

Tech Note 644

Improving Application Performance with ArcestraA Graphics

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Introduction

With the need to develop an application faster, the use of large graphic images in the Arcestra Graphics Symbol (AGS) or in a Managed Application is done without much consideration. Digital cameras are readily available and their pixel resolution is getting higher and higher. This means the graphic file is much bigger; i.e. it takes more disk space.

The problem with this ease and convenience is that large images increase the size of the AGS and the Managed Application. A large image size causes the deployment of the Managed Application to take longer to complete due to the size of the whole app, and the Managed Application also has the possibility of getting corrupted. Further, backing up the Managed Application or Galaxy can also be problematic due to the large size of the managed application.

Benefits of using small ArcestraA Graphics Symbols:

- Smaller and more compact Managed Application for backup and restore.
- Smaller and more compact Arcestra Graphics Symbol for backup and restore.
- Reduced risk of the Managed Application getting corrupted.
- Smaller Galaxy backup.

The way the AGS is designed also plays an important part in terms of how much memory is being used. The higher the number of AGSs embedded into one AGS, the more memory it uses, compared to using multiple, "simple" AGSs.

Application Versions

- Wonderware Application Server 3.0 and later
- InTouch 10.0 and later
- Windows Server 2003 SP2 and later

File Size Comparison Matrix

The following tables show that the size of the BMP file / JPG file / exported AGS and managed application depends a lot on the graphics that are inserted into them.

Image	Resolution Dimension	Size
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ORIG_IMG.BMP	1152 x 864	2.84 MB
ORIG_IMG.JPG	1152 x 864	43 KB

Image	Resolution Dimension	Size
ORIGINAL_IMG.JPG	2592 x 1944	2.02 MB
ORIGINAL_IMG_REDUCED.JPG	648 x 486	46 KB

Exported AGS with image	Resolution Dimension	aaPKG Size
ORIGINAL_IMG.aaPKG	2592 x 1944	2.11 MB
ORIGINAL_IMG_REDUCED.aaPKG	648 x 486	142 KB

Single window with below image	Resolution Dimension	Exported Managed App Size
ORIGINAL_IMG.JPG	2592 x 1944	2.71 MB
ORIGINAL_IMG_REDUCED.JPG	648 x 486	751 KB

From the above comparison charts, you will notice that by simply changing the file type and resizing the graphic image, you reduce your AGS and managed application sizes tremendously.

Reducing Image Size

The primary step is to convert the file to a JPG image. This will generally reduce the file size by 60% or more.

Note: JPG and JPEG are both acronyms for [Joint Photographic Experts Group](#).

