

Intelligent Automation – Solutions and Services

U.S. 2020

A research report comparing provider strengths, challenges and competitive differentiators

Quadrant Report





Customized report courtesy of:



February 2021

About this Report

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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 November 2020, 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.

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^{*}ISG Provider Lens[™]

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EXECUTIVE SUMMARY

Covid-19 Pandemic Fast-Tracks Enterprise Roadmap to Intelligent Automation

With the COVID-19 pandemic, enterprises across industries worldwide are embracing digital transformation to future proof their businesses. Intelligent automation, at the heart of this transformation, combines robotic process automation (RPA) with artificial intelligence (AI), cognitive optical character recognition (OCR), machine learning (ML), natural language processing (NLP), advanced analytics and other digital technologies for improved productivity, data accuracy and customer experience, alongside reduced costs.

The need to remain competitive, agile and effective in delivering value to customers, partners and stakeholders is the trigger for adopting intelligent automation. However, inadequate knowledge/skills often derail this digital transformation journey, driving enterprises to seek transformational sourcing options to revamp business and IT operations.

The economic impact of COVID-19 will be long-lasting for enterprises and the ones that implement intelligent automation now will be able to optimize on cost, productivity and capacity, and reduce risks in the short term to stay prepared for the future.

ISG has observed the following trends in the global intelligent business automation space:

Large enterprises are rapidly embracing intelligent automation: Intelligent automation finds more acceptance among large enterprises as they have the resources to implement such solutions. Mid-sized companies too are gradually making a headway in this direction.

Extending automation to front and middle office: Although automation is common in IT infrastructure operations and traditional back-office tasks such as finance and accounting, enterprises now are automating beyond these support functions to sales and marketing, supply chain and customer service.

Benefits beyond headcount reduction: The goal of automation is increasingly shifting from cost savings to improved productivity, indicating an understanding that technology automates routine work, and not jobs. Enterprises with advanced automation capabilities expect automation to provide improved employee productivity, data accuracy and customer experience.

Focus on change management: Organizational change management (OCM) plays a vital role in helping employees adapt to the introduction of advanced technologies into business processes and allay fears about job loss. Companies are increasingly motivating employees to embrace automation and fostering a culture of collaboration between them and digital workers for transactional tasks.

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Outcome- and transaction-based pricing attaining traction: Subscription-based pricing has overtaken perpetual licensing as the preferred commercial model, with enterprises increasingly opting for transaction- and outcome-based pricing models. Concurrently, providers are confident about promising higher productivity/outcomes while negotiating on sourcing engagements. Outcome-based pricing is particularly gaining favor among enterprises in the mature stage of automation.

Reskilling and upskilling workforce for jobs of future: With increasing back-office function automation, talent management is a challenge, carrying the risk of existing employee skills soon becoming obsolete. Therefore, training and upskilling is critical. Several organizations are collaborating with providers to upskill their workforce on digital skills such as AI, ML and advanced analytics to empower them to focus instead on high-value tasks.

Vertical-specific business process expertise: The changing business environment is pushing enterprises to try to find a competitive edge in their respective industry. Hence, companies are on the lookout for providers with vertical-specific automation expertise such as claims bill payment in Insurance and inventory monitoring in Retail. Providers that bring in extensive domain/industry knowledge alongside intelligent automation technologies are head and shoulders above the others.

Process mining is key to proving automation opportunities and benefits: A key reason preventing companies from realizing return on investment (ROI) on automation is the poor identification of use cases and inclination to automate processes as-is. To gain the benefits of automation, business processes must be assessed through multiple

lenses with the help of process and task mining technologies. Process mining solutions will see a high demand in the near future, particularly among large organizations looking to optimize legacy business processes.

Growing importance of ethical AI: As companies scale their automation programs, providers of AI solutions will have access to critical enterprise data. In this context, providers that have invested significantly in R&D for the ethical, transparent and accountable use of AI technologies will find favor among enterprises.

Al and ML led automation has been gaining traction in the past few years: With the global IT environment undergoing digital transformation, independent software vendors (ISVs) and system integrators worldwide need to create the right setting for data and systems to be managed from a centralized location. IT assets and workloads would need to be orchestrated across edge, cloud and on-premises resources, making use of analytics — for actionable deep insights — critical. AlOps blends Al, ML and big data to analyze the large volume of data generated in the wake of digital transformation. Most verticals are adopting AlOps to improve business processes in terms of increasing revenue and reducing IT operational costs.

The ISG Provider Lens report for Intelligent Automation this year compares service providers on their proprietary solutions and services and positions them based on their portfolios and future outlook. This comparison has been done across three quadrants — Intelligent Business Automation, AIOps and Conversational AI — that represent the services and products that typical enterprise clients are acquiring in the intelligent automation space.

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Diverse automation offering: The global IBA and AlOps services market primarily comprises of two sets of offerings from ITO BPO providers — a homegrown proprietary platform and services around tools offered by ISVs. Many enterprise clients are seeking providers that offer a proprietary IBA and/or AlOps platform. However, a large percentage of clients are working with automation service providers that are platform/vendor agnostic and are thus able to support custom business requirements.

The ISG Provider Lens report for Intelligent Automation this year compares service providers and software solution vendors on their proprietary solutions and services and positions them based on their portfolios and outlook. This comparison has been made across three quadrants — Intelligent Business Automation, AlOps and Conversational Al, which represent the services and products that typical enterprise clients are acquiring in the intelligent automation space.

Disclaimer: ISG Automation is a sister division to ISG Research, and we have purposely selected quadrants and the eligibility criteria that would exclude ISG Automation from being evaluated in order to avoid any conflict of interest.

