

Mainframes — Services and Solutions

Mainframe Application Modernization Software

A research report comparing provider strengths,
challenges, and competitive differentiators





Executive Summary 3

Provider Positioning 6-10

Introduction

Definition 11 - 12

Scope of Report 12

Provider Classifications 12

Appendix

Methodology & Team 22

Author & Editor Biographies 23

About Our Company & Research 25

Mainframe Application
Modernization Software 14 - 20

Who Should Read This 15

Quadrant 16

Definition & Eligibility Criteria 17

Observations 18 - 19

Provider Profiles 20

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Enterprises are seeking a balance between mainframe advantages, costs, and future requirements

Since the introduction of IBM S/360 in 1964, the mainframe computer architecture has been highly relevant. Many companies, to date, cannot exist without its services. This is primarily due to its reliability, availability, and security features, and to the fact that software and data cannot be easily migrated to other systems. We are talking billions of lines of (often undocumented) code, and huge databases that need to be migrated to new, very different technologies, while a company relies on its daily availability.

With a very high price tag for ownership and maintenance, and with experts in mainframe technology and programming

languages becoming increasingly sparse – and thus expensive – enterprises are under pressure to optimize their mainframe usage patterns. Data access, business agility, and cost reduction are the main reasons for them to re-evaluate and modernize mainframes. Services that help enterprises give up their on-premises mainframe hardware and/or operation, move software and data from the mainframe to the cloud, and migrate to new technologies have been highly sought after for years. Several service providers are addressing this increasing demand to set free business data that resides in mainframe systems, with considerably different approaches to the problem.

The limitations of mainframes became evident in 2020 and 2021 for government agencies that were unable to scale and respond to citizens' demand. The increase in mainframe utilization and the public sector's frequent inability to quickly

In this market, the only language that matters is COBOL



Executive Summary

react to changing environments have caused small system disruptions in some European countries. These events are also contributing to an increasing interest in the public sector and adjacent industries to migrate mainframe applications to the cloud.

A different market: Usually, the European market is fragmented, with many small local IT service providers successfully competing with the large multinationals within their respective country borders, often purely on the advantage of a local language and cultural identity – the better the local presence, the better the business. We found that the mainframe market is rather different – **in this market, the language that matters is COBOL**. Only few small competitors exist because the task is complex and requires skills that are rare and expensive. Projects take a long time, both in preparation and in execution, and the expensive staff must not run idle.

Small companies offer their services to clients beyond their locality or offer niche specializations in dedicated parts of the mainframe modernization process. They maintain robust partnerships with large service providers, adding competitive advantages to their services, and using their strong client presence to expand their own position.

Leading modernization providers have many partners: The top providers for migrating mainframes to the cloud have partnerships with many tool vendors on a local, European country level, and can deliver complete, scalable, and tailored toolsets for consulting, planning, project management, execution, and success measurement that meet a client's specific needs. Most of the service providers participating in our study integrate their mainframe modernization offering with proprietary automation tools, AI, and machine learning capabilities. They have

integrated their application development platforms and workbenches into the processes. They also have strong partnerships with public cloud providers.

Cloud providers show increasing interest in mainframes: The large cloud providers have identified mainframe modernization as a lucrative business opportunity for themselves. Consequently, they have been aggressively moving into the market, initially by partnering with service providers. In the past few years, however, they have been taking the initiative to enter the market on their own: AWS acquired Blu Age in 2021, and Google acquired Cornerstone Technology in 2020. Blu Age and Cornerstone are both vendors that offer automated mainframe application modernization to re-engineer and rewrite COBOL and other legacy languages to Java, .NET, or C#. The new ownership gives both companies the opportunity to establish a stronger foothold in the

European market by tapping into the resources of their new mother companies that, with the acquisitions, can have a stronger control over the migration process. Microsoft has been taking a different path, offering mainframe migration to Azure, by founding joint companies, for instance, with Accenture.

Mainframe cost pressure: A variety of factors contribute to the continuous increase in mainframe costs. The limited availability of skills locally, in the respective European countries, is one of the factors. Independent software vendors are using clients' dependency on mainframe to their advantage, creating a demand for expensive expert services for Mainframe license optimization. Also, IBM has been pushing clients to upgrade their mainframes to IBM Z15 systems, but without much success. It reports that clients seem reluctant and look for other options. We are receiving signals that clients are delaying their investments



Executive Summary

in new hardware and are increasingly preferring modernization alternatives.

