

Proceedings of the 7th Annual Federal Depository Library Conference

April 20 - 23, 1998

Report on a "Pre-Pilot" of a Project to Deliver NTIS Electronic Image Files to a Depository Library

Linda Kennedy, University of California, Davis
Davis, CA

Background

The University of California, Davis Library is a large research library of over two million volumes. It has been a Federal depository library since 1953. We provide public service for Government information, maps and microforms at the Government Information and Maps Reference Desk. We have a strong collection of technical report literature, used most heavily by the environmental sciences. We first became aware of the NTIS pilot project proposal through the March 29, 1996, draft report by the Government Printing Office (GPO): Study to Identify Measures Necessary for a Successful Transition to a More Electronic Federal Depository Library Program. I reviewed Task 9 (appendix D-11 of the Study) for GODORT and the Coalition of Many Organizations. I was intrigued by the NTIS proposal to "provide depository libraries with online access on demand to the electronic images of Federally funded scientific, technical and engineering publications in its collection..." I had participated in a Depository Library Council review of the NTIS Preview Project in 1994/95 and was interested in helping to develop a formal and quantifiable pilot project.

On April 25th of 1996, I spoke with Don Corrigan, Deputy Director of NTIS, to obtain more information about the project. The UC Davis Library Administration and the campus Information Technology Department were enthusiastic when I described the opportunity. Information Technology had just acquired a Xerox DocuTech printer and was setting up a campus intranet to handle electronic reserves and other Web printing. We responded that we would be interested in participating, and NTIS said they would keep us in mind. As it turned out, UCD was the only library that contacted them, and we were contacted by project manager Kris Vajs, in November of 1997 about assisting NTIS in a "pre-pilot project" to work out the bugs in the system before NTIS embarked on a formal pilot project. Recent experience with setting up an electronic delivery system through Kinko's outlets indicated that some preliminary work would be desirable. The technical obstacles that Kris had to overcome demonstrated the value of the pre-pilot approach.

The project at UC Davis has been fully operational for nine months. We successfully requested over 40 documents. We are now entering a second phase, shifting procedures from Information Technology equipment elsewhere on campus to a library computer and printer.

In the first phase of the NTIS pre-pilot project, we divided our work into six major tasks.

First Task: Establish a Local Team to Address Technical and Public Service Issues

We established a local campus team, with representatives from Government Information, the Physical Sciences Library and our Systems department. The representative from Information Technology handled all of our technical operations.

Second Task: Test Delivery of Electronic Files

Our first sample files, most of them AD, DE, or PB reports, were delivered via FTP in November of 1996. The quality of the images varied, depending on whether the document had been scanned. (Old mimeographed documents do not look much better after scanning, although the quality of the print is higher than from a microform of the same mimeo.) NTIS receives documents electronically that have been scanned by the agency, or are original in electronic format, and they also scan documents themselves. According to an early communication from NTIS, the average size of the documents was 20 megabytes and at 14 kilobytes per second transfer rate the average transmittal time is 24 min. Files are Postscript Level 1. Kris Vajs said recently that some smaller files may be made available in PDF.

We elected to convert the documents to Adobe Acrobat files for viewing and printing, because in the Postscript format the files were much too large to view or print through standard personal computers using viewers such as Ghostscript. Adobe Acrobat downloads one page of information at a time. Standard machines used in public service now are faster, with more RAM and disk space. Some pilot libraries may wish to experiment with using Ghostscript to read Postscript files.

Technical Requirements

Receiving files: Technical staff at Information Technology began processing the Postscript test files with a Pentium 90 Server with 128 megabytes of RAM, and a 2 gigabyte hard drive, but the test files soon exceeded the capacities of the machine. They then migrated the process to a Dual Pentium Pro 200 with 512 megabytes of RAM, and a 4 gigabyte hard drive, and the process stabilized considerably. We received about 40 documents in this manner. After the first few, we had no problems. In phase 2 of the project at UC Davis, we are using a server running Windows NT 4.0, with Dual Pentium 100Mhz processors and 128 Mb RAM and two 2-gigabyte hard disks. I asked our technical person to review the draft 1998 Recommended Specifications for Public Access Work Stations in Federal Depository Libraries. For those specifications that were relevant to this project, the recommendations were adequate, except that 128 megabytes of RAM would be needed, instead of the 34-64 Mb in the draft.

Viewing: To view the images, we originally used a 486 PC workstation with Adobe Acrobat Reader and 16 Mb of RAM. We are currently using Pentium workstations with 32 Mb of RAM with the Adobe Acrobat Reader.

Printing: Information Technology uses a Xerox DocuTech 6135 for printing. For the library user, printing an image file is a much superior process over printing from microfiche: the printed product is much higher in quality, the print is done as one request (rather than a separate print for each page), and the cost is less (microfiche printing is 15 cents per page, compared to 6-10 cents per page for the printing of the image files). Prints can be tape-bound, hole-punched, or double-sided if desired. It is our intent to do more testing on printing documents, on our library machines, to see if we can print documents for acquisitions purposes locally on less advanced machines.

Third Task: Develop a Mechanism for Identifying Titles Available in Electronic Format

Project participants, and those interested in ordering publications that have been received by NTIS in the most recent 90 days, use the NTIS OrderNow database. Initially, to request some test files, we had to guess which titles might be in electronic format. Kris Vajs worked at the NTIS end to devise a mechanism to enable the user to identify reports that were in electronic format and to limit searches to those available in image format. NTIS added the phrase "ADSTAR" to the order fields for an electronic format document. The rest of the price field indicates paper and microfiche prices. Electronic documents cannot be purchased as image files, but can be delivered in that format. The price field is not searchable, however, so the phrase "Image format" was added to the end of the abstract in the OrderNow database. In order to limit a search to image files, you add "image ADJ format" to the abstract box on the NTIS OrderNow search screen.

