

***ISG** Provider Lens™

Next-gen Application Development & Maintenance (ADM) Services

Continuous Testing – Large Accounts

U.S. 2020

Quadrant
Report



A research report
comparing provider
strengths, challenges
and competitive
differentiators

Customized report courtesy of:

Infosys

December 2020

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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EXECUTIVE SUMMARY

Next-gen ADM

Application development and maintenance (ADM) services continue to evolve, led by changing customer preferences and the adoption of digital technologies. Digital technologies adoption is driving the need for rich user interfaces, dynamic applications, responsive features and speedy updates and releases. The portfolio of available next-generation ADM services can transform and streamline the application estates of enterprise clients to meet these dynamic customer requirements.

At an overall level, ADM services have primarily focused on three areas for clients – portfolio optimization, modernization and enablement of the digital transformation journey – while application maintenance has focused on reducing their maintenance footprint. A proactive and predictive approach for application maintenance services has been gaining momentum and is fueled by the need for greater visibility on KPIs and metrics. This has led to use of cognitive technologies, bots, robotic process automation (RPA), artificial intelligence (AI) and machine learning (ML) throughout the ADM lifecycle. Using these technologies helps to simplify and minimize coding efforts, leading to a faster application development release. These technologies also help in error detection, code refactoring, interpreting business rules (often written in arcane coding languages) and bug fixes. IT service providers are also looking to increase their presence to offer more of a full stack. In the U.S., we observed service providers taking a vertical industry-specific strategy for digital transformation and DevOps.

The COVID-19 pandemic led to developments on various fronts in ADM services. Enterprise service providers quickly regrouped to ensure business continuity, resilience, cost optimization and security in their services. Against this backdrop, remote working, mobile connectivity, security mechanisms in IT infrastructure and virtual collaboration through communication tools for employees came to the fore to ensure uninterrupted services for clients. ADM practices adapted swiftly to the changed reality. This adaptation was reflected in several areas, including agility and the mode of its delivery. There was increased use of collaboration tools to achieve scale, productivity and tighter integration with best practices such as offshore, distributed Agile capabilities. A few service providers also extended their capabilities by coming up with solutions and services to remotely serve client needs in supply chain and logistics.

The use of automation in ADM, along with development of proprietary tools, intellectual property (IP), frameworks and methodologies, continues to grow across IT service providers. They remain focused on creating virtual learning and knowledge-based vehicles to train employees on various technical areas and increase their certifications base to be business ready. The focus on cloud-native applications and their adoption has led to APIs, microservices architecture and low-code development slowly becoming norms. Security has found tighter integration, both in terms of protecting intellectual property and of applicability in the testing value chain across areas such as nonfunctional tests.

Application Maintenance Services – Midmarket / Niche

Services offered within application maintenance services (AMS) can be broadly categorized into the areas of run and build. The services in these two areas broadly comprise application operations, support, maintenance, enhancements, change management and process improvement. Operational services, functional enhancements, data support, assessments, security, reporting and dashboarding are some of the other AMS service areas that service providers offer. Enterprise clients' AMS needs include reducing their maintenance cost footprint, increasing the transparency of business outcomes through automation, improving stability, gaining AMS templates, enabling knowledge transfer and acquiring tools and checklists. Service providers offer support and maintenance services for both legacy and greenfield applications. Some of the common and key services that providers offer in their AMS portfolios include 24x7 support, incident management, problem management, monitoring and other support.

Frameworks such as IT Information Library (ITIL) are being leveraged to achieve services standardization to establish reliability and accountability in AMS. Enterprise clients look forward to robust and cost-optimized services spanning multiple geographies and time zones, supported by a skilled workforce for various software portfolios for customer applications, business applications and domain-specific software (e.g. SAP, Peoplesoft and others). Most service providers have a dedicated proprietary AMS solution to serve both

production support and application enhancements. Most of these services are directed to ensure application availability and stability. Service providers are using proprietary assets composed of tools and IP to leverage the benefits of AI in AMS. The use of AI helps in providing insights on business processes, metrics and asset maintenance.

