Today, the digital mandate for enterprises is customer centricity. Delivering an unmatched customer experience is now imperative for business success. Thus emerges a digital phenomenon - an amalgamation of IT goals and business objectives. As enterprises transition to digital, they have to adopt IT methodologies that help deliver meaningful customer experiences, in order to achieve digital success.

Shrinking release cycles, an increasing user base and ever-improving hardware functionalities have amplified the value of non-functional Quality Assurance (QA) to a business essential by providing enterprises with agility to scale, differentiate, sustain and succeed. Non-functional Testing (NFT) helps businesses deliver meaningful customer experience by examining attributes like performance, security, and accessibility. Consequently, for businesses, NFT becomes a guardian for their digital solutions.

Cognizant Non-Functional Quality Assurance enables business and technology transformations through testing, engineering and consulting-based approaches.
Non-Functional Quality Assurance

- **End users and user-behavior strategy is a decree** - Everything we plan (consulting, strategy) and we do (validate) is derived from an end-user perspective. We believe NFT teams represent the actual customers for business in IT.

- **Engineered for non-functional quality rather than tested for non-functional requirements (NFR)** - Build it right first time, every time is our mantra to assure superior product quality.

- **Agility and automation delivered through a Build-Test-Optimize model** - Our spectrum of NFT solutions helps businesses improve time-to-market and provides predictability to scale business.

- **Shift-right through continuous validation and improvement in production** - Cognizant NFT solutions assure stability, proactively identify problems, recommend fixes, eliminate failures and reduce Mean Time to Resolve (MTTR).

- **Effective ecosystem (infrastructure, environment, tools and data)** - Our NFT strategy mandates test execution in an appropriate test environment, suitable tools and well-designed data.

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### 360° Non-Functional Quality Assurance for the following functions of business & IT requirements (Fig:1)

- **Business Change**
  - Our end-to-end NFR management services ensure quality is built-in from inception to deployment by leveraging our unique industrialization process.

- **Technology Transformation**
  - Key services include Digital Customer Experience (Last Mile like GeoLocation, Browser, Networks), Digital Security Assurance, Mobile NFT (including devices), Cloud NFT, IoT NFT, Big Data NFT, Accessibility Testing.

- **Operations**
  - Key services in this aspect include Operational Acceptance Testing (OAT), Application Performance Management (APM), Application Resilience, Testing & Security Audits.

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Our focus areas are:

- **Performance Testing** suite of services addresses any performance specific challenge that impacts businesses. Whether it is the increased adoption of DevOps and Cloud, ubiquity of smartphone apps or the emergence of IoT devices such as telematics, our performance testing solutions provide enterprises with the ammunition to tackle these diverse ecosystems.

- **Security Testing** suite of services ensures your enterprise applications are secure and the end user’s data and privacy is protected. We offer a variety of solutions to deal with the most pressing security problems.

- **Accessibility testing** services evaluate applications against standard accessibility guidelines with the use of supported assistive technologies.

The growing need to embrace multi-generational and multi-cultural populations has elevated “Accessibility” as a critical CIO imperative.

### Cognizant NFT Digital Offerings:

- **Mobile NFT** service ensures the usability and resilience of smartphone apps and websites by validating the performance, security and accessibility aspects.

- **Cloud NFT** service offers performance and security services for different cloud implementations. Depending on whether it’s a public or a private cloud set-up, the NFT strategies differ too.

- **Big Data NFT** deals with the performance evaluation involving huge volumes of structured and unstructured data for throughput and of sub-component performance.
• **NFT in IoT** ensures scalability, reliability and security of digital platforms with diverse connected devices for seamless end-user experience.

• **IAST (Interactive Application Security Testing)** is an automated security solution that brings in the best of the features of both DAST (Dynamic Application Security Testing) and SAST (Static Application Security Testing).

• **Resilience service** ensures reliable and continuous business operations in the face of unexpected or unforeseen service disruptions and provides agility to adapt to dynamic business needs.