U.S. Market Overview

Intelligent Business Automation

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The U.S. market is the largest adopter of intelligent business automation solutions and has reached maturity with the increase in engagements over the years. Enterprises in the U.S. are more transformation focused and are increasingly leveraging new-age technologies to accelerate their digital transformation journey, at scale. According to ISG Research, on

average, about 80 percent of the U.S. enterprises are either experimenting with or have deployed technologies such as ML based OCR, NLP, and conversational AI in business processes. This trend is expected to accelerate in the near term.

ISG sees that second- and third-generation outsourcers in the U.S. are beginning to engage with providers more holistically. They work collaboratively with providers and adopt a partnership model to walk the intelligent business automation led transformation journey. During the complete transformation of their business processes, it is difficult, at times, to convince employees and external parties such as vendors and suppliers to stay on board with the transition. Therefore, it is imperative to find a suitable provider that can assist with end-to-end business process transformation, not only by offering strong domain and vertical expertise and best-of-breed digital technologies, but also providing effective advisory, change management and maintenance support services to ensure overall success.

AlOps

The development of data agnostic AlOps platforms has been a priority in this space. In 2020, many global system integrators are expected to launch AlOps platforms. These platforms and frameworks will be a big win for the industry as the more varied the data ingested into an AlOps platform is, the greater the value the algorithms can accomplish. The goal of global system integrators is to build deeper visibility of the context to relate data such as events, metrics, logs and traces to one another. This means users can accurately determine issues, predict impacts and understand how change can affect business-critical activities. With the AlOps platform, enterprise clients in U.S. and the rest of the world will witness agility, diversity and resilience in their supply chain operations.

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Conversational AI

North America, and the U.S., in particular, are leading in terms of adoption of enterprise intelligent virtual agents and conversational AI technology, in general. Multiple independent studies have shown that people in the U.S. are comfortable with interacting with a bot instead of a human, which explains the growing interest in interacting with a virtual agent for quick resolution of issues. In addition, with the developments in conversational AI solutions, there is specific focus on how and when calls can be transferred to a human agent. The number of generic queries that can be answered by an intelligent conversation solution has increased, and includes resolving a problem, getting detailed answers, finding a human assistant, making a reservation or paying an invoice. As conversational AI solutions learn to better discern user intent, clients are experimenting to implement them in additional use cases. Banking and financial institutes and enterprises are leading in terms of implementing conversational AI solutions, and users prefer to leverage such solutions for common issues. As the level of confidence in dealing with conversational AI solutions increases and vendors improve on their solutions, the market is expected to see a boom in the near future.

Some global trends in conversational AI are also applicable for the U.S. market:

 Low-code/no-code development: As focus shifts toward enabling citizen developers, and a young, smart and tech-savvy workforce finds employment, users would seek solutions to help rapidly implement business context to an existing framework and build customized conversational AI bots or virtual assistants.

- Integration with business applications: Solutions that can integrate with more leading enterprise technology stack solutions and offer application programming interface (API) integration would lead the market. A conversational AI solution should be able to integrate with all and many such technologies to decide on response and fetch the required data.
- Reusable pre-packaged business process and industry focused virtual agents: Clients would seek solutions that offer pre-packaged modules or virtual agents for common business processes such as HR, operations and IT. Similarly, clients are interested in, or expected to show interest in solutions with prebuilt modules for industry specific operations. Clients would prefer solutions with more of these prepackaged modules as they would need minimal customizations.
- Bots talking to bots: Many vendors are investing in solutions with capabilities to enable virtual agents to converse with each other, thereby automating many processes and making a huge change in the way business processes work.

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Introduction

	Simplified illustration		
Intelligent Automation Solutions & Services 2020			
Intelligent Business Automation	Artificial Intelligence for IT Operations (AlOps) - Large Accounts		
Artificial Intelligence for IT Operations (AlOps) - Mid Market	Conversational Al		

Source: ISG 2020

DISCLAIMER: ISG Automation is a sister division to ISG Research and therefore we have purposely selected quadrants and eligibility criteria that would exclude ISG Automation from being evaluated in order to avoid any appearance of a conflict of interest

Definition

According to the ISG Research **December 2019 RPA Deployment**

& Capability study, organizations are improving their automation capabilities, but many are still in the early stages of the automation journey. Only 7 percent have progressed into enriching their RPA with intelligent automation. While RPA can automate simple, rules-based tasks, previously performed by humans, it needs structured data as input and can perform only standardized processes. Therefore, inability to handle unstructured data, lack of AI capabilities and in-house skills limitations is driving enterprise clients to look for transformational sourcing options, which include intelligent automation.



Definition (cont.)

Intelligent automation enables software bots to interact with unstructured data and generally includes the following capabilities: image recognition, NLP, cognitive reasoning and conversational AI. Enterprise clients worldwide are focusing on building intelligent automation capabilities into their RPA initiatives in keeping with the growing need to stay apace with competition with next-generation technologies. Well-orchestrated intelligent automation technologies are enabling enterprises to automate processes once considered as beyond the purview of automation, and deliver higher productivity, reduced costs, improved data accuracy and enhanced customer experience.

This study on Intelligent Automation Solutions and Services is aimed at understanding enterprise requirements and provider capabilities in meeting these demands.

Scope of the Report

The ISG Provider Lens[™] study offers business and IT-decision makers:

- A differentiated positioning of providers based on competitive strengths and portfolio attractiveness;
- A perspective on different markets, including the U.S., U.K., Nordics, and Germany.

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 current vendor relationships and potential new engagements.

For this reason, ISG's report on Intelligent Automation is comprised of multiple quadrants covering the spectrum of solutions and services that an enterprise client requires.

The quadrants descriptions are as follows:

Intelligent Business Automation: This quadrant analyzes information technology outsourcing/ business process outsourcing (ITO/BPO) service providers that offer proprietary automation and AI platform, solutions, and frameworks, along with associated services to enable enterprises automate business processes and augment the capabilities of their workforce.

