



## VIRTUAL GATEWAY

### 2005 COMPUTERWORLD HONORS CASE STUDY

#### GOVERNMENT & NON-PROFIT ORGANIZATIONS

A CONSTITUENT-FRIENDLY, UNIFYING WEB PORTAL PROVIDES THE GENERAL PUBLIC, CLIENTS, PROVIDERS, AND FRONT-LINE STAFF WITH ACCESS TO HEALTH AND HUMAN SERVICES INFORMATION AND SERVICES ONLINE, IN A FORM STRUCTURED AROUND THEIR NEEDS. [20055343]

*A Search for New Services*



#### SUMMARY

The Virtual Gateway is a constituent-friendly, unifying Web portal providing the general public, clients, providers, and front-line staff with access to health and human services (HHS) information and services online, in a form structured around their needs, rather than around the Commonwealth's complex, multiple-agency HHS organization.

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#### APPLICATION

Launched in August 2004, the Commonwealth of Massachusetts' Virtual Gateway is an excellent example of how multiple government agencies can work together to meet common goals – providing a single point of access to services, promoting worker productivity, extending access to applicant information to the applicants themselves, and supporting the relationship between the Commonwealth and its community partners, such as hospitals and providers.

The administration and delivery of Health and Human Services programs has consistently grown in scope and complexity. This has particularly been true throughout the past decade as first states and then the federal government enacted welfare reform legislation. Federal legislation has redefined program policies and created new opportunities for states to increase the ease of access to their assistance programs.

In 2003, Governor Mitt Romney proposed and signed into law a dramatic overhaul of Massachusetts' health and human services agencies. The reorganization was designed to improve the quality of and access to state benefits and streamline service delivery to clients. "We have to bring the same level of efficiency and care and concern for our customer, the citizen, the person in need, that exists in the private sector," Romney said. Concurrent with this has been the introduction, on a wide scale, of new technologies that enable states to provide access to services through channels that previously did not exist. At the core of this technology initiative is the Virtual Gateway. The Virtual Gateway is a central tool in integrating business processes across HHS agencies and in meeting core HHS objectives around access, efficiency, funding, and service delivery.

The Virtual Gateway:

- Provides a single point of access to HHS clients and providers
- Empowers HHS and provider staff with information and service access in multiple locations
- Enables consolidation and improvement of key business and administrative processes
- Provides information for managing across programs and agencies.

The first release of the Virtual Gateway provides a quick and visible solution that supports the Commonwealth's reorganization efforts. In addition, it provides the foundation for continued expansion, outreach, and integration of HHS services.

Under the new Virtual Gateway, registered providers will now be able to submit an electronic application for multiple programs on behalf of those individuals in need of assistance. Until now, those same providers were required to submit separate paper applications for each program or clients had to deal with multiple state agencies on their own.

In addition, the Virtual Gateway provides new online tools such as: A searchable catalog with descriptions of the most widely used programs offered among Health and Human Service agencies, an anonymous online survey to determine potential eligibility for services, and an online common intake data collection tool for registered providers who can collect information from a client in one online form and then generate electronic applications for multiple programs and services.

The online tools are available for a variety of state programs, including MassHealth, the state's Medicaid program, childcare, food stamps, the Women Infants and Children Nutrition program, the Women's Health Network, and substance abuse. New tools and programs will be added over time. Future capabilities will

include service tracking and electronic payment functions for certain Department of Public Health programs as well as licensing, purchase of services and invoicing.

The state's principal health and nutrition programs are also now accessible online through the Virtual Gateway.

## **BENEFITS**

The Virtual Gateway directly benefits citizens by providing a single point of access for application processing, which is clearly preferred over visiting multiple agencies to apply for programs. The Virtual Gateway also benefits Massachusetts citizens from a cost-savings perspective. Increased efficiency and subsequent monies saved are closely tied with the Virtual Gateway because, in the current legacy approach, applications are entered into the system, but later "rejected" if the applicant fails to provide missing information within the allotted time period. This equates to wasted time and money on behalf of county intake workers. The Virtual Gateway makes it nearly impossible to submit an incomplete application, resulting in fewer applications entered into the system and then later rejected.

Since its initial release, the Virtual Gateway has shown tangible benefits as evidence of its success. Over 20,000 users have accessed the screening component and thousands of users have screened for potential eligibility. Customer feedback has been overwhelmingly positive. The Virtual Gateway functionality continues to grow as more programs and new usability features are added with each new release of the web application. It is truly evolving into a single point of access for social service programs in Massachusetts through successfully integrating the technology capabilities of private industry with the mission of social services agencies.

Providing a common point of entry to an agency's programs, the Virtual Gateway's self service modules help ensure a "no wrong door" approach to screening and application for services to clients and business partners. There are help screens on every webpage which give expanded information on the questions asked on that page, as well as a Frequently Asked Questions page and Help Desk Support.

