IDC MarketScape

# IDC MarketScape: Worldwide Mainframe Modernization Infrastructure Solutions 2025–2026 Vendor Assessment

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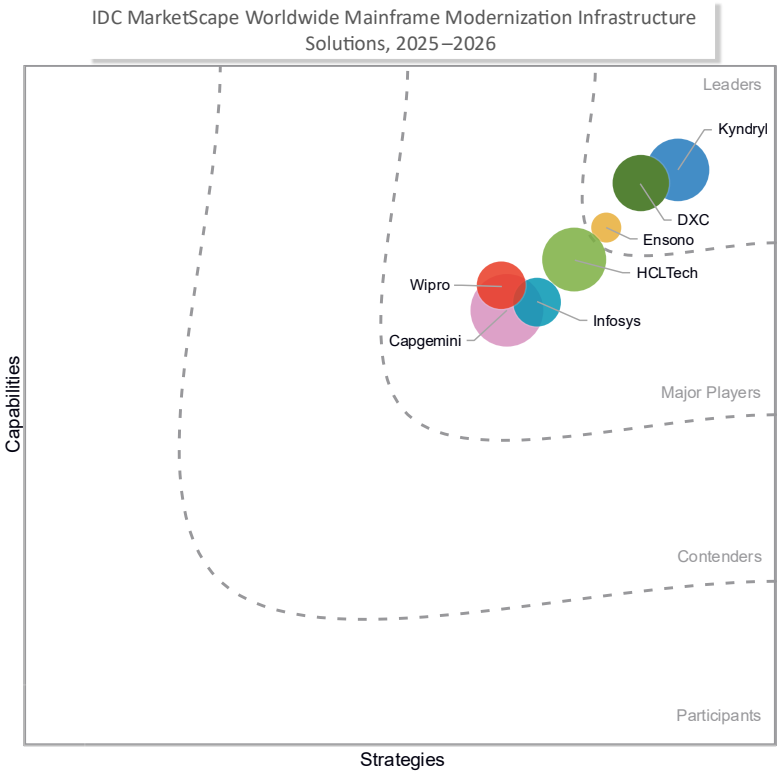
## THIS EXCERPT FEATURES KYNDRYL AS A LEADER

## IDC MARKETSCAPE FIGURE

### FIGURE 1

**IDC MarketScape: Worldwide Mainframe Modernization Infrastructure Solutions Vendor Assessment**




Source: IDC, 2025

November 2025, IDC #US52975425e

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

## ABOUT THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Mainframe Modernization Infrastructure Solutions 2025–2026 Vendor Assessment (Doc # US52975425).

## IDC OPINION

Mainframes have been part of enterprise infrastructure computing environments for 60 years and continue to play an important role for many organizations, particularly those that have very large-scale transaction processing requirements. IDC's recently published *State of the Modern Mainframe* (IDC multiclient study, 2025) indicates that after a number of years of decline, mainframe usage has stabilized, with signs of some customers increasing MIPS usage to support mission-critical workloads.

IDC's June 2025 survey of 510 mainframe users found that 88% expect to rely on mainframes for at least some current workloads for five years or more. AI was identified as a top strategic workload driving new plans for mainframe system refreshes and application and security enhancements in the coming years. The survey found that 82% of mainframe users also plan to significantly improve mainframe data integration for AI support over the next two years.

As the mainframe market has matured, it has largely consolidated around the IBM Z ecosystem. IBM dominates the mainframe hardware market globally, with 89% of survey participants indicating they rely on IBM Z and 65% noting they use Z/OS. IDC expects the IBM z17, launched in April 2025, will be a catalyst for a new mainframe infrastructure refresh cycle as it delivers an AI-optimized tech stack built around the IBM Telum II processor and the IBM Spyre Accelerator on PCIe card — which supply accelerated I/O and are designed to support high-performance AI inference processing for transaction data. These accelerators are designed to support combined encoder and decoder models and multimodel workloads linking predictive AI, generative AI LLMs, and agentic AI. The IBM z17 also features AI-enhanced improvements to mainframe management and power efficiency, including AI assistants on the platform to help complete tasks faster.

