

[JPEG 2000](#) is a standard for digital image compression adopted in 2000 by the international JPEG Committee. In today's digital world, JPEG 2000 provides an improved method to compress large image files so they take less storage space and less time to send electronically, and are easier to access.

JPEG 2000 can be used to archive and store any digital image file – photography, text, or video. Among the many features of JPEG 2000 is rich and flexible support for metadata, which can describe the image, provide information on the intellectual property and technical data relating to the image itself, as well as the ability to do 'smart decoding' which allows renditions of the image to be generated just-in-time from a compressed image master. Among the applications already using JPEG 2000 are digital cinema, geospatial and medical imaging, book scanning and online image collections.

JPEG 2000 at work

Librarians and archivists from leading industry institutions around the world are particularly interested in JPEG 2000 as a way to preserve and share the art, literature and artifacts of yesterday and today.

[Dr. Robert Buckley](#), a Research Fellow with the [Xerox Research Center Webster](#), located in Webster, New York, led the development of part of the JPEG 2000 standard and is leading Xerox's effort to help develop guidelines and best practices for implementing the standard in today's document management processes. According to Buckley, "Using JPEG 2000, researchers located anywhere in the world can look at an image via the Internet and zoom in close enough to see details such as the brush strokes on artwork or the fine detail in prints. No other compression tool can offer this flexibility."

Buckley and a team of researchers at XRCW and [Xerox Research Centre of Europe](#) have been collaborating with other organizations to explore how best to implement the standard to meet the document management challenges we face today and in our increasingly digital world of the future.

Xerox worked to create a JPEG 2000 profile for newspapers as part of the National Digital Newspaper Program, [Chronicling America](#). The project was created to enhance access to America's historic newspapers. The site allows visitors to search and read newspaper pages from 1900 to 1910 and find information about American newspapers published between 1690 and the present.

The Library of Congress has approached Xerox to help them find ways to use JPEG 2000 to store, preserve and access treasured digital images in the library's collection. The current joint-research project will work with approximately one million digitized, public domain prints, photographs, maps and other digitized content from the Library's collections.

As part of the project, [Xerox Innovation Group](#) scientists will work with the initial images to create an image repository that they can use to develop and test approaches for the management of large image collections. The Library hopes to gain a system that could simplify file management and decrease storage costs for the entire collection.

Xerox's support of important standards such as JPEG 2000 is part of the company's ongoing [Smarter Document Management](#)SM research, which develops technology and services to help organizations streamline document processes and information gathering in order to enhance productivity, spur growth and reduce operational costs.