ISG Provider Lens™

Mainframes – Services and Solutions

A research report comparing providers and Software Vendors strengths, challenges and competitive differentiators

Customized report courtesy of:

unisys

QUADRANT REPORT | MARCH 2024 | U.S. PUBLIC SECTOR

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Decades of deferring investments in mainframes within the U.S. state and local governments has led to challenges that can no longer be ignored. Constituents are demanding experiences that are comparable to what they have become accustomed to in the private sector. However, significant barriers exist to meeting this requirement. The experts who have been maintaining mainframes in state and local agencies are aging and exiting the workforce quickly, leaving a limited number of workers with mainframe skills to replace them. The public sector is also 10-20 years behind the public sector in its upgrade cycles, leaving agencies with seemingly unsurmountable technical debt.

This dilemma is leading to mainframe failures. In 2022, multiple West Virginia state agencies were affected by a mainframe outage that took ten days to fully repair. Similarly, in 2020, Vermont's unemployment system had an outage.

While the shortage of experts is a problem, the tight budgets in the public sector make it difficult to compensate experts at a rate similar to that seen in the private sector. Rising licensing costs also pressurize agencies to adopt a more sustainable path. Lessons learned from the pandemic have highlighted the need to scale to meet spiking demand from constituents.

Upgrading mainframes is risky and full of unknowns, but the danger of doing nothing is growing rapidly. IT organizations that have traditionally hesitated to greenlight big projects such as mainframe modernization can no longer wait. This factor is driving unprecedented demand for mainframe services in the U.S. Public Sector.

Providers delivering mainframe services to U.S. state and local governments are seeing growth rates of 10-20 percent, much higher than the 2-5 percent in the private sector. This growth is not translating to the federal market as more regulatory and security obstacles exist in this sector, compared with the state and local governments. Mainframe service providers are noticing the growing demand and organizing GTM strategies to address this unique marketplace.

Mainframe services to **U.S. state and local governments** are seeing 10-20 percent growth.

Response of the Agencies

A once-mature marketplace is seeing renewed interest and evolving rapidly. To modernize their mainframes, public sector agencies are looking for flexible solutions within their budgets. The solutions must also support modern experiences for constituents successfully. Providers delivering services to SLED must also provide low-risk, scope for planning and predictability of the solutions they are offering.

To meet these requirements, many providers are taking a more consultative and flexible approach to mainframe services. Many agencies are no longer looking for point solutions to strictly move all their workloads off the mainframe or optimize current systems. A calculated hybrid strategy to move some workloads to the cloud while maintaining some on the mainframes is becoming increasingly common.

This approach, in many cases, includes embracing the value of the mainframe as a part of a larger IT estate. The stability of the mainframes and the challenges of moving all applications from these systems are leading organizations to embrace the idea that the mainframe is here to stay and can be a key component of their future architecture. A hybrid mainframe strategy integrating mainframe data with the cloud is becoming highly relevant. While larger, more complex agencies are taking a more nuanced approach, agencies with smaller mainframe footprints are willing to opt for a more straightforward lift and shift approach to the cloud strategies.

Investments in Tools and AI

Mainframe service providers continue investing in tools and platforms to streamline the delivery of mainframe modernization. AI is increasingly becoming a key component of these tools, enabling service providers to manage complex systems.

AI applications in mainframe application documentation and analysis are particularly gaining momentum. AI's ability to recognize patterns enables the mapping and documentation of application functionalities and determine where dependencies exist. These capabilities are particularly valuable in the public sector, where technical debt is rarely addressed and new software is built on years of legacy applications.

Code transformation and business rules extraction are also applications where AI is being implemented. We see providers continuing to invest in AI to automate processes and reduce the complexity of mainframe systems.

Increase in DevOps and DevSecOps

Service providers are increasingly implementing DevOps and DevSecOps strategies in their mainframe modernization and optimization strategies. As agencies approach modernization as a more nuanced solution requiring high flexibility to integrate with modern cloud applications, the ability to collaborate with DevOps becomes much more important. Service providers are also building their capabilities in DevOps to help attract younger talent accustomed to these development patterns.

Reign of Data

Access to mainframe data is becoming increasingly important for the use of AI and in data-driven decision-making. As organizations embrace the permanence of the mainframe as a part of their IT strategy, they are prioritizing data accessibility. Service providers must be able to deliver APIs and integrate mainframe data with their hybrid cloud strategy.

Software Vendors Entering the Mainframe Modernization Arena

At the end of 2023 and in early 2024, the market saw several acquisitions in the mainframe software space. Enterprise software providers acquired mainframe application software modernization providers to gain access to this market. For instance, Rocket Software acquired Micro Focus from Opentext, and Amdocs purchased Astadia. IBM also has plans to strengthen its application modernization capabilities, kickstarted by the acquisition of Advanced's application modernization business in January 2024.

Commoditization of the MFaaS Market

The economics in the MFaaS market are getting increasingly challenging. Due to licensing costs, it is becoming difficult for service providers to pass on savings to customers through as-a-service models.

We are seeing a few different approaches to respond to this challenge. Many large Global Systems Integrators are choosing to resell MFaaS offerings from specialized vendors that are better positioned to drive efficiency and negotiate licenses. Others are choosing to package MFaaS offerings with higher-value application modernization services.

We expect the mainframe modernization and services market for the public sector to grow. The large technical debt in this space and the promise of AI to simplify these systems will continue to drive demand. The age of these systems also allows high RoI enabled by significant efficiency created by AI and evolving modernization strategies, which will lead to an increasing number of opportunities to self-fund long-term modernization projects, helping to drive additional market growth.

> IT organizations that have traditionally hesitated to greenlight big projects such as mainframe modernization can no longer wait. This factor is driving an unprecedented demand for mainframe services in the U.S. public sector.

