



Less paper, more services. New object-oriented application helps State of California improve services, cut costs



Every month in the State of California, more than 1.2 million women and children from low-income families receive nutrition, education and assistance through a federally-sponsored nutrition program. The Supplemental Nutrition Program for Women, Infants and Children – also known as WIC - has proven effective under the direction of the State Department of Health Services. Every food dollar spent saves an estimated \$3.50 in future medical costs.

Not so effective was the paper-based process in place until recently. Documents and other paperwork often took up to *two-thirds* of a client's scheduled appointment time. Now, however, thanks to a combination of process re-engineering, new technology and application development techniques, administrative time has been slashed in half - and, even more important, WIC clients benefit from a whole new level of service.

Judy Gomez, senior nutritionist at Public Health Foundation Enterprises, the largest WIC agency in the United States, explains. "Everything is fully automated, including the issuance of food vouchers. We've eliminated all the paper - and as a result, we can spend far more time in nutrition counseling, which really maximizes the benefit of the WIC program."

Maximizing the benefits
The key to this new level of personalized service is a new, object-oriented 4GL application, called the Integrated State Information System (ISIS). ISIS

is used to help manage one of the state's largest nutrition service programs by processing activities related to enrollment, eligibility screening, appointment scheduling and issuance of food vouchers at more than 1,800 terminals throughout California.

Under development since 1994, ISIS is a success story on many levels. To the more than one million families helped by WIC agencies every year, it means improved quality of service. To WIC and its 82 agencies, it means streamlined business processes, on-line real time access to large amounts of data, prevention of fraud, more control of food issuance, more effective client education and information sharing - and most important, happier, healthier clients.

"We were inundated with paper," says Diane Lindner, WIC program director, Napa County and a model office for ISIS. "ISIS has enabled us to make a major paradigm shift in the service we deliver. Our mothers are receiving a much higher quality education session - and from their feedback, we know it's making a difference."

The benefits of ISIS also extend to the Health Services' Data Systems Branch (DSB), where ISIS was developed. That's because the Center took a template-driven, object-oriented approach when building the application. Initially using IBM's Cross System Product (CSP) on the mainframe, developers moved (in late 1995) to OS/2-based PC work-

Industry	Health Care Services
Application	An organizational tool to manage client information
Software	VisualAge Generator, TeamConnection™, OS/2®, MVS®, DB2®, CICS™

stations and started to use object-oriented tools from IBM's VisualAge family of products - particularly VisualAge Generator and TeamConnection.

"We needed an environment that would allow us to make substantial changes to applications quickly, and provide increased change management and version control," says Mike Virga, Staff Programmer Analyst and WIC ISIS Application Design Project Leader. "In addition, we want to position DSB to take advantage of new client/server technologies. Our VisualAge toolkit enables us to accomplish all these goals and more. We are particularly happy with the way TeamConnection helps us manage our entire development environment."

A sevenfold productivity improvement
The template-driven, object-based environment enables ISIS developers to respond more quickly to changing

requirements and produce higher quality code. Internal response times on the MVS host server have dropped from 2-5 seconds to subseconds, while the number of transactions during a normal 10-hour day have grown to over one million with VisualAge generated code. And, developers have downloaded 90 percent of application development activity to the workstation – resulting in major productivity improvements and savings.

“Our data center charges us for the CPU cycles we use on the mainframe. The fewer cycles we spend on application coding and testing, the lower our cost,” explains Virga. “We estimate we’re saving close to \$150,000 (U.S.) per year by moving to our VisualAge development platform,” he adds.

“And, where it would take three to four weeks to build, test and implement a standard data entry application in our older COBOL environment, with the VisualAge templates we’ve reduced that time to three to four days, largely due to code reuse. That’s a sevenfold productivity improvement.”

Today, 80 percent of the code is automatically generated for the programmer from the templates, including navigation, field validation and pop-up screens. This allows the programmer to focus primarily on the business logic and “to add more functionality to the final product than the customer ever envisioned,” says Virga. “It also means

we’re able to facilitate a higher quality of care for WIC clients, while using fewer resources.”

A new level of automation According to Virga, the goal is to continue to use the VisualAge toolkit to maximize efficiencies in ISIS and future development projects. Developers are now exploring how to move selected ISIS functions to a client/server platform, using VisualAge Generator. The intent here is to reduce CPU usage even further, “by transferring validation, manipulation and display functionality to the client, until we just access the host server for data,” says Virga.

“The beauty of our new toolkit is that we’ve been able to create industrial strength applications without being locked into one platform environment,” he adds. “I don’t believe any other programming languages around offer this capability. Once the database is designed, I can create a prototype to show my end users within half an hour.”

“Ultimately,” he adds, “the benefit is to the people WIC serves. It’s almost a contradiction in terms to have a government agency without paper. But we’ve not only achieved that breakthrough - we’ve reduced costs and improved service. It’s tremendous what the right technology can do for people.”

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