Zero maintenance is emerging as the next level of progression in AMS. With this in perspective, providers are taking various routes that include developing an exhaustive understanding of the application landscape, detailed documentation and excellence in operations. Chatbots, tools and AI are being used in transition, task automation, IT service management (ITSM), cost optimization and ticket management tasks to enhance productivity for clients. Service providers are also using AIOps, which leverages machine learning (ML), natural-language processing (NLP) and robotic process automation (RPA), for self-healing, automated provisioning, problem management and defect pre-emption.

Agile Development

Service providers are accelerating their efforts toward building an agile organization. Some of the aspects of this drive include focus on roles, collaboration, change management, tools, strategy and investments in resource enablement. Some of the areas service providers are targeting for enabling an agile workforce are skills assessment, coaching,

leadership development and global online learning strategies. They are also emphasizing training teams and resources to embrace Agile by enabling learning through external content. From a collaboration perspective, virtual elements are being included in collaboration and team onboarding. Some of the collaboration and workspace initiatives include conducting hackathons, creating ideation platforms, Agile pods, collaborative spaces for idea brainstorming and dashboarding. With a focus on value stream mapping, training and cultural aspects, a gradual shift can be observed from a process-oriented approach to a culture-led approach.

An Agile operating model is another key element of focus of service providers to achieve scale. They are focusing on this aspect in their overall Agile strategy. An Agile playbook, which offers best practices to set up a distributed Agile model for clients across geographies, comes as an extension to this operating model. Service providers are also focusing on expanding their resources trained on Design Thinking, Scrum, Kanban, Extreme Programming (XP) and their variants to accelerate Agile maturity. They are also driving initiatives to gradually inculcate an Agile mindset across their organizations by creating customized frameworks, practices, templates, estimation guidelines and case studies. Distributed and scaled Agile has gained prominence as a delivery model. The COVID-19 pandemic has further increased the relevance of distributed and scaled Agile. Some of the measures being undertaken include carrying out inclusive Agile ceremonies across time zones and enabling seamless collaboration and communication using tools such as Microsoft Teams, Slack and others.

Providers continue to offer Agile delivery led by their proprietary frameworks and tools. They also are partnering with bodies such as Scaled Agile Framework (SAFe) and automation tool providers such as Docker, Ansible and Jenkins and getting certifications from Scrum Alliance, Scrum.org, SAFe and Disciplined Agile Delivery (DAD) to create an Agile workforce. Creating an Agile mindset across the growing resource base remain a focus, along with skills management and standardizing Agile delivery.

Continuous Testing – Large Accounts

Continuous testing is being impacted by several factors related to ADM. Some of them include resiliency, stability, security, move to hybrid cloud, automation, customer experience and modernization. Talent, especially to ensure skilled resource availability across tools, is another important area IT service providers are addressing. Continuous testing has become an integral part of the service providers' Agile and DevOps delivery mechanisms, and security is being integrated with it. Its importance can be gauged by the increasing use of shift-left and shift-right practices by IT service providers.

Some of the leading services delivered by providers as a part of their continuous testing portfolios include test planning, test environment setup, functional tests, test-driven development (TDD), behavior-driven development (BDD), performance testing, nonfunctional validation and reporting. Automation is being embedded within the continuous testing lifecycle across test case management, automation engineering services, proprietary tools and intellectual property. Service providers are also embedding automation within continuous testing to accelerate application release and enhance efficiencies by reducing and removing repeatable tasks. The roles of analytics, AI and ML have also gained

prominence over the last year. AI is also being used in testing platforms to improve agility and predictability across various phases. Intelligence is increasingly getting embedded within the testing lifecycle in test script generation, self-healing, test automation, test data generation, test selection, diagnostics, defect diagnostics and performance prediction.

