ISG Provider Lens™

2022

Mainframes - Services and Solutions 2022

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ISG (Information Services Group) (NASDAQ: III) is a leading global technology research and advisory firm. A trusted business partner to more than 700 clients, including 75 of the top 100 enterprises in the world, 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; technology strategy and operations design; change management; market intelligence and technology research and analysis. Founded in 2006, and based in Stamford, Connecticut, ISG employs more than 1,300 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.

Table of Contents

Definition

Enterprises across the globe are increasingly seeking digital business transformation to modernize their traditional IT environment and move applications to the cloud. Mainframe systems have been supporting business applications for around 60 years. Such resilient platforms leverage high-performance hardware and software tools for continuous modernization, enabling mainframe applications to integrate with new technologies and computing platforms. This study focuses on clients' options to align mainframe applications to their digital business strategy.

Enterprises that focus on cloud-native applications are increasingly relying on automated tools to modernize their mainframes and transform legacy applications into new applications. Such solutions enable the standardization of application languages and databases, including open source, using advanced tools to successfully convert mainframe applications to run in the cloud.

Enterprises that prefer keeping legacy applications on mainframe platforms can introduce agile methods, DevOps, application programming interfaces (APIs) and microservices to improve agility and integrate mainframes with private and public clouds. Service providers have added pay-as-you-go (PAYG) models to enable the mainframe-as-a-service (MFaaS) model.

This study assesses service providers that modernize applications to run on the cloud by using automation and advanced AI tools to ensure quality outcomes. It also evaluates service providers that can modernize mainframe applications and offer mainframe outsourcing and MFaaS as well as software vendors that offer automation tools for refactoring, rehosting, replatforming, rewriting and reengineering applications. Legacy platforms can include IBM Z, AS/400, HP, Cray, Fujitsu and Unisys mainframes.

The ISG Provider Lens™ study offers 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

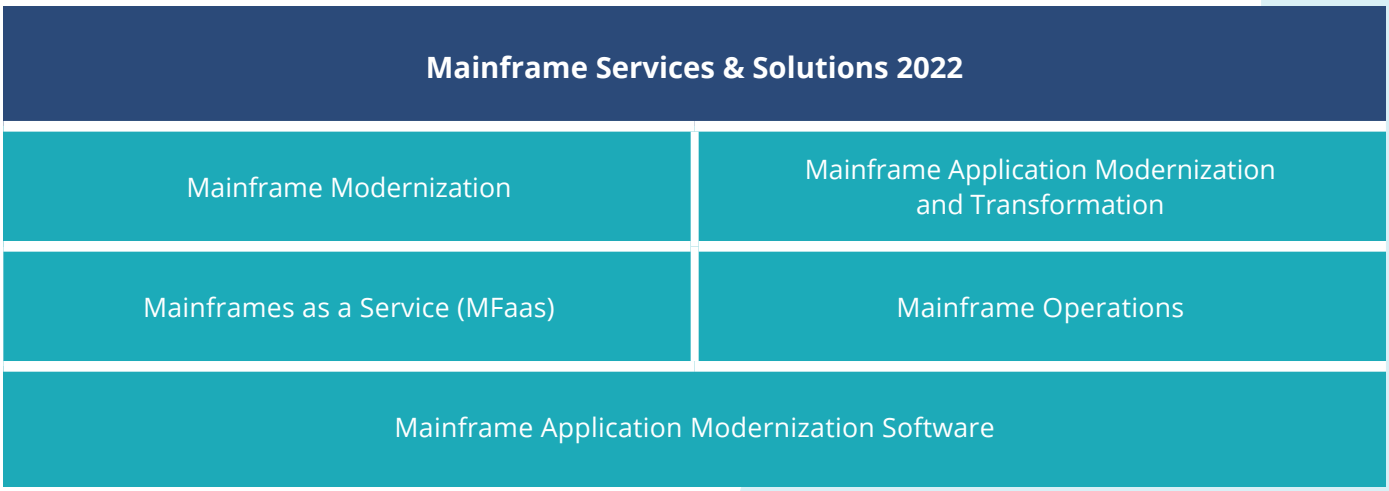
This study focuses on the mainframe services market in the U.S., Canada and Europe.

The 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.

Quadrants Research

As part of this ISG Provider Lens™ quadrant study, this study offers five quadrants on mainframe services and solutions:

Simplified illustration



Source: ISG 2022

Mainframe Modernization

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 programing 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

- 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.
- Case studies must include DevOps tools integration, including code repository.
- 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).

- Services must include application assessment, phased modernization with robust testing and quality assurance, application decoupling, system architecture, API development and future state application governance.

Mainframe Application Modernization and Transformation

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 others that typically run on mainframes. The main target programming languages may include Java, .Net, C# 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 or encapsulate, replatform, rewrite or reengineer. A complete transformation should include user interface (UI) translation services that can eliminate green screens while introducing modern graphic UI for a better user experience (UX).

