the data it accesses, reducing the time required to check configurations for environmental or application changes. It also reduces errors and accelerates automation decisions.

With GenAI, enterprises can decompose applications more efficiently, reducing the time required to deploy data access and APIs. Some providers have been testing GenAI to analyze and optimize job scheduling and automate long-standing manual tasks.

These improvements do not change the mainframe core, which continues processing CICS and batch, but GenAI can learn from system data and application code, reducing dependency on human expertise.

Most providers use GenAI in different ways, which creates differentiation in the current market. The market is expanding, as evidenced by trends from previous years. Most new deals are related to new outsourcing, and clients tend to stay with their incumbent providers. For mainframe service providers, it is crucial to have solutions or partners to modernize legacy applications if clients want to migrate to the cloud. This approach ensures that clients can exit the mainframe while continuing to work with the same service provider.

From the 54 companies assessed for this study, 20 qualified for this quadrant, with eight being Leaders.

Capgemini

Capgemini offers end-to-end mainframe services with major application expertise, providing performance management, optimization and modernization.

DXC TECHNOLOGY

DXC Technology (DXC) has a large footprint in the U.S. and extensive experience in mainframe operations, with equal capacity for managing applications and infrastructure.

ensono

Ensono is nimble in acquiring new clients, providing consistent growth over the years. It works closely with technology partners and uses modern tools to deliver mainframe services.

fnts

FNTS offers secure and scalable mainframe data centers. It has deep mainframe expertise and focuses on service excellence, security and compliance.

Infosys

Infosys has outstanding mainframe application service capacity, supplemented by an automated mainframe operations platform.

kyndryl

Kyndryl has the most significant footprint in mainframe operations and uses Kyndryl Bridge to automate every management task, optimizing performance and costs.

TCS has an automation-first mentality and uses AI to identify optimization and automation opportunities. A comprehensive application modernization platform complements its portfolio.

Wipro is flexible in accommodating custom client requirements by offering many delivery models and deal types. It uses GenAI across applications and operations to accelerate outcomes.

Leader

"DXC delivers top-tier mainframe services that incorporate innovation and new solutions, such as DevOps, APIs and containers. The company improves agility while ensuring that mainframes operate at peak performance and minimal cost."

Pedro L. Bicudo Maschio

DXC Technology

Overview

DXC Technology is headquartered in Virginia, U.S. It has more than 127,200 employees across over 130 offices in 65 countries. In FY24, the company generated $13.7 billion in revenue, with Global Infrastructure Services as its largest segment. The U.S. accounts for 29 percent of DXC's total revenue. The company operates through two service segments: Global Business Services (GBS) and Global Infrastructure Services (GIS). GIS has 6,000 experts in managing mainframe infrastructure and supports IBM workloads across diverse operating systems, such as z/OS, z/VM, z/VSE, z/TPF and z/Linux.

Strengths

Comprehensive portfolio: DXC supports all mainframe operating systems, including z/OS, z/VM, z/VSE, z/TPF and z/Linux, as well as the IBM Power platform (AS/400, iSeries and RHEL). Managed Mainframe Services has been part of DXC for over 50 years and continues to be a strategic offering with high relevance for the company's future.

Innovative solutions: DXC fosters innovation and explores new technologies to improve its knowledge and provide clients with the best guidance. Current lab initiatives include IBM LinuxOne for x86 workloads and quantum-safe encryption (or post-quantum cryptography), a next-generation encryption method designed to be resistant to both classical and quantum computing attacks.

Modernization expertise: DXC helps clients understand and plan their mainframe modernization strategies. It can reduce general-purpose MIPS by offloading applications to zLinux on the same mainframe hardware, improving overall performance. DXC modernizes and automates application development with GenAI and DevOps on the mainframe and enables APIs with IBM zConnect and IBM Data Virtualization Manager for z/OS. Other innovations include containerization, security enhancements and Zowe open-source tools.

Caution

DXC occasionally offers staff augmentation for existing clients. However, its primary value proposition centers on offering comprehensive outsourcing with end-to-end service responsibility. Clients expecting service customization and dedicated in-house teams should negotiate terms accordingly.

