Readme

Express Server Version 9.5.0.4546

December 2016

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Product Overview

Express Server is a server application for distributing raster imagery and LiDAR data. Use Express Server to distribute high-resolution aerial photographs, satellite imagery, and LiDAR point clouds via the Web Map Service (WMS).

The following list describes some of the features of Express Server:

- Configure and administer Express Server from any web browser with a simple graphical user interface.
- Access Express Server imagery from all platforms and devices via the widely-supported WMS standard.
- Distribute multiple image formats, including MrSID, JPEG 2000, NITF, and Geospatial PDF.

- Distribute multispectral imagery.
- Distribute LiDAR point clouds.
- Distribute and create DEMs from LiDAR point clouds on the fly.
- Distribute imagery with the JPEG 2000 Interactive Protocol (JPIP).

System Requirements

Hardware Requirements

For optimal performance, verify that your system meets the following recommended hardware requirements:

- 3 GHz quad core processor
- 8 GB RAM (16 GB recommended)
- 500 MB of disk space for installation plus additional space for images
- Gigabit Ethernet or fiber-optic connection recommended for remote imagery

Operating System Requirements

Express Server supports 64-bit operating systems only. You can install Express Server on the following operating systems:

Windows

- Windows Server 2008 R2 Service Pack 1
- Windows Server 2012

Linux

- Red Hat Enterprise Server 6
- Red Hat Enterprise Server 7
- CentOS 6 (64-bit)
- CentOS 7 (64-bit)

NOTE: On Linux systems Express Server must have write access to the `/tmp` directory.

Web Server Requirements

Express Server works in conjunction with an existing web server installation to distribute imagery. You can use Express Server with the following web servers:

Windows

- IIS 7.5 with ISAPI Extensions (Windows Server 2008 R2)
- IIS 8.0 with ISAPI Extensions (Windows Server 2012)

Linux

- Apache Web Server 2.0.x
- Apache Web Server 2.2.x
- Apache Web Server 2.4.x

Software Requirements

To run, Express Server requires a 64-bit version of the Java Runtime Environment. Express Server supports version 8 of the Java Runtime Environment, sometimes referred to as JRE 1.8.

Optionally, install the LizardTech Plugin for ArcGIS to integrate with the following versions of ArcGIS:

- ArcGIS 8.x
- ArcGIS 9.x

When you install the LizardTech Plugin for ArcGIS, you can add Express Server imagery to ArcMap documents, and you can distribute Express Server imagery with the ArcGIS Image Server.

Installation Notes

Installing on Windows

To install Express Server on Windows, navigate to the directory where you downloaded the installer and run the `AutoRun.exe` program. The installation process creates a shortcut in the LizardTech directory of the **Start Menu**.

Installing on Linux

To install Express Server on Linux, navigate to the directory where you downloaded the installer and run the `install.sh` shell script. By default, Express Server is installed in the following directory:

```
/opt/LizardTech/
```

New Features

Version 9 of Express Server includes the following new features and enhancements:

Version 9.5

Now Serving LiDAR

Express Server 9.5 serves LiDAR images in MrSID Gen 4, LAS, and LAZ formats. You can visualize LiDAR data in any WMS viewer, and download and extract point clouds from your LiDAR collection.

Better Installation Experience

The Express Server installer can upgrade an existing Express Server 9 or later installation; you no longer need to uninstall your existing software and install the new version.

In addition, all prerequisite software is installed automatically, including Java and IIS.

ExpressZip Enhancements

ExpressZip has been updated to support LiDAR workflows. Users can clip, zip, and ship from LiDAR catalogs to DEMs and point clouds. In addition, users can filter by classification and other properties.

Version 9.0.6

Java 8 Support

Express Server now supports version 8 of the Java Runtime Environment (JRE). Previously, it only supported version 7.

Version 9.0.4

NITF and JPEG 2000 Band Mapping

For NITF and JPEG 2000 images that have more than one band, you can select the bands that you want Express Server to deliver and the order of the bands. You can select one band to display an image in gray-scale, or three bands to display an image as a red, green, and blue image. Previously, you could only select bands for images in the MrSID Generation 4 format.

Version 9.0.0

ExpressZip Web Application

ExpressZip is a sample web application that you can use to view and export Express Server imagery. You can select multiple layers, select the area that you want to export, and configure output options.

You can use ExpressZip with HTTPS and HTTP. To use ExpressZip, navigate to one of the following URLs:

```
https://<Express_Server_Host>:8443/ExpressZip
```

```
http://<Express_Server_Host>:8080/ExpressZip
```

Painless Upgrades

The Express Server installer now preserves any existing configuration of Express Server, including the configuration of each image catalog. After you install another version of Express Server, open the Express Server Manager and click **Upgrade** on the **Status** page to migrate image catalogs from the previous version of Express Server to the new installation. The upgrade functionality only supports upgrading from version 8 of Express Server.

Concurrent Processing

Express Server creates multiple threads to process image requests more quickly. The number of threads that you can run at one time depends on the number of cores in your machine's processor. You can set a maximum number of threads on the **Settings** page of the Express Server Manager.

Configurable Working Directory

The working directory is the location where Express Server stores information about image catalogs, including indexes, catalog overviews, the configuration archive, and catalog configuration files. Depending on the size and number of your image catalogs, the working directory may require several gigabytes of space. To alleviate space constraints, you may specify another directory to use for the working directory. For example, you may choose to store the working directory on an external drive.

Fixes

Version 9.5.0.4547

Bug ID	Description
LT-1853	Fixed an issue where ExpressZip yielded an error with a LiDAR catalog containing more than 2^{31} (2.1 billion) points.

Version 9.5.0

Bug ID	Description
LT-1149	Fixed an issue where a locking code would not be displayed on 64-bit Linux systems that did not have 32-bit compatibility libraries installed.

Version 9.0.7

Bug ID	Description
LT-232	Fixed a crashing bug occurring related to highly magnified extractions near boundaries of images.

Version 9.0.6

No additional fixes.

Version 9.0.5

Bug ID	Description
16749	For multispectral NITF images, the image bands may not display in the correct order.

Version 9.0.4

Bug ID	Description
16590	For Express Server imagery that does not have an alpha band, areas outside the image may appear black.
16451	For NITF images with red, green, and blue bands, Express Server may not display the image bands in the order specified by the NITF image.

Version 9.0.3

Bug ID	Description
16300	Express Server may return an HTTP 503 Service Unavailable error or Express Server may stop responding under the following conditions: • Express Server receives repeated requests for coordinate reference systems that are not valid or not configured. • Express Server receives repeated requests for scenes that are not valid.

Version 9.0.2

Bug ID	Description
16183	If you attempt to view a region at high magnification, and Express Server does not have image data for the region, the Express Server may stop responding. The issue only occurs if you specify GIF as the image format in the WMS request.

Version 9.0.0

Bug ID	Description
15319	Express Server can only use HTTP for internal communication between the Tomcat service and the image server.
15143	If you attempt to mosaic images that do not have transparency values, the resulting image mosaic may display a black background.
15024	If you attempt to access the Express Server Manager with Internet Explorer 10, you may experience compatibility issues.

Known Limitations

Version 9.0.0

Bug ID	Description
15119	You cannot create an image catalog or catalog group whose width or height exceeds two billion pixels.

Customer Support

To contact LizardTech Customer Support, visit the following website:

https://www.lizardtech.com/support/

Alternatively, call one of the following phone numbers:

866-725-5211

206-652-5211

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