Provider Positioning

	Mainframe Optimization Services	Application Modernization Services	Mainframe as a Service (MFaaS)	Mainframe Operations
Accenture	Not In	Leader	Not In	Not In
Advanced	Not In	Product Challenger	Not In	Not In
Astadia (Amdocs)	Not In	Contender	Not In	Not In
Atos	Product Challenger	Not In	Product Challenger	Product Challenger
Avanade (Asysco)	Not In	Leader	Not In	Not In
BlueHill Data Services	Not In	Not In	Contender	Contender
BMC	Contender	Not In	Not In	Not In
Capgemini	Not In	Leader	Contender	Leader
Cognizant	Product Challenger	Product Challenger	Contender	Product Challenger
Deloitte	Market Challenger	Market Challenger	Not In	Not In

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services	Mainframe as a Service (MFaaS)	Mainframe Operations
DXC Technology	Product Challenger	Product Challenger	Leader	Leader
Ensono	Leader	Market Challenger	Leader	Leader
Eviden (an Atos Business)	Not In	Product Challenger	Not In	Not In
FNTS	Not In	Not In	Rising Star ★	Product Challenger
Fujitsu	Not In	Product Challenger	Not In	Not In
HCLTech	Product Challenger	Leader	Product Challenger	Product Challenger
HPE	Not In	Contender	Not In	Not In
Infosys	Leader	Leader	Not In	Product Challenger
INNOVA	Not In	Contender	Not In	Not In
Kyndryl	Leader	Market Challenger	Leader	Leader

Provider Positioning

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	Mainframe Optimization Services	Application Modernization Services	Mainframe as a Service (MFaaS)	Mainframe Operations
Maintec	Not In	Not In	Not In	Contender
Mphasis	Product Challenger	Product Challenger	Not In	Contender
NTT DATA	Not In	Contender	Not In	Not In
PSR	Not In	Not In	Contender	Contender
Recovery Point Systems	Not In	Not In	Contender	Contender
TCS	Leader	Leader	Not In	Leader
Tech Mahindra	Contender	Leader	Not In	Not In
TSRI	Not In	Product Challenger	Not In	Not In
Unisys	Leader	Not In	Not In	Leader
Wipro	Leader	Rising Star ★	Leader	Leader

Key focus areas for Mainframes – Services and Solutions

- Mainframe Optimization Services
- Application Modernization Services
- Mainframe as a Service (MFaaS)
- Mainframe Operations

Simplified Illustration; Source: ISG 2024

Definition

Mainframe systems have been supporting public sector IT operations for decades. However, with the widespread demand for digital modernization of systems and operations, most agencies question how legacy mainframe environments can be leveraged to meet availability, interoperability and cost requirements in today's digital world.

This ISG Provider Lens™ study assesses service providers and software vendors that enable modernization of mainframe systems, software environments and business applications to meet current and next-generation digital government requirements. These requirements are all built around the unique needs of U.S. Public Sector organizations including state, local, municipal and educational (SLED) agencies.

Resilient mainframe environments can leverage high-performance hardware and software tools for continuous modernization, enabling mainframe applications to integrate with new technologies and computing platforms.

Providers and vendors in this study focus on clients' options to align mainframe applications with digital business requirements. This includes service providers that modernize mainframe environments and applications and offer mainframe outsourcing services on-premise or through the mainframe-as-a-service model (MFaaS). The mainframe platforms covered by providers in this study include IBM (Z and AS/400), HP, Cray, Fujitsu and Unisys.

ISG Public Sector Provider Lens™ research studies examine, explain and provide guidance on business software platforms, solutions, tools, services and providers that help improve public sector organizations to operate and enable transformation toward digital realities.

Scope of the Report

This ISG Provider Lens™ quadrant report covers the following four quadrants for services/solutions: Mainframe Optimization Services, Application Modernization Services, Mainframe as a Service (MFaaS) and Mainframe Operations.

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

- Transparency on the strengths and weaknesses of relevant providers and software vendors
- A differentiated positioning of providers by segments (quadrants)
- Focus on the regional market

Our study serves as the basis for important decision-making by covering providers' positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their existing vendor relationships and potential engagements.

Provider Classifications

The provider position reflects the suitability of IT providers for a defined market segment (quadrant). Without further additions, the position always applies to all company sizes classes and industries. In case the IT service requirements from enterprise customers differ and the spectrum of IT providers operating in the local market is sufficiently wide, a further differentiation of the IT 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 IT 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 Challenger, Market Challenger and Contender), and the providers are positioned accordingly. Each ISG Provider Lens™ quadrant may include service providers that ISG believes have 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 relevant to the U.S. Public Sector organizations for evaluating providers offering mainframe optimization services within mainframe environments.

In this quadrant, ISG assesses providers of legacy application modernization services that introduce code repositories, such as GitHub or equivalents, DevOps integration and testing automation, security testing, API development and data integration.

For state/local agencies that run applications on mainframes, it has become necessary to update and optimize legacy applications to include agile development practices, APIs and microservices for better business delivery. It becomes difficult to get access to the right IT talent in-house to maintain and manage their legacy systems.

