

As with all projects conducted at the Center for Technology in Government, this one followed a collaborative analytical process involving all key stakeholders. The first step was to identify and engage a broadly representative group of state, county, and municipal officials interested in improving G2G business relationships. Assembled at first as an Advisory Committee, these individuals worked with CTG to define their mutual goals for a G2G investigation. This resulted in the statement of ideal characteristics for a G2G gateway plus expected benefits and barriers. The group also adopted a set of working assumptions that governed how the team would work together.

In the next stage, CTG conducted current practice research to explore other efforts in New York and in other states that would give the project the benefit of others' experiences. The Prototype Team, made up of state and local officials, was formed in the process of selecting specific applications to test in the Prototype. This Team worked as a whole and in subgroups to conduct detailed process analysis and to specify modest, moderate, and elaborate versions of the Prototype applications. From this analysis, specific scope statements were developed. Corporate partners then worked with the Prototype Team to elaborate the process maps and further define user requirements. From these specifications, corporate partners developed the Prototype which was then tested several times by CTG staff, by the Prototype Team members, and by additional state and local officials recruited specifically for a field test. The test made use of baseline data about current operations and user assessments of 34 specific tasks. Further, evaluation data was collected in a survey and in focus group discussions with the testers.

Figure 4 presents the timeline for the entire 21-month project. Major categories of work included concept exploration, Prototype Team and corporate partner recruitment, Prototype design and development, Prototype testing and refinement, current practice research and literature reviews, field testing, data analysis, and product development.

Figure 4. New York State-Local Internet Gateway Prototype Project Timeline

Participants

The Advisory Committee emerged from the Local Government Advisory Committee established to advise the NYS Office for Technology on its eCommerce/eGovernment initiative. It provided overall direction, initial planning, and feedback at various points during development. The Prototype Team worked with CTG and corporate partners (CGI Information Systems & Management Consultants, Inc. and Keane, Inc.) on Prototype planning, design, and development. CTG was the primary project manager and liaison between the Prototype Team and corporate partners, while corporate partners were the primary Gateway Prototype developers. Two additional corporate partners provided resources to the project. AT&T Foundation made a grant award of \$20,000 which was used to support local involvement and extended evaluation. Microsoft provided software used to build one of the Prototype applications. Eighty individuals, representing eight state agencies, nine counties, nine cities, 18 towns, two universities, two professional organizations, and two private sector companies participated as Prototype Team Members, Advisory Committee Members, and field testers. In addition, 15 individuals from the four corporate partners joined seven CTG staff in this effort. A full listing of participants is presented in Appendix B.

Prototype development

The New York State-Local Internet Gateway Prototype development was conducted in three distinct stages: the first focused on the refinement of the idea of a gateway and the selection of applications to be included in the Prototype. The second stage was the actual development of the Prototype (comprising the overall Gateway and three business applications), and the final stage consisted of testing, refinement, and technical support for the field testers. During these three stages the project participants were organized into specialized teams, worked with software development teams from CGI and Keane, and tested the Prototype.

Phase One

The goal of Phase One was to select several business process applications and decide which features would be included as parts of the Gateway Prototype. In order to consider an application for the inclusion in the Gateway Prototype, it had to meet several criteria.

- Its business process had to encompass more than one level of government.
- It had to be small enough so that it could be built within our time frame, but it had to be comprehensive enough to answer the questions of interest.
- It had to already exist in some form.
- The data to be used in the application had to be readily available and accessible.

In order to develop the applications successfully, a prototype team of state and local professionals was established and divided into subgroups for selected applications. These groups consisted of people whose daily job functions included portions of the business process of that particular application. Members needed to be able to dedicate time to the project and provide specialized knowledge to the development process.

The groups developed scope statements for each application which reflected their understanding of the requirements for both the application and this new kind of intergovernmental work. They also developed high-level process maps and data flows for each of the applications and identified which part of the full process would be the target for the Prototype.

Phase Two

In the second phase, conceptual work was given to corporate partner developers. They were provided with only general guidelines for software development (such as the need for the Gateway Prototype to be accessible through a standard Web browser, to be accessed via a dial-up line, to be intuitive, etc.). The actual coding standards for software development were left to corporate partners' expertise and discretion.

