



Stingray™ Solutions

Northern Virginia Community College Internet Enrollment / Payment and Class Schedule Inquiry / Registration

Northern Virginia Community College is the third largest community college in the United States (Miami-Dade is number one), with an annual enrollment of approximately 80,000 students. Approximately 30,000 of these students are enrolled in any given semester, and they construct their class schedules from a curriculum of over 2,000 courses, in 6,000 sections, offered at five discrete campuses and an Extended Learning Institute (for independent, home study).

The complexity inherent in having so many students registering for classes in so many sections, on different campuses, prompted the Programming Support Services unit of the College to undertake an initiative to provide some of the necessary business processes via the Internet, with the objective of improving service to both students and staff. This series of web-based applications provides increased customer service by delivering information easily, accurately and, most importantly, in real time.

Previously, students had two ways to enroll in classes for the coming semester. First, they could enroll for classes on NOVAnet, an extremely sophisticated telephone registration and payment Voice Response Unit (VRU) application. Unfortunately, the VRU could not provide Open Class Sections information or a printed copy of Enrollment / Payment Receipts. Open Class Sections inquiries by students were made available through mainframe terminals placed around the campuses and were also routed to a call center, where customer service representatives provided answers to students. Students could only print Enrollment / Payment Receipts out on one of the campuses and then only at one station. Neither solution fully satisfied the requirement of being able to print the Receipt. Additionally, these same customer service representatives handled walk-in registrations and processed payments for thousands of students.

The second method of enrollment was for the student to wait in line for face-to-face inquiries at the Registrar's Office regarding the availability of the classes and sections they wanted to schedule. The Registrar's Office had to make Open Class Section searches one student at a time. Then the student had to interact with the Business Office, again face-to-face, to receive a Schedule of Classes and a Payment Receipt that would complete their registration (Figure 1).

Northern Virginia Community College
Enrollment / Payment and Class Schedule Inquiry/ Registration Systems
Before Internet Enablement

