

Summary

The Internet Technologies Testbed examined two technical issues that affect the ability of government to either deliver networked services or to conduct government operations more efficiently: network security and a common user interface.

The security component looked at the methods available for protecting data, servers, and local area networks from loss, damage, or unauthorized use. Understanding and employing effective security management is critical to an organization's ability to move forward with any Internet based service. The common interface project had as its primary objective the examination and demonstration of the World Wide Web as a universal interface for the delivery of New York State services to its citizens. It asked whether the Web can be viewed as a preferred method of service delivery in four key areas: business applications, information dissemination, workgroup collaboration, and education.

The Internet Technologies Testbed involved several government organizations and a number of corporate partners in a variety of hands-on experiments, instructional activities, and demonstration projects designed to clarify these issues.

Publications & Results

Reports and Working Papers (1)



The World Wide Web as a Universal Interface to Government Services

Sun, 01 Dec 1996

This report describes the results of research that tested the feasibility of using the Web to deliver services to citizens and conduct business among government agencies.

The World Wide Web has become an increasingly important way for people and organizations to communicate. The Internet Technology Testbed project examined the value of the Web for information seekers and information providers. CTG tested the feasibility of using the Web to deliver government services to citizens and conduct business among government agencies. The project team included government, academic, and corporate partners who together conducted a wide range of reviews and experiments within four service areas: information dissemination, business applications, group collaboration, and education and training. This project report describes the results of the research and includes case studies that show how the Web can be used for a national employment database, a Web-based purchasing system, online group collaboration meetings, and university coursework.

In addition to the full report, you can also download an Overview in pdf.

Lessons Learned

Employing the World Wide Web as a universal interface to government services offers a number of advantages over traditional methods of service delivery. These include more immediate and convenient citizen access to information and services, opportunities for increased collaboration among government entities, reduced learning curves as new applications are employed with a common interface, and the ability to integrate diverse and distributed systems.

Enthusiasm for the opportunities offered by Web-based systems must be tempered with an understanding of the challenges and limitations imposed by this rapidly changing technology. Staff skills for implementing Internet

systems need to be constantly updated. Perhaps even more importantly, users have varying degrees of access to the Web including a wide range of connection speeds and significant differences in Web browsers, computer platforms and technological comfort level. Often, a balance needs to be struck between taking advantage of the "latest and greatest" that this technology has to offer and creating a system that is maintainable by sufficient numbers of staff and accessible by the widest possible audience.

As each of four service areas was investigated, it became evident that the Web offered unique advantages to each type of application. In some cases, these advantages were in the very early stages of realization while in other cases the benefits were well established. A brief summary of these advantages is outlined below while a more thorough discussion can be found in the Project Report.

Information Dissemination

- Personalized presentation of data: Information can be delivered in a selective way to each individual based on his or her unique needs and preferences.
- Integration of multimedia: Text, voice, video, graphics, and virtual reality can be combined to provide information in a more complete and understandable format.
- Concept searching: Information searching can be based on intended meaning rather than simply on exact word matching.
- Client-side processing: Immediate feedback is made achievable by porting some of the processing to the client's machine instead of relying solely on interaction between the client and a remote server.
- Integration of broadcasting, telephony, and other forms of communication: A common digital format combined with deregulation of the communications industry is blurring the lines among previously separate forms of information delivery.

Business Applications

- Improved access at reduced cost: The Internet offers access to those working at home, collaborators from other organizations, staff who travel, and the general public. In addition, cost for Internet access is far less expensive than that offered by private networks and leased lines.
- User-friendly interface: The Web interface is graphical, intuitive, and already understood by a large number of people who may be participating in a business process.
- Ability to streamline processes: The middle layers of a business process can be eliminated as end-users have direct access to the systems and information they need.
- Ability to integrate diverse systems: Open protocols allow for the integration of diverse back-end systems which can be unified by Web middleware and a single Web presentation.
- Increased longevity for legacy systems: Portions of the processing can be shifted away from expensive and outdated legacy systems. The user interface to legacy systems can be modernized without completely rewriting the back-end system.

Group Collaboration

- Greater participation in the decision-making process: Internet tools allow people to work together independent of time and place, allow for increased input by staff at all levels within an organization, and allow for increased feedback from the public.
- More opportunity to generate ideas: Web-based collaboration tools can be used to generate ideas over a longer span of time than is possible using traditional face-to-face meetings.
- Cost savings: a reduction in face-to-face meetings can result in considerable savings in both time and money.

Education

- Greater access to courses: Courses can be taken "anytime" and "anywhere." Courses that would otherwise be difficult to offer at some campuses because of limited enrollment or lack of faculty in a specialized area are

now possible.