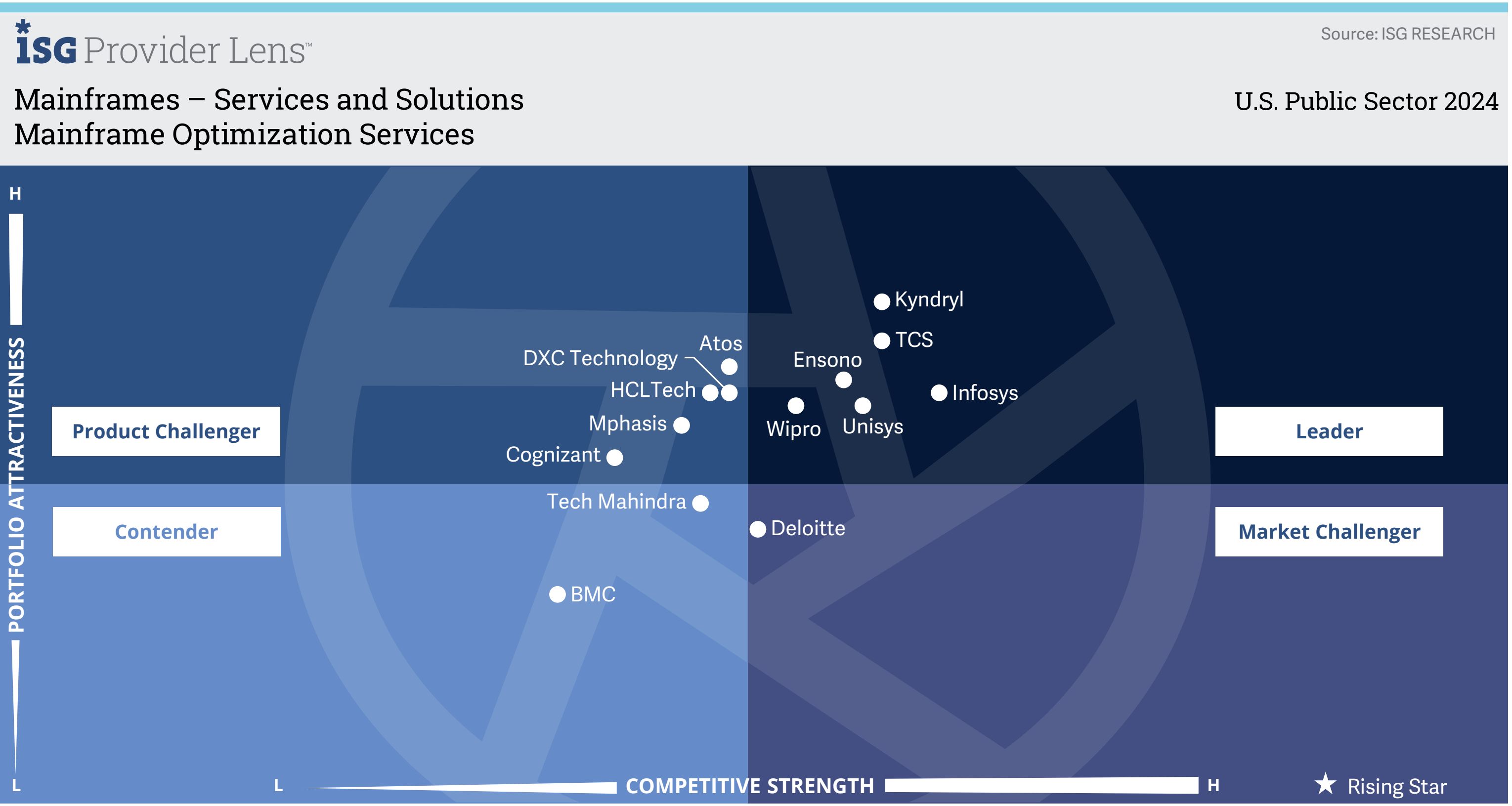
Public sector organizations are seeking service providers capable of aiding them in reducing mainframe costs within the business environment. Therefore, providers are focused on optimizing the mainframes of clients with various tool vendors and can also provide expertise in consulting, planning and management to ensure the project's success.

Public sector organizations are posting strong requirements for providers that invest in mainframe optimization for a thorough understanding of the ongoing business requirements and a better analysis of the stage of modernization. Service providers in this space are focusing on offering different optimization strategies to address the increased demand of organizations to set free business data that resides on mainframe systems.

CIOs should read this report to understand the strengths and weaknesses of providers including the way they employ the latest technologies to deliver reliable offerings.

Technology leaders/CTOs should read this report to understand mainframe modernization's capability to advance better technology integration into products, services and business administration.

Mainframe tech leaders should read this report to understand their competitors and peers in the mainframe market, in terms of their different offerings, innovations, talent and portfolios.



This quadrant looks at how service providers are helping public sector agencies **optimize** their current mainframe **applications**. This also includes introducing modern app development practices and strategies for more agile development.

Peter Crocker

Definition

Like most legacy systems, mainframes were implemented decades before modern application development practices emerged. While mainframes are based on legacy programming languages and architectures, modern approaches to development and maintenance can improve the efficiency of application development and operation.

Service providers in this quadrant offer legacy application modernization services designed to be less disruptive to the operation of the mainframe. They put organizations in a better position to leverage contemporary technologies and practices. They provide services such as the introduction of code repositories such as GitHub or equivalents, DevOps integration and testing automation and security testing. Modernization retains the original programming language, such as COBOL, adding architecture optimization and documentation, to enable agility. After modernization is complete, clients can embrace agile methodologies for developing and maintaining applications running on mainframe systems, including code repositories, quality assurance and DevOps.

These providers can assess a client's application portfolio to deliver a modernization plan with guidance on applications that should be retained on the mainframe platform and those that should be moved. They also help enterprises decide on the type of applications that can be transformed and migrated to other platforms, thus enabling cost and performance optimization.

Eligibility Criteria

1. Demonstrate **wide customer presence** and involvement in the U.S. Public Sector as defined by ISG
2. Offer case studies around mainframe modernization of either IBM Z, IBM AS/400, IBM iSeries, HP, Cray, Fujitsu or Unisys applications
3. Include examples of **DevOps** tools integration, including code repository
4. **Enable legacy programming languages** through modernization, such as COBOL, to build and deploy in line with modern continuous integration and deployment best practices
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 and application assessment services**
8. Deliver services directly through its **employees** with adequate expertise in COBOL and other mainframe programming languages

Observations

In 2023, the growing focus in mainframe optimization is to position the mainframe as a part of a hybrid cloud environment. Organizations are realizing that there is significant value in continuing to run their mainframes and optimizing their strategy to continue to run appropriate workloads on these machines while moving others to the cloud.

Deploying DevOps pipelines that span the cloud and mainframes and building API to enable access to mainframe data are key components of this strategy.

Optimizing the use of resources is another key component of mainframe optimization services. Tools that can optimize application code and reduce redundancy are central to any offering. The use of AI to complete this analysis is a growing differentiator.

From the 30 companies assessed for this study, 14 qualified for this quadrant, with six being leaders.

Ensono is focused on serving U.S. state and local governments and is growing its business in this space. The company has strong partnerships to support innovation and is working with clients on incorporating the mainframe into their hybrid architecture.

Infosys is a global service provider that offers mainframe services across the globe. The company is investing in its go-to-market strategy in the U.S. Public Sector. Infosys is also investing in AI innovation around its mainframe offerings.

Kyndryl is the IT services business spun off from IBM and has one of the largest mainframe services businesses in the world. Kyndryl works closely with hyperscalers to integrate the mainframe into hybrid cloud architectures.

TCS is one of the largest global systems integrators and is investing heavily in innovation and AI throughout the entire organization. The company is leveraging its large associate pool to work with clients to find the best modernization approach.

Unisys has a legacy presence in the public sector, with its mainframes still common in the U.S. Public Sector. This unique position puts the company in a commanding position to service these machines.