Given the multitude of tools (open-source and others) available in the testing domain, integrations and the flexibility to leverage them for clients in a timebound manner become important for service providers. While a few service providers include popular tools from other providers in their proprietary testing platform, for flexibility, clients also look for connectors and integrations for a large base of tools. So, service providers are increasing their partnerships with players in the testing tool ecosystem to pass on the benefits of a skilled and trained workforce to clients. The large volume of test data generated from these multiple tools in the continuous testing lifecycle makes improving visibility and deriving insights into areas of importance for clients. Hence, service providers are incorporating visualizations within their dashboards to infer insights onto a single pane to help correlate information and make it measurable for clients.

Continuous Testing – Midmarket And Expert Consulting

Continuous testing services are led by demand for application resiliency, stability, security, moves to hybrid cloud, automation, improved customer experience and modernization. Some of the tenets required by clients include consistent, reliable and standardized testing services along with automation to manage dynamic testing requirements. Clients

also look for a broad base of testing services that extends to mobile and other form factors. Within continuous testing, service providers are offering the use of shift-left and shift-right practices led by an Agile and DevOps model. Enterprise clients are looking for deep-seated testing expertise and a dedicated, trained workforce composed of Software Design Engineers in Test (SDETs) and quality engineers to deliver testing engagements.

Metrics measurement, governance and security are some of the salient aspects of the continuous testing services delivered by service firms. Test planning, test environment setup, functional tests, TDD, BDD, performance testing, nonfunctional validation and reporting are some of the leading services delivered by service providers as a part of their continuous testing portfolios. Analytics, AI and ML have taken more prominent roles within continuous testing over the last year. Automation is being embedded within the continuous testing lifecycle across test case management, automation engineering services, proprietary tools and intellectual property creation. AI is also being used in testing platforms to improve agility and predictability across various phases.

Given the multitude of tools (open-source and niche) available in the testing domain, preparedness and availability of a trained workforce available for client engagements in a timebound manner becomes important for service providers. While a few service providers include popular tools from other providers in their proprietary testing platform, clients also look for connectors and integrations for tools in the testing ecosystem. So, service providers are increasing their partnerships with players in the testing tool ecosystem to pass on the benefit of a trained workforce to clients. Service providers are also investing to create proprietary intellectual property and other assets. They are increasing their

focus on training and learning initiatives by certifying resources on tools such as Selenium, UFT, SmartBear and others. Reporting and dashboarding of metrics from such tools has emerged as an important area for process improvement and business insights. Service providers leverage the data generated by these tools and create effective visualizations in their dashboards for a unified view to streamline processes in a single pane.

DevSecOps Consulting

DevSecOps covers the three key areas of people, process and tools for continuous delivery of software development. With the objective of improving speed and time to market in software development, culture, roles, teams and operating model have become important from a people perspective within DevSecOps. One more element has become integral to DevOps: security. It now occupies center stage and is integrated within the DevOps life-cycle by most service providers. The process elements within DevSecOps, which involves Agile, continuous integration and continuous development (CI/CD), continuous feedback, shift-left and workflow management, contribute to accelerated software development and delivery.

DevSecOps has gained substantial traction in recent years, and this is evident in the thin boundaries it shares with Agile development. DevSecOps growth is being led by the need to deliver agility in business. Service providers are basing their DevSecOps services on the key tenets of people over process over tools, amplified feedback, Lean management, auto-gating, chaos re-engineering, continuous integration and continuous delivery. Culture (to adopt DevSecOps practices), automation (for code generation), artificial intelligence

(AI) and machine learning (ML) practices for visibility, and tools usage (open-source and proprietary) are some of the other key drivers that have an impact on DevSecOps delivery by service providers.

Service providers leverage their proprietary assets composed of tools, accelerators, frameworks and other IP, to deliver DevSecOps. These assets broadly cover the lifecycle stages of plan, build, test and deploy. Many tools, both open-source and niche, are available in the ecosystem. Service providers are increasing their partnerships with tool vendors to introduce more flexibility in their client engagements. Several service providers also offer centers of excellence (CoEs) for DevSecOps to facilitate sharing of best practices along with IP creation. Talent enablement for DevSecOps is another focus area for service providers, which have launched dedicated learning initiatives for technologies and tools.