- Greater opportunity for collaboration and sharing: Online discussions give those who are less likely to participate in a typical classroom discussion greater opportunity to share their thoughts and to respond to others. Shared access to manuscripts, virtually immediate feedback on ideas and ongoing discussions liberated from the cost of long distance ease the challenges of remote collaboration.
- Lower costs: Course work and training materials for students and staff can be delivered at lower cost than traditional paper-based methods.
- Improved research and reference services: Indexes of current journals, full text of articles, electronic references, and extensive search facilities are available over the Internet.

Press Releases & News Stories

Press Releases

The World Wide Web as a Universal Interface to Government Services Technology Report
Mon, 24 Feb 1997

Partners

Government Partners

- New York State Department of Health
- New York State Department of Transportation
- New York State Division of Housing & Community Renewal
- New York State Office of Real Property Services
- State University of New York, Central System Administration

Corporate Partners

- Bluestone, Inc., now known as Hewlett-Packard
- Deloitte & Touche/DRT Consulting Group, now known as Deloitte Touche Tohmatsu
- Digital Equipment Corporation, now known as Hewlett-Packard
- EMI Communications Corporation, now known as Intermedia Communications
- Eric Elgar, Consultant
- Hewlett-Packard
- Microsoft Corporation
- NYNEX (now known as Verizon)
- NYSERNet, Inc.
- Silicon Graphics
- Sun Microsystems
- Unified Technologies

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Original Scope of Work

An October 1995 workshop called "New York on the Internet" showed how important electronic networks have become for communicating in today's world: to disseminate information, to transact business, to link remote offices to central databases, to link agencies with their suppliers and contractors, and to exchange information between agencies and levels of government.

At that workshop, more than 170 people, representing state and local government and the private sector, helped craft an agenda for CTG's Internet Testbeds. Participants focused on the management, policy, and technology dimensions of the Internet. They identified benefits and hurdles to government's use of the Internet, and defined some of the deliverables of the Testbeds. Two Internet Testbeds were initiated to address the key issues and learning objectives raised by these recommendations: an Internet Services Testbed, which emphasized the design and delivery of information-based services; and the Internet Technologies Testbed, which explored several key technical issues that underlie many kinds of networked services.

The Internet Technologies Testbed

The Internet Technologies Testbed examined two technical issues that affect the ability of government to either deliver networked services or to conduct government operations more efficiently: network security and a common user interface.

The security component looked at the methods available for protecting data, servers, and local area networks from loss, damage, or unauthorized use. Understanding and employing effective security management is critical to an organization's ability to move forward with any Internet based service. The common interface project had as its primary objective the examination and demonstration of the World Wide Web as a universal interface for the delivery of New York State services to its citizens. It asked whether the Web can be viewed as a preferred method of service delivery in four key areas: business applications, information dissemination, workgroup collaboration, and education.

The Internet Technologies Testbed involved several government organizations and a number of corporate partners in a variety of hands-on experiments, instructional activities, and demonstration projects designed to clarify these issues.

Technology Issue 1: Security on the Internet

Security was identified as the top issue of concern by the attendees of the October 1995 workshop. "Security on the Internet," a day-long event developed to respond to this concern, provided both generic and platform-specific information regarding security on the Internet. The seminar was open to all levels of government and included:

- Internet security as part of an overall organization security plan,
- Risk assessment as the foundation for security planning,
- Securing the server and LAN,
- Methods for securing data transmission,
- Methods for testing the security solution, and
- Monitoring the system/preparing for and responding to a break-in.

Technology Issue 2: The World Wide Web as a Universal Interface to Government Services

The primary objective of this part of the project was the examination and demonstration of the World Wide Web as a universal interface for the delivery of New York State services to its citizens. There are many potential benefits of a universal interface to Web-based services. It could integrate the delivery of services and present a more unified and user-friendly interface for accessing those services; reduce the learning curve and training costs; help government reach an expanded audience; give citizens anytime, anywhere convenient access to government; provide a single point of entry to services; and allow government to integrate information and services which originate at different sites on different platforms.

The project sought to investigate if the Web had reached a high enough level of sophistication and "openness," that New York State could consider adopting the Web as the preferred standard for interfacing the many services, applications, and platforms inherent in such a large enterprise.

In cooperation with the State University of New York Central Administration (SUNY Central), the project team demonstrated how agencies could deliver many of their services under this one common interface. These services could include information services, distance learning, work group collaboration, business services, electronic commerce, office automation, and others.

Project Deliverables

- Seminar and Technical Reports: Internet Security
- Seminar and Final Report: The WWW as a Universal Interface to New York State Government Services

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