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Definition (cont.)

AlOps for Large Accounts: This quadrant assesses a service company's AlOps ability of an automation as a service solution and framework to evaluate the state of the company's multi-cloud IT workload and analyze the data it senses to facilitate automated operation. Enterprises are subject to strict regulations that can complicate engagements. They typically have more than 5,000 employees and revenues of more than US\$1 billion.

AlOps for Mid Market: This quadrant assesses a service company's AlOps ability, of an automation as a service solution and framework, to evaluate the state of the company's multi-cloud IT workload and analyze the data it senses to facilitate automated operation. Enterprises are subject to strict regulations that can complicate engagements. The enterprise client typically has fewer than 5,000 employees or generates less than US\$1 billion in revenue. **Conversational AI:** This quadrant includes providers that offer conversational AI solutions to facilitate a development environment and an API for automated conversational agents. These solutions integrate with chat interfaces such as messaging platforms and social media platforms, allowing third-party extensions and customization. Conversational AI solutions interact with users through text or voice, similar to what a human would do. These applications run on programmable commands and AI technologies, and are commonly classified as chatbots and virtual assistants.

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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:

- Mid Market: 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.



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Introduction

Provider Classifications

The ISG Provider Lens[™] quadrants are created using an evaluation matrix containing four segments (Leader, Product & Market Challenger and Contender), and the providers are positioned accordingly.

Leader

The Leaders among the vendors/ providers have a highly attractive product and service offering and a very strong market and competitive position; they fulfill all requirements for successful market cultivation. They can be regarded as opinion leaders, providing strategic impulses to the market. They also ensure innovative strength and stability.

Product Challenger

The Product Challengers offer a product and service portfolio that provides an aboveaverage cover¬age of corporate requirements, but are not able to provide the same resources and strengths as the Leaders regarding the individual market cultivation categories. Often, this is due to the respective vendor's size or weak footprint within the respective target segment.

Market Challenger

Market Challengers are also very competitive, but there is still significant portfolio potential and they clearly fall behind the Leaders. Often, the Market Challengers are established vendors that are somewhat slow to address new trends due to their size and company structure, and therefore have some potential to optimize their portfolio and increase their attractiveness.

Contender

Contenders still lack mature products and services or sufficient depth and breadth in their offering, but also show some strengths and improvement potential in their market cultivation efforts. These vendors are often generalists or niche players.



Provider Classifications (cont.)

Each ISG Provider Lens[™] quadrant may include a service provider(s) which ISG believes has 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).

Rising Star

Companies that receive the Rising Star award have a promising portfolio 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. This award is only given to vendors or service providers that have made significant progress toward their goals in the last 12 months and are expected to reach the Leader quadrant within the next 12-24 months due to their aboveaverage impact and strength for innovation.

Not In

The service provider or vendor was not included in this quadrant. There might be one or several reasons why this designation is applied: 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 qualify due to market share, revenue, delivery capacity, number of customers or other metrics of scale to be directly compared with other providers in the quadrant. Omission from the quadrant does not imply that the service provider or vendor does not offer this service or solution, or confer any other meaning.



Intelligent Automation - Solutions and Services - Quadrant Provider Listing 1 of 4

	Intelligent Business Automation	Artificial Intelligence for IT Operations (AlOps) - Mid Market	Artificial Intelligence for IT Operations (AlOps) - Large Accounts	Conversational AI
[24]7.ai	Not in	Not in	Not in	Leader
Accenture	Leader	Not in	Leader	Not in
Aivo	Not in	Not in	Not in	Contender
Artificial Solutions	Not in	Not in	Not in	Leader
Atos	Product Challenger	Not in	Product Challenger	Not in
Avaamo	Not in	Not in	Not in	Market Challenger
AWS	Not in	Not in	Not in	Product Challenger
Birlasoft	Contender	Contender	Contender	Not in
Capgemini	Leader	Not in	• Leader	Not in
CGI	Not in	Market Challenger	Not in	Not in
Coforge	Product Challenger	Product Challenger	Not in	Not in
Cognigy	Not in	Not in	Not in	Rising Star
Cognizant	Leader	Not in	• Leader	Not in



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	Intelligent Business Automation	Artificial Intelligence for IT Operations (AlOps) - Mid Market	Artificial Intelligence for IT Operations (AlOps) - Large Accounts	Conversational Al
Creative Virtual	Not in	Not in	Not in	Product Challenger
CSS Corp	Contender	Contender	Contender	Not in
Datamatics	Product Challenger	Not in	Not in	Not in
DXC	Rising Star	Not in	Product Challenger	Not in
eGain	Not in	Not in	Not in	Contender
EXL	Leader	Not in	Not in	Not in
Fujitsu	Market Challenger	Product Challenger	Market Challenger	Not in
GAVS	Not in	Contender	Contender	Not in
Genpact	Leader	Not in	Not in	Not in
Google	Not in	Not in	Not in	Product Challenger
HCL	• Leader	Not in	Leader	Not in
Hexaware	Rising Star	• Leader	Product Challenger	Not in
IBM	• Leader	Not in	• Leader	Product Challenger

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Intelligent Automation - Solutions and Services - Quadrant Provider Listing 3 of 4

	Intelligent Business Automation	Artificial Intelligence for IT Operations (AlOps) - Mid Market	Artificial Intelligence for IT Operations (AlOps) - Large Accounts	Conversational AI
Inbenta	Not in	Not in	Not in	Contender
Infosys	Leader	Not in	Leader	Not in
IPsoft	Not in	Not in	Not in	Leader
Kore	Not in	Not in	Not in	Leader
LivePerson	Not in	Not in	Not in	Product Challenger
LTI	Not in	• Leader	Product Challenger	Not in
Microland	Not in	Contender	 Contender 	Not in
Microsoft	Not in	Not in	Not in	Product Challenger
Mindtree	Not in	• Leader	Rising Star	Not in
Mphasis	Product Challenger	• Leader	Product Challenger	Not in
NTT DATA	Product Challenger	Not in	Contender	Not in
Nuance	Not in	Not in	Not in	Product Challenger
OneReach	Not in	Not in	Not in	Rising Star



