



## Case Study



# Indiana University-Purdue/University Indianapolis Library System

Digital Libraries Team Uses LizardTech Express Server for High-Speed, Plug-in-Free Content Delivery

### Business Profile

The Digital Libraries Team is in charge of the Web presence for University Library, which serves Indiana University-Purdue University Indianapolis (IUPUI). The team creates unique scholarly resources with an emphasis on philanthropic studies, research generated by both universities, and materials relating to Central Indiana. University Library installed LizardTech Express Server to handle instant delivery of images and documents from its emerging online atlas to customers in K-12 education and academic research.

### Situation

The IUPUI University Library is developing a digital archive of maps, aerial photos and other geographic and historical documents relating to Marion County and the nine surrounding counties. This digital archive is to serve teachers and students in K-12 education, academics such as historians and genealogists, and the general public.

Digital Libraries Team researchers started collecting and scanning aerial photographs, census data, historical maps and atlases such as Baist real estate maps, and city directories.

“We’re dealing with collections that were once very heavily used” says Jenny Johnson, GIS application analyst for the Digital Libraries Team, “but were so worn and torn that they were eventually removed from circulation and have not been accessible to anyone for many years.”

Original materials were scanned to the raw TIFF format at 300-400 dpi to ensure archive-quality preservation. But because raw files are too large to be delivered quickly and efficiently online, University Library needed to invest in a compression and delivery system for its growing database.

### A Need for Speed

A vital element in the digital atlas’ user-experience would be speed — both download speed and speed of panning and zooming an image. “Many schools don’t have the latest and greatest technology, and networks can be slow,” says Johnson. “Especially when engaging children, you don’t have time to sit and wait for five minutes for a single image to appear onscreen. You’re going to lose your audience.”

### The No-Plug-In Challenge

The Digital Libraries Team also understood that many users will not continue an online exploration if it involves the inconvenience of downloading a plug-in. “It was important to us that we make it easy to use the digital atlas without a lot of training,” says Johnson. “In keeping with that goal, our delivery solution would need to accommodate non-plug-in viewing.”

### Solution Overview

#### Company

IUPUI University Library

<http://www.ulib.iupui.edu>

#### Customer Profile

The Digital Libraries Team creates and publishes content, develops and integrates software, and implements related projects in support of the Digital Libraries Information System of Indiana University/Purdue University Indianapolis.

#### Industry

Libraries and Archiving

#### Business Situation

University Library needed a solution for delivering its archived content to its customers for quick download and real-time panning and zooming. It was important that the solution would be viable even for users without the plug-in.

#### Solution Description

The Digital Libraries Team installed LizardTech Express Server to deliver MrSID image data to University Library customers, whether with or without the free ExpressView Browser Plug-in. On-the-fly panning and zooming in either format makes documents and images easy to navigate.

#### Technology Link

<http://www.lizardtech.com/solutions/exp>

## Solution

After considering several solutions including Earth Resource Mapping's ER Mapper Compressed Wavelet (ECW) technology, the Digital Libraries Team implemented LizardTech Express Server combined with LizardTech's MrSID® image format, the de facto industry standard for aerial and satellite imagery. Express Server was installed on a Windows® 2000 Advanced Server. LizardTech's GeoExpress was installed on a Windows PC computer to convert the raw TIFF images to MrSID format, where lossless compression produced images retaining pixel-for-pixel fidelity in much smaller files. When customers request an area of interest (desired 'scene') from these lossless images, Express Server extracts the corresponding MrSID data and delivers it instantly in MrSID format to plug-in users and in JPEG format to non-plug-in users.

"We're very happy with Express Server," says Johnson. "It only took us a few days to configure, which was a lot less than we anticipated, and we installed it without any help. And it's always up and running."

## Benefits

### High-Speed Image Delivery

Express Server enabled University Library to offer the fastest online delivery of images from its online archive, and because MrSID images need not be fully decoded in order to deliver a portion of the image data, Express Server immediately sends data for any area of interest requested by the user.

### Access by Anyone with a Browser

Express Server delivers MrSID imagery to any customer using a common Web browser, providing instant viewing of very large images without a plug-in. Non-plug-in viewing offers the user the familiarity of their favorite browser's navigation controls. The free ExpressView Browser Plug-in makes navigation even easier and offers additional workflow optimizations.

### Maneuverability of Large Images

Panning and zooming in and out of large images is fast and easy because of the unique way Express Server extracts MrSID image data. Only data pertaining to the requested area of interest within the image – and at the requested resolution or 'zoom level' – is extracted and delivered, which means University Library customers don't wait for data they don't need.

### An Established Format

Express Server is designed to take advantage of the MrSID format and wavelet image compression technology, the de facto industry standard for geographic information system (GIS) imagery. "A preservation group discovered our Web site and was thrilled that we had all this MrSID imagery," says Johnson. "They're now using our MrSID images within their GIS software to research historic farms and barns in Central Indiana."

**LizardTech Express Server gave University Library's customers the fastest access to and maneuverability of its archived imagery without requiring a browser plug-in.**

**"We work hard to make these collections available online. LizardTech Express Server helped us ensure that people can use them."**

Jenny Johnson, GIS Application Analyst  
Digital Libraries Team, IUPUI University Library

#### For More Information

For more information about LizardTech products, contact LizardTech at (206) 652-5211. In Europe, call LizardTech UK, at 44 (0) 870 922 0239. Outside the 50 United States, please contact your local LizardTech sales manager. To access purchase information using the World Wide Web, go to: <http://www.lizardtech.com/purchase>.

For more information about LizardTech Express Server, go to: <http://www.lizardtech.com/solutions/exp>

For more information about IUPUI University Library, visit their Web site at: <http://www.ulib.iupui.edu>

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