Mainframe Application Modernization Software

Who Should Read This Section

This report is valuable for vendors offering mainframe application modernization software in the U.S. to understand their market position and for enterprises looking to evaluate these vendors. In this quadrant, ISG highlights the current market positioning of these vendors based on the depth of their software offerings and market presence.

CIOs

Should read this report to understand the strengths and weaknesses of vendors, including the way they harness the latest technologies to deliver reliable offerings.

CTOs

Should read this report to understand the capabilities of application modernization software vendors to achieve suitable technology integration into products, services and business administration.

Application services and portfolio managers

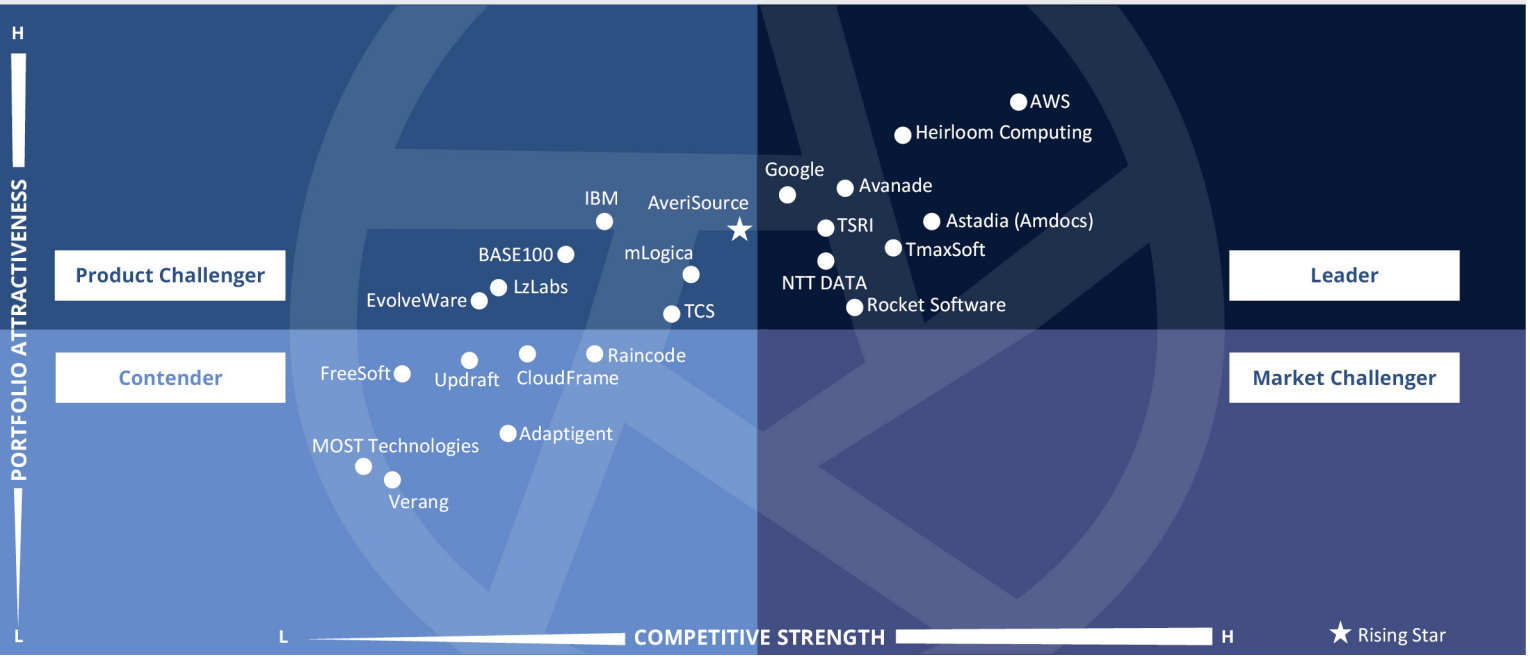
Should read this report to compare vendors in the application modernization software market in terms of offerings, innovations and portfolios.

ISG Provider Lens™

Source: ISG RESEARCH

Mainframes — Services and Solutions
Mainframe Application Modernization Software

U.S. 2025



This quadrant assesses **modernization software** vendors that support clients with professional services to **transform** and **migrate mainframes to the cloud** using automation for rehosting, replatforming, reengineering or rewriting applications.

