



Case Study

A non-profit educational services firm sought assistance with application performance and load testing after redesigning its system

Client:

A Non-Profit Higher-Education Services Firm

Industry:

Education

Service Offering:

Component Services

- Application Services
- Quality Assurance & Testing
- Performance Profile



The Situation: A non-profit firm that provides services to graduate schools was in the process of re-architecting the method of gathering student admission records and dispersing them to member schools. Prior to re-architecture, students had been able to upload attachments required by the application which were then converted and stored as PDF files. Each PDF attachment was then available for student review.

The system was changed to create a single PDF package of the entire application, including the application form, school-specific forms, and student attachments. Each student was required to review and approve the complete package prior to its submission.

The Challenge: The client was concerned about document conversion and preview response times due to the additional downloads that would reach their peak during periods immediately prior to application deadlines. Network, database, and server changes were implemented to handle peak loads. A load test was required to ensure that the new architecture would perform as expected.

The Response: TEKsystems®, a premier provider of technology staffing and services, responded through its QA & Testing Center of Excellence with its performance profile service and started by working with the client's technical team to define the objectives of the test. For the project, TEKsystems leased Borland®/Segue's® SilkPerformer® load testing tool for the engagement. TEKsystems then designed, developed, and tested scripts and scenarios that simulated users registering for the online application services, completing the application process, and then submitting the application to multiple schools. Multiple test cycles were executed to provide the client with windows for correcting application defects and tuning performance. Finally, TEKsystems executed an extended usage reliability test to detect time-based failures and bottlenecks.

The Result: Because of TEKsystems' involvement with the project, the client discovered three categories of errors that were corrected.



Application errors were detected early in the engagement because of the processing of multiple users inherent in a performance profile. In addition, performance degradation was discovered well below the target load level of 300 simultaneous users. Through the process, multiple bottlenecks were identified and then repaired. Additional corrections were made due to the reliability test, where a server failed because of an out-of-memory condition and transactions continued to fail when a web daemon continued to route work to the disabled server. Overall, TEKsystems helped the client to avoid many significant performance problems prior to rolling out the new architecture. The use of SilkPerformer licensing along with TEKsystems' professional services resulted in a low-cost implementation.