To convert an image to JPG format

1. Locate the folder containing the image in Windows Explorer.

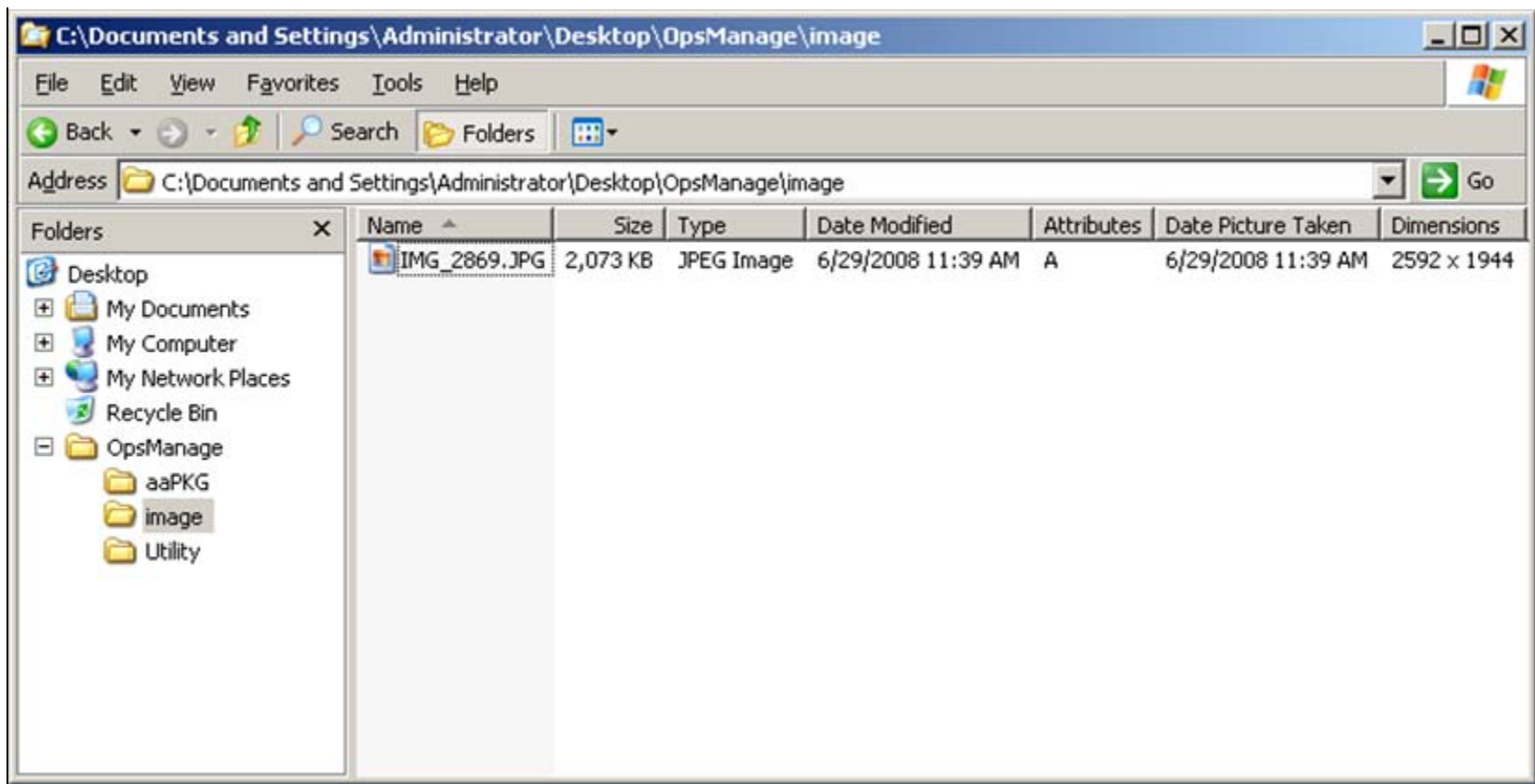


FIGURE 1: LOCATE THE IMAGE FILE

2. Select the image and right-click it. Then click **Preview**.

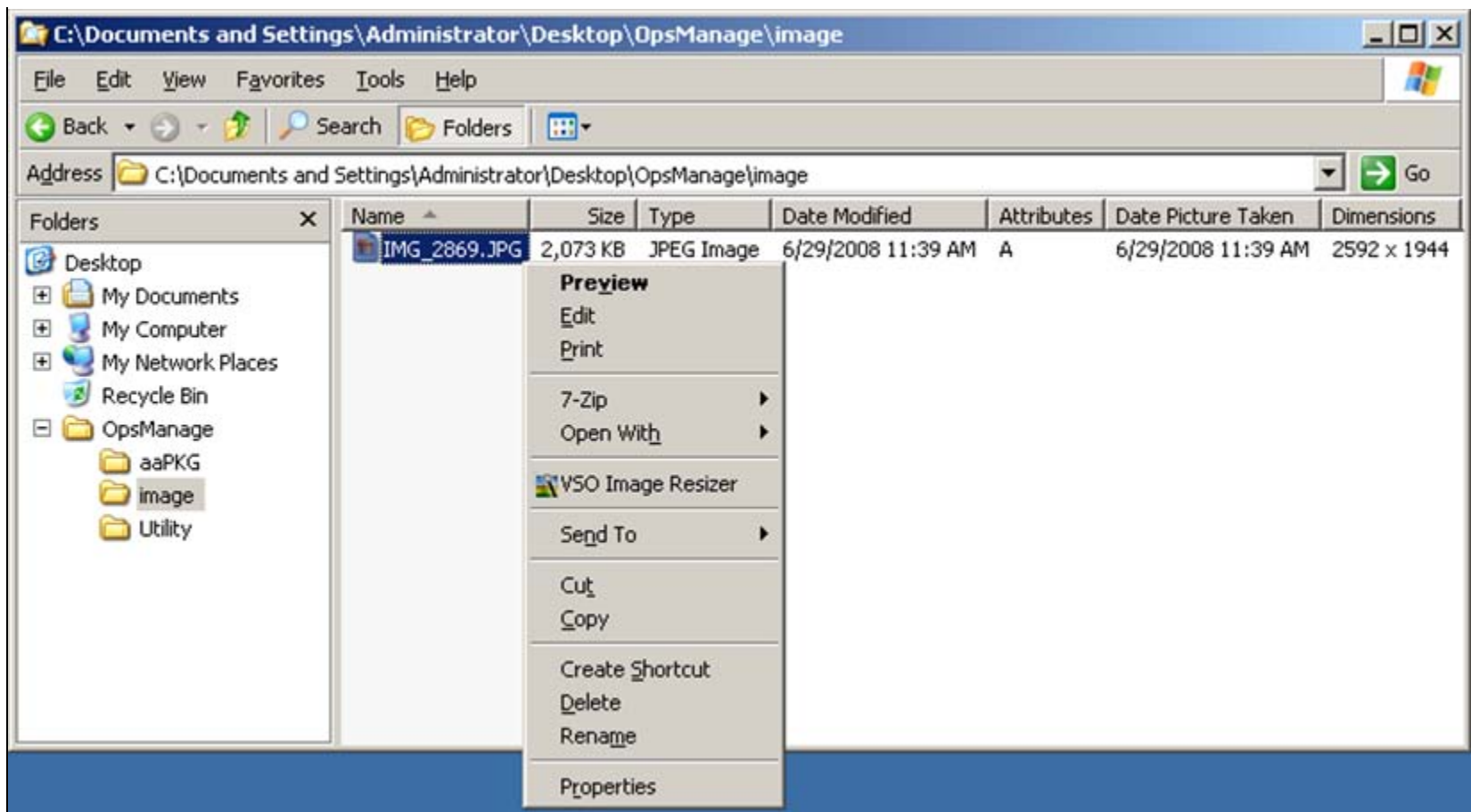


FIGURE 2: CLICK PREVIEW