Introduction

Simplified illustration

Next-Gen Application Development & Maintenance Services	
Next-gen ADM	Application Maintenance Services – Midmarket / Niche
Agile Development	DevSecOps Consulting
Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts

Source: ISG 2020

Definition

Application outsourcing continues to evolve, and service providers are increasingly adopting Agile development practices for their service delivery. Changes are being driven by client demand for increased velocity, more frequent updates and feature-led, intuitive and interactive digital applications. Although the application outsourcing market continues to have waterfall-based traditional development engagements, the incorporation of disruptive Agile-based operating models continues to outpace the former, thereby making core development model a direct competitive advantage for many enterprises. Enterprise customer requirements are currently being led by mobile and other emerging technologies, which, in turn, are fueling the transformation of the application services landscape.

Enterprises are adapting to this changing environment through faster releases and deployments of application services. Of course, not all application outsourcing is the same, because not all buyers and users have the same needs. The typical application development and maintenance (ADM) services include application consulting, design, custom development, packaged software

Definition (cont.)

integration, operations, quality assurance, security and testing. However, the elements related to speed and faster releases in this traditional approach are coming from DevOps and Agile methodologies. Service providers are leveraging application programming interfaces (APIs) and microservices and are utilizing low-code/no-code platforms, containers and a cloud-native approach to build nimble, manageable applications and accomplish their speedy release.

ISG has been witnessing contracts where clients are looking to new ways to leverage software capabilities to solve business problems and gain competitive advantage, as well as to address the increasing need to improve speed to market. Service providers are augmenting their traditional ADM offering with these emerging methodologies, technologies and collaborative frameworks to meet their clients' objectives. ISG terms such contract types as next-gen ADM contracts. This study focuses on understanding client objectives and assessing provider capabilities to deliver on next-gen ADM contracts.

Scope of the Report

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

- Transparency on relevant provider' strengths and weaknesses;
- A differentiated positioning of providers by segments;
- Focus on different markets, including the U.S., Germany, the U.K., the Nordic countries and Brazil.

Provider Classifications

The ISG Provider Lens™ quadrants were created using an evaluation matrix containing four segments, where 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 above-average coverage 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 their 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 lag 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 are still lacking mature products and services or sufficient depth and breadth of their offering, while also showing some strengths and improvement potentials 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) who ISG believes has a strong potential to move into the leader's quadrant.

Rising Star

Rising Stars are usually Product Challengers with high future potential. Companies that receive the Rising Star award have a promising portfolio, including the required roadmap and an 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 extreme progress towards their goals within the last 12 months and are on a good way to reach the leader quadrant within the next 12 to 24 months, due to their above-average impact and innovative strength.

Not In

This service provider or vendor was not included in this quadrant as ISG could not obtain enough information to position them. This omission does not imply that the service provider or vendor does not provide this service. In dependence of the market ISG positions providers according to their business sweet spot, which can be the related midmarket or large accounts quadrant.

Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 1 of 4

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
a1qa	● Not In	● Not In	● Not In	● Not In	● Not In	● Contender
Accenture	● Leader	● Not In	● Not In	● Not In	● Not In	● Not In
Atos	● Leader	● Not In	● Product Challenger	● Product Challenger	● Not In	● Product Challenger
Birlasoft	● Contender	● Product Challenger	● Product Challenger	● Contender	● Product Challenger	● Contender
Capgemini	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
Lumen	● Not In	● Contender	● Not In	● Contender	● Contender	● Contender
Cigniti	● Not In	● Not In	● Not In	● Not In	● Rising Star	● Product Challenger
Coforge	● Product Challenger	● Leader	● Product Challenger	● Not In	● Leader	● Product Challenger
Cognizant	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
Cybage	● Contender	● Product Challenger	● Not In	● Contender	● Leader	● Product Challenger
DXC	● Product Challenger	● Not In	● Product Challenger	● Product Challenger	● Not In	● Product Challenger

Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 2 of 4

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
HCL	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
Hexaware	● Product Challenger	● Leader	● Rising Star	● Not In	● Leader	● Not In
IBM	● Leader	● Not In	● Leader	● Product Challenger	● Not In	● Leader
Infinite	● Contender	● Market Challenger	● Not In	● Not In	● Product Challenger	● Contender
Infosys	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
Innominds	● Not In	● Not In	● Product Challenger	● Product Challenger	● Product Challenger	● Not In
LTI	● Product Challenger	● Not In	● Product Challenger	● Product Challenger	● Not In	● Rising Star
Mindtree	● Product Challenger	● Leader	● Leader	● Product Challenger	● Leader	● Not In
Mphasis	● Product Challenger	● Leader	● Contender	● Contender	● Contender	● Not In
NTT DATA	● Product Challenger	● Not In	● Not In	● Not In	● Not In	● Not In
Persistent	● Product Challenger	● Not In	● Product Challenger	● Product Challenger	● Product Challenger	● Product Challenger

Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 3 of 4

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
QA Consultants	● Not In	● Not In	● Not In	● Not In	● Contender	● Not In
QA Mentor	● Not In	● Not In	● Not In	● Not In	● Not In	● Contender
Qualitest	● Not In	● Not In	● Not In	● Not In	● Not In	● Contender
ScienceSoft	● Not In	● Contender	● Not In	● Not In	● Not In	● Not In
SLK Group	● Not In	● Contender	● Contender	● Contender	● Contender	● Not In
Stefanini	● Not In	● Contender	● Contender	● Contender	● Not In	● Contender
TCS	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
Tech Mahindra	● Product Challenger	● Not In	● Product Challenger	● Leader	● Not In	● Market Challenger
TestingXperts	● Not In	● Not In	● Not In	● Not In	● Contender	● Not In
TestMatick	● Not In	● Not In	● Not In	● Not In	● Contender	● Not In
TO THE NEW	● Not In	● Contender	● Product Challenger	● Not In	● Contender	● Not In

Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 4 of 4

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
Trianz	● Not In	● Product Challenger	● Not In	● Not In	● Not In	● Not In
Unisys	● Contender	● Product Challenger	● Contender	● Contender	● Product Challenger	● Not In
UST Global	● Product Challenger	● Product Challenger	● Product Challenger	● Product Challenger	● Leader	● Not In
Virtusa	● Product Challenger	● Leader	● Product Challenger	● Not In	● Product Challenger	● Not In
Wipro	● Leader	● Not In	● Leader	● Leader	● Not In	● Leader
YASH Technologies	● Contender	● Rising Star	● Product Challenger	● Contender	● Contender	● Not In
Zensar	● Contender	● Leader	● Contender	● Product Challenger	● Product Challenger	● Product Challenger



Next-gen Application Development & Maintenance (ADM) Services Quadrants

ENTERPRISE CONTEXT

Continuous Testing – Large Accounts

This report is relevant to enterprises across industries in the U.S., for evaluating providers of continuous testing for large accounts.

In this quadrant report, ISG highlights the current market positioning of providers of continuous testing for large accounts in the U.S., and the way they address the key challenges faced by enterprise clients in the country.

The need among enterprises for quality assurance at speed and for automated testing approaches such as shift-left and end-to-end automation across testing phases drives this market. Enterprises are now adopting this methodology as their current testing process is time-consuming and increases the cost of delivery. Service providers are addressing these challenges by bringing development, testing and operations together in seamlessly planning, managing, and executing testing to accelerate the process.

ISG sees increasing demand for cloud-native applications among enterprises that are built end to end and managed on cloud using technologies such as containers and APIs. Enterprises must evaluate providers that can benefit them in addressing all the above challenges.

Who should read the report:

IT and technology leaders should read this report for a clear understanding of the strengths and weaknesses of service providers in their continuous testing practice and to understand how they integrate the latest technologies/capabilities into their service offerings to find a competitive edge in the market.

Line-of-business and industry leaders should read this report to understand the relative positioning of the partners that can help them effectively procure the application services for their business/industry and to ensure return on investment.