As enterprise customers consider their mainframe infrastructure modernization options and timelines, they often struggle with staffing and skill gaps, particularly in areas related to security, mainframe AI expertise, and mainframe programming and

automation. Space and environmental constraints cause some to look at colocation or mainframe-as-a-service alternatives to on-premises datacenter deployments.

For organizations that want to update their mainframe infrastructure and include mainframe workflows and data in broader AI initiatives, third-party service providers, such as those profiled in this IDC MarketScape, are available to supplement staff, provide state-of-the-art automation and operational best practices, and assist customers in designing and implementing mainframe AI use cases and modern infrastructure deployments.

## IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

This IDC MarketScape evaluates mainframe modernization infrastructure solution providers that help enterprises optimize, sustain, and extend IBM Z mainframe systems, including enterprise datacenters, colocation facilities, managed services/outsource sites, and/or mainframe-as-a-service (MFaaS) environments. The emphasis is on infrastructure solutions with application and data-related capabilities viewed as enablers of infrastructure modernization.

To be considered, mainframe modernization infrastructure solution providers must offer a comprehensive services portfolio supporting all of the following mainframe modernization infrastructure solution capabilities for Z:

- Mainframe infrastructure hardware, OS, and software refresh and update assessment, planning, and implementation, including managed services and/or mainframe-as-a-service solutions
- Mainframe application modernization, including automated code analysis, documentation, conversion, and testing to support mainframe infrastructure upgrades and ongoing use of existing mainframe applications — both custom and packaged
- Mainframe data management, integration, and orchestration to provide distributed systems and AI models with access to mainframe data and to enable onboard mainframe AI processors and accelerators to integrate with the organization's broader AI environment
- Mainframe runtime operations automation, orchestration, monitoring, and optimization, including workload automation/job scheduling optimization and MIPS utilization and cost optimization, including ISV software rationalization

Solutions meeting the aforementioned criteria must have been in general availability in multiple geographies since January 1, 2025.

Solutions and service providers primarily focused on migration of existing mainframe workloads to non-mainframe environments such as public cloud IaaS or in-house distributed computing platforms are excluded. Independent software vendors are excluded as the focus of this study is on services providers.

## ADVICE FOR TECHNOLOGY BUYERS

The investments IBM is making to enable a full multimodal AI-ready tech stack for Z are significant in that they help position mainframes as "equal citizens" in the enterprise AI ecosystem. To take full advantage of these capabilities, many enterprises will need to work with services partners that have proactively invested in modern mainframe expertise including best practices and state-of-the-art tools to help assess, design, implement, and operate AI-ready mainframe infrastructure refreshes, application updates, and integration strategies. When evaluating technology service providers to assist with mainframe modernization infrastructure solutions, customers should consider the following:

- **The current availability of internal resources in terms of staff, skills, and knowledge.** Identify the gaps and prioritize partners that can pick up the slack quickly and efficiently.
- **Positioning mainframe modernization infrastructure investments as part of the organization's broader AI strategy and tech debt remediation program.** Mainframe infrastructure refreshes can take a year or more to plan and implement, and many organizations wait several years in between major updates. Ensure that today's investments will be designed to scale and evolve appropriately over time.
- **Determine how the organization can best engage with service providers.** In some cases, a full dedicated three- to five-year managed service contract including staff augmentation and remote support may make the most sense. Some customers may want a third-party to host dedicated mainframe platforms. Others may find that a shared MFaaS solution can provide cost-effective flexibility. In yet other cases, specific project engagements to help jump-start or supplement internal capabilities may be appropriate.