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**On-demand platform:**

**Non-Functional Testing as a Service (NFTaaS)** is a delivery model that ensures Non-Functional testing solutions (Performance testing, Accessibility testing and Security testing) are delivered in an on-demand, Unit/Output based pricing model (pay per use model).

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**Our Accelerators**

• **DevSPACE** is a one-stop framework for addressing non-functional testing types of Performance, Security and Accessibility in a Continuous Evaluation mode.

• **One NFT platform** is an Integrated, Intelligent, Automated NFT delivery platform. It integrates with commercial and open source NFT tools, automates most of the NFT activities and provides a 360 degree view of the project status and application health to give you an edge in today’s increasingly disparate world.

• **Performance Script Enhancer (PSE)** enables faster creation and maintenance of LoadRunner scripts for performance testing. On an average, PSE saves about 25-30% the overall time.

• **Easy Translator** is a utility that helps to migrate existing automation scripts from expensive proprietary testing tool to low-cost/open-source tool. As organization continue to embrace open source tools, this utility can be a great cost and time-saving differentiator.

• **Performance Vulnerability Framework (PVF)** prioritizes applications for performance evaluation, based on different risk levels. This is especially useful in scenarios where there are a large number of applications and the clients are unsure of how many applications to test.

• **GLog Pro** is a performance test report generator for the open source tool JMeter. With a few clicks, GLog Pro creates presentable report with all required graphs and summary tables enabling 80% effort reduction in JMeter report preparations.

• **CxOptimize** solution helps capture and analyze front-end client performance statistics as part of your automated test executions with no extra effort.

• **BlueLink IoT** helps simulate multiple edge devices to analyze end to end performance of IoT Platforms.

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**Top 4 reasons your business needs Cognizant’s Non-functional testing**

**360° Quality Assurance:**

Our Shift-Left & Shift-Right services (“build it right first time, every time”) for NFRs are the most comprehensive across technology landscapes.

**Delivery Excellence:**

Our solutions deliver increased uptime and lend competitive edge through continuous improvements.

**Business Outcome Focused:**

Unique services such as risk assessment, digital experience testing, IT resilience testing and consulting services assure quality.

**Increased Automation:**

Our unique solution for NFT in DevOps methodology is a single integrated, intelligent platform that is developed to give unified view of NFT across organization.

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**NFT in Action: Delivered 60 Apps, 300+ releases**

For a leading cable and broadcasting company, based in the U.S., Cognizant Non-Functional Quality Assurance leveraged service virtualization, continuous integration & spherical shifting, helping the client deliver an unmatched customer experience, post-migration.
Highlights of the engagement:

- 20+ solution accelerators and frameworks were deployed.
- Rolled out Cognizant’s Non-Functional Vulnerability Framework (NVF) to quantify performance risk at as early as the design phase.
- Leveraged agile coach and scrum masters to budget for technical stories in agile iterations to address performance Non-Functional Requirements (NFRs).
- Quality gate established to review & agree on risk-based PE scope, as well as reviewed results.

Benefits:

- 25% effort reduction in test execution through Continuous Integration and Continuous Testing solutions in Agile.
- Virtualized 95% systems resulting in 60% improvement in environment availability.
- 30% performance engineering cost reduction through service virtualization.
- 32% reduction in Mean Time To Recover (MTTR).
- Centralized reporting through Application Performance Dashboard.

Cognizant’s Non-Functional Testing Center of Excellence is helping global enterprises reimagine nonfunctional testing services across industries. With a worldwide presence of 2,000+ seasoned nonfunctional test engineers and consultants, we have successfully delivered 5,000+ projects for 400+ customers. We have set up more than 30 Performance Centers of Excellence and have delivered more than 25 Managed Services with end-to-end NFT services.

To learn more about how we can help businesses reimagine non-functional testing services, please contact us at: NFTCOE@cognizant.com

About Cognizant

Cognizant (NASDAQ-100: CTSH) is one of the world’s leading professional services companies, transforming clients’ business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 230 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.