CONTINUOUS TESTING – LARGE ACCOUNTS

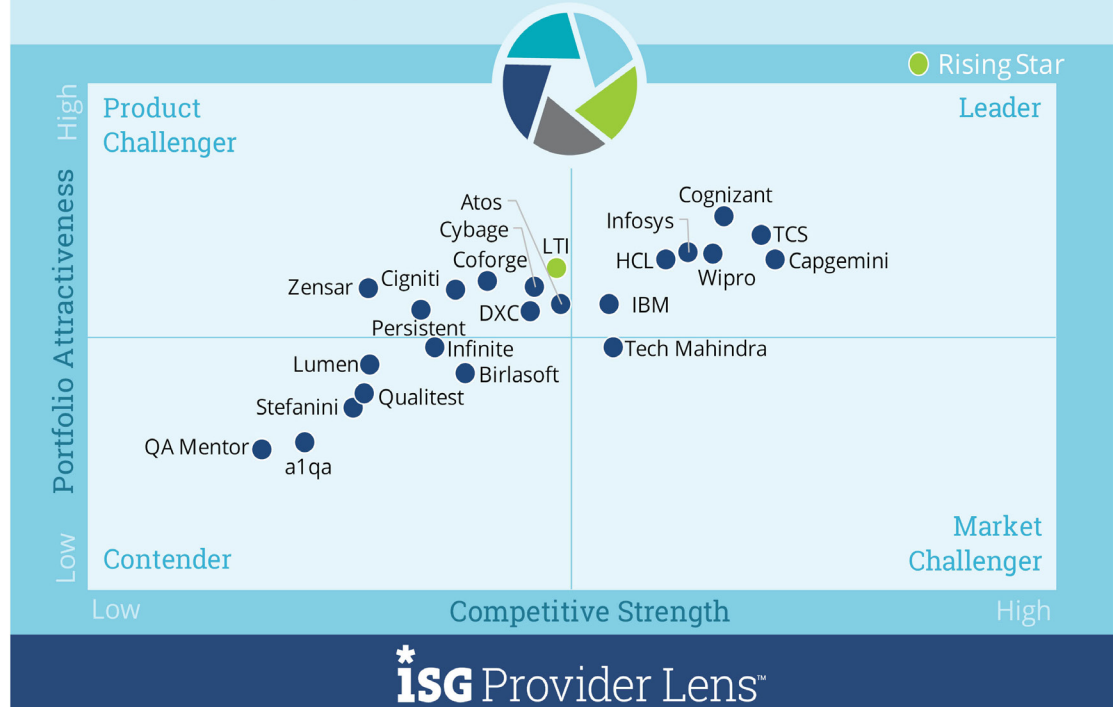
Definition

Continuous testing focuses on delivering quality assurance at speed. In terms of technology, it encompasses various aspects of automated testing, such as shift-left and end-to-end automation across testing phases and at every phase of the continuous delivery process. However, in terms of people and processes, it goes beyond automation-based testing. Thus, continuous testing accomplishes higher collaboration among quality assurance (QA) and development teams to sync with sprint cycles, do feature-driven testing, be responsive to change, create a feedback loop and support greater client involvement. Continuous testing is gaining momentum, especially to help enterprises keep pace with their Agile and DevOps initiatives.

Continuous Testing for Large Accounts includes service providers that focus on large clients, usually supporting more than 5,000 users for enterprises with more than \$1 billion in annual revenue.

Next-gen Application Development & Maintenance (ADM) Services Continuous Testing – Large Accounts

2020
U.S.



CONTINUOUS TESTING – LARGE ACCOUNTS

Eligibility Criteria

- Providers should exhibit execution using test-driven development (TDD), behavior-driven development (BDD) and other approaches.
- Providers should demonstrate capabilities to provision and use service (test) virtualization processes, test case management.
- These providers can handle large-scale testing and continuous integration demands of complex systems such as ERP, multisite e-commerce, multicountry solutions and other systems with a large number of test cases.

