



Cygnet **Infotech**  
IT is about you

# Quality Assurance for a Blockchain -based solution

Disrupting the Podcast  
Industry

**Cygnet Infotech**

+1-609-245-0971

[inquiry@cygnetinfotech.com](mailto:inquiry@cygnetinfotech.com)

[www.cygnetinfotech.com](http://www.cygnetinfotech.com)

## CLIENT PROFILE

The client is functionally unique disrupting the podcast industry with exclusive offerings for the marketplace with campaign management. Their global blockchain-based electronic marketplace is focused on providing transparent bidding and campaign execution for the entertainment industry.

Cygnnet designed blockchain and AI-based solution for the client's 62,000+ Podcasters, 100+ Network Administrators, 50,000+ Advertisers, 20,000+ Ad-Agencies and a dedicated team to participate in business decisions for Podcasting.



## BUSINESS REQUIREMENT

The client wanted enterprise-wide automation of processes for quick, seamless and faster execution of their Blockchain and AI-based solutions. They also wanted to reduce the payment cycle duration while securely automating the campaign and marketplace flow.

The application needed to be robust and high performing while being totally secure from cyber threats.

## CYGNET'S SOLUTION

Our QA project managers had extensive meetings with the client's team to understand their objectives, long term strategy, challenges and needs to decide the right set of testing techniques, the requirement traceability and the overall planning, designing and execution of the phases to high performing deliverables. The team also evaluated the performance criteria for Blockchain testing.

The team began a series of thorough testing rounds organized for Performance testing, Load testing, Stress testing and API testing to assess the performance capability of the web-based solution.

### FUNCTIONAL TESTING

End-to-End testing was planned and required tools and techniques were identified. All browsers on the desktop for Mac/Windows OS were covered.

Site responsiveness on a mobile device was also accessed. The scope of regression tests for Sprint cycles was decided based on business-critical features and complete regression was carried out before production.

## BLOCKCHAIN TESTING

An in-depth functional and security testing of smart contracts was carried out. Network topology, negative cases, response times, from blockchain nodes were primarily assessed.

This helped us deliver a secure, scalable and interoperable, high performing functional blockchain-based solution.

## PERFORMANCE TESTING

The client wanted to make sure that 200 concurrent application users do not suffer due to performance lag. Being a blockchain-based solution, it was also essential to measure block confirmation time on the blockchain server.

## SECURITY TESTING

The client wanted the solution to be secure from all types of cyber-attacks. The application is intended to be used by hundreds of public users in the podcasting domain. It was vital that it was hack-proof and secure. We identified more than 60 security hacks on the final build and helped the development team to fix them before Go-Live.

### 60 DIFFERENT TYPES OF ATTACKS TO DIFFERENT SECURITY THREATS, MAINLY AS BELOW;

- Path traversal
- Remote file inclusion
- Server-side inclusion
- CSS attack, SQL injection
- Remote OS command Injection
- Server-side code injection
- Directory browsing
- External redirect
- Buffer Overflow
- Format string error
- CRLF Injection
- Parameter Tampering
- Script Active scan rules
- Source code disclosure
- Anti CSRF token scanner
- Heartbleed OpenSSL
- Integer Overflow
- Potential denial-of-service if block gas limit is reached
- Cross-domain misconfiguration
- Session fixation
- XPATH Injection
- XML external entity attack
- Backup file disclosure
- Integer overflow
- Insecure HTTP methods
- Cookie slack detector
- Information leak
- Proxy disclosure
- Relative Path confusion
- Denial of services
- Cloud metadata exposure
- LDAP injection
- Possible username enumeration
- Exception State
- External Call To Fixed Address

### BELOW SOLUTIONS WERE IMPLEMENTED AS A RESULT OF SECURITY TESTING;

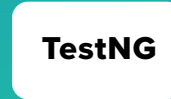
- CORS Policy
- Request Throttling
- Date Pattern validation
- Header Parameter validation
- HTTPS encryption
- URL Validation
- Code disclosure prevention

## AUTOMATION TESTING

Basic smoke testing scripts were automated, and full regression automation was carried out. As a part of continuous integration, these automated tests are integrated in the deployment pipeline.



## TOOLS AND TECHNOLOGIES (TESTING TOOLS)



### BUSINESS BENEFITS

- Reduced payment testing processing up to 60%
- End-to-end functional testing assured the quality of features delivered for the product
- Security tests helped to identify security loopholes on the web platform
- The development team fixed the threats, and this gave confidence to the client that the solution delivered was secure
- Performance testing identified opportunities for code optimization
- Blockchain-based vulnerabilities were detected including ownership, multiple calls in a single transaction and gas limit
- Testing approach helped enhance application performance



## ABOUT CYGNET

Cygnets Infotech is one of the most trusted names in the IT space delivering technology solutions to global clients across 35 countries. Born out of a vision to create software development company where quality, innovation and personalized services trump low cost, makeshift solution, Cygnets partners with its client to help them transform into high performance businesses.

Cygnets has deep industry and business process expertise, global resources and a proven track record in delivering innovative technology solutions. Cygnets can mobilize the right people, skills and technologies that improves business performance.

## CONTACT US

### USA

Cygnets Infotech LLC.  
125 Village Boulevard,  
Suite 315, Princeton,  
NJ 08540

+1-609-245-0971  
+1-609-533-8393

### UK

Cygnets Infotech Ltd.  
Devonshire House  
60 Goswell Road, London,  
United Kingdom, EC1M 7AD

+44-20-8099-1653

### INDIA

Cygnets Infotech Pvt. Ltd.  
16-Swastik Society,  
Nr. AMCO Bank, Stadium Circle,  
Navrangpura, Ahmedabad 380009

+91-79-67124000

### DUBAI

Cygnets Fintech Software  
Unit 807, Uborra Tower 2,  
Business Bay, Dubai,  
UAE, PO Box No.: 418360

+971 52 830 5127

inquiry@cygnetsinfotech.com



We Have **1000+**  
Technology  
Enthusiasts  
Working with  
Global Brands



We Have Delivered  
**2000+** Enterprise-  
Class Solutions &  
Products



Our **100% Agile**  
**Approach**  
Creates Value



We Are  
**"Technology First"**  
Company



We Have **Deep**  
**Industry and**  
**Process**  
**Knowledge**



We Help Clients to  
**Digitize, Scale and**  
**Transform** into  
High-Performance  
Business