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Implementation of a Network Print Management System: Lessons Learned

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EXECUTIVE SUMMARY

To manage the rapidly growing demands and costs of providing campus print services, a regional university of about 9,000 students turned to a well-known outsourcing vendor. The new Network Print Management System (NPMS) replaced 35 networked printers in the library, open-access computer labs, and computer classrooms in more than 10 different buildings. The initiative had several key objectives: to increase student access to printers, to improve the quality of print services, to decrease printing costs and environmental impact, and to avoid increasing student fees. The project also sought to reduce departmental printing costs, fund technology upgrades, and reduce the burden of printer maintenance on university technology staff. This case study tells the story of the planning, analysis, design, implementation, and realization of the new system, which proved more complex than anticipated. It offers an interesting mix of perspectives, sometimes conflicting, on outsourcing implementation of new technology in a complex end-user environment.

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BACKGROUND

In the spring of 2001, word got out to the students on a regional state university campus of about 9,000 students that the $20 per semester information technology fee for Internet access from the dorm rooms was going to be discontinued and that Internet access was no longer going to be subject to a fee. In the fall, students would also have a new ID *SmartCard* (SmartCard, n.d.), which they would be able to use to pay for meal plans and services such as library, laundry, vending machines, book store, copiers, and printers. The *SmartCard* also would allow for electronic banking, check cashing, and cash-free spending.

One of the major components in the first phase of the ID *SmartCard* program was the implementation of a Network Print Management System (NPMS). The recommendation for implementing a print metering system was made by an internal Technology Resources Committee (TRC). The TRC sought input from a number of university groups including students. A number of problems were identified with the existing print facilities, including poor maintenance, inconsistent quality of service, lack of color printers for art programs, graphics and other specialized uses, and inadequate budgets in the academic departments for printer supplies and service. Departments also complained about wasteful use of paper and print cartridges. The university's Information Technology division was then directed to research solutions and evaluate vendors. After two years of analyzing alternatives and piloting various print metering systems, they selected a well-known outsourcing vendor to develop, implement, and maintain a campus-wide solution.

SETTING THE STAGE

Providing and maintaining the computer resources for students and faculty is the responsibility of the University's Office of Information Technology. Available facilities include over 1,600 desktop and laptop computers located in classrooms, open access labs, the library, and faculty/staff offices. Most of these facilities provide print capability for which, up to this point, there was no direct charge to students or faculty. Expenses for the academic computing infrastructure are supported by general technology fee assessed all students each semester. Campus buildings are intra-networked using ATM over optical fiber between floors and switched Ethernet over copper to the desktop. The campus has recently begun to offer wireless connectivity in some locations as well. The Office of Information Technology also has responsibility for all administrative computing and the campus Internet facilities. The Office is headed by a Senior Director with many years of experience at the university, who deserves considerable credit for providing a relatively high level of service on a relatively modest budget.

The new *SmartCard* replaced an earlier Multi-Technology Automated Reader Card (MARC) ID and payment system. This older MARC card carried the bearer's photograph and a bar code stripe on the front. At one point the bar code stripe on the front of the card was read with hand-held laser wands at the library to provide patron services. It was also equipped with a magnetic strip on the back with the user's meal services account information. The magnetic strip on the back had eliminated the need for diners to show both identification and meal cards and freed the cashier at the point of sale (POS) from