User-friendly modules in the Virtual Gateway guide an individual through a completely automated process of providing data, collecting data, and determining eligibility. Because of its compliance with ADA guidelines for web accessibility, the Virtual Gateway is easier for a disabled person to use than the paper application form.

A significant benefit to the client is the dynamic nature of the Virtual Gateway's intake and screening modules, which only asks the client questions pertinent to the programs being applied for. In addition, if the client is applying for several health and human services, questions are never repeated – asking the question once sends the answer to multiple agencies.

The Virtual Gateway not only connects governments and ordinary citizens, but businesses and non-profit organizations as well. The "Dashboard" in the Virtual Gateway offers efficient application portfolio management to community partners who regularly submit applications on behalf of citizens. A community partner needs only a Virtual Gateway name and password to enter the Dashboard. Once there, they can see on one screen all the applications they have personally entered as well as all the applications colleagues in their organization have initiated. They can access the applications that have been suspended and those that have already been submitted. The Dashboard also features a "quick reports" functionality, which displays counts of applications processed for each program and county.

These benefits reinforce the Virtual Gateway's success as a bridge between social service agencies, where a client can truly have their needs met in one place.

## **IMPORTANCE**

Through the development of a web-based system, the Virtual Gateway created a medium in which the general public has unlimited access to agency resources. The screening and eligibility module allows users to screen for possible eligibility 24-hours-a-day, 7-days-a-week. Furthermore, citizens no longer need to understand the confusing differences between agencies and the forms that each require. The Virtual Gateway provides a common point of access where individuals may screen for eligibility, apply for services through a provider, and search catalog data all from one location. There is no longer a need to fill out multiple forms, many of which contain redundant data.

One of the major undertakings of the Virtual Gateway was the implementation of an open standards, service-

oriented architecture. The Commonwealth wanted to ensure that its investments in information technology resulted in systems sufficiently interoperable to meet the business requirements of its agencies and to effectively serve its constituencies. Through the use of open standards, specifications for publicly available systems are developed by an open community and affirmed by a standards body. These open standards imply that multiple vendors can compete directly based on the features and performance of their products. It also implies that the existing information technology solution is portable and that it can be removed and replaced with that of another vendor with minimal effort and without major interruption. This led to a successful and smooth implementation across a community of various vendors, not limiting the Commonwealth to one specific vendor. Furthermore, agencies within the Commonwealth will benefit through the sharing of code. Often times, separate agencies build specific applications to meet their current needs. These open standards allow agencies to exchange code without the burden of licensing fees, cutting the costs of development, and allowing them to implement systems at a lower cost.

One of the many challenges the Virtual Gateway project encountered was integrating with several legacy systems as well as with other systems that shared the same architecture or had no architecture in place. Previously, HHS intake, eligibility and referral processes operated in silos. Each program had a unique process for intake, typically requiring applicants to supply duplicate information. The primary purpose of the service-oriented architecture is to create a more coordinated intake process for a subset of programs. Therefore, a service-oriented architecture was designed, developed, and deployed. In this new architecture, legacy systems provide interfaces and services that are coordinated and integrated in a new HHS orchestration and integration tier. For intake and eligibility, specific target systems provide new functionality providing the capability for online submission of enrollment data. Additionally, a new status and enrollment service allows a synchronous (real-time) call for information by the orchestration tier. The highlights of the new functionality include a single, unified browser-based intake process for all programs, and electronic submission of this data to appropriate systems.

Through the Intake and Eligibility module, application data comes in via the portal and is handed to the orchestration tier that coordinates the routing and processing of data by both new services in the middle tier and legacy systems. All transformation of data required for these disparate systems is handled by the integration server, also running in the middle tier. Results are then presented to the client process or user via the portal. Legacy systems were also modified in order to accept XML input for enrollment and return validation responses, as well as creating the capability to connect to the messaging tier to support asynchronous and synchronous messaging.

The use of information technology is critical to realizing the vision of a completely integrated and scalable approach to the delivery of health and human services in Massachusetts.

## **ORIGINALITY**

Massachusetts Governor Mitt Romney realized the need for an overhaul of the state's health and human services agencies, stating, "For someone on the outside, those walls sometimes look impossible to scale. We want to break down those walls. Our goal is to make the process of accessing benefits and services as easy and efficient as possible."

While many government entities are creating portals/web pages that allow citizens and providers to link to information about a variety of services and programs, the Virtual Gateway is unique in that its vision is to offer completely integrated business services. The Virtual Gateway strives to bring the provider/user experience to the forefront by offering comprehensive yet consistent access to the programs and services of all health and human services agencies. The Virtual Gateway project is also original in that the web portal is a cornerstone of a larger initiative to streamline the business of the Executive Office of Health and Human Services (EOHHS). EOHHS was organized into 17 agencies (previously 62 agencies), and as a part of the Virtual Gateway initiative, the business services they offer were restructured into four core business clusters: Children, Youth and Family Services, the Office of Disabilities and Community Services, the Office of Health Services and the Department of Elder Services in addition to the Department of Veterans Services.

