

# Mainframes – Services and Solutions

A guide for clients evaluating their mainframe  
commitment and modernization strategy



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Mainframe systems have been supporting public sector business and IT operations for decades. However, with the widespread demand for digital modernization of systems and operations, most organizations 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, including improvements and expansions in future services. This includes service providers that can modernize mainframe environments and

applications, and offer mainframe outsourcing services both on premise or through an 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 Provider Lens™ studies offer the following to IT decision-makers:

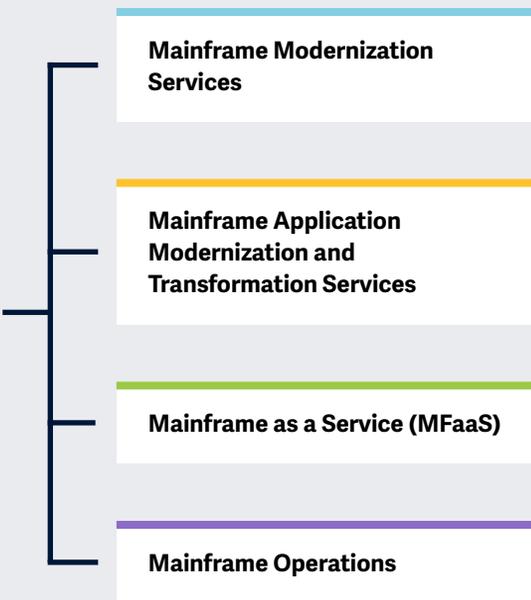
- Transparency on the strengths and weaknesses of relevant providers
- A differentiated positioning of providers by segments
- A perspective on different markets

ISG studies serve as an important decision-making basis for positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients use information from these reports to evaluate their current vendor relationships and potential new engagements. ISG Public Sector Provider Lens™ research studies examine, explain and provide guidance regarding the business software platforms, solutions, tools, services and providers that help improve how public sector organizations operate and enable transformation toward digital realities.



# Key focus areas for Mainframes – Services and Solutions 2023

Simplified Illustration Source: ISG 2022



## The ISG Provider Lens™

### Mainframes – Services and solutions 2023 offers the following to business and IT decision makers:

- Transparency on the strengths and weaknesses of relevant providers.
- A differentiated positioning of providers by segments on their competitive strengths and portfolio attractiveness.
- Focus on different markets, including the Europe, Americas (the U.S. and Brazil) and the U.S. public sector.

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



### Definition

Service providers in this quadrant offer legacy application modernization and introduce code repositories such as GitHub or equivalents, DevOps integration and testing automation, as well as security testing. Modernization retains the original programming language, such as COBOL, adding architecture optimization and documentation to enable agility. After the modernization is complete, clients can embrace agile methodologies in the development and maintenance of 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 what applications should be retained on the mainframe platform. 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. Service provider should demonstrate **depth and breadth of customer presence** and involvement in the U.S. public sector as defined by ISG.
2. The participant should provide case studies around mainframe modernization of either IBM Z, IBM AS/400, IBM iSeries, HP, Cray, Fujitsu or Unisys mainframe applications.
3. Case studies must include **DevOps** tools integration, including code repository.
4. Modernization must **enable legacy programming languages**, such as COBOL, to build and deploy in line with modern continuous integration and deployment best practices (for example, implementation of COBOL CI/CD pipelines).
5. Services must include application assessment.
6. Ideally, the provider can plan for **phased modernization**, with robust testing and quality assurance.
7. The provider can decouple applications, develop APIs and **integrate with applications** outside the mainframe environment.
8. The provider offers guidance for future-state **application governance**.
9. The provider delivers services through its **own employees** with adequate expertise in COBOL and other mainframe programming languages. It does not subcontract this core competency.



## Mainframe Application Modernization and Transformation Services

### Definition

This quadrant assesses providers of application development and maintenance services 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 refactor, rehost, encapsulate, replatform, rewrite or reengineer. A complete transformation should include user interface (UI) translation services that can eliminate green screens while introducing a modern graphic UI for a better user experience (UX).