Introduction

Intelligent Automation - Solutions and Services - Quadrant Provider Listing 4 of 4

	Intelligent Business Automation	Artificial Intelligence for IT Operations (AlOps) - Mid Market	Artificial Intelligence for IT Operations (AlOps) - Large Accounts	Conversational Al
OpenStream	Not in	Not in	Not in	Product Challenger
Persistent	Contender	Not in	Not in	Not in
Softtek	Product Challenger	Not in	Not in	Not in
Sonata Software	Contender	Contender	Not in	Not in
Sutherland	Product Challenger	Not in	Not in	Not in
TCS	Leader	Not in	• Leader	Not in
Tech Mahindra	Product Challenger	• Leader	Product Challenger	Not in
UST	Product Challenger	Rising Star	Contender	Not in
Wipro	• Leader	Not in	Leader	Not in
Zensar	Not in	Contender	Contender	Not in





ENTERPRISE CONTEXT

Intelligent Business Automation

This report is relevant to enterprises across industries in the U.S. for evaluating IT and business process outsourcing providers that offer proprietary automation and AI platforms, solutions and frameworks, along with associated implementation, advisory and support services.

In this quadrant report, ISG highlights the current market positioning of providers of intelligent business automation (IBA) — including proprietary solutions and services — in the U.S. based on the depth of their solution and service offerings and market presence.

The market in North America, and the U.S. in particular, is more mature compared with other regions, and it is the largest adopter of IBA services and solutions. Enterprises in the U.S. are more transformation focused and open to embracing advanced technologies such as machine learning (ML), natural language processing (NLP), intelligent optical character recognition (OCR) and process mining and have, subsequently, started reaping the benefits in their business processes. Enterprises in the banking, financial services and insurance (BFSI) sector are leading in the adoption of IBA solutions and services, primarily driven by significant cost pressure, compliance burden and the need for high accuracy.

Enterprises that have not embraced such digital technologies to optimize and transform their business processes are losing out on outcomes such as improved productivity, high data accuracy, cost savings and enhanced customer experience.

Line of business leaders (LOBs) should read this report to understand the relative positioning and capabilities of providers that can assist with end-to-end intelligent business process automation to deliver the benefits higher efficiency and effectiveness. The report also supports the technical and integration capabilities of service providers as well as their strategic partnerships.

Digital transformation professionals should read this report to understand how providers of IBA solutions and services fit their intelligent-automation-led digital transformation initiatives and how they compare with each another.

IT and technology leaders should read this report to understand how IBA providers are integrating multiple technologies into their proprietary offerings and how, subsequently, the technical capabilities of these providers can be compared with the rest of the market.

Sourcing and vendor management professionals should read this report to understand the provider ecosystem for IBA solution and services in the U.S. and gain insights into how providers can be compared to each another.



Definition

This quadrant analyzes (ITO/BPO) service providers that offer proprietary automation and AI platform, solutions, and frameworks, along with associated services, to enable enterprises to automate business activities and augment the capabilities of their workforce. These solutions can be implemented in any facet of an enterprise where repetitive and manual processes are in place, but are primarily used in finance and accounting (F&A), human resources (HR), procurement and supply chain functions. They supplement automation with advanced analytics and AI technologies such as compute vision, machine/deep learning, and natural language processing (NLP) to digitally transform enterprise business operations at scale, and are aimed at eliminating inefficiencies in business operations and pave the way for reduced costs, high productivity, improved data accuracy and enhanced customer experience.



DISCLAIMER: ISG Automation and other providers who do not offer a proprietary automation/AI platform, have not been evaluated in this quadrant.

Source: ISG Research 2020



Eligibility Criteria

- Must offer proprietary automation/Al platform and solutions, implement them and provide ongoing support;
- Should have the ability to foster end-to-end business transformation of enterprises by leveraging next-gen technologies such as automation, AI and advanced analytics;
- Have the ability to support the integration with various enterprise applications (for example, , customer relationship management systems for customer data or enterprise resource planning systems for finance) and existing IT infrastructure;
- Capable of offering out-of-the-box application programming interface (APIs), multitenancy and secured deployment of platform;

- Offer solutions that harness and digitalize large volumes of structured, semi-structured and unstructured data from multiple sources; provide actionable intelligence and generate insights from business processes data; and have machine learning capabilities embedded within their solutions to improve learning from the data over time, resulting in increased accuracy and reduced exceptions;
- Demonstrate capabilities in process mining, opportunity assessment for facilitating automation and strong business advisory capabilities to help enterprises in internal buy-in and guide them through a business process transformation journey;
- Offer industry and/or function-specific (for example, finance, procurement or HR) automation/Al proprietary solutions.



Observations

- Accenture leads the intelligent business automation market by leveraging its deep industry and functional expertise, homegrown SynOps platform, continued focus on inorganic growth, and vast network of innovation hubs across the U.S.
- Capgemini's continuous focus on proprietary IP investments in intelligent business automation and proven expertise has helped clients transform their business operations significantly, improving efficiency and customer experience.
- Cognizant, with its strong market presence and a digital-first approach, brings in-depth expertise across domains and intelligent business automation space to serve a large base of clients in the U.S. market.
- EXL has extensive domain experience across selective verticals and has developed several proprietary automation solutions to accelerate end-to-end automation across data-driven business processes.