Once the preferred engagement model is identified, service provider evaluations should consider:

- The scope and maturity of capabilities related to assessing, planning, and refreshing customer-owned mainframe systems and management tools, mainframe applications, and mainframe data management and storage

- Service provider investments related to crafting proprietary methods and building value-add tools, including the provider's use of AI and automation to maximize infrastructure performance, efficiency, and security
- Scope and maturity of provider partnerships across the mainframe ecosystem, including participation in IBM early access programs, major mainframe open source programs, and major mainframe ISV and public cloud partnerships
- The provider's level of investment in building mainframe innovation labs and offering mainframe-specific AI-enablement services to help customers accelerate their own mainframe AI agendas and identify compelling use cases
- The provider's skills and head count mix, internal program to build and retain skills, ongoing training and retention programs, and onboarding processes in cases where in-house staff might be re-badged as provider employees

Conversations with potential providers should balance immediate considerations related to cost, performance, and security with road maps for expansion, tech debt avoidance, AI enablement, and optimizing operations long term.

## VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

### Kyndryl

Kyndryl is positioned as a Leader in this 2025 IDC MarketScape for mainframe modernization infrastructure solutions vendor assessment.

New York–based Kyndryl was created by the spinout of IBM's managed infrastructure services business in late 2021. Mainframe-related services are supported by approximately 7,000 mainframe specialists in 51 countries.

The company's portfolio of consulting, application modernization, and managed infrastructure services for mainframe includes:

- **Assessment, planning, and implementation advisory and project services** in a range of technical areas, including mainframe DevOps and DevSecOps, Linux consolidation and migration to IBM Z, DB2, CICS, IMS, MQ Health, security, MIPS optimization, and software optimization
- **Mainframe application modernization** engagements, including application analysis, transformation planning, rewriting and refactoring, COBOL version

upgrades, legacy code documentation and conversion to Java, workload optimization, application testing, code management, user interface modernization, API enablement, and implementation on cloud-native container architectures

- **Mainframe application and infrastructure operations and staff augmentation** services, including observability and APM support, DevSecOps tool implementation, mainframe operations support, and skills and workforce development
- **Data integration project services** to connect mainframe data to modern platforms and AI models on premises and in public cloud and SaaS services, including Google Cloud, AWS, Azure, and Databricks
- **Mainframe managed services** supporting customer-owned on-premises mainframe systems and software licenses as well as dedicated Kyndryl-owned hardware, with options for onsite staff automation or access to shared staffing and operations platform services
- **zCloud,** multitenant mainframe-as-a-service infrastructure, operations, and migration capabilities that allow Kyndryl to host the customer's mainframe workloads on shared mainframe infrastructure located in Kyndryl datacenters and managed by Kyndryl staff (zCloud is currently available in over 30 countries.)
- **Mainframe AI enablement services,** an emerging set of planning and implementation offerings focused on helping customers develop AI solutions that can be leveraged on the mainframe

Kyndryl focuses on improving mainframe operational efficiency and workload performance by using a mix of commercial and open source mainframe software, ongoing employee skills development, and proprietary, internally developed infrastructure management and operations tools. Its flagship operations platform is Kyndryl Bridge, an open integration platform designed to provide a unified view across all of the customer's digital resources, including mainframes. AIOps ML and GenAI algorithms on Kyndryl Bridge are employed to detect anomalies in the IT environment, identify and address issues before they escalate, and ensure smoother operations.

Kyndryl is part of the IBM Z early access program and has been proactive in working with IBM to evaluate implementation and support requirements for z17, including opportunities to support AI use cases with the Telum II chips and planned Spyre accelerators. When both of these are available, Kyndryl plans to expand its current z16-based capabilities to fully support z17 and AI workloads on the mainframe. The company is working with customers to plan and implement the new platform, including capacity and MIPS utilization planning, application and OS assessments and planning, and storage upgrade planning.

