

## Appendix 3

# Compression - Comparison between FlashPix and MrSID

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## 1 Background

The format FlashPix is common used in image handling. We have some experience with the format when NLS created a CD-ROM with Historical maps. This CD contains 200 maps in FlashPix format and a FlashPix viewer.

Is FlashPix or MrSid the format for DHM on Web?

## 2 Comparison between FlashPix and MrSID

Both techniques have weak and strong sides that can be important to consider when you choose one of them. This is a description of the most important advantages and disadvantages of the two tools for usage as tool for compression and for web-presentation of the historical map material.

## 3 FlashPix-advantages

The biggest advantage of the FlashPix concept is that it has existed a longer time than MrSID and that it is one of the most influential company in the image- and computer industry that is behind the concept. This brings about a bigger supply of programs to choose between and it is a very small risk that the technique will be replaced in a near future. On the contrary more and more people seems to start using the technique and FlashPix is believed by many to be the new standard of image handling.

When it comes to the web-presentation there are several different solutions to choose between and the chance is big that it will be able to show the FlashPix-format directly in the web-reader in next version of Microsoft Internet Explorer. The program we have tested, OpenPix from HP, gives great liberty for personal design since the image handling is carried out with a Java-applet or ActiveX-control. These contain functions for zoom, pan, print the entire- or a part of the image, which can be called from the web-side, etc. Compared with MrSID this web-server feels faster but that could have to do with machine- and network performances. Any objective test hasn't been possible to do while the programs work under different platforms.

## 4 FlashPix-disadvantages

At first hand the FlashPix technique is developed for the photo industry and is not for scanned maps. For example, the JPEG compression doesn't work so well when the images contain thin lines and the compressed image isn't always geometric correct, i.e. details in the image can be displaced when you compress.

With FlashPix you can't compress as much as you can with MrSID and that is important when you want to compress a lot of data.

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## 5 MrSID-advantages

Very large images can be quickly compressed and decompressed. With MrSID you can compress about twice as much as with FlashPix, which is important for storing and distribution of the files. Possibility to view an image at any resolution in a matter of seconds. MrSID is very easy to use because the menu is simple and the commands are readily available. It requires minimum of settings, which makes it fast and efficient.

MrSID compress images of any size without any seams, because the files are not broken down into multiple images, it is no longer necessary to search through hundreds of files looking for a particular location in an image. When zooming in better and better image detail and clarity is obtained, this might sound rather odd because as we all know in many other compression technologies today zooming in usually results in an image unveiling the square pixels and the seams. In addition, the result will be geometric correct.

MrSID is compatible software, which means that it can be used on many different computers.

MrSID also has a strong connection to GIS/map-industry through collaborations with ESRI and USGS.

The advantage with MrSID: s web-solution is that it is very easy to create a new image catalogue fast while the server program creates thumbnails and seek-lists by itself. The only thing you have to do yourself is to copy the image files to a catalogue on the server.

## 6 MrSID-disadvantages

MrSID: s biggest disadvantage is that it isn't as open as FlashPix and that it is a small company behind the program, which makes you dependent on them if you choose a solution with only the MrSID program. The program supply and progress rate are also much smaller while all progress is done within one company.

The server program is easy to use, but the functionality is settled beforehand and there aren't the same possibilities as with FlashPix for creating your own solutions.

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## 7 Some short facts

	<b>FlashPix</b>	<b>MrSID</b>
Compressing method	JPEG (Discreet Cosine Transform)	Wavelet (Discreet Wavelet Transform)
Compressing level (acceptable loss of data)	About 10 times	About 20 times
Compression time (75 Mbytes)	About 20 minutes (sharpen included)	About 5 minutes (sharpen excluded)
Compressing program	PhotoShop plug-in, free	MrSID Compress, 600 – 6000 \$
Viewers	FlashPix Viewer from Picture Works Inc, free	MrSID Viewer from Lizard Tech, free
Server programs	HP OpenPix for HP/UNIX and Windows NT, free.  Live Picture Image Server for Sun/UNIX and Windows NT, is found in some variants with different prices.	MrSID Image Server for Sun/UNIX, free.
Plugin programs or extensions in programs	PhotoShop, Netscape, Internet Explorer.	PhotoShop, ArcView, ArcInfo, Erdas Imagine, MapInfo, Netscape, Internet Explorer.
Collaborate partners	Live Picture, Kodak, Hewlett-Packard, Microsoft, Sun.	Lizard Tech, ESRI, USGS.