Results

The lab management cleared all internal security audits and reduced organization risk. One of unintended benefits of re-engineering the application’s human computer interaction index improved ten-fold:

- A built-in concurrency for multiple users to work simultaneously was developed, reducing the average wait time by over five hours
- New multi-lab support functions enabled technicians to access lab reports from other labs
- Highly secure application with role based security with alerting mechanisms in case of access intrusion

Business benefits

- Increased resources productivity output by concurrency
- Faster, durable, and scalable system
- More control to red data owners on data confidentiality

Client

World’s leading construction and mining equipment, diesel and natural gas engines, industrial turbines and diesel-electric locomotives manufacturer.

Business challenge

The main application, Lab Reporting System (LRS), for managing lab tests was unable to keep up with increasing numbers of users and security requirements:

- The process required related tests to be stored together, causing the system’s legacy architecture to be unresponsive
- System had limitations handling multiple users accessing the same record as it did not support simultaneous edits
- The lab samples records were highly confidential information and lacked an adequate security framework to handle compliance to security clearance at users access level

Approach

ThoughtFocus conducted a system architecture and design re-engineering to discover and fix the issues affecting application performance. We worked with security teams, understanding constraints and modeling data access and encryption requirements to meet compliance requirements:

- Targeted critical bottlenecks, achieving quick performance gains
- Redesigned application architecture using the latest technology stacks
- Changed data querying and rendering mechanisms, allowing for faster data throughput
- Implemented data level encryptions for better security and control
- Implemented activity logging, increased traceability

ThoughtFocus is a US based, privately held consulting, software engineering and business process management firm with offices in the US, India and the Philippines. We help clients in avionics, education, financial and insurance services, manufacturing, payment and loyalty solutions industries with their key business and technology challenges.

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