Slow pace of mainframe migration: There are factors that are providing momentum to mainframe migration efforts. In this study, we identified 26 companies offering mainframe migration to the cloud, and 17 vendors of mainframe migration tools. These services saw an average increase of more than 20 percent in revenue. Germany, the U.K., France, and Benelux are the largest mainframe markets in Europe, with the highest numbers of installations, but each mainframe client is looking at modernization as a way of improving TCO and accruing overall benefits for their IT.

Projects take longer than expected: The large migration providers reported an average 15 to 30 projects per year in Europe, with an average project duration of more than 18 months. Large transformation projects can take up to five years. Also, a large proportion of projects fail to reach

completion. These failures are typically not reported. A major amount of time is spent on analyzing the systems and developing a long-term migration strategy. The demand is high, but the market is slow in project execution, and small when it comes to total number of projects. At the current pace, mainframe to cloud migrations will continue to see a high demand for another 10 years.

Slow adoption of new mainframe tools: Clients are skeptical about the supposed benefits of investing to modernize COBOL. Often, these modernization steps are the first rungs of bringing the whole software environment to one equal level, to ease eventual migration efforts away from the mainframe. From a small survey sample representing nine providers and approximately 1,000 enterprise clients, only 7 percent use Java on Z/OS, 12 percent have adopted mainframe DevOps, and 15 percent are using COBOL application programming interfaces (APIs).

Skill availability is the true issue: Most enterprises are concerned about access to the right IT talent to maintain and manage their legacy systems. Many clients are planning a modernization, mainly because it will help reduce the legacy skills gap. COBOL is not a language upon which young software engineers typically build careers. The COBOL programming language is more than 60 years old and remains the most prominent (but not the only) language in the mainframe environment. Given the already pressing overall skills shortages in the IT sector, enterprises are increasingly concerned about finding, keeping, and maintaining an expert level of skills for such antiquated languages and database architectures.

A similar effect can be seen with the service providers, many of which offer dedicated mainframe skill building programs, and attractive long-term career options in the field, to attract young developers. Some of

the large providers offer large, centralized offshore capabilities to support their clients.

In conclusion, the European market for mainframe modernization is gaining momentum, but obstacles such as skill shortages and a slow pace of migration due to long project cycles continue to prevail. Interestingly, country-specific aspects such as services in the local language and a good local presence – the usual strong success factors for European countries – do not play a central role when it comes to mainframe modernization. This allows smaller providers to rapidly build a global business and leverage an expensive workforce.

Mainframe to cloud migrations will continue to see a high demand for another 10 years



Provider Positioning

Page 1 of 5

	Mainframe Modernization Services	Mainframe Application Modernization and Transformation Services	Mainframes as a Service (MFaaS)	Mainframe Operations	Mainframe Application Modernization Software
Accenture	Not In	Market Challenger	Not In	Not In	Not In
Advanced	Product Challenger	Not In	Not In	Not In	Leader
Astadia	Not In	Not In	Not In	Not In	Product Challenger
Asysco	Not In	Product Challenger	Not In	Not In	Leader
Atos	Product Challenger	Leader	Leader	Leader	Not In
AveriSource	Not In	Not In	Not In	Not In	Contender
AWS (Blu Age)	Not In	Not In	Not In	Not In	Leader
Capgemini	Leader	Leader	Not In	Leader	Not In
CGI	Not In	Contender	Not In	Not In	Not In



Provider Positioning

Page 2 of 5

	Mainframe Modernization Services	Mainframe Application Modernization and Transformation Services	Mainframes as a Service (MFaaS)	Mainframe Operations	Mainframe Application Modernization Software
CloudFrame	Not In	Not In	Not In	Not In	Contender
Cognizant	Market Challenger	Leader	Product Challenger	Rising Star ★	Not In
CPT Global	Contender	Not In	Not In	Not In	Not In
Deloitte	Not In	Contender	Not In	Not In	Not In
DXC	Leader	Product Challenger	Leader	Product Challenger	Not In
Ensono	Product Challenger	Contender	Product Challenger	Product Challenger	Product Challenger
FreeSoft	Not In	Not In	Not In	Not In	Product Challenger
Fujitsu	Not In	Rising Star ★	Not In	Not In	Not In
GFT	Contender	Product Challenger	Not In	Contender	Not In