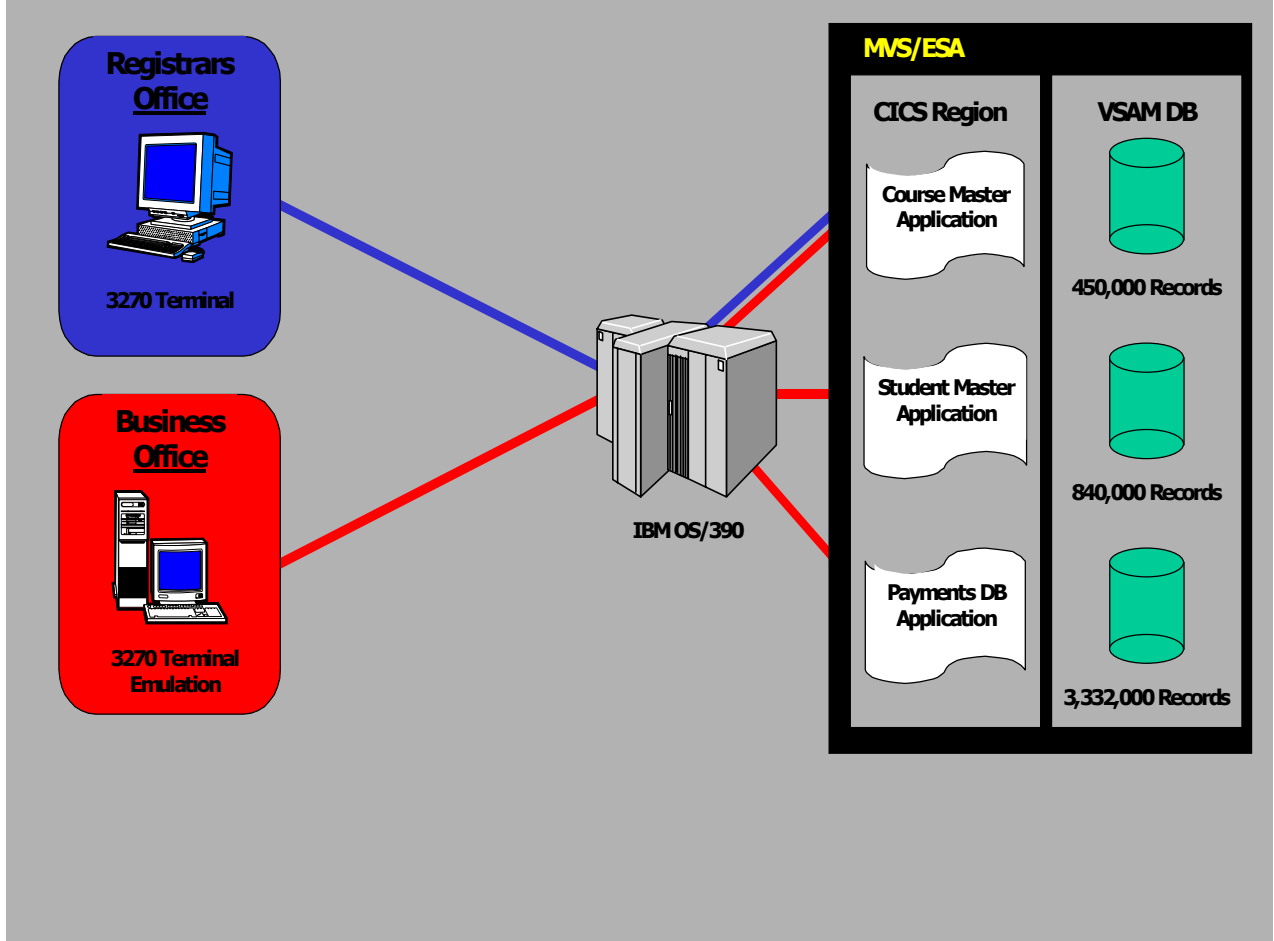


Figure 1: All student and course related systems required access to one of three CICS applications from a 3270 device located in either the business or registrars' office. The amount of information stored in these systems is significant: over 4.5 million records are accessed from the combined systems. In most cases, when students needed key information, they would have to work directly with college staff that had access to these systems. Staff would log-on to the appropriate host system through a 3270 device and work one-on-one with the student. This was particularly labor intensive during the registration process when the resource requirements were at their highest.

Obviously, this was a high-maintenance procedure for the customer service representatives. Not only were they responsible for the day-to-day business processes of admissions, registration and payment processing, several times a year they were inundated by the incredibly resource-demanding expectations of thousands of students frantically searching for Open Class Section information. This was expensive, demoralizing for the staff and created the need for a complex and time-consuming new-employee training program. Finally, of course, these long lines and delays were frustrating and tiresome for NVCC's customers – the students.

After evaluation of various technologies and delivery methods, Sushama Rath and her project team decided to build a web page front end and empower students to do their own

research for open sections and generate their own receipts after registration and payment, with real time access.

The philosophy behind the new system was to design and build a “data driven” method for satisfying user requests. It was of paramount importance that Ms. Rath and her team find an affordable way to provide both students and staff with direct access to the 840,000 records in the Student Master database, the 450,000 records in the Course Master database, and the 3,332,000 records in the Payments database. This information had previously been inaccessible to everyone but customer service personnel, but using Red Oak Software’s Stingray legacy business objects for mainframe access allowed the project team to construct an inexpensive web-based registration process (Figure 2).