The Virtual Gateway drastically changes the way that citizens and providers interact with the Commonwealth. The Virtual Gateway serves as a single access point on the Internet for a wide variety of programs from health care services to food stamps and child care. Using the information and tools available, consumers, medical providers, community-based organizations and HHS agencies can work together to ensure that people are linked to the programs they need as quickly and efficiently as possible. Citizens and providers are provided with increased efficiency, quality and consistency of service through this initiative. The Virtual Gateway was developed using a time boxed delivery (one major release each fiscal year) approach, with successful deployment of the first release delivered in scope and on time within only eight months. This technique was extremely successful in implementing rapid change while improving the dynamics

of how the Commonwealth assesses benefits and services.

In addition, the expandability of the Virtual Gateway is already being seen as new components are currently being added. The catalog is being expanded to include a resource locator that supports disability and nursing home discharge planning. The addition of new programs for screening and intake such as: common disabilities, veteran services, community elders, and long term care is already underway. The flexibility of the Virtual Gateway is also being observed as a Third Party Interface system is being implemented in order to receive data from existing outside applications, and an initiative to incorporate a Homeless Management system is in the works. The Virtual Gateway is truly changing the way the Commonwealth services providers and clients, while setting a precedent for other states and agencies to follow.

## **SUCCESS**

Since its launch in August 2004, the Virtual Gateway has successfully processed nearly 14,500 social service applications. Approximately 20,000 screening questionnaires were initiated in the first 6 months screening was available. Of those nearly 55% have been determined to be eligible for services. The number of Virtual Gateway users is increasing every month and the service is expected to be available to over 300 providers by June of 2005. Survey responses submitted by providers after using the Virtual Gateway applications show that many appreciate the increased accessibility made possible by this implementation.

The quotes below are testimony to the success that has been realized through the implementation of the Virtual Gateway:

"I want to applaud the governor for not only recognizing the problem but for his commitment to the poor and homeless and his leadership in fixing the problem."

- Karen LaFrazia, executive director of St. Francis House

"The Virtual Gateway is a wonderful technological tool to help them overcome those challenges. When this is fully implemented, our health care clinics across the city will not only be able to help people learn about benefits, but also apply for them more efficiently."

- Robert Taube, Executive Director of Boston Health Care for the Homeless

"This is another dramatic step in our drive to remove barriers that prevent the needy from getting the help they need."

- Ronald Preston, Health Human Services Secretary.

The enthusiastic acceptance of the Virtual Gateway has led to the demand of even more features. Release 2 of the Virtual Gateway is slated to include the addition of elderly, disability, and veteran services for screening and intake. Also, the release will include:

- The implementation of an application inbox which will support agency back-end systems that can not electronically accept intake information, allowing workers to login and view an agency's applications.
- A resource locator that performs a federated search of external resources and presents one common results set back to the intake worker.
- Provider Data Management (PDM), a service that creates a centralized database of general provider information, financial measures, contracts, UFR submission, audits, etc. PDM also allows state agencies to obtain a holistic view of provider's financial, demographic, and compliance status on various standard documents and forms.
- Enterprise Invoice Management (EIM), a service that provides a single point of access for provider organizations to invoice EOHHS agencies for Purchase of Service (POS) contracted services.
- A Homeless Management Information System (HMIS), that captures unduplicated client information from the state's homeless population.

## **DIFFICULTY**

There were considerable technical and business hurdles to overcome in creating Massachusetts' Virtual Gateway to Health and Human Services. HHS had no prior experience with the development and deployment of enterprise-scale J2EE web application technology. And the business-side task of conforming multiple application forms – with all of their data fields, program-specific values, accompanying rules or legal requirements, and verification documents – required both detail orientation and stamina among the participants of the team focusing on that task.

As this was a priority of both the Governor and Secretary of Health and Human Services, neither the modest funding nor agency participation were major hurdles. The most significant initial hurdle had to do with

skepticism that the project would succeed. It is not usual for government agencies to undertake rapid or lean development, or to significantly transform web-based transaction capabilities in time measured in months, not years. Apart from the core team, it was not clear that many inside or outside observers would have bet on a successful delivery in the timeframes committed. More subtly, after a new capability (e.g., a consolidated application form) is introduced it looks obvious in retrospect. But prior to the release of the Virtual Gateway, it was not at all obvious to agency staff that the mechanisms – technical, legal, procedural, organizational – could actually come together to accomplish the goal.

Finally, this occurred in the midst of the upheaval of the most significant reorganization of the health and human services secretariat in Massachusetts' history, and during a massive tax revenue shortfall. The project mission was executed in very rough water.