Wipro is a strong global systems integrator, bringing a consultative approach to its mainframe optimization service. By demonstrating incremental value to its clients and strong DevSecOps capabilities, the company has a strong position in the market.

Unisys

Leader

"Unisys' legacy in mainframes and the U.S. Public Sector places it in a strong position to optimize installed Unisys machines."

Peter Crocker

Overview

Unisys is headquartered in Pennsylvania, U.S. It has more than 16,200 employees across 64 offices in 28 countries. In FY22 the company generated $2.0 billion in revenue, with Enterprise Computing Solutions as its largest segment. During the same period, Unisys generated $670 million from its ClearPath solutions and services business. Unisys was founded in 1986 through the merger of Sperry Corporation, an equipment and electronics company founded in 1919, and Burroughs Corporation, a manufacturer of business equipment founded in 1886. The public sector still runs a significant number of Unisys mainframes.

Strengths

Public sector experience: Unisys' long-standing relationships in the U.S. Public Sector give it a firm grasp of sector-specific applications, infrastructure and requirements. This experience also allows the company to work around financial constraints and deliver on enhanced security requirements.

Extensive institution mainframe experience: Unisys has delivered mainframe hardware and software to the U.S. Public Sector for decades. This perhaps provides the company with the deepest knowledge of mainframes than any other market player and allows it to offer unique expertise in delivering security, application modernization, DevOps and microservices on ClearPath. Unisys' legacy also provides it with strong brand recognition.

Significant installed base: With Unisys' long history as a pioneer in mainframe development and with public sector agencies slow to upgrade their systems, many agencies are still running dated Unisys systems. This scenario gives Unisys the unique opportunity to provide optimization services for these systems. The company's extensive, long-standing presence in the U.S. Public Sector also provides a solid understanding of the nuances of mission-critical applications running in this segment.

Caution

Unisys primarily focuses on ClearPath and Unisys systems, which limits the depth of its portfolio of services. Clients looking to optimize IBM systems may be better served by another provider.

Unisys could focus on enhancing its visibility in the market by highlighting its thought leadership and showcasing various market engagements.

Application Modernization Services

Who Should Read This Section

The report is for the U.S. Public Sector organizations to evaluate providers of mainframe application modernization services for transforming and modernizing mainframe applications to a contemporary environment.

In this quadrant report, ISG assesses the current market positioning of providers of mainframe application modernization services.

Due to uncertainties in the global economy, public sector entities are reluctant to invest in modernizing their core business applications. Therefore, organizations are typically looking for modernization strategies that can deliver cost savings with greater flexibility and are adaptable to dynamic demands, such as capacity change, assessment capability and storage of MIPS (millions of instructions per second).

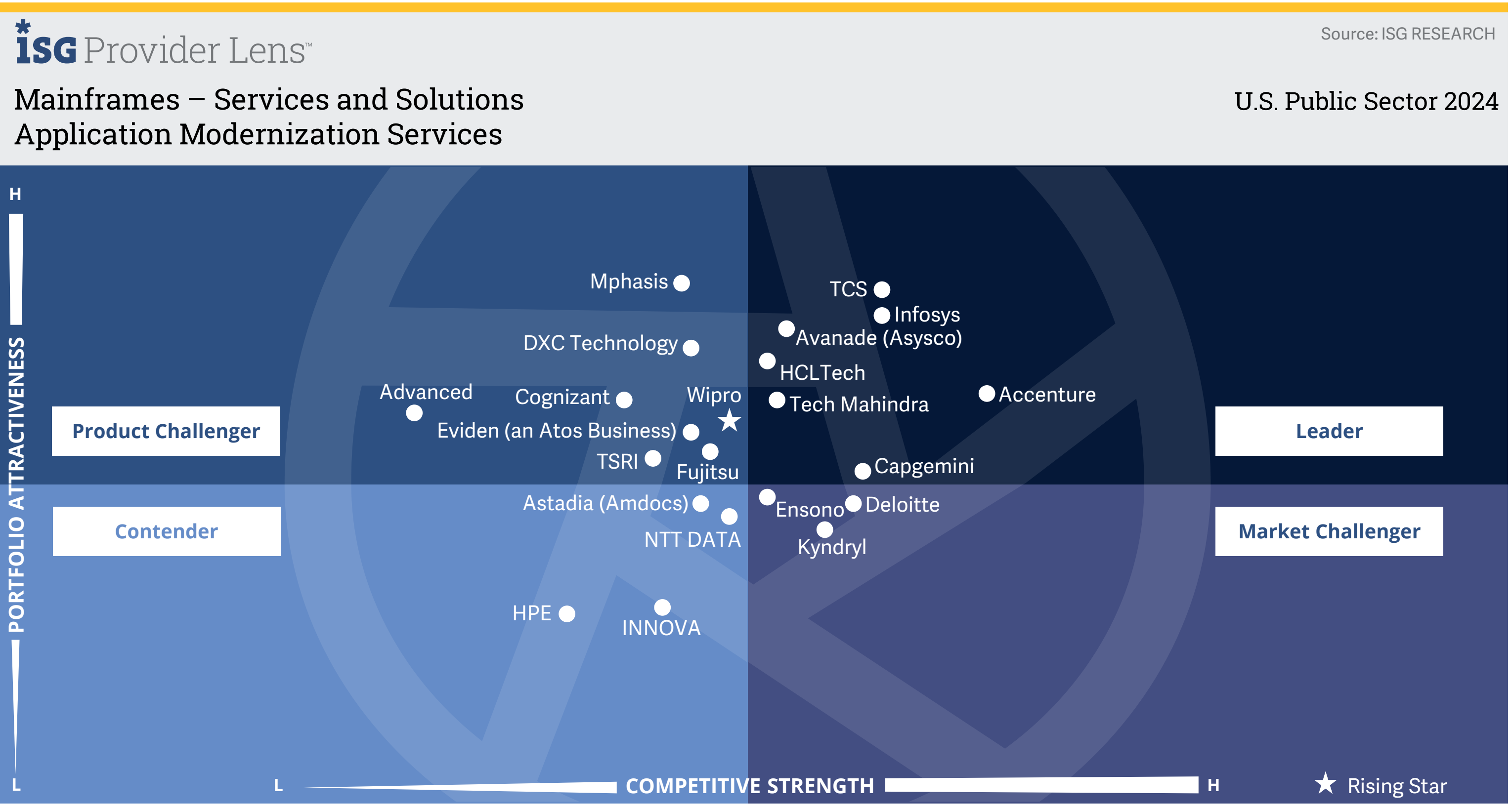
Additionally, providers are expected to focus on cost savings in the early steps of the process to finance additional investments in modernization practices. This approach is particularly attractive to public sector agencies that are more likely to approve budget-neutral projects.