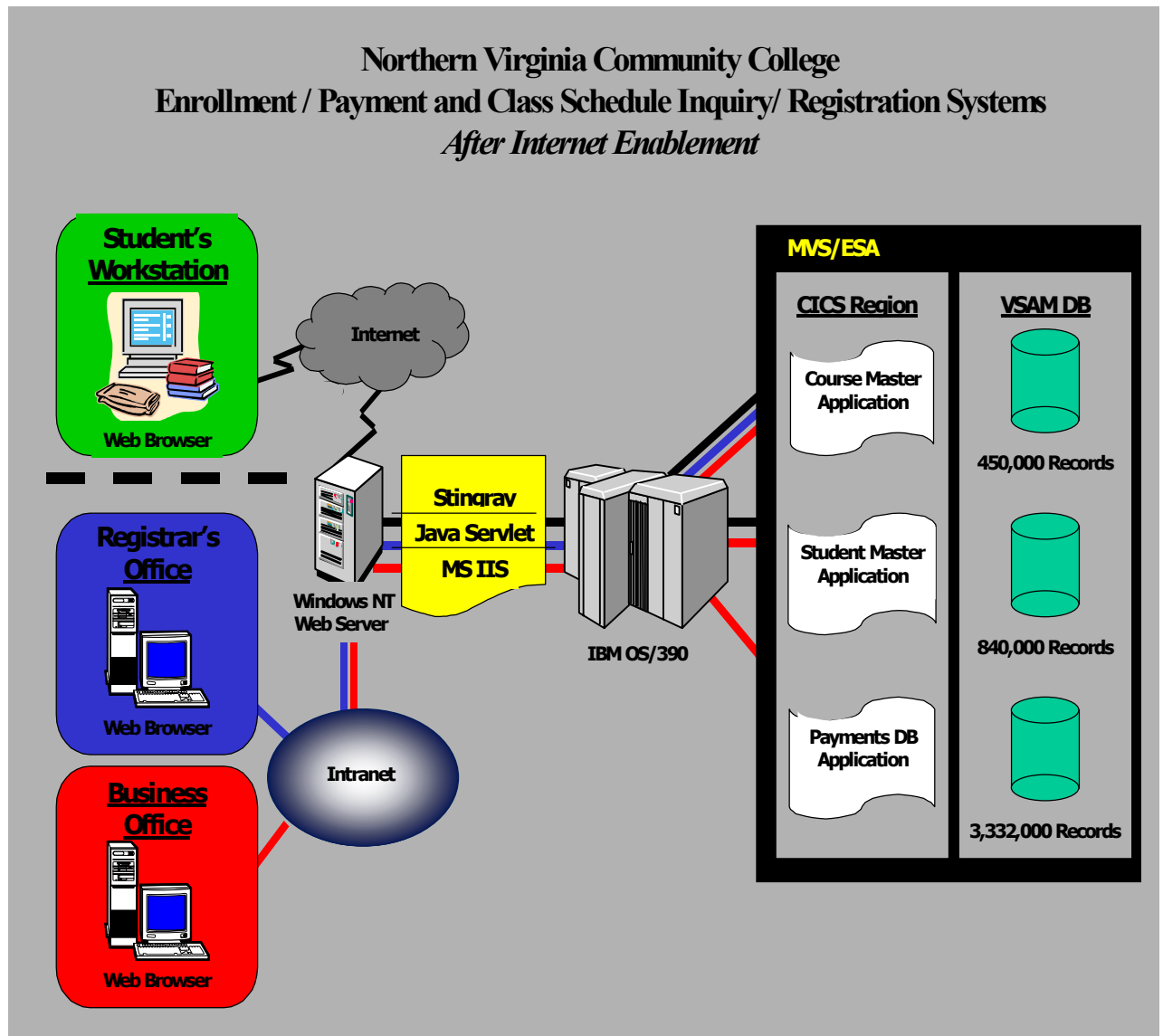


Figure 2: NVCC developed sophisticated web access to the mainframe systems using Red Oak Software’s Stingray product. A Windows NT server running Microsoft’s Internet Information Server hosts Java servlets that were built using Stingray. Stingray provides the interface to all of the CICS applications running course and student related systems. Now, in addition to the Business and Registrars’ offices having access to these systems over the intranet, Students have been empowered to directly access their information on these systems.

The project has been a complete success, in terms of both ROI and user satisfaction. During the initial implementation, Stingray's fully automated, programmatic integration features gave the NVCC project team access to all API logic and functions, with minimal coding required, to capture application flow and automatically generate reusable Java code. It is estimated that this efficiency and flexibility saved NVCC upwards of \$30,000 in programming expense, and cut months off the project completion schedule.

For the students, making the Open Class Inquiry and Enrollment / Payment Receipt transactions available on the web transformed a process that sometimes involved hours of holding on the phone and traveling to campus to stand in line for information and service into one where students could obtain the information they needed themselves, when and where they needed it, without Customer Service Representative involvement. The Registration and Payment processes are now almost completely student activated, self-service transactions, saving hundreds of hours of staff time. In fact, during the most recent registration period, 78% of the enrolled students did not come to campus at all, and were able to use NOVAnet and the web site to complete their registrations in an average of less than three minutes!

[Welcome to Northern Virginia Community College](#)