Pedro L. Bicudo Maschio

Definition

This quadrant assesses software vendors that enable legacy application assessments and transformations, such as replatforming, rehosting, refactoring, rewriting or reengineering. These vendors supply the modernization toolset and partner with global system integrators (GSIs) that deliver modernization services.

Mainframe modernization software outcomes include compiled code to run in the cloud, refactored code to run on emulators on the cloud or new source code from reengineering, using automation tools and GenAI to reduce or eliminate human errors. The intermediary products include documentation, logic flows, data architectures, automation tools, test artifacts, testing tools, serverless functions, APIs and microservices that can accelerate the mainframe modernization program.

Professional services and consulting expertise can improve the vendor rating but are not requisites if offered through certified partners.

Eligibility Criteria

1. License or deliver software as a service to enable **client autonomy**
2. Specialize in mainframe specialization and offer **mainframe-specific tools** (excluding generic reengineering and code analysis)
3. Demonstrate **expertise in modernization methods,** such as reverse engineering, business logic mapping, business rules extraction, code review and inspection, documentation, emulators, compilers, frameworks and application development tools to accelerate application code refactoring and modernization to cloud-native architectures.
4. Ensure the product has been **available and in use** by clients for longer than one year (excludes startup and lab tools)
5. Maintain a robust **support organization** or service partner ecosystem to ensure enterprise-grade support
6. Include assessment tools and **compilers** (excluding generic code conversion tools, business process management (BPM) tools or wide-scope server/cloud optimization tools)

Observations

Most vendors adopted GenAI to enhance their modernization products. GenAI can explain how applications work just by reading the source code, but it cannot replace reverse engineering tools at the level of documenting system architectures. While one does not replace the other, their combination provides surprising results. Reverse engineering generates technical documentation, and GenAI provides a human interface that explains what the application does.

GenAI filled most of the automation tools' testing and quality assurance gaps. GenAI creates testing scripts starting with the assessment documentation and can ensure broad testing coverage, improving overall quality.

Many rewriting tools require code conversion libraries that accelerate the process but stay with the code forever. GenAI can inspect the generated code to find and replace these libraries and eliminate dependencies to create clean code.

Each modernization provider has developed sophisticated reverse engineering, refactoring and code-writing tools that rely on translation methods, libraries and reference architectures that GenAI cannot reproduce. These sophisticated tools transform applications faster than GenAI, which requires prompts and human interaction. However, after conversion, GenAI can rapidly compare new and old systems, answer human queries and improve clients' trust in modernization.

From the 54 companies assessed for this study, 23 qualified for this quadrant, with nine being Leaders and one Rising Star.

Astadia

Astadia had great results this year after its acquisition by Amdocs. The company was able to extend its partner ecosystem and increase sales, providing it with sustainable growth and enabling replatforming and rewriting applications.

Avanade

Avanade offers Application Modernization Toolkit (AMT), a suite of tools for rewriting applications. Its enhanced GenAI platform improved documentation and quality, facilitating the replatforming and rewriting of applications.

aws

AWS' primary modernization tool is Blu Age. The company also uses partner tools to offer a complete portfolio. Blu Age is a proficient reengineering tool enhanced by GenAI and Amazon Q Developer: Transform.

Google integrated its application reengineering tools into Google Gemini, providing a full-featured GenAI reengineering tool. It also offers Google Dual Run (replatforming) in partnership with Rocket Software.

Heirloom Computing

Heirloom Computing made significant advancements by integrating GenAI into its modernization toolset. It improved documentation and quality assurance. Heirloom provides replatforming and rewriting.

NTT DATA

NTT DATA improved its market share with the AWS partnership. It is also available in Microsoft Azure. UniKix provides replatforming, and Intellimod provides reengineering capabilities.

Rocket Software

Rocket Software acquired the AMC business from OpenText. It discontinued the Micro Focus brand and enhanced the offerings with GenAI. Its replatforming solution is the most popular in the market.

TmaxSoft

TmaxSoft provides a comprehensive replatforming toolset, supporting more legacy platforms than competitors, including applications, data files, databases and middleware.

TSRI

TSRI offers deep reengineering expertise, covering most legacy languages with full automation and a code quality warranty. It added GenAI to improve documentation and testing.