Public sector organizations in the U.S. are emphasizing providers to assess the legacy ecosystem and provide services that rewrite legacy language applications written in COBOL, RPG, Fortran and other languages. At the current pace, the mainframe migrations would require many iterations to impact hosting services. Organizations wish to hasten the process of modernizing current applications, processes and infrastructure and expect providers to accelerate delivery for core business systems.

CIOs should read this report to understand the strengths and weaknesses of providers including the way they employ the latest technologies to deliver reliable offerings.

Technology leaders/CTOs should read this report to understand mainframe modernization’s capability to advance better technology integration into products, services and business administration.

Mainframe tech leaders should read this report to understand their competitors and peers in the mainframe market, in terms of their different offerings, innovations, talent and portfolios.



This quadrant looks at service providers helping agencies in the public sector **rewrite** legacy mainframe **applications** in modern languages. With applications modernized, these providers can also help move applications off the mainframe.

Peter Crocker

Definition

Software developers with skills to maintain mainframe applications written in decades-old programming languages are dwindling. To keep these applications running and preserve the business logic refined over many years of serving constituents, agencies are looking to transform legacy mainframe codes into modern languages not restricted to the mainframe. Transforming applications reduces maintenance costs and eliminates mainframe licensing costs. Applications are also more agile and better adaptable to changing technology.

This quadrant assesses application development and maintenance services providers with newer application modernization methodologies to assess and rewrite legacy programming language applications written with COBOL, RPG, Fortran, PL/1, Natural and other languages that typically run on mainframes. The main target programming languages may include Java, .Net, C#, Python and others, enabling the same logic and business rules to run on any platform, including the public cloud.

Clients that want to move their applications off the mainframe can choose service providers that offer modernization methods such as refactoring, rehosting, encapsulating, re-platforming, rewriting and reengineering. A complete transformation should include UI translation services that can eliminate green screens while introducing a modern graphic UI for a better UX.

Eligibility Criteria

1. Demonstrate **wide customer presence** and involvement in the U.S. Public Sector as defined by ISG
2. **Reverse engineer** legacy applications to provide application logic documentation
3. **Automate code conversion** with tools to reduce the time required to transform the applications
4. Offer **emulation systems** to run legacy applications on other platforms without rewriting code
5. Offer services such as application assessment, phased transformation with robust testing and quality assurance, application decoupling, system architecture, API development and future-state application governance
6. Offer phased transformation with robust project management, testing and quality assurance
7. Help agency clients incorporate **agile development** and maintenance with CI/CD automation through transformation

Observations

The rush to move all applications off mainframes and run them in the cloud has slowed down as agencies are re-evaluating the value of maintaining these systems and integrating them into their hybrid environments. Many organizations are taking a more calculated approach and weighing the value of moving each application or workload off mainframes versus optimizing them to remain on the mainframes. The risk of untangling complex applications is also encouraging agencies to rethink their application modernization strategies.

Three providers moved into the Leader's quadrant, with one dropping to a product challenger position. Eviden (An Atos business) was included in the study while Atos was dropped. This reflects the separation of Eviden as its own brand from Atos. In late 2023, Astadia was acquired by Amdocs. For the purpose of this study the company is referred to as Astadia (Ambocs) and is in the contender quadrant.

From the 30 companies assessed, 22 were included in the quadrant, with seven being Leaders and one a Rising Star.

accenture

Accenture is one of the largest consulting companies in the world and takes an innovation-focused approach to the mainframe application modernization market. The company can offer various modernization approaches to its clients to meet their different objectives and risk profiles.

Avanade (Asysco)

Avanade (Asysco) is a joint venture between Microsoft and Accenture and the recently acquired app modernization software provider Asysco, which has strong capabilities to work with Unisys' mainframes. With the prevalence of these systems in the public sector, Avanade has an advantage in this space.

Capgemini

Capgemini is a global consulting company with many clients in the U.S. Public Sector. The company is focused on developing the best technical talent to support its mainframe application modernization business.

HCLTech

HCLTech takes a holistic approach to mainframe application modernization, focusing on end-user experience. Its offering is supported by its FENIX 2.0 modernization framework and a robust accelerator toolset.

Infosys

Infosys is focused on innovation. The company is investing heavily in AI and partnering with promising startups to bring new innovations to the market before its competitors. Infosys also focuses on a handful of common applications in the state and local governments.

tcs TATA CONSULTANCY SERVICES

TCS is a large Global Systems Integrator investing heavily in applying AI to all aspects of its business. With this focus, innovation labs, and a strong set of innovative partners, TCS is well-positioned to bring new technologies to the market.

TECH mahindra

Tech Mahindra is gaining momentum in the mainframe application modernization market as it acquired more experience and its offerings mature. The company is rapidly evolving and is leveraging reverse engineering tools to drive new business.

wipro

Wirpo is increasingly becoming an important player in the market as it focuses on integrating mainframes into modern hybrid architectures. This includes making mainframe data more accessible through APIs.

Mainframe as a Service (MFaaS)

Who Should Read This Section

This report is relevant to the U.S. Public Sector organizations that are evaluating providers offering MFaaS within mainframe environments.

In this quadrant report, ISG assesses the current marketing positioning of providers of MFaaS in the country based on the depth of service offering and market presence.

In the U.S., many public sector agencies are still in the early stages of their modernization journeys and are slow in adopting an as-a-service model. Agencies are increasingly prioritizing cost-saving initiatives within their mainframe strategies.

