

Appendix 4 JPEG 2000

JPEG 2000 is a new image distribution format. With compression 10 times greater than Adobe PDF, very large images can be saved in very small file sizes. But, unlike other image compression schemes, JPEG 2000 images are viewable without distortion.

NUMBERS DEMONSTRATE THE CASE:

PER PAGE IMAGE

400 dpi, 8-bit, uncompressed TIFF master	14.00 MB
Compressed PDF (Internet deliverable)	7.44 MB
Compressed JPEG2000 (Internet deliverable)	1.45 MB

The National Digital Newspaper Program requires use of JPEG2000 for good reason. At 7.44 MB per page image, one page would take a little over 1 minute to download and view over high-speed lines. Over a telephone line, that image could take up to an hour or more to download. Unfortunately, many of our anticipated users still procure Internet services over telephone lines.

While a 1.45 MB JPEG2000 image takes only seconds to download via high-speed lines, it would take minutes to download and view over telephone lines. Minutes are unacceptable as studies have shown that the average user will wait for an image only between one and three seconds. To address this issue, JPEG2000 uses programming to send the user only what the user needs or wants to view at any given time.

JPEG2000 functions will be very familiar to PDF users. Functions include zoom, pan, search highlighting, etc.

To see JPEG2000 in actions, see: the Melville Project at the University of Connecticut http://charlesolson.uconn.edu/Works_in_the_Collection/Melville_Project/browse.cfm.

The University of Florida's digital library, which has been serving book page images to date, has until now not meet the demand required to serve newspaper images. To do so, conversion of the analog (microfilming) operations to fully digital operations requires a JPEG2000 server. We ask that LSTA grant funds required for start-up. The University of Florida will maintain the server thereafter. JPEG2000 is so new that there is only one vendor of a fully functional JPEG2000 server: Aware. A quote from Aware is provided on the proceeding page.

E-Mail Quote from Aware Re: JPEG2000 Server (ArchivePack Bundle)

From: Serafino, Mike [mailto:serafino@aware.com]
Sent: Tuesday, March 08, 2005 2:19 PM
To: 'kesse@ufl.edu'
Subject: RE: Aware JPEG2000 and Image Server

Erich,

Thanks for fielding my questions today and letting us provide the following information for your grant.
Pricing:

- JPEG2000 SDK: \$2500
- Annual Maintenance: \$375 (15%)
- Single CPU Aware Image Server: \$4995
- Image Server CPU License, 2-5 CPU: \$3995
- Annual Maintenance for Image Server is also 15% of net fees paid.

So a 2 CPU server with the SDK and annual maintenance would be \$13,213.50. However, I can use an ArchivePack bundle for an additional discount if you in fact go with a 2 CPU server. Here's what that package would then look like: Aware Archive Pack for 2 CPU Server, No content creation workstations, Includes JPEG2000 base SDK and first year of Annual Maintenance: **\$12,000.**

Regards,
Michael

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