The NTIS ten-year Web database, as Kris indicated, does not contain the image availability information. When that database is reconfigured, the expectation is that those publications will also become available for request in image format.

Fourth Task: Develop a Mechanism for Requesting Publications in Electronic Format

NTIS developed its OrderNow database to provide Web-based online ordering of priced publications in paper and microfiche. We were able to adapt that mechanism, which I will demonstrate, using overhead projections taken from the Web screens.

The Order Now Web address is <http://chaos.fedworld.gov/ordernow/>. We generally go there from our technical reports home page [<http://govdoc.ucdavis.edu/Federal/techreports.html>] or the UCD/NTIS pilot project home page [<http://libntc.ucdavis.edu/>]. You fill out the OrderNow search screen, placing "image ADJ format" in the abstract field box. From the search results screen, you select titles, review the abstracts, and click on "Add Item to your Order" to begin and add to your order list. When you are ready to order, click on "Review Your Order" which lists all of the titles and the prices. We have always just listed the paper format, but make sure ADSTAR is also in the field. Then click "Express Checkout," filling out all the required information (required by the system, so there is little you can skip). Under Payment Information, we enter our depository library number in the NTIS Deposit Account number box. After

ordering, a confirmation number is immediately generated. We can use this number when following up. At the NTIS end, staff identify the project requests, forwarding them to designated staff who locate the requested image files. The requested files are FTP'd to a UCD address and directory, generally within 48 hours.

Fifth Task: Develop Local Service and Collection Development Parameters

At UC Davis, requesting NTIS image files is a mediated process. Librarians identify files for requesting through the reference process. Most NTIS queries received in reference, of course, are for specific citations. Those doing a general subject search may not find a relevant publication in the 90-day database. We also have not publicized the service to the public, or integrated an OrderNow search into the routine search process. Consequently the volume of OrderNow requests is very low. It would increase significantly if one could identify and request image files in the ten-year NTIS database.

Who should have access to the service? Information vendors or "resellers" may not request documents. We already have loan policies in place that preclude loans to information vendors or others on behalf of a second party.

Who else has access? Something to consider is whether requests for NTIS documents constitute an interlibrary loan. If so, only certain categories of borrowers have access to the service. We have not considered the pilot project service to be an interlibrary loan. However, the service is not quite the same as accessing a work over the Internet. A request has to be made, the user notified, and the file purged after use.

What should be the local limits on access to this service? At our institution, we do not have much use by local companies. That is not the case in many depositories. Should the librarian or another staff person in a local company in your congressional district be able to come in and request NTIS documents-documents they might otherwise have purchased? The loss of business in this manner might become a concern to NTIS.

We also need to explore collection development issues on the campus level. Should we use OrderNow for acquisitions, printing off titles for permanent retention, when we could obtain them in image format any time they are requested?

For acquisitions purposes, it would be very helpful if OrderNow incorporated a browse feature that permits review of titles added to the database during a specific time frame. The demise of the printed Government Reports Announcements has eliminated the ability to see all of the new titles added to the database.

Sixth Task: Develop a Mechanism for Delivering the Information to Our Users

We elected to create a Web page [http://libntc.ucdavis.edu/NTIS_Docs/] which links to a directory listing of the titles received via FTP. We can automatically purge the titles after a preset time.

After the titles are FTP'd to the appropriate UC Davis directory, an automatic process runs at a specified time each day to convert newly received Postscript files to PDF format. In the

first phase of the project, we developed a program to apply a password to each file, since the directory was accessible through the WWW from anyplace. In the second phase of the project, consistent with the NTIS/GPO interagency agreement, we have limited access to campus IP addresses, and no password is required. Users can simply be told to keep an eye on the directory, and no notification is required by our staff.

Initially, the project's guidelines precluded our delivering a publication in electronic format. It could be viewed and printed, but not downloaded. The project guidelines are now more flexible, and a user would be able to download the work. This is the advantage of making the reports available on a campus Web site-campus users can download to their own PC's or Macs. We verbally inform users that if they download the report, they are not allowed to put the text on a publicly available Web site. What if users do not comply? NTIS has indicated they would discontinue a library's participation in the project if there appeared to be abuse.

Conclusion

Future tasks in the pilot project include developing a more automated system of making requests. In order to add a significant number of participants to the NTIS pilot project, NTIS will have to either dedicate additional staff to the project, or automate the request and delivery process, which now requires human intervention at several steps. On the institutional level, we would also like to make the requesting process more automatic, and possibly patron-initiated. We have also not determined how statistics would be kept. Ideally, statistics could derive from the request/logging process.

Our working relationship with Kris Vajs has been harmonious, and she deserves a great deal of credit for her persistence in working out the details of providing searchable indicators of image availability, and developing a mechanism for requesting the items online. After hearing about the extensive development efforts for DOE and ERIC document distribution, I am especially impressed with Kris Vajs' accomplishments. For NTIS electronic distribution was not intended as a normal distribution channel for technical reports, and is not a revenue-producing activity. Staff must be pulled away from other projects that fund the agency.

The on-demand access we have been testing offers many possibilities for enhanced service to users of depository libraries, and the NTIS/GPO Interagency Agreement is an important step toward expanding access. Should electronic delivery also be an NTIS sales option? Although paper and microfiche are still primary forms of distribution, electronic format would be useful for a number of users, and NTIS may consider developing this option in the future. The pilot project can provide useful data for assessing interest.

Lastly, I would like to note that the NTIS historical and archival set of technical report literature is a national treasure. We must assure its survival amid sporadic attempts to abolish or reorganize the Department of Commerce, and we need to encourage NTIS to ensure the longevity of its electronic documents, including backing up electronic files and migrating them to new formats.