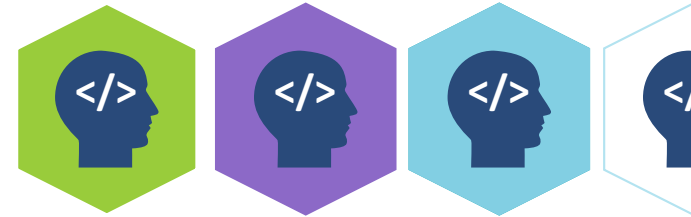
Observations

- **Capgemini** has developed several frameworks, such as DiA, SmartQA, CAFÉ Next, OPTIK, ITAP and SNOOP, for test automation, workflow management and other areas. The company has also created cognitive assets and established its presence with a large base of delivery centers, making it a leader.
- **Cognizant** created multiple proprietary assets in the areas of testing platform, automation, nonfunctional testing and quality assurance. The company's investments in scriptless automation and bot integration within the testing lifecycle make it company a prominent player in continuous testing.
- **HCL** offers a well-rounded strategy for continuous testing anchored on tools, innovation and talent. The company built a platform for scriptless automation and automated test execution, making it one of the leading service providers in continuous testing.
- **IBM** is one of the leading service providers with extensive capabilities built on decades of experience. The company's IGNITE framework, combined with Watson's capabilities for testing, make it a leading player in testing.

CONTINUOUS TESTING – LARGE ACCOUNTS

Observations (cont.)

- **Infosys** has a strong cross-skilled DevTestOps practice. Its testing services portfolio is strengthened by a mix of artificial intelligence (AI), machine learning (ML) and cognitive IP tools and accelerators for automation, validation and assurance areas, and establishes the company's leadership in this domain.
- **TCS's** broad portfolio of services covering the continuous testing spectrum is supported by proprietary IP, accelerators and platforms such as its Smart Quality Engineering Assessment Framework, which all contribute to making the company a leader in continuous testing.
- **Wipro** has a large resource base, CoE-led delivery and the Intelli-Assure platform powered by Wipro HOLMES for test cases. These strengths, combined with bots for defect logging and test suite optimization, make it a leader.
- **LTI**, the Rising Star, has developed the Canvas platform, which offers speed and efficiency to clients by leveraging AI and ML extensively for a plethora of functional areas within testing.



INFOSYS

Overview

Infosys generated more than \$319 million revenue from continuous testing in the U.S. in 2019. The company has more than 3,500 employees for its continuous testing practice, along with nine delivery centers in the U.S. Infosys' testing service offering spans resilience testing, DevSecOps, cloud DevOps, IVR chatbot testing, mainframe modernization and digital assurance. One hundred percent of the company's testing projects run in Agile mode.

Strengths

AI and ML solutions across QA lifecycle: Infosys' testing solutions span the entire quality assurance lifecycle, covering planning, environment setup, test execution, nonfunctional validation and reporting. The solutions are well backed by artificial intelligence and machine learning. Test selection, test data generation, autonomous testing, performance prediction and defect diagnostics are some of the areas the test solutions cover.

Robust DevTestOps practice: Infosys has a 9,200-strong, cross-skilled DevTestOps practice. The team has carried out more than 150 Agile/DevOps transformations for Fortune 500 clients. The company has developed more than 10 proprietary assets in continuous testing and has more than 40 partnerships for products.

IP and accelerator-led transformation: Infosys has a good mix of IP tools and accelerators. The firm offers PANDIT and Intelligent Automation, an AI-led cognitive automation solution that helps enterprises improve agility and predictability. LegMAP, Infosys Automated Performance Assurance (IAPA), Infosys Cloud Digital Validation Suite (CDVS) and Infosys Data Testing Workbench (iDTW) are some of the other assets the company uses for automation, validation and performance assurance.