Provider Positioning

Page 3 of 5

	Mainframe Modernization Services	Mainframe Application Modernization and Transformation Services	Mainframes as a Service (MFaaS)	Mainframe Operations	Mainframe Application Modernization Software
Google	Not In	Not In	Not In	Not In	Leader
HCL	Rising Star ★	Leader	Product Challenger	Product Challenger	Not In
Heirloom Computing	Not In	Not In	Not In	Not In	Rising Star ★
Hostbridge	Not In	Not In	Not In	Not In	Contender
IBM	Not In	Not In	Not In	Not In	Market Challenger
Infosys	Leader	Leader	Not In	Leader	Not In
Kyndryl	Leader	Market Challenger	Leader	Leader	Not In
LzLabs	Not In	Not In	Contender	Not In	Product Challenger
Micro Focus	Contender	Not In	Not In	Not In	Leader



Provider Positioning

Page 4 of 5

	Mainframe Modernization Services	Mainframe Application Modernization and Transformation Services	Mainframes as a Service (MFaaS)	Mainframe Operations	Mainframe Application Modernization Software
Mindtree	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Not In
Model9	Not In	Not In	Contender	Not In	Not In
Mphasis	Contender	Product Challenger	Not In	Not In	Not In
NTT DATA	Not In	Contender	Not In	Not In	Contender
Raincode	Not In	Not In	Not In	Not In	Contender
Software AG	Contender	Not In	Not In	Not In	Not In
SysperTec	Not In	Not In	Not In	Not In	Contender
TCS	Leader	Leader	Rising Star ★	Leader	Not In
Tech Mahindra	Product Challenger	Product Challenger	Not In	Not In	Not In



Provider Positioning

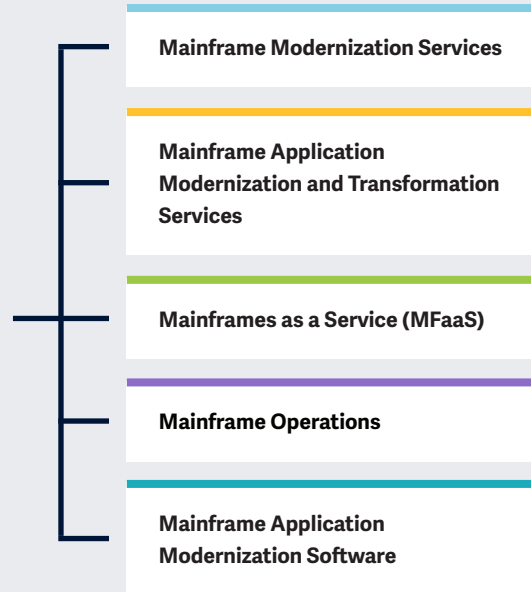
Page 5 of 5

	Mainframe Modernization Services	Mainframe Application Modernization and Transformation Services	Mainframes as a Service (MFaaS)	Mainframe Operations	Mainframe Application Modernization Software
TmaxSoft	Not In	Not In	Not In	Not In	Leader
TSRI	Not In	Not In	Not In	Not In	Product Challenger
T-Systems	Product Challenger	Product Challenger	Leader	Product Challenger	Not In
Unisys	Product Challenger	Not In	Contender	Contender	Not In
UST	Product Challenger	Product Challenger	Not In	Not In	Not In
Wipro	Leader	Leader	Product Challenger	Product Challenger	Not In



This study focusses on what ISG perceives as most critical in 2022 for mainframe modernization

Simplified Illustration Source: ISG 2022



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 approximately 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. It evaluates 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.

Scope of the Report

In this ISG Provider Lens™ quadrant study, ISG includes five quadrants: Mainframe Modernization, Mainframe Application Modernization and Transformation, Mainframes as a Service (MFaaS), Mainframe Operations, Mainframe Application Modernization Software.