In addition to ongoing efforts to train, recruit, and retain staff with mainframe expertise, Kyndryl is actively investing in AI-based tools to support its mainframe services. Specifically, Kyndryl leverages GenAI RAG to accelerate mainframe modernization efforts by generating documentation, converting code, and providing insights into business logic and data relationships. More broadly, Kyndryl recently launched the Kyndryl Agentic AI Framework, an approach to deploying agentic AI to augment human teams. The Framework orchestrates and dispatches a portfolio of specialized, self-directed, and self-learning AI agents that dynamically respond to shifting conditions and keep humans in the loop for oversight. Kyndryl expects to include mainframe operations in the Framework in the future.

### Strengths

Kyndryl has been proactive in terms of both leveraging AI to improve its own abilities to deliver mainframe services and preparing customers to take advantage of a new generation of AI mainframe capabilities. The company has a broad set of mainframe infrastructure operations, planning, and implementation capabilities and partners that enable it to offer customers unified visibility into managed resources via Kyndryl Bridge.

### Challenges

As a relatively new company, Kyndryl continues to work to solidify its brand and reputation and to build the effective and collaborative relationships possible with customers and partners. Customers have suggested that the company could benefit from more open and transparent communications beyond the formal tracking of contracts and metrics.

## APPENDIX

## Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies

category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape is based on the estimated number of employees specifically dedicated to supporting the organization's mainframe services around the world.

## IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

## Market Definition

For the purposes of this IDC MarketScape, mainframe modernization infrastructure solution providers help enterprises optimize, sustain, and extend mainframe systems by providing a range of assessment, strategy, planning, design, and implementation services to deploy, update, integrate, and operate mainframe systems in enterprise datacenters, colocation sites, managed services/outsource sites, and/or mainframe-as-a-service environments. Given that IBM Z represents the vast majority of the mainframe systems market, this IDC MarketScape is limited to providers that support Z.

For the purposes of this IDC MarketScape, mainframe service providers that focus primarily on application modernization, code conversion, and programs related to refactoring and migration of workloads and data off mainframes and onto public cloud or distributed systems are not included in this assessment. It also excludes specialized providers focused on non-IBM mainframe infrastructure services.

## LEARN MORE

## Related Research

- State of the Modern Mainframe 2025

- *Global Banks Have Multidimensional Mainframe Modernization Strategies That Will Increasingly Leverage AI to Achieve a Range of Objectives* (IDC #US53615425, June 2025)
- *What Are the Top Priorities Driving Mainframe Modernization?* (IDC #US53570925, June 2025)
- *How Will AI Impact Mainframe Investments and Usage in the Next Two Years?* (IDC #US53552425, June 2025)
- *IBM's z17 Launch Brings Multimodel AI Capabilities to the Mainframe* (IDC #lcUS53303925, April 2025)
- *Tech Buyer Perspectives on the State of the Mainframe 2025* (IDC #US53248925, March 2025)

## Synopsis

This IDC study evaluates seven worldwide mainframe modernization infrastructure service providers that focus on assisting enterprises in sustaining, updating, and extending their IBM Z mainframe resources. While it offers details on each vendor's capabilities, it is not meant to be a buyer's guide. Instead, this evaluation is intended to help IT buyers narrow down candidates that fit their specific needs as they prepare to take advantage of new mainframe AI capabilities and look to improve and sustain overall mainframe infrastructure performance, cost, and operations to support mission-critical business workloads.

"While many service providers stand ready to help enterprise customers migrate off mainframes, the set of vendors proactively investing in capabilities to facilitate ongoing mainframe infrastructure modernization is more limited," explains Mary Johnston Turner, research vice president, IDC's Digital Infrastructure Strategies. "This IDC MarketScape is designed to provide organizations with long-term, strategic commitments to mainframe infrastructure to find service provider partners that best match their organizational needs — whether they are seeking project-based support or long-term managed services or mainframe-as-a-service solutions."

## ABOUT IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

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