Corporate partner software developers held several joint application development sessions (JAD) with the Prototype Team. The purpose of the JAD sessions was to further define and clarify the components and requirements of each of the applications. During this phase, CTG staff acted as a liaison between corporate and government partners to facilitate the process and reduce the workload of the government teams. After the JAD sessions, corporate partners developed applications, reviewed them with the Prototype Team, and fine-tuned them.

Phase Three

The third phase consisted of testing and supporting the now finished Gateway Prototype. The Prototype was subjected to two rounds of user acceptance testing before it was made available for the field test. In the first user acceptance test, the Gateway Prototype was examined and tested by the CTG staff. The second user acceptance test was conducted by both state and local members of the Prototype Team. After each test, refinements and modifications took place as necessary.

Field test

The purpose of the field test was to evaluate the Gateway Prototype in terms of ease of use, usefulness, convenience, and speed, and to compare it to the current method of working. The test also elicited information about implications for policy and management. Field testers included members of the Prototype Team (20) and additional state and local officials who had not been involved in the development process (36). All testers participated in one of five half-day regional training sessions (in the Capital Region, Central NY, Western NY, Northern NY, and Downstate NY) where they watched a demonstration of the Prototype, received and reviewed a workbook, were assigned their roles and passwords, and reviewed instructions for completing tasks associated with their assigned roles. They tested the Prototype from their places of work, although some reported conducting the test from home due to lack of time during the work day. Testers had two weeks to conduct the field test. During that time, a full time telephone Help Desk staffed by a CTG staff member with access to corporate partner experts was available. After completing the workbook, the field testers again gathered in the regional locations for half-day discussion groups. The entire field test process took approximately one month from the first training session to the last discussion group.

Data gathering methods

Six sources of information contributed to the project design, operation, and evaluation. Each source offered a different kind of information useful for different purposes. Together, these sources provided a comprehensive set of data to support the project activities and results.

Current practice review. In order to better understand the complexities of G2G work, CTG conducted current practice research by posting messages on professional listservs, searching the Web, and conducting telephone interviews with officials around NYS and in other states engaged in similar state-local initiatives. This background research uncovered some interesting limited efforts whose experiences were useful in our design. Some supported G2G information access, but not business processes. Others focused on a single program or program area such as human services. One involved state-supplied tools and standards to help localities develop their own Web services. However, no multi-agency, multi-purpose, business-driven G2G initiative was discovered.

Baseline documents. Field testers were asked to fill out a baseline questionnaire prior to testing the Gateway Prototype. The questionnaire documented their current practices and workload relevant to the business transactions or programmatic areas in the Prototype. This information allowed us to make comparisons between existing practices and workload and the alternatives represented by the Prototype.

Process mapping and joint application development sessions. Prototype Team members worked with CTG and corporate partners to map process models and develop user requirements for the applications within the Gateway Prototype. These working sessions provided a forum for the exchange of information within the Prototype Team and with the developers. In this forum, business process modeling was performed, process and workload questions were raised and answered, problems were discussed and clarified, and issues resolved. These sessions defined the applications and the manner in which they would be tested.

Field test workbooks. Field testers used detailed task-oriented workbooks to guide them through the Prototype testing process. All testers were assigned specific roles depending on their job duties and were asked to perform related tasks and complete questions about those tasks. They were then asked their opinions about the use of the Prototype compared to their current way of working in terms of ease of learning and use, navigation, speed, convenience, security, and other topics.

Discussion group notes. Upon completion of the field test, testers were brought together once again in half-day focus groups to discuss and share their experiences using the Prototype. Interview questions are presented in Appendix D. The questions focused on overall lessons, technology, knowledge and skills, data, policy, costs, and strategy. During the discussion groups, testers not only answered questions as individuals but engaged in discussions about their experiences that shed additional light on the Prototype design and the conditions in which any similar system might be deployed.

Help Desk. During the field test, a help desk was established at CTG. All calls were documented and summarized. This information gave us insight into specific problems that users encountered during the testing phase.
