Mecklenburg County Takes an Automation Journey

Quality employee and customer experiences as well as smooth business operations are core to this North Carolina county's new Integrated Social Services System.

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FACED WITH INCREASING CASE LOADS, BUDGET CONSTRAINTS that limited staff size, and technically outdated stand-alone systems in many departments, including Adult Medicaid, Adult Social Work, Child Welfare, Family and Children's Medicaid, Food Stamps and Work First, the Mecklenburg County Department of Social Services embarked about seven years ago on an automation voyage with the Mecklenburg County Information Services and Technology Department.

Mecklenburg County used the System Development Life Cycle, a strict project development protocol, to guarantee a successful venture that would benefit all involved. One of the most critical success factors has been the "three-legged stool" approach, which involved relying on county IT experts for technical design and coding, agency IT professionals and business liaisons for project management, and the employees themselves

Tech Talk: Mecklenburg County, N.C.

ISSIClassic was developed using Microsoft's N-tier application architecture and the component object model, COM+, to create a three-layered design comprised of user interface, business process and data access components. Component-based applications are relatively easy to manage—you can replace or switch layer implementations as user or system needs change.

Microsoft Windows 2000 Server and COM+ provide application services that include role-based security, transaction management and database connection pooling. Microsoft SQL Server 2000 provides database services. The layered architecture allows ISSI to support many users and activities while consuming few resources.

The Child Welfare component of the system, ISSI Child Welfare, was developed in Microsoft .Net, a Web-based application built around the three-layered architectural model. Presentation services are built using Microsoft ASP.Net and hosted by Microsoft Windows 2003 Server running IIS 6.0. Middle-tier Web services are built using VB.Net and hosted by Microsoft Windows 2003 Server running IIS 6.0.

Data is stored in Microsoft SQL Server 2000 running on Windows 2003 Server, and data access is via stored procedures.

Down the Road

As Mecklenburg County's ISSI grows and system stability and security become increasingly critical, database clustering will provide failover, and a NetContinuum NC-1000C will perform load-balancing and failover for the Web/application server and hardware Secure Socket Layer for both internal and external access.

The system is built for scalability, so more Web servers can be added as necessary. Access to ISSI via PDAs, mobile phones and other devices is also planned.

for business expertise. The resulting Integrated Social Services Information (ISSI) system works because it was built for employees by employees. In fact, more than 70 DSS staff worked on various phases of the project alongside 30+ IT staff and contractors over the past seven years to gather requirements and work through the design, testing, training and implementation.

Proof of Concept

Managing and deploying the project through phases has worked well. Fraud Investigations, the smallest group, with 20 employees, was implemented in November 2002 to ensure proof of concept, followed by progressively larger groups, including about 85 employees from Adult Social Work Services in November 2003 and 100 from Adult Medicaid in March 2004. The last phase of what is now called ISSI Classic was implemented in June 2004, adding 350+ staff from Family and Children's Medicaid, Food Stamps and Work First. For specifics on the underlying technology used to build ISSI Classic and ISSI Child Welfare, the child welfare component of this system, implemented in August 2007, see "Tech Talk" on next page.

ISSI Classic and ISSI Child Welfare were developed using different technologies but share a common database, developed in partnership with Buncombe County, N.C. ISSI Child Welfare includes modules for intake and referral, multiple response, customer tracking, foster home placement, medical information inquiry, foster care payment, case load information and day-sheet time reporting to the state. The day-sheet component simplifies service coding by automatically selecting the best reimbursement stream for services provided.

ISSI is an extremely user-friendly, sophisticated, feature-rich system, with more than 200 screens in classic ISSI and 250 screens in ISSI Child Welfare. It allows staff to input customer and case information, manage case loads, coordinate services with other units, and generate forms, letters and reports.

A prime navigational feature is the "ISSI Tree," modeled after Microsoft Windows Explorer. As you can see in the graphic at left, the ISSI Tree makes an enormous amount of data about a customer/case available at the click of a mouse. It shows the different services each customer receives (Adult Social Work and Medicaid, for example), and gives users secure access so they can drill down as necessary.

ISSI shares common information about customers—names, addresses, household members, income and so on. If a worker in Adult Medicaid changes a customer address, for example, an alert is sent automatically to all other workers who deal with that customer.

The "Dangers" section of the ISSI tree allows shared documentation across divisions of potentially dangerous situations employees may encounter during home visits—drug dealing, dangerous dogs, gang activity and, in some cases, domestic violence—to help ensure staff safety.

Another plus: Prior to the ISSI deployment, the Post Office used to reject hundreds of pieces of DSS mail because of illegible writing and/or incorrect address formatting. ISSI includes more than 70 forms and letters that pre-fill information on file, with customer addresses formatted on the back, so printouts can be folded and inserted into window envelopes, reducing the amount of undeliverable mail.

ISSI lets staff and managers use business objects software to create ad hoc reports based on information entered into the system. It also allows remote access—from homes, work sites and even cars, thanks to wireless cards, which use mobile phone technology to connect to the county network (see graphic at right).

Training Required

Training the 800+ benefit analysts and social workers in a short time period on such a large system was a major challenge. It would have taken several months using the standard classroom approach,

and beyond initial training, there's ongoing demand for remedial training of current employees and initial training for new hires.

Computer-based training (CBT) proved the best overall solution for bringing hundreds of staff up to speed quickly and supporting their retention of the material, as well as testing proficiency and providing consistent, ongoing training. DSS worked with vendor IntellaLearn to develop extensive Web-based training that provides statistical data about employee time spent in each module and corresponding proficiency. For example, it was estimated that DSS Eligibility staff would require 24 hours of "seat time" to complete all 15 CBT modules; in fact, the Adult Medicaid group completed the training in 12.5 hours average, with 94 percent proficiency.

The county retained ownership of the training software so it can be modified in-house as business processes and corresponding ISSI system requirements change.

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