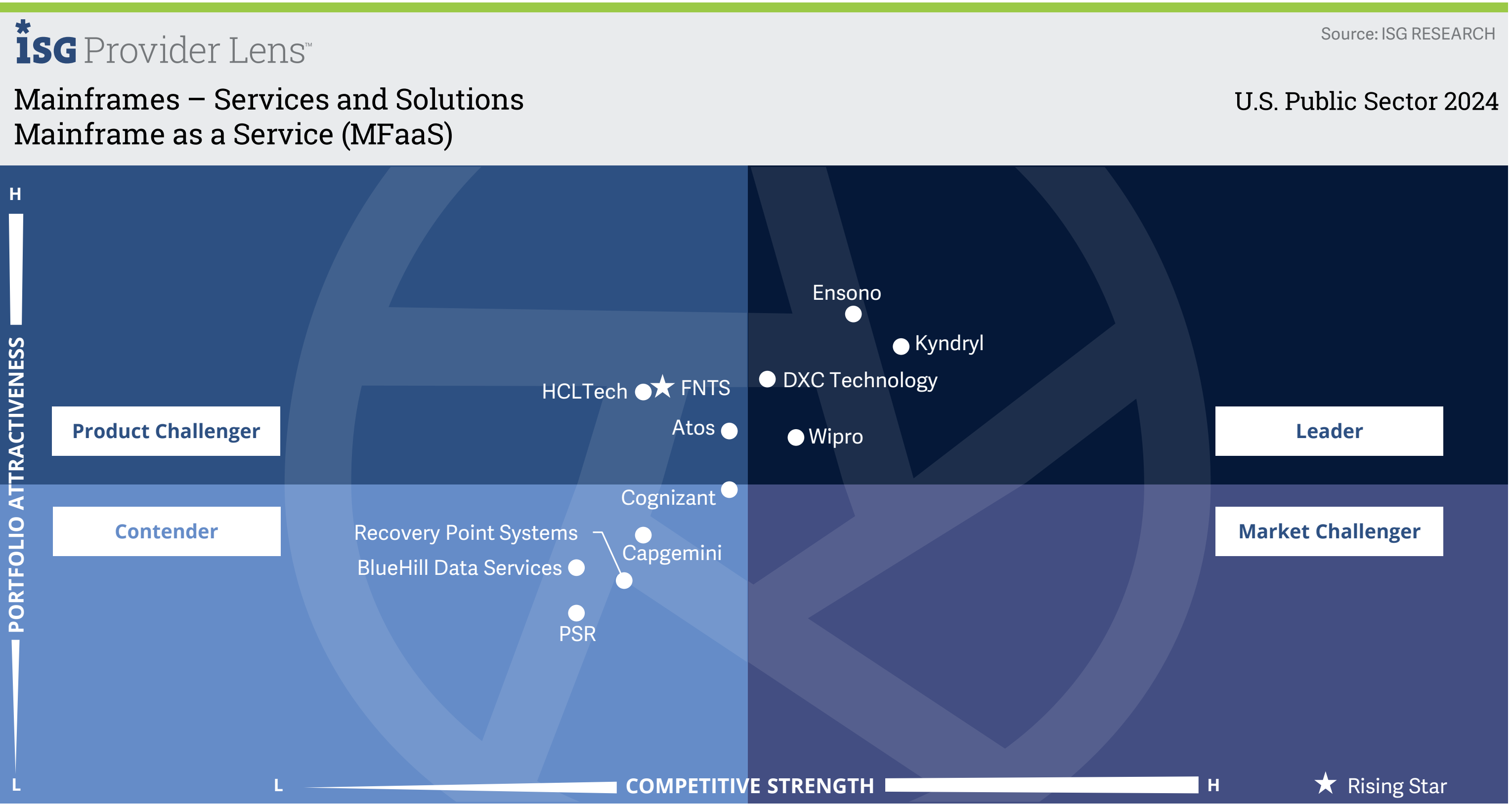
Service providers are expected to provide the IT infrastructure and support for running mainframe applications and continuously optimizing the environment. Thus, clients pay for the consumption of those services along with any of their own requirements related to coding (such as Java and COBOL) to run their batch processes. For complex mission-critical applications that are common in the public sector space, the incremental service model can reduce technical disruption and cost in the short run.

Ultimately, MFaaS delivers the benefits of a mainframe computing platform without the responsibility of keeping the hardware updated or retaining and training staff, allowing organizations to focus on high-value digital initiatives throughout the mainframe service journey. These organizations are emphasizing service providers that utilize the as-a-service approach to efficiently implement the pay-as-you-go model for better resource utilization.

CIOs should read this report to understand the strengths and weaknesses of providers including the way they employ the latest technologies to deliver reliable offerings.

Technology leaders/CTOs should read this report to understand mainframe modernization's capability to advance better technology integration into products, services and business administration.

Procurement and sourcing specialists should read this report to understand their outsourcing deals and develop a better landscape for consulting and transformation services in mainframes.



The Mainframe as a Service quadrant looks at providers that are delivering MFaaS to the public sector. These services enable agencies to **host** their mainfrmes at data centers controled by **service providers**.

Peter Crocker

Definition

Mainframe-as-a-service offering provides a valuable alternative to agencies that run and maintain a mainframe in their own data center. Challenges with licensing costs and finding qualified professionals to support these systems put significant pressure on agencies to keep these systems running. In many cases, state and local agencies cannot manage mission-critical applications run on mainframes and the disruption and risks associated with rewriting applications and modernizing the systems. Moving their mainframe environment to a third party's infrastructure and tasking them to maintain it eliminates some challenges of operating a mainframe on their own.

This quadrant assesses infrastructure service providers that offer shared IBM Z mainframes under a pay-per-use contract model. Services include facilities, hardware, connectivity, mainframe network management, licensing, operating system, subsystems and tools.

They must also offer all maintenance services required to keep mainframe workloads running to comply with the expected performance established upfront. A mainframe –as-a-service (MFaaS) is hosted at a provider's data center or partners', offering a cloud-like experience.

A more cloud-like mainframe has many capabilities and benefits. They enable customers to scale up or down their service as requirements change. Latency is also low since the mainframe is closer to the public cloud than in an agency's data center.

