

CISCO SYSTEMS, INC.

PCA Helps Cisco Optimize Global Testing Operations — Big Gains in Efficiency, Business Capabilities and Customer Satisfaction



ESSENTIALS

Challenges

- Unstable, Slow Application
- Frequent “Down Time” Needed to Maintain
- Growing Costs and Complexities
- Need to Leverage Existing Investment

Solution

- Migrate MS Access to Smart Client application
- Support, Maintain and Extend

Key Benefits

- Retained 3-Year Investment in Complex System Design
- Stable, High Performance Internet Database
- Saved Money and Improved Business Capabilities

CISCO BUSINESS NEEDS AND CHALLENGES

Ongoing testing of Cisco products is critical to ensure quality — as new products and enhancements to existing products continuously work their way through the R&D pipeline. Cisco’s objective for a testing system was simple: catch and resolve product issues before they reach the customer. Cisco’s product testing and reporting needs were so unique, commercial software was not an option. So the Engineering team developed a custom MS Access system to capture, track and generate product test case data to support a broad range of internal and external (customer) reporting needs.

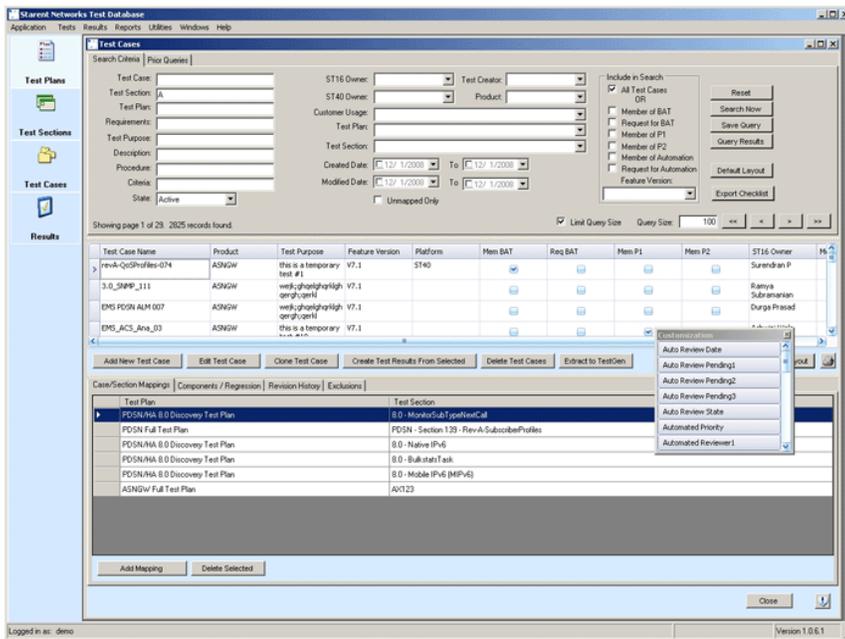
Over a 3-year period, the functionality of the MS Access testing system expanded, the number of Test Engineers (primary End Users) increased significantly, and the amount of data in the system was rapidly approaching MS Access limitations. Problems with MS Access were frequently evidenced — the application was slow and unstable, and the Test Engineering team was investing more of its time maintaining, fixing and supporting the system. In addition, part of Cisco’s Test Engineering team located in India was using the application via a secure VPN connection, and performance and productivity was rapidly degrading.

PCA ASSESSMENT

Cisco approached PCA to evaluate their situation and recommend a solution to solve their immediate problems and accommodate future needs. Following a two-week assessment, PCA recommended a 3-phased approach that was aligned with Cisco’s priorities: I) stabilize the system right away; II) replace MS Access with something more reliable; and III) maintain and enhance the new system as needed.

THE PCA SOLUTION

Ten weeks after engaging PCA, the Phase I objective to stabilize the MS Access Testing System objective was complete. The Access data structures were replicated in SQL Server, all of the forms, reports, queries were connected to the new SQL Server database, legacy Access data was migrated to SQL Server, and the updated system was deployed into production.



By moving the native MS Access datastore to SQL Server, the Test Engineering team in India was able to conduct product testing operations in a far more stable environment, application performance improved, and any concerns over the size of the database went away. Now that the immediate risk to Cisco's testing operations was abated, onto Phase II.

The next step was to replace the MS Access front-end interface with a native Internet .NET application — which was anticipated to substantially improve performance and usability, and reduce costs required to maintain and extend the system over time. Cisco elected to go with

a Smart Client approach vs. a browser-based front-end (ASP.NET) for two main reasons: superior functionality and ease-of-use, and 3 – 5 times lower cost.

Over the 3-months, PCA prototyped the new application interface in Smart Client .NET — a process that also provided both Cisco and PCA many opportunities to simplify and streamline the forms and workflows, and add important new capabilities to support more robust test engineering needs. Cisco approved a final Prototype design, and following budget and schedule estimates based upon the Cisco-approved Prototype design, PCA was given the go-ahead to proceed with development.

“By migrating to Smart Client, we were able to retain our 3-year investment in the MS Access application design, overcome its deficiencies, and extend capabilities in a cost-effective manner. We are continually looking to deliver leading edge technology, and this requires leading edge testing capabilities. We now have that.”

“The PCA solution is a big asset recognized both internally and externally by our customers. PCA did a great job!! Their team understood our business needs and had good ideas on how to convert requirements into new capabilities.”

“PCA has always been very responsive in addressing our needs and creating new capabilities. Their project management is effective, and really makes a big difference on this project.”

CHUCK BODEMANN, DIRECTOR OF
TEST ENGINEERING

Several weeks of rigorous Beta testing, feedback and refinements to a production candidate application produced a solution that Cisco deemed suitable for deployment into the live test engineering environment. Cisco elected to host the SQL Server database internally, and soon realized that the Smart Client required very little I/T support — an expected hassle and expense that Cisco was pleased to avoid.

Phase III: Maintain and Extend — throughout the project, Cisco testing staff in India continued to grow significantly, and global testing operations expanded with additional users on several different continents. In addition, Project Managers, Customers and Cisco management located around the globe increasingly relied on the system to support both internal and customer-facing reporting needs.

As a result, Cisco required new capabilities to support more sophisticated test engineering methods, additional test cases, and more robust internal and external reporting capabilities. In addition, Cisco was bringing new multimedia platforms to market, and anticipated that extending the system to support concurrent testing of multiple platforms represented a significant re-engineering effort. After consulting with PCA, Cisco was informed that the new SQL database schema was already configured to support multiple, discrete sets of data — and with one very small change Cisco was able to manage concurrent testing of multiple media platforms.

TAMING THE REPORTING ANIMAL

As multimedia product offerings, new customers and test operations continued to expand, Cisco’s reporting requirements began to diverge and get more specialized. The cost and time required to design and build new reports to support divergent reporting needs became a real concern. Several months following initial deployment of the new Test Management Smart Client solution, PCA replaced all the static views within the application with dynamic grid controls to support Ad Hoc reporting, and the result was a big win for Cisco — phone calls requesting new reports dropped from ~20/week to nearly zero.