AveriSource

AveriSource (Rising Star) significantly improved its portfolio with GenAI and its market penetration with extended partnerships, including AWS certifications. The company offers reengineering.

Appendix

Methodology & Team

The ISG Provider Lens 2025 – Mainframes — Services and Solutions research study analyzes the relevant software vendors/service providers in the U.S. and Brazil market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research methodology.

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The research and analysis presented in this study will include data from the ISG Provider Lens™ program, ongoing ISG Research programs, interviews with ISG advisors, briefings with service providers and analysis of publicly available market information from multiple sources. ISG recognizes the time lapse and possible market developments between research and publishing, in terms of mergers and acquisitions, and acknowledges that those changes will not reflect in the reports for this study.

All revenue references are in U.S. dollars ($US) unless noted.

The study was divided into the following steps:

1. Definition of Mainframes — Services and Solutions market
2. Use of questionnaire-based surveys of service providers/ vendor across all trend topics
3. Interactive discussions with service providers/vendors on capabilities & use cases
4. Leverage ISG's internal databases & advisor knowledge & experience (wherever applicable)
5. Use of Star of Excellence CX-Data
6. Detailed analysis & evaluation of services & service documentation based on the facts & figures received from providers & other sources.
7. Use of the following key evaluation criteria:
   * Strategy & vision
   * Tech Innovation
   * Brand awareness and presence in the market
   * Sales and partner landscape
   * Breadth and depth of portfolio of services offered
   * CX and Recommendation

Author

Pedro L Bicudo Maschio

Distinguished Lead Author

Distinguished analyst and author, Pedro Maschio brings extensive experience in the research of the SEMEA (Southern Europe Middle East and Africa) and the Americas service markets. With more than 30 years of experience in sourcing, he has developed vendor assessments plus contract restructuring, services scope and IT benchmarking programs for diverse vertical markets in the Americas and APAC.

Before joining ISG, Pedro was a partner of TGT Consult and managing vice president at Gartner Inc., responsible for the consulting business in APAC and Latin America.

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Manoj is a senior research analyst at ISG and supports ISG Provider Lens™ studies on Private/Hybrid Cloud – Data Center Services, Mainframes and Public Cloud Data Center Solution and Services. He also supports the lead analysts of multiple regions in the research process. Prior to this role, he supported the ROI process in sales intelligence platform and was an individual contributor in handling research requirements for advanced technologies in different sectors.

He has considerable expertise in predicting the automation impact by considering certain parameters such as productivity, efficiency and time reduction. During his tenure, he has supported research authors and authored Enterprise Context and Global Summary reports with market trends and insights.

Study Sponsor

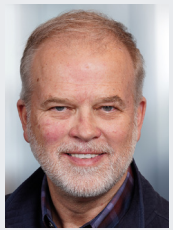
Heiko Henkes

Managing Director

Heiko Henkes serves as a Managing Director at ISG, overseeing the Global ISG Provider Lens™ (IPL) Program for all IT Outsourcing (ITO) studies alongside his pivotal role in the global IPL division as a strategic program manager and thought leader for IPL lead analysts. His expertise lies in guiding companies through IT-based business model transformations, leveraging his deep understanding of continuous transformation, IT competencies, sustainable business strategies and change management in a cloud-AI-driven business landscape.

Henkes is known for his contributions as a keynote speaker on digital innovation, sharing insights on using technology for business growth and transformation.

IPL Product Owner



Jan Erik Aase

Partner and Global Head – ISG Provider Lens™

Mr. Aase brings extensive experience in the implementation and research of service integration and management of both IT and business processes. With over 35 years of experience, he is highly skilled at analyzing vendor governance trends and methodologies, identifying inefficiencies in current processes, and advising the industry. Jan Erik has experience on all four sides of the sourcing and vendor governance lifecycle - as a client, an industry analyst, a service provider and an advisor.

Now as a partner and global head of ISG Provider Lens™, he is very well positioned to assess and report on the state of the industry and make recommendations for both enterprises and service provider clients.

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Founded in 2006, and based in Stamford, Conn., ISG employs 1,600 digital-ready professionals operating in more than 20 countries—a global team known for its innovative thinking, market influence, deep industry and technology expertise, and world-class research and analytical capabilities based on the industry's most comprehensive marketplace data.

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MARCH, 2025

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