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

- Transparency on the strengths and weaknesses of relevant service providers and software vendors

- A differentiated positioning of providers by segments
- Focus on regional markets

Our study serves as the basis for important decision-making in terms of positioning, key relationships, and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their existing 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 of enterprise customers differ from those of other customers, 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 US\$20 million and US\$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 US\$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 a service provider(s) that ISG believes has strong potential to move into the Leader quadrant. This type of provider is 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.

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.

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.

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 Application Modernization Software

Mainframe Application Modernization Software

Who Should Read This

This report is relevant to enterprises in Europe, evaluating vendors of modernization application software within the mainframe ecosystem.

In this quadrant, ISG assesses the current market positioning of vendors offering mainframe application modernization software to enterprises in Europe, based on the depth of their service offerings and market presence.

The mainframe environment has high response times, is uniquely resilient, and can scale in keeping with business need. In short, mainframe applications cannot stay static. Organizations are constantly growing and developing, and their needs are changing concurrently. Consequently, mission-critical mainframe applications must be kept updated to address modern business demands. Enterprises that intend to modernize their applications

often face such challenges as short supply of legacy and next-gen technical skills, lack of a partner ecosystem with modernization vendors, and limited availability of modernization tools and platforms. However, the adoption of application modernization software continues to rise among enterprises that are modernizing and transforming applications that use less than 10,000 MIPS. Enterprises seek partnerships with providers with more experience, along with an ecosystem of platform/solution provider partners.



Mainframe Tech Leaders from Service Providers should read this report to understand the mainframe market in terms of the different offerings, innovations, talent, and portfolio of their competitors.



Enterprise Sales and Marketing Executives should read this report to understand the different mainframe portfolios of the various service providers, along with their strengths and weaknesses.



Enterprise CIOs should read this report to understand the strengths and weaknesses of providers offering mainframe services, including their capabilities, market presence, strengths, and the way they employ the latest technologies and capabilities to deliver reliable services. It also helps these leaders in choosing their transformation/modernization partner.