### Eligibility Criteria

1. Provider should demonstrate **depth and breadth of customer presence** and involvement in the U.S. public sector as defined by ISG.
2. It should be able to **reverse engineer** legacy applications to provide application logic documentation.
3. It must be able to **automate code conversion** with tools to reduce the time required to transform the applications.
4. Optionally, it may offer **emulation systems** to run legacy applications on other platforms without rewriting code. However, the provider should offer convincing case studies that demonstrate the viability of the emulation to be considered.
5. Services must include application assessment, phased transformation with robust testing and quality assurance, application decoupling, system architecture, API development and future-state application governance.
6. The transformation should enable the agency client to incorporate **agile development** and maintenance with CI/CD automation.



## Mainframe as a Service (MFaaS)

### Definition

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 and subsystems and tools. They must also offer all maintenance services that are required to keep mainframe workloads running to comply with the expected performance established upfront. MFaaS is hosted on a provider's data center or on partners', offering a cloud-like experience.

### Eligibility Criteria

1. The service provider should demonstrate depth and **breadth of customer presence** and involvement in the U.S. public sector as defined by ISG.
2. The provider must use **robust and secure data centers** that can deliver high performance and availability as expected from mainframes.
3. It should offer services such as job scheduling, performance optimization, CICS®, batch, backup, restore, system upgrades, security patches and other typical mainframe operations.
4. It should demonstrate the **disaster recovery** effectiveness of its MFaaS infrastructure.
5. Hosting facilities should offer low-latency **connections to clients' locations and the public cloud** such as AWS Direct Connect, Azure Route and GCP Direct Connect. Carrier-neutral data centers are preferred.
6. The provider must demonstrate the financial capacity to invest in and grow its mainframe operations.
7. It should have a **hiring and training** program to ensure skills availability in the future.
8. It must **ensure** high performance and security as per **service-level agreements** and corresponding contractual penalties.



### Definition

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.

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 operation of client-owned on-premises mainframes.

### Eligibility Criteria

1. The service provider should offer **depth and breadth of customer presence** and involvement in the U.S. public sector as defined by ISG
2. The provider should demonstrate a strong mainframe operation capacity through case studies.
3. It should have a **hiring and training program** to ensure skills availability in the future.
4. It must offer **professional services** for the management and monitoring of CPU, memory, databases, operating systems and tools.
5. It offers professional services to **install and replace** hardware, software and tools.
6. Professional services must include **patching services** for operating systems, middleware and applications, system upgrades, data center security, network configuration and system integration.
7. The provider should provide management **dashboards**, including utilization reports, performance indicators, chargeback and other reporting functionality.
8. Services must **comply with IT service management (ITSM)** best practices and include incident management, problem management and release management.



## Quadrants By Region

As part of this ISG Provider Lens™ quadrant study, we are introducing the following four quadrants on **Mainframes – Services and Solutions 2023**.

Quadrant	U.S. Public Sector
Mainframe Modernization Services	✓
Mainframe Application Modernization and Transformation Services	✓
Mainframe as a Service (MFaaS)	✓
Mainframe Operations	✓



The research phase falls in the period between October and December 2022, during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in March 2023

### Milestones

### Beginning

### End

Survey Launch

October 20, 2022

Survey Phase

October 20, 2022

November 17, 2022

Sneak Preview

January 2023

Press Release & Publication

March 2023

### Research Production Disclaimer:

ISG collects data for the purposes of writing research and creating provider/vendor profiles. The profiles and supporting data are used by ISG advisors to make recommendations and inform their clients of the experience and qualifications of any applicable provider/vendor for outsourcing the work identified by clients. This data is collected as part of the ISG FutureSource process and the Candidate Provider Qualification (CPQ) process. ISG may choose to only utilize this collected data pertaining to certain countries or regions for the education and purposes of its advisors and not produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of the information received directly from providers/vendors and the availability of experienced analysts for those countries or regions. Submitted information may also be used for individual research projects or for briefing notes that will be written by the lead analysts.

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Please refer to the [link](#) to view/download the ISG Provider Lens™ 2023 research agenda.

### Access to Online Portal

You can view/download the questionnaire from [here](#) using the credentials you have already created or refer to instructions provided in the invitation email to generate a new password. We look forward to your participation!



### ISG Star of Excellence™ – Call for nominations

The Star of Excellence is an independent recognition of excellent service delivery based on the concept of “Voice of the Customer.” The Star of Excellence is a program, designed by ISG, to collect client feedback about service providers’ success in demonstrating the highest standards of client service excellence and customer centricity.

The global survey is all about services that are associated with IPL studies. In consequence, all ISG Analysts will be continuously provided with information on the customer experience of all relevant service providers. This information comes on top of existing first-hand advisor feedback that IPL leverages in context of its practitioner-led consulting approach.