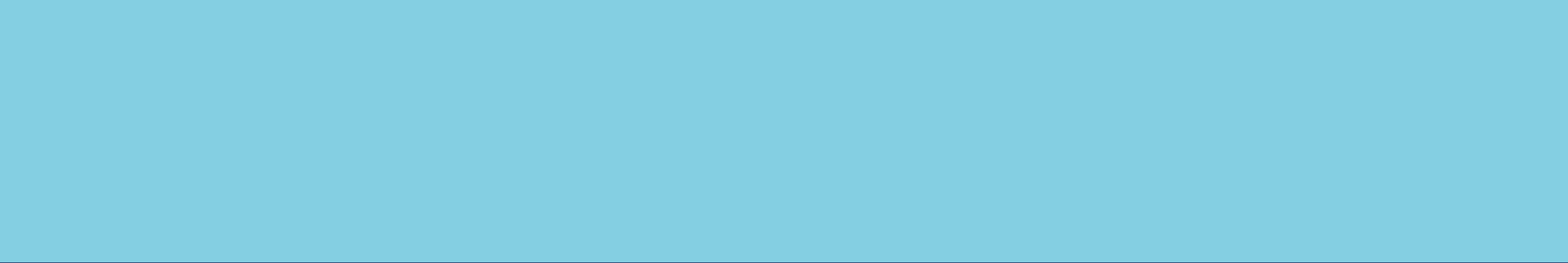
Caution

Infosys has many resources trained on Selenium, Junit, Maven and other tools. It could strengthen its focus on other automation tools, such as Tricentis Tosca and Appium.



2020 ISG Provider Lens™ Leader

Infosys offers a strong continuous testing portfolio with an intelligent automation framework and intellectual property (PANDIT, LegMAP, iDTW) assets. Its well-rounded portfolio with frameworks, proprietary assets and a large skilled resource base that is trained in various testing tools make it a leader in the continuous testing domain.



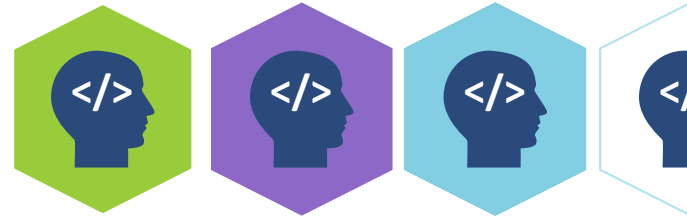
Methodology

METHODOLOGY

The research study “ISG Provider Lens™ 2020 – Next-gen Application Development & Maintenance (ADM) Services” 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:

1. Definition of Next-gen Application Development & Maintenance (ADM) 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



Authors and Editors



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Kartik Subramaniam is the Lead Analyst for SAP HANA and Application Development and Maintenance (ADM). He brings in close to 10 years of experience in primary as well as Secondary Research, Advisory and Consulting experience from leading IT companies such as Accenture, IBM, IDC and TNS. Kartik has worked on many Research and Advisory assignments in the areas of offering in application development and maintenance, multi layered/pace layered IT/applications, cybersecurity and infrastructure services. Apart from research, Kartik also worked closely with the strategy and sales teams providing insights on strategic planning for offerings and creating seller enablement deliverable through analytics at Accenture and IBM respectively.



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Arul has been working with ISG for more than two years and his area of expertise is on Application Development & Maintenance (ADM). During his tenure, he has developed content for ISG Provider Lens™ in the areas of Next-gen Application Development & Maintenance (ADM), SAP HANA and Leonardo Ecosystem and Data Analytics Services & Solutions. As part of ISG Provider Lens™, Arul is responsible for supporting research authors and authoring blogs about niche technologies, market trends and insights.

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Jan Erik Aase is a director and principal analyst for ISG. He has more than 35 years of collective experience as an enterprise client, services provider, ISG advisor and analyst. Jan Erik has overall accountability for the ISG Provider Lens™ reports, including both the buyer-centric Archetype reports and the Quadrant reports focused on provider strengths and portfolio attractiveness. He sets the research agenda and ensures the quality and consistency of the Provider Lens™ team.

ISG Provider Lens™ | Quadrant Report

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