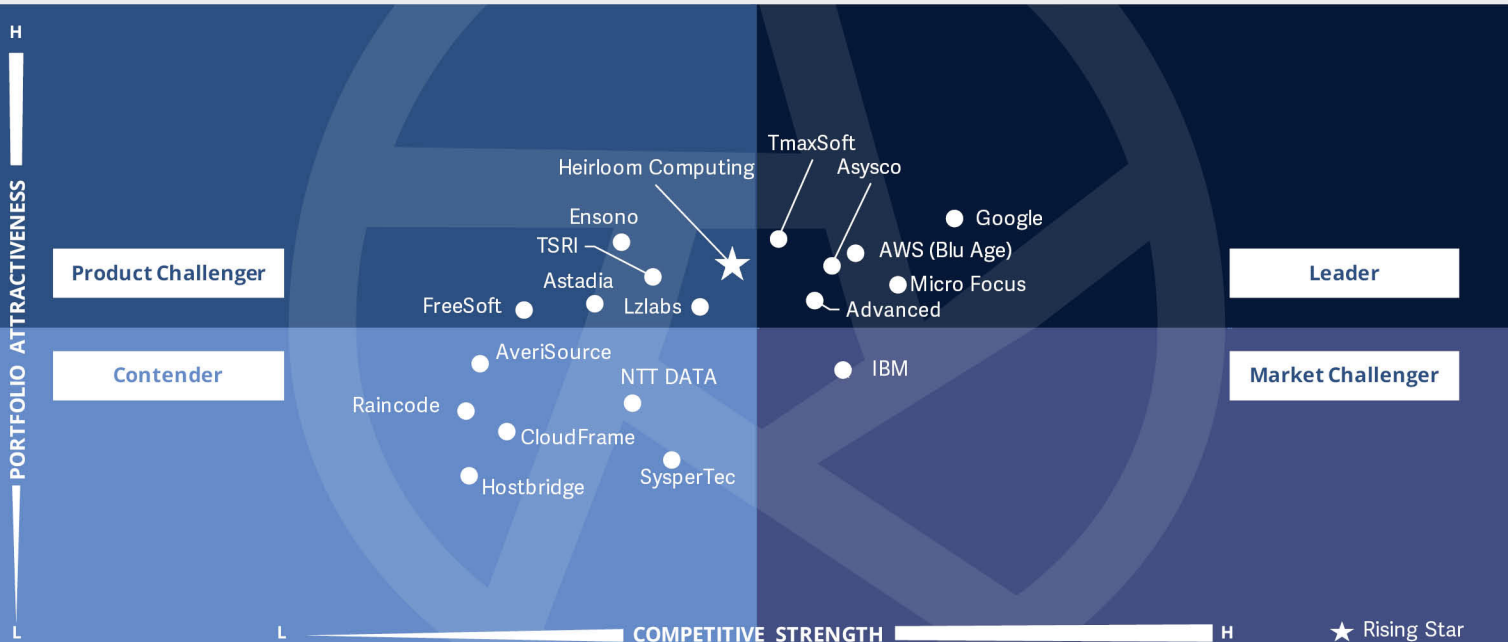


Technology leaders/CTOs should read this report to understand the role mainframe modernization can play in their quest for faster and better technology integration into products, services, and business administration.



Mainframes - Services and Solutions Mainframe Application Modernization Software

Europe 2022



This quadrant assesses software vendors that specialize in analyzing and migrating mainframe applications to modern software languages, to **move mainframe software to the public or a private cloud.**

Oliver Nickels



Mainframe Application Modernization Software

Definition

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 and application modernization.

Enterprises and service providers require tools to undertake mainframe modernization and transformation. This quadrant covers vendors that supply the modernization toolsets, 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. Offering professional services and consulting expertise can improve a vendor rating, although this is not a prerequisite, because those services may also be offered through a network of certified partners.

Eligibility Criteria

1. The software should be **licensed or delivered as a service** to enable client autonomy.
2. The vendor must have **mainframe specialization** and offer mainframe-specific tools.
3. The product **must be available** and in use by clients for **more than one year**.
4. The solution must have a **robust support organization or service partner ecosystem** to ensure enterprise-grade support.
5. 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.**



Mainframe Application Modernization Software

Observations

Although all software providers unanimously claim 100 percent success rate, many migration projects still fail to deliver results in time and within budgets.

The market has seen some changes recently, with the major hyperscalers buying software providers and entering the market themselves to secure mainframe load for their respective cloud environments.

Four software modernization methods are most common: OS emulators, compilers, code translation, and application reengineering. OS emulators and compilers enable clients to retain their legacy language programmers. The other two require reskilling or the acquisition of new talent to support new applications. Clients should understand the different

methods the modernization tools use and the consequent implications for their migration project.

Some major criteria for ISG to rate providers have been relevant capabilities in the areas of code maintainability, innovation potential, documentation of modernized code, overall code quality, and software security.

From the 45 companies assessed for this study, 18 have qualified for this quadrant, with six being Leaders and one a Rising Star.

Advanced

Advanced provides application modernization software and services and is a strong player in the European market. Advanced has completed more than 500 mainframe migrations and has partnerships with many cloud platform and technology providers.

Asysco

Asysco within its client projects, focuses on both short- and long-term benefits of mainframe modernization, letting clients move fluidly from re-hosting, through refactoring, to total transformation. Asysco uses its AMT solution to convert all legacy applications to x86 based technologies.

Blu Age

Blu Age acquired by AWS provides software and managed services to automate application and data transformation from legacy to cloud. It does not support legacy-to-legacy transformation, instead focusing on transformation to the cloud. AWS is rapidly expanding its mainframe migration partner network to support Blu Age's technology.

Google's

Google's G4 modernization tooling is now a Google Cloud-native service that allows clients to deal directly with Google for their entire modernization process. Google deploys the modernized code on its Google Cloud Platform (GCP)-native Kubernetes clusters, enabling applications to scale rapidly.

Micro Focus

Micro Focus has a proven track record of modernization projects in the past 30 years, with large and complex client projects in all industries across major geographies. Micro Focus partners with AWS, Google, and Microsoft, and has deep partnerships with all large mainframe modernization service providers.



Mainframe Application Modernization Software

TmaxSoft's

TmaxSoft's OpenFrame is a complete solution for migrating mainframe applications to Linux, Unix, Docker Containers, the public cloud, or any x86 platform, with no changes to the business logic. OpenFrame provides support for most mainframe technologies. TmaxSoft works with a wide array of channel and technology partners.