Eligibility criteria

- The service provider should be able to reverse engineer legacy applications to provide application logic documentation.
- It must be able to automate code conversion tools to reduce the time required to transform the applications.
- 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.
- Services must include application assessment, phased transformation with robust testing and quality assurance, application decoupling, system architecture, API development and future-state application governance.
- The transformation should enable the enterprise client to operate agile development and maintenance with continuous integration/continuous delivery (CI/CD) automation.

Mainframes as a Service (MFaaS)

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

Eligibility criteria

- The service provider must use robust and secure data centers that can deliver high performance and availability as expected from mainframes.

- It should offer services such as job scheduling, performance optimization, CICS©, batch, backup, restore, system upgrades, security patches and other typical mainframe operations.
- It should demonstrate the disaster recovery effectiveness of its MFaaS infrastructure.
- 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.
- The provider must demonstrate the financial capacity to invest in and grow its mainframe operations.
- It should have a hiring and training program to ensure skills availability in the future.
- It must ensure high performance and security as per service-level agreements and corresponding contractual penalties.

Mainframe Operations

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 on 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

- The provider should demonstrate a strong mainframe operation capacity through case studies.
- It should have a hiring and training program to ensure skills availability in the future.
- It must offer professional services for the management and monitoring of CPU, memory, databases, operating systems and tools.
- Professional services must include patching services for operating systems, middleware and applications, system upgrades, data center security, network configuration and system integration.
- The provider should provide management dashboards, including utilization reports, performance indicators, chargeback and other reporting functionality.
- Services must comply with IT service management (ITSM) best practices and include incident management, problem management and release management.
- Ideally, the provider should have available mainframe capacity to supplement its client capacity during peak times or future expansions.

Mainframe Application Modernization Software

This quadrant ranks providers of software and toolsets that enable legacy application assessments and application conversion (replatform, rehost, refactor, rewrite or reengineer). Mainframe modernization software includes reverse engineering, business logic mapping, business rules extraction, code review and inspection, documentation, emulators, compilers, frameworks and application development tools that can accelerate code modernization and application modernization.

Enterprises and service providers require tools to perform their mainframe modernization and transformation. This quadrant covers vendors that supply the modernization toolset and eventually partner with global system integrators (GSIs) that deliver modernization services. Mainframe modernization software outcomes include logic flows, data architectures, automated code conversion, serverless functions, APIs and microservices that can accelerate the mainframe modernization program. Professional services and consulting expertise can improve the vendor rating but are not a requisite if these are offered through certified partners.

Eligibility criteria

- The software should be licensed or delivered as a service to enable client autonomy.
- The vendor must have mainframe specialization and offer mainframe-specific tools.
- The product must be available and in use by clients for more than one year.
- The solution must have a robust support organization or service partner ecosystem to ensure enterprise-grade support.
- Assessment tools and compilers are included. Generic code conversion tools or wide-scope server/cloud optimization tools are not covered. Vendors must have mainframe expertise.

Quadrants by Region

Quadrants	U.S.	Canada	Europe
Mainframe Modernization	√	√	√
Mainframe Application Modernization and Transformation	√	√	√
Mainframes as a Service (MFaas)	√	√	√
Mainframe Operations	√	√	√
Mainframe Application Modernization Software	√	√	√

Schedule

The research phase falls in the period between **October 2021 and March 2022,** during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in **April 2022.**

Milestones	Beginning	End
Launch	October 26th, 2021	
Survey Phase	October 26th, 2021	November 30th, 2021
Sneak Preview	February 2022	
Press Release	April 2022	

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!

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 work identified by the 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 to produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of 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.

Partial list of companies being invited for the survey

Are you on the list, or do you see your company as relevant provider that is missing from the list? Then feel free to contact us to ensure your active participation in the research phase.

Accenture
ACMI
Advanced
Akana
Altoros
Array
ASG technologies
Aspire Systems
Astadia
Asysco
Atos
Atos Syntel
Atruvia
AveriSource
beta systems DCI Software
CGI Group
Cloudframe
Coforge
Cognizant
CPT Global
Databank
DataKinetics
Deloitte
Delphix
DXC Technology
Ensim (now part of Cloudblue)
MB Foster
MCS
Micro Focus
MicroFokus
Mindtree
Miratech group
Mlogica
Model9
Modern Systems
Morphis Insights
MorphisTech
Most Technologies
Mphasis
Nous Infosystems
NTT Data
Profi AG
PSR
Qlik
RainCode
Royal Cyber
RSM Partners (BMC)
Sasktel
SCC
Software AG
Sopra Steria
Stefanini
SVA
Synoa
TCS
Tech Mahindra
TierPoint
Tmaxsoft
TSRI
T-Systems
UMB
Unisys
UST
Vion
Virtusa
Wipro
Yash

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Do you need any further information?

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