Tagged Image File Format (TIFF)

Tagged Image File Format (TIFF) is a standard file format that is largely used in the publishing and printing industry. The extensible feature of this format allows storage of multiple bitmap images having different pixel depths, which makes it advantageous for image storage needs. Since it introduces no compression artifacts, the file format is preferred over others for archiving intermediate files.

Tagged Image File Format, abbreviated TIFF or TIF, is a computer file format for storing raster graphics images, popular among graphic artists, the publishing industry, and photographers. TIFF is widely supported by scanning, faxing, word processing, optical character recognition, image manipulation, desktop publishing, and page-layout applications. The latest published version is 6.0 in 1992, subsequently updated with an Adobe Systems copyright after the latter acquired Aldus in 1994. Several Aldus or Adobe technical notes have been published with minor extensions to the format, and several specifications have been based on TIFF 6.0, including TIFF/EP (ISO 12234-2), TIFF/IT (ISO 12639), TIFF-F (RFC 2306) and TIFF-FX (RFC 3949).

Filename extensions : .tiff, .tif

Internet media type: image/tiff, image/tiff-fx

Developed by: Aldus, now Adobe Systems

Initial release: 1986; 34 years ago

Type of format: Image file format

A Tagged Image File Format or TIFF is a specific type of computer file format for storing raster graphic images and exchanging them between application programs. Examples of these programs include word processing, scanning, image manipulation or editors, optical character recognition, and desktop publishing applications, among others. The format was developed in 1986 by a group spearheaded by Aldus Corporation, which is now part of Adobe Inc. It can be identified with a .tiff or .tif suffix in the filename. Nonetheless, the format now remains as one of the most common graphic image formats alongside the JPEG standard and PNG file format.

TIFF

- **TIFF**: stands for **Tagged Image File Format**.
- The support for attachment of additional information (referred to as "tags") provides a great deal of flexibility.

1. The most important tag is a format signifier: what type of compression etc. is in use in the stored image.

2. TIFF can store many different types of image: 1-bit, grayscale, 8-bit color, 24-bit RGB, etc.

3. TIFF was originally a lossless format but now a new JPEG tag allows one to opt for JPEG compression.

4. The TIFF format was developed by the Aldus Corporation in the 1980's and was later supported by Microsoft.

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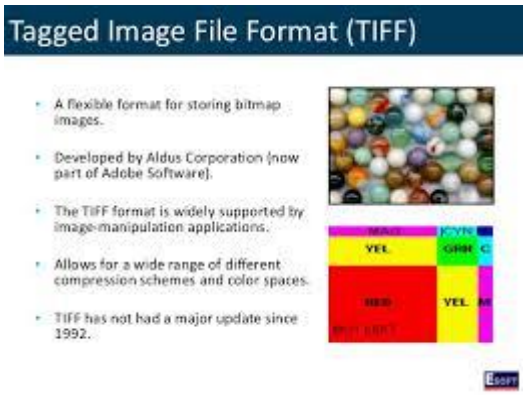

Advantages of TIFF:

1. This file format is that it can handle images and data within a single file, including header tags such as size, definition, image-data arrangement, applied image compression, thus making it flexible and adaptable.

2. Don't need compression.

3. Supported by image manipulation applications.

4. For example, a single TIFF file can contain both JPEF and PackBits compressed images.

5. It makes the format more flexible and adaptable is that it can be rendered in any classes, including gray scale, color palette, or RGB full color.

6. So, including being a container for different image file formats, it is a single format usable across multiple computer platforms.

7. It can also store image data in a lossless format.

8. Unlike, the more common and standard JPEG standard, which is a lossy format, another advantage of TIFF is that it is useful for archiving image for further editing, transferring, and saving without losing image quality.

9. The BMP file format, which is a lossless format, is less flexible when compared to TIFF.

Disadvantages of TIFF:

1. The size of the file is very large when saving layered images.

2. This format is generally uncompressed.

3. A single file can typically take up at least 100 megabytes of storage space.

4. Having a large image file size means that using the format would consume storage space quickly or it may be too large to be uploaded as an email attachment.

5. When used as an online image for websites or web-based applications, it can take a long time to open or download, while also consuming more broadband data.

6. Remember that the format can store multiple files in a single file. A single TIFF file can be a container for different image files. This is useful for the storage and transmission of text data or documents.

7. However, unlike the PDF format, it cannot directly store the textual contents of documents, thereby making it unsuitable for archiving searchable texts.

History of TIFF:

TIFF was created as an attempt to get desktop scanner vendors of the mid-1980s to agree on a common scanned image file format, in place of a multitude of proprietary formats. In the beginning, TIFF was only a binary image format (only two possible values for each pixel), because that was all that desktop scanners could handle. As scanners became more powerful, and as desktop computer disk space became more plentiful, TIFF grew to accommodate grayscale images, then color images. Today, TIFF, along with JPEG and PNG, is a popular format for deep-color images. The first version of the TIFF specification was published by Aldus Corporation in the autumn of 1986 after two major earlier draft releases. It can be labeled as Revision 3.0. It was published after a series of meetings with various scanner manufacturers and software developers. In April 1987 Revision 4.0 was released and it contained

mostly minor enhancements. In October 1988 Revision 5.0 was released and it added support for palette color images and LZW compression.

Difference between RIFF & TIFF:

TIFF(Tagged Image File Format)	RIFF(Resource Interchange File Format)
TIFF format is developed by Aldus, Corporation	RIFF format is jointly developed by IBM and, Microsoft
It is totally new format	It is not new format it just provides, wrapper around existing file formats to provide platform independence
It stores only bitmap data	It can store other data also
TIFF includes number of compression scheme, that allows developers to choose the best space or time trade-off for their, application	It, includes Microsoft proprietary compression algorithms
Suitable for pre-press application.	Not suitable for pre-press application.
Here tags are used for random access.	Here list chunks are used for random access. For example “idxl” list chunk of AVI RIFF file format is used for random access.
Information is stored in Image file directory.	Information is stored in chunks.

TIFF(Tagged Image File Format)	**RIFF(Resource Interchange File Format)**
TIFF is used for images.	RIFF is a general framework file format for multimedia.