Eligibility Criteria

1. Demonstrate **wide customer presence** and involvement in the U.S. Public Sector as defined by ISG
2. Use **robust and secure data centers** to deliver high performance and availability as expected from mainframes
3. Offer services such as job scheduling, performance optimization, CICS©, batch, backup, restore, system upgrades, security patches and other typical mainframe operations
4. Demonstrate the **disaster recovery** effectiveness of its MFaaS infrastructure
5. Offer low-latency **connections to clients' locations** through its hosting facilities and the public cloud, such as AWS Direct Connect, Azure Route and GCP Direct Connect. Demonstrate the financial capacity to invest in and grow mainframe operations
6. Have a **hiring and training** program to ensure skills availability in the future
7. **Ensure** performance and security as per SLAs and corresponding contractual penalties

Observations

The MFaaS market is experiencing some challenges, where providers are finding it increasingly difficult to deliver added value to clients. High licensing costs are making it difficult for providers that are not well-positioned to generate cost savings that can be passed on to their clients. In response, many diversified providers are either reselling MFaaS offerings of their specialized MFaaS partners, packaging modernization services with MFaaS or relying on economies of scale to provide advantages. MFaaS services are good options for public sector agencies that are rapidly losing access to skilled workers for maintaining mainframes and data centers.

From the 30 companies assessed for this study, 12 qualified for this quadrant, with four being Leaders and one a Rising Star.

DXC Technology

DXC Technology can bring to market the scale to drive cost savings for their customers. The company offers end-to-end services and is positioning its MFaaS services alongside its mainframe application modernization offerings.

ensono

Ensono had made great inroads in the MFaaS market by targeting the public sector. With this focus, it is able to find efficiencies that can reduce costs and improve performance. The company is a supplier of MFaaS sevices to GSI, which provides it with a strong sales channel.

kyndryl

Kyndryl brings to the market economies of scale to improve buying power and predictable and agile expense management capabilities. Kyndral is one of the largest providers of MFaaS in the global market.

wipro

Wipro has positioned its MFaaS offering as the first stop to a modernization journey. The company is working with small organizations, packaging its MFaaS services with its modernization capabilities.

FNTS

FNTS is entirely focused on the U.S. market and can support the public sector with onshore resources. The company is committed to serving the highly regulated U.S. state and local governments and has the capability to do the same.

Mainframe Operations

Who Should Read This Section

This report is for U.S. Public Sector organizations to evaluate providers of mainframe operations related to mainframe applications.

In this quadrant report, ISG assesses traditional outsourcing providers with extensive experience in offering mainframe services.

Public sector agencies are facing challenges due to the lack of experts with mainframe operation skills in the market and, thus, significantly increases operation costs. Together with consistently tight budgets, these challenges lead to significant delays in core business modernization.

Support services for mainframe operations offer organizations the necessary flexibility, cost-effectiveness, quality workforce support, and agile processes to effectively address evolving business needs. Additionally, operational services assist agencies in undertaking necessary tasks to prepare their systems for eventual application migration from the mainframe, leading to long-term cost reduction. Service providers in the mainframe operations space are focused on engaging in all types of mainframe deals — from initial legacy system augmentation to full outsourcing and modernization.

Depending on risk tolerance and the critical nature of the systems to be modernized, agencies can engage with a vendor and provide operations services that can lead to incremental modernization of infrastructure and applications. It is expected from providers to focus on delivering organizations with the flexibility of modernizing applications in their business processes and providing prominent support across the mainframe transformation journey.

CIOs should read this report to understand providers' strengths and weaknesses, including the way they employ the latest technologies to deliver reliable offerings.

Technology leaders/CTOs should read this report to understand mainframe modernization's capability to quest for better technology integration into products, services and business administration.

Sourcing and procurement leaders should read this report to understand their outsourcing deals and develop a better landscape for consulting and transformation services in mainframes.

This quadrant looks at providers **managing mainframe** operations that are hosted at the **customers' data ceter**. These services range from routine maintenance to performance optimization, to staff augmentation.

Peter Crocker

Definition

Maintaining a workforce to operate mainframes in a government agency is challenging. Although COBOL developers are difficult, with agencies' tight budgets, keeping them on staff is often cost-prohibitive. When outsourcing the whole environment to a third-party as a as-a-service model is not an option, agencies may bring experts in to work on their machines.

This quadrant assesses traditional outsourcing providers with extensive experience in offering mainframe services. Typical participants employ experienced practitioners to cover legacy mainframe technologies and the most recent mainframe releases. Constantly updating the skill level of these consultants and maintaining a knowledge base are key requirements.

Mainframe operation service providers offer skilled teams to keep clients' mainframes running. Services can be delivered at any hosting facility (client or provider-owned).

These services, which have long been in existence, include job scheduling, performance optimization, CICS©, batch, backup, restore, system upgrades, security patches and other typical mainframe operations. Multiple options exist for hardware and software ownership, upgrades and modernization responsibilities. Mainframe operations cover staff augmentation and participate in the operation of client-owned on-premises mainframes.

Eligibility Criteria

1. **Offer wide customer presence** and involvement in the U.S. Public Sector as defined by ISG
2. **Demonstrate a strong mainframe operation** capacity through case studies
3. **Have a hiring and training program** to ensure skills availability in the future
4. **Offer professional services** to manage and monitor CPU, memory, databases, operating systems and tools
5. Offer professional services to **install and replace** hardware, software and tools
6. Offer professional services such as **patching services** for operating systems, middleware and applications, system upgrades, data center security, network configuration and system integration
7. Provide management **dashboards,** including utilization reports, performance indicators and chargeback
8. Offer services that **comply with ITSM** best practices and include incident management, problem management and release management

Observations

Mainframe operations services has been available to businesses for decades. Consequently, the market is quite mature with limited opportunities for differentiation. One area where providers can differentiate is through high quality training of their associates and for their ability to attract the best talent. Proximity and availability of data centers and associates some of the other parameters being considered by agencies looking for mainframe operations providers. The other way in which providers are differentiating themselves is by investing in automation to optimize their services, leading to reduced costs and enhanced performance. Two providers, Capgemini and Unisys, were able to improve their positions to move into the Leader's quadrant this year.

From the 30 companies assessed for this study, 17 qualified for this quadrant, with 7 being leaders.

Capgemini

Capgemini has invested significantly in its talent pool to bring superior services to market. The company has a flexible delivery model and has built a strong partner network to support this flexibility.