- **Genpact** uses a combination of its rich domain and process expertise, and proprietary pre-trained AI accelerators to fast-track the pace and impact of intelligent automation across an enterprise.
- HCL has focused its investments on intelligent business automation IPs, proprietary tools and accelerators, along with its wide network of co-innovation labs, providing innovative solutions tailored to client-specific needs.
- IBM's comprehensive portfolio of proprietary intelligent business automation solutions, and strategic R&D focus to assimilate innovation across each automation engagement, make it a leader in the intelligent automation space.
- Infosys combines its strong domain expertise with its proprietary AssistEdge and Nia[™] platform as well as a deep partner ecosystem to help clients hasten and mount the implementation AI-based automation across the enterprise.
- TCS offers a comprehensive intelligent automation portfolio underpinned by its proprietary Machine First Delivery Model (MFDM[™]) framework that gives machines the "first right of refusal" ability in managing work across business operations.



Observations (cont.)

- Wipro has developed compelling capabilities to help large clients derive superior business results with the help of its domain knowledge combined with strong proprietary intellectual property, platforms (Wipro HOLMES[™], Harmony) and an ecosystem approach.
- **DXC Technology** (Rising Star) has a host of proprietary intelligent business automation offerings, from an automated process discovery to agile process automation platform and a dedicated Applied AI studio to engage and demonstrate to its customers what AI can do, with a focus on practical applications that can be integrated across an enterprise.
- Hexaware (Rising Star) is well positioned with its "automation first" approach and flexible engagement models to enable enterprises to enforce significant process efficiency and effectiveness by leveraging its proprietary offerings, including HIPAS[™] and AutomatON.



Intelligent Business Automation





ENTERPRISE CONTEXT

Artificial Intelligence for IT Operations (AIOps) - Large Accounts

This report is relevant to enterprises across industries in the U.S. for evaluating service providers that offer proprietary offerings in artificial intelligence for IT operations (AIOps)

In this quadrant report, ISG highlights the current market positioning of providers that offer proprietary offerings for AIOps in the U.S., based on the depth of their service offerings and market presence.

The U.S. market is more matured when compared to other regions. Enterprises in the U.S. are more transformation focused, and as a part of their digital transformation, they have started adopting AlOps in their IT operations with a focus on use cases and automating the complex IT landscape. In addition, key factors such as data engineering, data fragmentation and deep analytics drive the adoption of AlOps.

During the ongoing COVID-19 pandemic, U.S. enterprises have increasingly moved in their business processes to digital platforms ; the same applies for the global IT environment. Additionally, the adoption of multiple cloud environments for IT assets and workloads among enterprises is expected to drive the market. Implementing AIOps will help enterprises get insights quicker because it combines analytics and advanced technologies such as AI and machine learning (ML) to enhance the process.



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Who should read the report:

Chief information officers (CIOs) should read this report to understand the relative positioning and capabilities of providers that can help them effectively plan and improve the reliability and availability of their digital transformation initiatives.

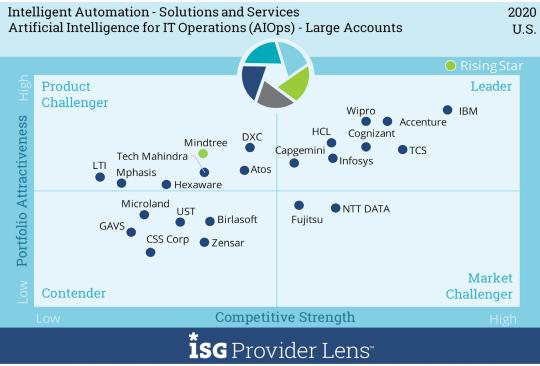
Chief strategy officers (CSOs), through this report, will gain knowledge on providers' product portfolio capabilities, which, in turn, will enable streamlined workflow for enterprises and enhanced business process.

Chief technology officer (CTOs) should read this report to understand how AlOps platform providers offer transformation initiatives and perform on complex environments to enhance smoother operations.

ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - LARGE ACCOUNTS

Definition

This quadrant analyzes IT service providers that offer proprietary AlOps solutions, platforms and frameworks that enable companies with distributed IT infrastructure observability, learn IT behavior under dynamic conditions and orchestrate workflow for automated corrections. AlOps is the ability of an automation as a service solution and framework to evaluate the state of company's multi-cloud IT workload and analyze the data it senses to facilitate automated operation. AlOps also offer real-time, minimal cost solutions that allow companies to detect issues before they can have an adverse effect on business. Such solutions and frameworks redefine the model of IT operation by combining data patterns and human intelligence to provide full visibility into the IT landscape of an enterprise. These are aimed at maximizing the performance of distributed, heterogenous, multi-cloud IT workloads, reducing costs and ensuring compliance and security.



DISCLAIMER: ISG Automation and other providers who do not offer a proprietary automation/Al platform, have not been evaluated in this quadrant.

Source: ISG Research 2020



ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - LARGE ACCOUNTS

Eligibility Criteria

- Should have proprietary AIOps platforms and frameworks;
- Provide enterprise clients with highly scalable, real-time data, along with prescriptive and proactive analysis that brings visibility into IT landscape;
- Ability of AlOps platforms to ingest data-at-rest, data-in-motion and create patterns for auto-remediation;
- Offer data injection through multiple sources and provide automated pattern discovery and detection through big data platform;
- Improve resilience and reduce mean time to repair (MTTR) through automation services;

- Act as a smart orchestration engine in workflow creation for managed companies' IT infrastructure in nearly zero and one-touch approach;
- Offer out-of-the box APIs, multi-tenancy and secure deployment of platforms.

Note* This quadrant, focused on automation-as-a-service solutions, platforms/ecosystem/ frameworks that are developed by IT service providers through investments in AI, ML and big data capabilities, helps companies to ensure that their multi-cloud workload operations can be supported in an autonomous manner.



ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - LARGE ACCOUNTS

Observations

The AlOps market is expected to grow substantially in the U.S. in the next three to five years. With the increasing awareness of how Al can address these challenges and help run IT operations, enterprises are shifting their focus toward the adoption of Al-based solutions. As IT assets are gaining intelligence, systems have become more complicated with increasing data volume, thereby increasing the adoption of AlOps. The increasing cloud adoption across the U.S. market is also fueling automation of these processes. Therefore, with more enterprises migrating to the cloud, the need for AlOps platforms is also expected to increase in the coming years.

ISG believes that the on-premises workloads are anticipated to shrink considerably in the coming quarters. The increasing need for orchestration and automation solutions for these hybrid-IT/multi-cloud services is also compelling businesses to adopt AIOps platforms. We see majority of the global system integrators has invested in specific business unit to develop an AI-led IT operation platform/framework and various accelerators to address the needs of businesses, from complex traditional IT landscape optimization perspective.



Artificial Intelligence for IT Operations (AIOps) - Large Accounts

In this quadrant, we evaluated 50 providers, of which eight are Leaders and one is a Rising Star.

- Accenture has dedicated AlOps practice, which helped its clients with their digital transformation journey. The firm has the highest number of Al and ML professionals and competencies when compared to its competitors. Accenture's AlOps platform and frameworks have helped clients experience the data value realization and business outcomes.
- Capgemini has extensive experience in digital transformation services, along with AI and ML capabilities. Capgemini's CIAP platform assesses the entire IT landscape and drives key nuances about the historical and real-time data.
- Cognizant offers robust AI and ML capabilities around autonomous IT operation. The company has developed robust frameworks and tools for faster and smarter migration and transformation of hybrid IT workload.
- HCL has developed a range of products in the ML segment. The firm has also been developing accelerators and an Al-based platform to drive hybrid-IT transformation engagements.

ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - LARGE ACCOUNTS

Observations (cont.)

- IBM has been an early entrant in AlOps segment with a dedicated business unit from a profit and loss perspective. Also, the Watson Al and ML module of the company are being used by large number of clients and system integrators.
- TCS has vast experience in modernizing clients' infrastructure and moving them to right architecture. The firm focuses on disruptive and incremental automation services.
- Wipro's Holmes platform enables enterprises to experience the power of historical data by enabling them to create new, efficient and optimized model. Through its Holmes platform and robust APIs capabilities, the firm has been able to generate significant revenue.
- Infosys provides a range of autonomous IT capabilities. The firm is able to transform its overall services over the last four quarters.
- Mindtree has been identified as a Rising Star due to its growing automation services capabilities. Also, the firm has focused strategy from IT automation investment and development perspective.

Artificial Intelligence for IT Operations (AIOps) - Large Accounts





ENTERPRISE CONTEXT

Artificial Intelligence for IT Operations (AIOps) - Mid Market

This report is relevant to enterprises across industries in the U.S. for evaluating service providers that offer proprietary offerings for artificial intelligence for IT operations (AIOps)

In this quadrant report, ISG highlights the current market positioning of providers that offer proprietary offerings for AIOps in the U.S., based on depth of their service offerings and market presence.

The U.S. market for mid-sized enterprises has shown stable growth. These enterprises have also started moving toward the cloud and automation, due to factors such as business optimization and cost efficiency. Unlike large enterprises, the business needs of mid-sized enterprises would require implementing automation in their IT operations. Also, the complexity of these operations is less when compared to large enterprises, as most mid-sized enterprises would need to automate front-desk operations, including the service desk and L1 support.

During the ongoing COVID-19 pandemic, U.S. enterprises have increasingly moved in their business processes to digital platforms ; the same applies for global IT environment. Additionally, the adoption of multiple cloud environments for IT assets and workloads among enterprises is expected to drive the market. Implementing AIOps will help enterprises get insights quicker as it combines analytics and advanced technologies such as AI and machine learning (ML) to enhance the process.

Who should read the report:

Chief information officers (CIOs) should read this report to understand the relative positioning and capabilities of providers that can help them effectively plan and improve the reliability and availability of their digital transformation initiatives.

Chief strategy officer (CSOs), through this report, will gain knowledge on providers' product portfolio capabilities, which, in turn, will enable streamlined workflow for enterprises and enhanced business process.

Chief technology officer (CTOs) should read this report to understand how AlOps platform providers offer transformation initiatives and perform on complex environments to enhance smoother operations.

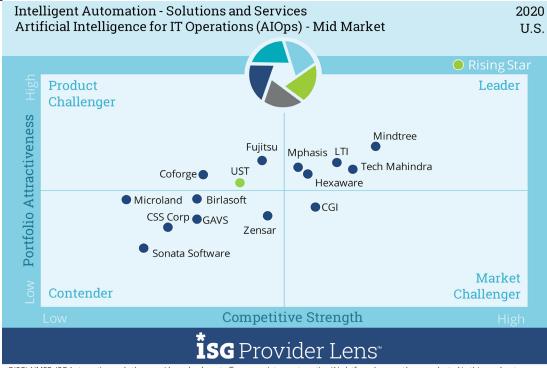
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ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - MID MARKET

Definition

This quadrant analyzes IT service providers that offer proprietary AlOps solutions, platforms and frameworks, enable companies with distributed IT infrastructure observability, learn IT behavior under dynamic conditions, and orchestrate workflow for automated corrections. AlOps is the ability of an automation as a service solution and framework to evaluate the state of company's multi-cloud IT workload and analyze the data it senses to facilitate automated operation. AlOps also offer real-time, minimal cost solutions that allow companies to detect issues before they can have an adverse effect on business. Such solutions and frameworks redefine the model of IT operation by combining data patterns and human intelligence to provide full visibility into the IT landscape of an enterprise. These are aimed at maximizing the performance of distributed, heterogenous, multi-cloud IT workloads, reducing costs and ensuring compliance and security.