Providers are invited to [nominate](#) their clients to participate. Once the nomination has been submitted, ISG sends out a mail confirmation to both sides. It is self-evident that ISG anonymizes all customer data and does not share it with third parties.

It is our vision that the Star of Excellence will be recognized as the leading industry recognition for client service excellence and serve as the benchmark for measuring client sentiments. To ensure your selected clients complete the feedback for your nominated engagement please use the Client nomination section on the Star of Excellence [website](#).

We have set up an email where you can direct any questions or provide comments. This email will be checked daily, please allow up to 24 hours for a reply. Here is the email address: [ISG.star@isg-one.com](mailto:ISG.star@isg-one.com)



## Contacts For This Study



**Peter  
Crocker**  
**Lead Analyst,  
U.S. Public Sector**



**Pedro L Bicudo  
Maschio**  
**Lead Analyst, Brazil  
and Latin America**



**Manoj M**  
**Research Analyst**



**Shona Merin  
Jacob**  
**Global Project  
Manager**



**Bruce  
Guptill**  
**Lead Analyst,  
U.S. Public Sector**



**Oliver  
Nickels**  
**Lead Analyst,  
Europe**



**Tishya  
Selvaraj**  
**Data Analyst**



### ISG Provider Lens™ Advisors Involvement Program

ISG Provider Lens™ offers market assessments incorporating practitioner insights, reflecting regional focus and independent research. ISG ensures advisor involvement in each study to cover the appropriate market details aligned to the respective service lines/technology trends, service provider presence and enterprise context.

In each region, ISG has expert thought leaders and respected advisors who know the provider portfolios and offerings as well as enterprise requirements and market trends. On average, three advisors participate as part of each study's quality and consistency review team (QCRT).

The QCRT ensures each study reflects ISG advisors' experience in the field, which complements the primary and secondary research the analysts conduct.

ISG advisors participate in each study as part of the QCRT group and contribute at different levels depending on their availability and expertise.

The QCRT advisors:

- Help define and validate quadrants and questionnaires,
- Advise on service provider inclusion, participate in briefing calls,
- Give their perspectives on service provider ratings and review report drafts.

### ISG Advisors to this study



**John Schick**

**Principal Consultant**



**Thorsten Hoeltken**

**Principal Consultant**



**Steven Garrant**

**Principal Consultant**



## Invited Companies

**If your company is listed on this page or you feel your company should be listed, please contact ISG to ensure we have the correct contact person(s) to actively participate in this research.**

Accenture

Adaptigent (GT Software)

Advanced (Modern Systems)

ASG technologies

Astadia

Asysco

Atos

AveriSource

AWS (Blu Age)

Blue Hill Data Services

BMC

Capgemini

CGI Group

CherryRoad Technologies

Coforge

Cognizant

CPT Global

Deloitte

Delphix

DXC

Ensono

FNTS

Fujitsu

Google

HCL

IBA Group

IBM

Infosys

INNOVA

Kyndryl

Micro Focus

mLogica

Morphis Tech

Mphasis

NTT DATA

Oracle

PSR info

Qlik

Software AG

Sopra Steria

TCC Software Solutions

TCS

Tech Mahindra

TierPoint

TSRI

Unisys

UST

viON

Wipro

Yash Technologies



### **\*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.

ISG offers research specifically about providers to state and local governments (including counties, cities) as well as higher education institutions. Visit: [Public Sector](#).

For more information about ISG Research subscriptions, please email [contact@isg-one.com](mailto:contact@isg-one.com), call +1.203.454.3900, or visit [research.isg-one.com](http://research.isg-one.com).

### **\*ISG**

ISG (Information Services Group) (Nasdaq: III) is a leading global technology research and advisory firm. A trusted business partner to more than 800 clients, including more than 75 of the world's top 100 enterprises, ISG is committed to helping corporations, public sector organizations, and service and technology providers achieve operational excellence and faster growth. The firm specializes in digital transformation services, including automation, cloud and data analytics; sourcing advisory; managed governance and risk services; network carrier services; strategy and operations design; change management; market intelligence and technology research and analysis.

Founded in 2006, and based in Stamford, Conn., ISG employs more than 1,300 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. For more information, visit [www.isg-one.com](http://www.isg-one.com).



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**REPORT: MAINFRAMES – SERVICES AND SOLUTIONS**