Enterprise QA Services PEAK Matrix™ Assessment 2018: Quality Assurance to Brand Assurance: AI Driving the Evolution

Application Services
Market Report – May 2018: Complimentary Abstract / Table of Contents
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Background of the research

The QA landscape has been evolving over the past decade and there is a clear shift from independent testing of applications to a more holistic brand assurance of business processes and outcomes.

Even as enterprises adopt Agile and DevOps and continue on their journey of integrated testing, service providers are strengthening their capabilities to deliver end-to-end QA orchestration to their clients. Providers are also investing in Artificial Intelligence (AI) and Machine Learning (ML) to expand their test automation suite of tools and IP, and even include performance and security testing into the continuous delivery model, thus enabling brand assurance for their clients’ business.

In this research, we present the assessment and detailed profiles of 23 IT service providers featured on the QA services PEAK Matrix. Each service provider profile presents a comprehensive picture of its service suite, scale of operations, and domain investments.

The assessment is based on Everest Group’s annual RFI process for the calendar year 2018, interaction with leading QA service providers (including pure-play testing providers), client reference checks, and analysis of the QA services market.

Scope of this report

- **Services:** Enterprise QA services
- **Geography:** Global
- **Service providers:** Covers 23 leading IT service providers

This report includes the profiles of the following 23 service providers on the QA services PEAK Matrix:

- **Leaders:** Accenture, Cognizant, Infosys, TCS, and Wipro
- **Major Contenders:** Atos, Capgemini, Cigniti, DXC Technology, HCL Technologies, IBM, LTI, Mindtree, NTT Data, QualiTest, Softtek, Syntel, Tech Mahindra, and Virtusa
- **Aspirants:** Hexaware, Infogain, Mphasis, and Zensar
This report focuses on QA services and provides insights into leading service providers

NOT EXHAUSTIVE

This report focuses on “enterprise QA services” defined as quality assurance services for IT systems, which are delivered by career QA professionals across different types of engagements with enterprises.

Enterprise QA services

- Advisory services (QA assessment and framework, test processing consulting, etc.)
- Domain-based QA (domain-specific functional testing, compliance testing, etc.)
- Test data management and tool services
- Manual testing (functional system testing, System integration (SI) testing, User Acceptance Testing (UAT), etc.)
- Enterprise application QA (SAP testing, Customer Relationship Management (CRM) testing, etc.)
- Performance QA
- Specialized QA (service virtualization, Service Oriented Architecture (SOA) testing, etc.)
- Cloud-based QA (testing-as-a-service)
- Mobile apps QA
- Infrastructure QA services

This report also provides insights into delivery capabilities, scale, domain investments, focus on verticals, type of QA services, and partnerships of these service providers.
# This report is based on four key sources of proprietary information

- Everest Group’s annual RFI process with leading QA service providers, followed by briefing sessions with their leadership teams and buyer reference conversations
  - Key elements covered in these interactions include:
    - Vision and strategy for enterprise QA services
    - Scale of operations and delivery locations
    - Areas of investment (partnerships, mergers & acquisitions (M&A), Intellectual Property (IP), innovation, etc.)
    - Recent transaction history

- Proprietary database of IT service providers (updated annually)
  - The database tracks the following for each service provider:
    - Revenue and number of FTEs
    - Number of clients
    - FTE split by different lines of business
    - Revenue split by region
    - Location and size of delivery centers
    - Technology solutions developed

- Service provider briefings
  - Vision and strategy
  - Annual performance and future outlook
  - Key strengths and improvement areas
  - Emerging areas of investment

- Buyer reference interviews, ongoing buyer surveys, and interactions
  - Drivers and challenges for adopting QA services
  - Assessment of service provider performance
  - Emerging priorities
  - Lessons learnt and best practices

**Service providers assessed**

<table>
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<th>Accenture</th>
<th>Atos</th>
<th>Capgemini</th>
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<td>Cognizant</td>
<td>DXC Technology</td>
<td>IBM</td>
</tr>
<tr>
<td>Hexaware</td>
<td>Infosys</td>
<td>LT1</td>
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<td>Infogain</td>
<td>Mindtree</td>
<td>Mphasis</td>
</tr>
<tr>
<td>NTT Data</td>
<td>Syntel</td>
<td>Tata Consultancy Services</td>
</tr>
<tr>
<td>Virtusa</td>
<td>Wipro</td>
<td>ZenSar</td>
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**Note:** Assessment for Atos includes partial inputs from the service provider, and is based on Everest Group’s estimates that leverage its proprietary data assets, service provider public disclosures, and interaction with buyers.

Assessment for IBM and Mindtree excludes service provider inputs on this particular study, and is based on Everest Group’s estimates that leverage its proprietary Transaction Intelligence (TI) database, ongoing coverage of these service providers, service provider public disclosures, and interaction with buyers.

The source of all content is Everest Group unless otherwise specified.

**Confidentiality:** Everest Group takes its confidentiality pledge very seriously. Any information we collect that is contract specific will only be presented back to the industry in an aggregated fashion.
This enterprise QA services PEAK Matrix™ assessment covers 23 service providers capabilities and key market trends.