DISCLAIMER: ISG Automation and other providers who do not offer a proprietary automation/AI platform, have not been evaluated in this quadrant.

Source: ISG Research 2020



ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - MID MARKET

Eligibility Criteria

- Must have a proprietary AIOps platform and framework;
- Enable companies with highly scalable, real-time data, along with prescriptive and proactive analysis that brings visibility to the IT landscape;
- Ability of AIOps platform to ingest data-at-rest, data-in-motion and create patterns for auto-remediation;
- Offer data injection through multiple sources, and provide automated pattern discovery and detection through the big data platform;
- Improve resilience and reduce mean time to repair (MTTR) through automation services;

- Act as a smart orchestration engine in workflow creation for managed companies' IT infrastructure in nearly zero and one-touch approach;
- Offer out-of-the box APIs, multitenancy and secured deployment of platform.

Note* This quadrant, focused on automation-as-a-service solutions, platforms/ecosystem/ frameworks that are developed by IT service providers through investments in AI, ML and big data capabilities, helps companies to ensure that their multi-cloud workload operations can be supported in an autonomous manner.



ARTIFICIAL INTELLIGENCE FOR IT OPERATIONS (AIOPS) - MID MARKET

Observations

The AlOps Mid Market has shown a stable growth in the U.S. The COVID-19 impact has brought in a deeper AIOps shift, where majority of the enterprises have moved toward cloud and automation, from cost and optimization perspective. Majority of the clients in the Mid Market segment are seeking for service desk and L1 task to be automated with central automation and orchestration engine. As client's ecosystem has grown over the decade with various legacy system, private cloud, traditional data center and various siloed tools stack, enterprises seek a provider that can implement robust user interface with rich API integration capabilities-centric Al-led automation IT platform. The key factors driving the market include increasing demand for AI-based software services in IT operations and increasing shift of organization's core business toward the cloud. Also, investments in the AIOps technology positively affect the market growth. However, lack of skilled niche talent, coupled with rapid changes in IT operations, is emerging as major restraining factors for the growth of the AlOps platform market. ISG sees that majority of Tier-2 and Tier-3 system integrators have shown a positive result in enabling Mid Market clients to accelerate automation journey in the IT segment.

Artificial Intelligence for IT Operations (AIOps) - Mid Market

In this quadrant, we evaluated 30 providers, of which five are Leaders and one is a Rising Star.

- Mphasis' InfraGenie is an integrated intelligent automation platform with next-gen operation blueprint and over 100 plus integrations to various enterprise tools and automation to become the single system of record for the digital enterprise.
- **Hexaware** has developed a range of products in the ML segment. The firm has also been developing accelerators and an Al-based platform to drive hybrid-IT transformation engagements.
- Tech Mahindra's iCOPs, mPAC and TACTIX enable clients to build hybrid cloud capabilities, provide an interface to connect with different clouds, offer brokerage across multiple clouds and provide orchestration within hybrid cloud and automation.
- LTI's Mosaic AlOps manages an internal scalable data storage where data streams from multiple IT systems are centralized. For its own analysis, AlOps executes selective data processing in an automated manner.
- Mindtree is growing its automation services capabilities. Also, the firm has focused strategy from an IT automation investment and development perspective.
- **UST Global** has been identified as a Rising Star. Its SmartOps for AlOps is an integrated platform that helps clients monitor, manage and automate IT infrastructure operations and services with Al at its core.

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ENTERPRISE CONTEXT

Conversational AI

This report is relevant to enterprises across industries in the U.S. for evaluating software solution vendors that offer conversational artificial intelligence (AI) platforms.

In this quadrant report, ISG highlights the current market positioning of vendors of conversational AI in the U.S., based on the depth of their service offerings and market presence.

The U.S. market is more matured when compared to other regions, and it is the largest adopter of enterprise intelligent virtual agents and conversational AI technology. Enterprises in the U.S. increasingly deploy conversational agents in their business processes, because many users are comfortable in interacting with bots. Enterprises are looking for vendors or solutions that can offer application programming interface (API) integration with the latest technologies such as AI and machine learning (ML) to make their processes more efficient.

Who should read the report:

Line of business leaders (LOBs) should read this report to understand the relative positioning and capabilities of conversational agent vendors that can help them effectively improve their business processes. The report also details about technical and integration capabilities of the vendors, as well as their strategic partnerships.

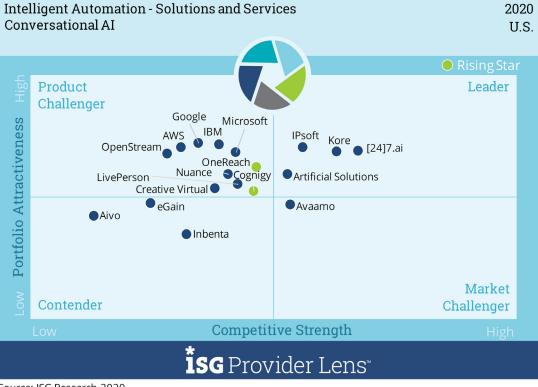
Chief information officers (CIOs) and chief strategy officers (CSOs), through this report, will gain knowledge on providers' product capabilities, which, in turn, will help them understand the solutions and how they can help achieve strategic objectives.



CONVERSATIONAL AI

Definition

This guadrant covers providers that offer conversational AI solutions to facilitate a development environment and an API for automated conversational agents. These solutions integrate with chat interfaces such as messaging platforms and social media platforms, allowing for third-party extensions and customization. Conversational AI solutions interact with users through text or voice, similar to what a human would do. These applications run on programmable commands and Al technologies and are commonly classified as chatbots and virtual assistants. They represent an efficient way to handle communication with users using programmable technologies; for example, automating a standard response and keyword search from a database. Conversational Al solutions use natural language processing (NLP) and other technologies for sentiment analysis to understand a user's context and mood. These solutions can process increasing volumes of data, including unstructured data, based on search algorithms and data classification approaches. Within an enterprise's internal environment, conversational Al solutions by way of virtual assistants help employees interact with their digital workplaces. In an external customer-facing environment, conversational AI provides chatbots and voice assistants for customer support and marketing initiatives.