Heirloom Computing

Heirloom Computing, a Rising Star, is focused on transforming mainframe workloads. Heirloom Computing is a state-of-the-art software platform that simultaneously delivers the benefits of replatforming mainframe workloads as cloud-native Java applications on any cloud.



Google



"Google G4 offers to modernize clients' mainframes toward Google's huge, extremely secure, GCP infrastructure."

Oliver Nickels

Overview

Google is headquartered in Berkeley, CA, U.S., and operates in 50 countries. It is a software vendor and a cloud infrastructure provider, with more than 150,000 employees across 150 global offices. In 2021, the company generated U.S. \$182.5 billion in revenue, with Google Services as its largest segment. In 2020, Google acquired Cornerstone Technology and its G4 platform to make it available as a service on the GCP.

Strengths

'One Google' umbrella: Google's G4 modernization tooling is now a Google Cloud-native service that allows clients to deal directly with Google for their modernization process, without the need to deal with third-party software vendors. Under this premise, even when Google involves a GSI in the delivery, they engage and utilize Google's IP and software to analyze and automate the conversion of their code. The G4 solution can extract business rules to create a hypermodel of databases and applications.

Deployment on GCP: Google deploys the modernized code on its GCP-native Kubernetes clusters and utilizes its multicloud Anthos services. This enables its clients to avoid lock-ins with a single cloud services provider and even to use their own local data centers for compliance and regulatory purposes. GCP runs on the same infrastructure that Google uses for its Google Search, Google Maps, and YouTube products. GCP enables applications to scale quickly and perform equal to or better than on mainframe hardware.

Caution

The 'One Google' umbrella might be intriguing, but it may become difficult for a client. Clients need to be aware that they sign all-in for Google.

Google focuses on application re-engineering and does not cover all legacy languages.





Appendix

Methodology & Team

The ISG Provider Lens 2022 – Mainframes - Services and Solutions research study analyzes the relevant software vendors/ service providers in the Europe 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 January 2022, 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 & Editor Biographies

Lead Author



Oliver Nickels
Distinguished Lead Analyst

Oliver Nickels combines in-depth technical and business knowledge and more than 25 years of experience as management consultant, IT analyst, marketing manager, and start-up entrepreneur.

His focus areas are organizational change through digital and AI-based technologies, Next-Gen ADM, the Internet of Things, and the Digital Customer Journey. Specific strengths include his ability to take the customer's perspective and to plan, implement, and effectively integrate digital business processes and digital customer dialogues.

Oliver teaches Artificial Intelligence, Social Media and the Metaverse at the Tübingen and Konstanz Universities.

Oliver works as free-lance consultant to help ISG customers with specific issues related to the digital transformation. Previously, Oliver worked in various national and international marketing roles for a leading global IT company. His last position was digital marketing manager and advisor to the management board.

Oliver holds a degree in computer sciences from the University of Bremen.

Global Overview Analyst



Srinivasan PN
Senior Research Analyst

Srinivasan PN is a senior research analyst at ISG and is responsible for supporting and co-authoring ISG Provider Lens™ studies on AWS Ecosystem, Insurance BPO, Mainframe and Cybersecurity studies. His area of expertise lies in the space of engineering services and digital transformation. Srinivasan has over 6 years of experience in the technology research industry and in his prior role, he carried out research delivery for both primary and secondary research capabilities.

Srinivasan is responsible for developing content from an enterprise perspective and author the global summary report. Along with this, he supports the lead analysts in the research process and writes articles about recent market trends in the industry.



Author & Editor Biographies



Global Overview Analyst

Sandya Kattimani
Senior Research Analyst

Sandya Kattimani is a senior research analyst at ISG and is responsible for supporting and co-authoring ISG Provider Lens™ studies on Contact Center, Life Sciences, Mainframes. Sandya has over 6 years of experience in the technology research industry and in her prior role, she carried out research delivery for both primary and

secondary research capabilities. Her area of expertise lies in Competitive Intelligence, Customer Journey Analysis, Battle Cards, Market analysis and digital transformation. She is responsible for authoring the enterprise content and the global summary report, which includes market trends and insights.



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](#).

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APRIL, 2022

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