**Everest Group PEAK Matrix™ for enterprise QA services**

- **Leaders**: Capgemini, Infosys, Wipro, TCS, Accenture
- **Major Contenders**: Atos, HCL, Tech Mahindra, NTT DATA, Infosys
- **Aspirants**: Mindtree, Hexaware, Qualitest, MindTree, Mphasis
- **Star Performers**: Cognizant, Virtusa, Virtusa

**Building blocks to shift QA to brand assurance**

- **High impact of applications on brands**
  - Influence of application performance and security on business outcomes has increased multi-fold, and enterprises plan to increase their investments in these areas.
  - Enterprises are looking for comprehensive testing to ensure that performance testing is an integral part of the CI/CD model and not a hurdle.

- **Need for data-led rapid intelligent decision-making**
  - There is an increase in the adoption of AI/cognitive abilities in order to enable intelligent QA through defect prediction & classification and test case optimization.
  - Enterprises are adopting extreme automation across the QA lifecycle by leveraging multiple data sources to drive better business decisions.

- **Adoption of Agile and DevOps**
  - Growing adoption of Agile and DevOps by enterprises requires an integrated QA in the ecosystem.
  - As DevOps becomes the de facto software delivery model, continuous and integrated testing is essential for early detection of defects and faster delivery of features.

**Automation maturity in QA**

- **Manual**
  - Test prioritization
  - Test script creation
  - Test data generation
  - Test script execution
  - Defect prediction
  - Defect reporting and triaging
  - Security and performance testing

- **Basic automation**
  - Activities done manually in these stages:
    - Test prioritization
    - Test script creation
    - Test data generation
    - Test script execution
    - Defect prediction
    - Defect reporting and triaging
    - Security and performance testing

- **Autenomics**
  - AI/cognitive tools have helped in automating these activities:
    - Test prioritization using ML algorithms based on past testing results
    - Test script creation through NLP-based tools
    - Automated test data generation
    - Automated test script execution
    - Defect prediction through analytics and ML algorithms
    - Automated defect reporting and triaging through NLP-based tools and AI bots
    - Automated security threat evaluation

**Service provider QA services profile**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Areas of improvement</th>
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<tr>
<td>A service provider should grow its IP portfolio to leverage next generation themes such as AI and cognitive to drive disruption in the traditional testing lifecycle</td>
<td>Needs to enhance its collaboration with QA specialists to deliver broader holistic engagements</td>
</tr>
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</table>

**Enterprises QA services revenue**

- **Revenue by segment**
  - High (>20%)
  - Medium (10-20%)
  - Low (<10%)
  - Embedded systems testing
  - Custom application QA
  - Package and ERP QA
  - Testing consulting (strategy & roadmap)
  - Non-functional QA
  - Mobile app QA
  - QA consulting
  - Middleware/database QA
  - Other functional QA

- **Revenue by industry**
  - BFSI
  - Energy & utilities
  - Manufacturing
  - Public
  - Travel & transport
  - Others

- **Revenue by geography**
  - North America
  - Europe (excluding UK)
  - Asia Pacific
  - Middle East & Africa
  - Latin America
  - Africa

**Service provider QA services profile**

- **Leaders**
  - Capgemini
  - Infosys
  - Wipro
  - TCS
  - Accenture

- **Major Contenders**
  - Atos
  - HCL
  - Tech Mahindra
  - NTT DATA
  - Infosys

- **Aspirants**
  - Mindtree
  - Hexaware
  - Qualitest
  - MindTree
  - Mphasis

- **Star Performers**
  - Cognizant
  - Virtusa
  - Virtusa

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EGR-2018-32-CA-2639
## Research calendar – Application services

### Flagship Application Services reports

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<td><strong>Enterprise QA Services PEAK Matrix™ Assessment 2018: Quality Assurance to Brand Assurance: AI Driving the Evolution</strong></td>
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<tr>
<td>Automation in Application Dev-test PEAK Matrix™ Assessment and Market Update</td>
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### Thematic Application Services reports

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<td>Big Tech Wars: Enterprise Platforms</td>
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**Note:** For a list of all of our Application services reports, please visit the Application services on our reports portal.
Additional application services research references

The following documents are recommended for additional insight on the topic covered in this report. The recommended documents either provide additional details on the topic or complementary content that may be of interest.

1. **Application Performance in the Digital Age: Adopting AI is Not Optional** ([EGR-2018-32-V-2539](EGR-2018-32-V-2539)); 2018. Enterprises spend over US$5 billion in performance testing. This spend can be significantly reduced by leveraging AI systems. This research is focused on how AI systems can assist designers, architects, developers, testers, and the operations teams to significantly enhance application performance.

2. **Independent Testing Services – PEAK Matrix™ Assessment & Profiles Compendium: “Reports of QA’s Death Are Not Exaggerated”** ([EGR-2017-4-R-2170](EGR-2017-4-R-2170)); 2017. Service providers are strengthening their capabilities to deliver end-to-end assurance to their clients. They are investing in next-generation technologies to stay ahead of the adoption curve and challenge the traditional models of independent testing. This Everest Group research presents an assessment and detailed profiles of 22 IT service providers featured on Everest Group’s PEAK Matrix for independent testing services for 2017. The PEAK Matrix is a composite index of a range of distinct metrics related to a service provider’s scale, scope, technology/domain investments, delivery footprint, and resultant market success in the context of a given services function.

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