Source: ISG Research 2020

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CONVERSATIONAL AI

Eligibility Criteria

- The provider must own a solution that is designed and deployed on-premises or on cloud.
- The provider must offer solutions in the following formats: allowing user self-service to create chatbots or virtual assistants with the requisite coding skills; as a solution where the vendor or its partner offers consulting service to an enterprise and customize the final product; as a complete managed service where the vendor (with or without a partner) provides consulting, customization and maintenance for the chatbot or virtual assistant.
- The provider should offer solutions that can create chatbots and virtual agents for both customer-facing services or internal IT.

- The provider must offer solutions that have proprietary NLP capabilities or support third-party NLP.
- The provider should offer solutions that provide virtual assistants for both text and audio mode.
- The provider should offer solutions that allow chatbot and virtual assistant development without dependency on or rely less on data science skills.
- The provider must have a minimum of 25 active deployments with large enterprises.





CONVERSATIONAL AI

Observations

- [24]7.ai leads the market with its strong presence in the country and well-established brand, along with deep industry capabilities.
- Kore.ai has strong local case examples and focuses on low-code/ no-code development platform.
- IPsoft leads the market with its Amelia solution and its focus on creating prepackaged digital workforce.
- Artificial Solutions, although a Nordic-based vendor, is a leader in the U.S. because of its strong platform capabilities and success in the market.
- **OneReach** offers a low-code solution and open architecture and is identified as a Rising Star in the quadrant.
- **Cognigy**, with its low-code AI solution, enterprise integration and voice gateway solution, is another Rising Star in this quadrant.





[24]7.AI



Headquartered in San Jose, California, [24]7.ai provides conversational AI services suite integrated in a platform offering, namely Engagement Cloud. It also provides customer engagement platform, AIVA, that can be deployed across diverse channels and supports both text and audio modes. The privately held firm was founded in April 2000 and has a total employee strength of 12,000 with around 250 employees for its technology business in the U.S.



Comprehensive solution platform: [24]7.ai's Engagement Cloud is an integrated platform leveraging selflearning, human assisting AI and human intent recognition, along with conversational design features. This single platform can support both voice and digital interactions and can work with synchronous conversations such as with virtual agent and with asynchronous conversations through its Assist service module. The platform enables users to interact through any channel and supports switching to different channels while retaining the context

and can seamlessly carry on with the conversations. Its Engagement Cloud offers customer engagement through its Answers solution that provides FAQ or prepopulated answers. It also offers Conversations Builder for citizen developers, Assist for agent management and Target to provide personalized contextualized response.

Deep industry expertise: [24]7.ai leverages its deep experience in diverse industries such as financial services, banking, retail and travel and offers Intent Discovery solution to automate building customer journey models. It uploads agent customer conversations and leverages deep learning algorithms to provide insights into top customer intents and help identify journeys to be automated.

Well-known and strong brand in the U.S.: [24]7.ai is a well-established brand in the U.S., and majority of its clients are from North America. It has strong case examples from the country where it helped clients achieve a high level of cost savings and call elimination. For example, it helped a large U.S.-based retailer through its customer journey analytics solution to identify pain points that could be automated. It also helped a major U.S.-based media company identify customer journeys to be enrolled into self-service based on business value and complexity as well as implement the same.





While [24]7.ai's AIVA solution is well known and established in the market, its Engagement Cloud offering is fairly new and yet to prove its mantle.

[24]7.ai also provides support for its client that are spread globally. Clients needing multi geography should explore the company's global capabilities beyond the U.S.

2020 ISG Provider Lens[™] Leader

[24]7.ai leads the market with its strong capabilities in analyzing customer intent journeys and abilities to discern human intent with Al-enabled solutions.



METHODOLOGY

The research study "ISG Provider Lens™ Intelligent Automation - Solutions and Services 2021" analyzes the relevant software vendors/service providers in the U.S. market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research methodology. The study was divided into the following steps:

- Definition of 2021 ISG Provider Lens[™] Intelligent Automation Solutions and Services market.
- 2. Use of questionnaire-based surveys of service providers/vendor across all trend topics.
- 3. Interactive discussions with service providers/vendors on capabilities and use cases.
- 4. Leverage ISG's internal databases and advisor knowledge and experience (wherever applicable).

- 5. Detailed analysis and evaluation of services and service documentation based on the facts and figures received from providers and other sources.
- 6. Use of the following key evaluation criteria:
 - Strategy & vision
 - Innovation
 - Brand awareness and presence in the market
 - Sales and partner landscape
 - Breadth and depth of portfolio of services offered
 - Technology advancements

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Amar Changulani is the senior lead analyst at ISG and responsible for authoring Provider Lens™ studies on Intelligent Automation and Utilities. He covers key areas around business process automation, intelligent document processing, process mining and RPA. Additionally, Amar works with ISG advisors and clients on research engagements related to hyper automation. He has also authored various provider briefing notes as well as a research report - Enterprise Automation Capability Improves but RPA Wall Still Looms, which explores the typical automation adoption profile, the most common obstacles and best practices for accelerating adoption, helping enterprises understand where they are relative to others and how they can scale automation initiatives across the business.



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He has handled client communication for the team, managing the client right from on-boarding to understanding their custom research requests to scheduling briefing calls. Along with this, he has been closely involved with the quadrant studies around cloud services and data centre outsourcing market.



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