DXC Technology

DXC Technology can wield power and scale in the mainframe operations market to offer end-to-end services backed by over 50 years of experience. While DXC sold off part of its public sector business, it continues to serve legacy contracts in state and local governments.

ensono

Ensono is committed to the public sector and mainframe operations. This focus, its work with partners and investments in developing automation tools are leading to consistent renewals and a growing business.

kyndryl

Kyndryl has a long history in the market and can leverage its Kyndryl Bridge integration capabilities to connect the mainframes it operates to modern cloud applications. The scale of Kyndryl's mainframe business gives it significant market power.

tcs TATA CONSULTANCY SERVICES

TCS can deliver dedicated resources to mainframe operations' clients to improve continuity. These resources are well-trained in advanced technologies developed through TCS' resource lab and can reliably deliver a holistic solution.

unisys

Unisys brings unique capabilities to the market to operate Unisys mainframes in the U.S. Public Sector. The company has end-to-end experience working with Clearpath and deep institutional knowledge of mainframes.

wipro

Wipro has a robust set of offerings in the mainframe operations space and is able to provide its clients with considerable flexibility. This includes security and options around business models and application hosting.

Leader

"Unisys offers mainframe operation services for many systems currently installed in public sector organizations, giving it a competitive edge over others."

Peter Crocker

Unisys

Overview

Unisys is headquartered in Pennsylvania, U.S. It has more than 16,200 employees across 64 offices in 28 countries. In FY22 the company generated $2.0 billion in revenue, with Enterprise Computing Solutions as its largest segment. In FY22, it generated $670 million from its ClearPath solutions and services business. Unisys was founded in 1986 through the merger of Sperry Corporation, an equipment and electronics company founded in 1919, and Burroughs, a business equipment manufacturer founded in 1886.

Strengths

Complete and customizable set of offerings: Unisys provides a customizable set of service offerings, ranging from staff augmentation to fully managed services, including support monitoring and application testing. It also offers flexible operating and pricing models.

Extensive institution mainframe experience: Unisys has delivered hardware and software to the public sector for decades. This gives the company in-depth knowledge of mainframes compared to other market players. The company is considered a strong brand owing to its legacy and ability to attract talents and partners.

Significant installed base: Public sector agencies are slow to upgrade their systems, and many of them are still running dated Unisys systems. With Unisys' long history of pioneering mainframe development, it can provide operation services for these systems.

In-depth knowledge of the complete lifecycle: Unisys is uniquely positioned to understand the end-to-end ClearPath environment. This enables the company to offer operation services, guide clients toward future IT requirements and deliver its services.

Caution

Unisys was one of the largest computer companies in the world. However, its growth is currently limited, restricting its ability to invest in new technologies and innovations.

Star of Excellence

A program, designed by ISG, to collect client feedback about providers' success in demonstrating the highest standards of client service excellence and customer centricity.

Source: ISG Star of Excellence™ research program, Insights till January 2024

In the ISG Star of Excellence™ research on enterprise customer experience (CX), clients have given feedback about their experience with service providers for their **Mainframes** services.

Based on the direct feedback of enterprise clients, below are the key highlights:

Client Business Role

▲ **Most satisfied**
Procurement

▼ **Least satisfied**
IT Vendor Management

Region

▲ **Most satisfied**
Central/South America

▼ **Least satisfied**
Middle East

Industry

▲ **Most satisfied**
Oil & Gas

▼ **Least satisfied**
Business Services

Industry Average CX Score

▲ Highest CX: 84.4
▼ Lowest CX: 58.5

CX Score: 100 most satisfied, 0 least satisfied
Total responses (N) = 197

Most Important CX Pillar

Execution and Delivery

Service Delivery Models	Avg % of Work Done
Onsite	52%
Nearshore	20%
Offshore	28%

Appendix

The ISG Provider Lens 2024 – Mainframes – Services and Solutions report analyzes the relevant software vendors/service providers in the U.S. Public Sector 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 report includes research from the ISG Provider Lens program, ongoing ISG Research programs, interviews with ISG advisors, briefings with services providers and analysis of publicly available market information from multiple sources. The data collected for this report represents information that ISG believes to be current as of March 2024, for providers who actively participated as well as for providers who did not. ISG recognizes that many mergers and acquisitions have taken place since that time, but those changes are not reflected in this report.

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

Peter Crocker

Lead Analyst

Peter leads the Microsoft Ecosystem Provider Lens research for ISG for the United States and the U.S. Public Sector. He is an experienced IT market analyst, entrepreneur, and content creator with over 15 years of experience covering software applications and services. Peter has founded multiple companies and has worked with many boutique research and consulting firms delivering marketing services and insights to software vendors, IT service providers, and telecom equipment vendors. His primary area of expertise is in mobile, cloud, digital transformation, and enterprise applications.

In addition to evaluating markets and IT service providers for ISG, Peter works with clients to produce thought leadership and product marketing messaging and content in the information technology sector. Peter holds an MBA in marketing from the College of William and Mary and BA in psychology from Rollins College.

Enterprise Context and Overview Analyst

Manoj M

Research Analyst

Manoj is a 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.

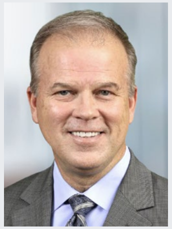
Study Sponsor

Heiko Henkes
Director and Principal Analyst

Heiko Henkes is a Director and Principal Analyst at ISG; in his role as Global ISG Provider LensTM (IPL) Content Lead and Program Manager, he is responsible for strategic business management and acts as thought leader for IPL Lead Analysts. In his role as Star of Excellence (SOE) Product Owner, he leads the program design and IPL integration. His core competencies are in the areas of defining derivations for all types of companies within their IT-based business model transformation.

Within this context, Mr. Henkes supports companies to undergo continuous transformation, combining IT competencies with sustainable business strategies and change management. He acts as Keynote speaker in the context of digital innovation.

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 research director, principal analyst 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.

ISG Provider Lens™

The ISG Provider Lens™ Quadrant research series is the only service provider evaluation of its kind to combine empirical, data-driven research and market analysis with the real-world experience and observations of ISG's global advisory team. Enterprises will find a wealth of detailed data and market analysis to help guide their selection of appropriate sourcing partners, while ISG advisors use the reports to validate their own market knowledge and make recommendations to ISG's enterprise clients. The research currently covers providers offering their services across multiple geographies globally.

For more information about ISG Provider Lens™ research, please visit this webpage.

ISG Research™

ISG Research™ provides subscription research, advisory consulting and executive event services focused on market trends and disruptive technologies driving change in business computing. ISG Research™ delivers guidance that helps businesses accelerate growth and create more value.

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ISG

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For more information, visit isg-one.com.

MARCH, 2024

REPORT: MAINFRAMES – SERVICES AND SOLUTIONS