

Who should read this report

This report details the key benefits and barriers regarding the use of XML for Web site management within the framework of the lessons learned during the Center for Technology's (CTG) XML Testbed.

Project managers, Webmasters, public information officers, program managers, and anyone involved in getting information to the Web site will find value in the findings presented in this report. It is not a technical how-to on the intricacies of XML; it is an explanation of how the adoption of XML in the cases cited here affected business processes, workflow, content management, and public image.

This report is part of a suite of resources (see Appendix B) produced from the XML Testbed. Each of these resources has its own focus and target audience, but they should be considered as a whole to gain a full picture of how using XML for Web site management can impact an organization. The other resources are:

- *Using XML for Web Site Management: Getting Started Guide*
- *Using XML for Web Site Management: An Executive Briefing on streamlining workflow, reducing costs, and enhancing organizational value*
- *The XML Toolkit*

The challenge of Web site management

In the late 1990s, CTG faced critical issues as its Web site matured over a five-year span from a simple location for posting reports and project results to a highly complex site with over 1,300 Web pages, thousands of hyperlinks, multiple navigation and search routes, interactive applications, and ongoing updates. Because the Web site was playing a more prominent role as the primary communication and outreach tool for the organization, its performance, appearance, and timeliness became greater concerns. The question confronting CTG was one faced by most government agencies:

How to efficiently manage a Web site that was continually growing in size, complexity, and importance without simply throwing more money and resources into it?

CTG's primary issue was managing the content—the dozens of publications and project descriptions—that comprised the majority of the material that appeared on its Web site. A typical publication contained 40 or more printed pages with tables and graphics. Each publication was produced as a printed document, as a downloadable PDF file, and as a series of hyperlinked HTML pages on the Web site.

In 2001, CTG had over 50 of these publications to manage. Every new publication or revision increased the difficulty of maintaining consistency among the various formats (print, PDF, HTML) and establishing an efficient workflow to keep the Web site up to date. CTG's practice of creating and managing individual HTML pages for its Web site—which was standard practice at the time—was creating unmanageable bottlenecks as more Web pages were added to the site. A database or content management system offered some relief in terms of workflow, but failed to address the root problem of maintaining the content in multiple formats and locations.

XML, however, offered a different solution. It addressed the root problem by providing a standard, non-proprietary structure for the original content coupled with tools to access and present that content in several different formats, including HTML and PDF. If the publications were taken out of their multiple formats as Word documents, PDF files, and HTML pages and converted to a single XML format, that would eliminate many of the consistency and workflow issues that were hampering the Web site management process. From the XML source document, the different output formats could be automatically generated by XML stylesheets (XSL) that would eliminate the manual reformatting of content for different uses (see Figures 1 and 2).

Figure 1. Web Publishing Workflows using HTML

Figure 2. Web Publishing Workflow using XML

Over a nine-month period from September 2002 to May 2003, CTG converted its entire Web site to an XML basis, which resulted in an 80% reduction in the time and resources devoted to routine Web site updates and maintenance. Those savings, which have held true to the present day, have enabled Web resources to be

reassigned to new development projects returning greater value to the organization.

The success of CTG's implementation of XML generated interest among other New York State agencies in adopting XML-based approaches to their own Web site management challenges. Presentations and training sessions conducted by CTG for these agencies provided some help but were not enough to move the interest into the adoption and implementation phases. The "testbed" approach described in the next chapter became the logical next step in helping agencies move to the next phases.

How this report is written

This report details the findings of CTG's XML Testbed as reported by and observed in the five New York State participating agencies. The chapters and appendices are briefly outlined on the next page.

- **The Testbed Methodology** explains the systematic approach that was followed in the design and implementation of the project. This chapter is important for understanding the distinction between *prototypes*, *pilots*, and *testbeds* within CTG's rubric and why the testbed framework was the critical component of the project.
 - **Benefits** itemizes the key benefits of using XML for Web site management that were identified as a result of the project.
 - **Barriers and Challenges** details the forces and factors that project participants identified as impediments to realizing the benefits of XML.
 - **Guidelines for Action** outlines steps that organizations interested in using XML for Web site management can take to overcome the barriers and reap the benefits.
 - **Appendix A** provides additional background information on the partners and participants in the project.
 - **Appendix B** provides a list and description of all of CTG's XML resources that are available for download from the CTG Web site.
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