The image appears in the Windows Picture and Fax Viewer.

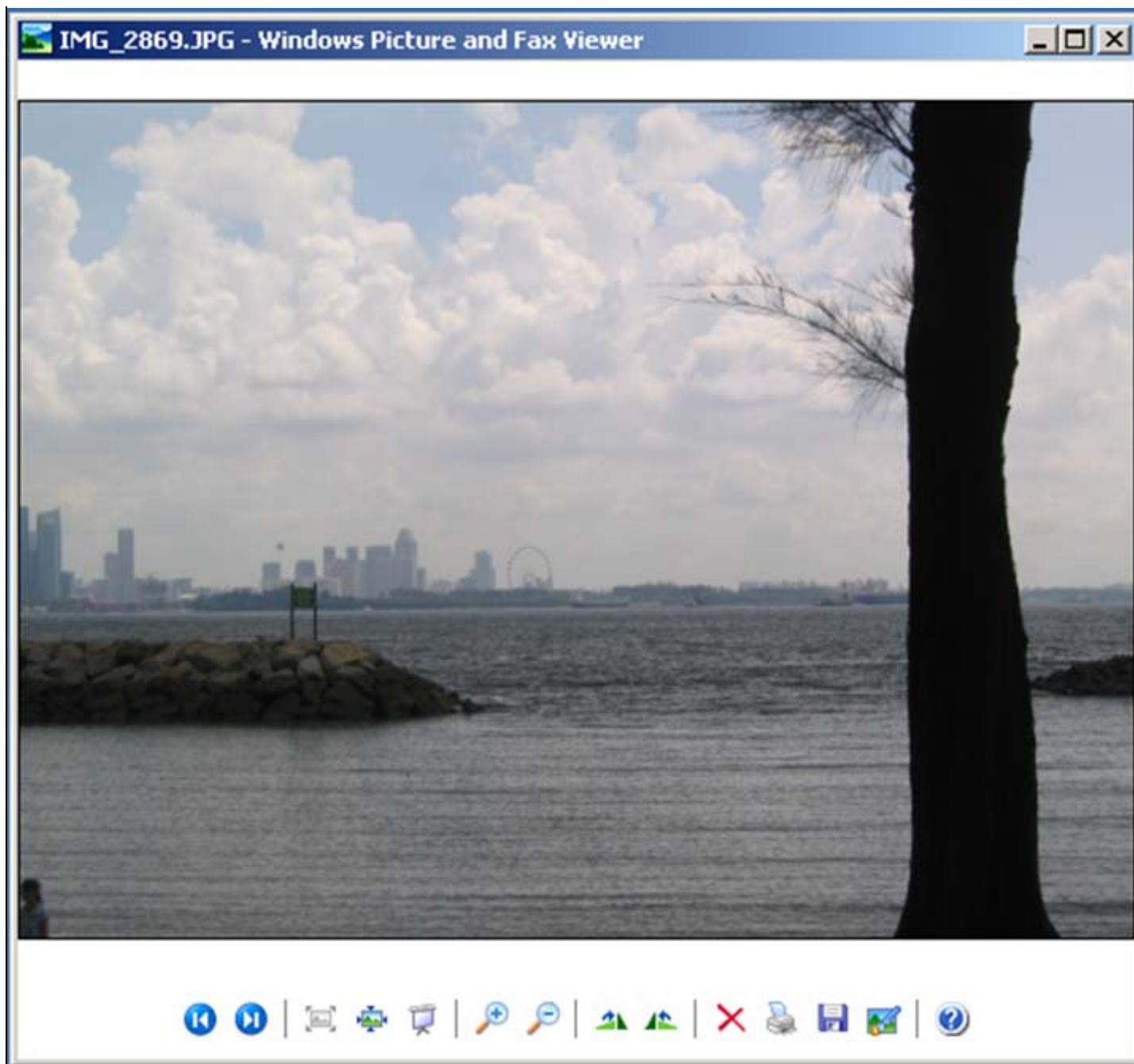


FIGURE 3: WINDOWS PICTURE VIEWER

3. Click the **Copy To** button (the diskette icon) on the right. The **Copy To** window appears.
4. Select **JPEG** from the **Save as type** list (Figure 4 below).

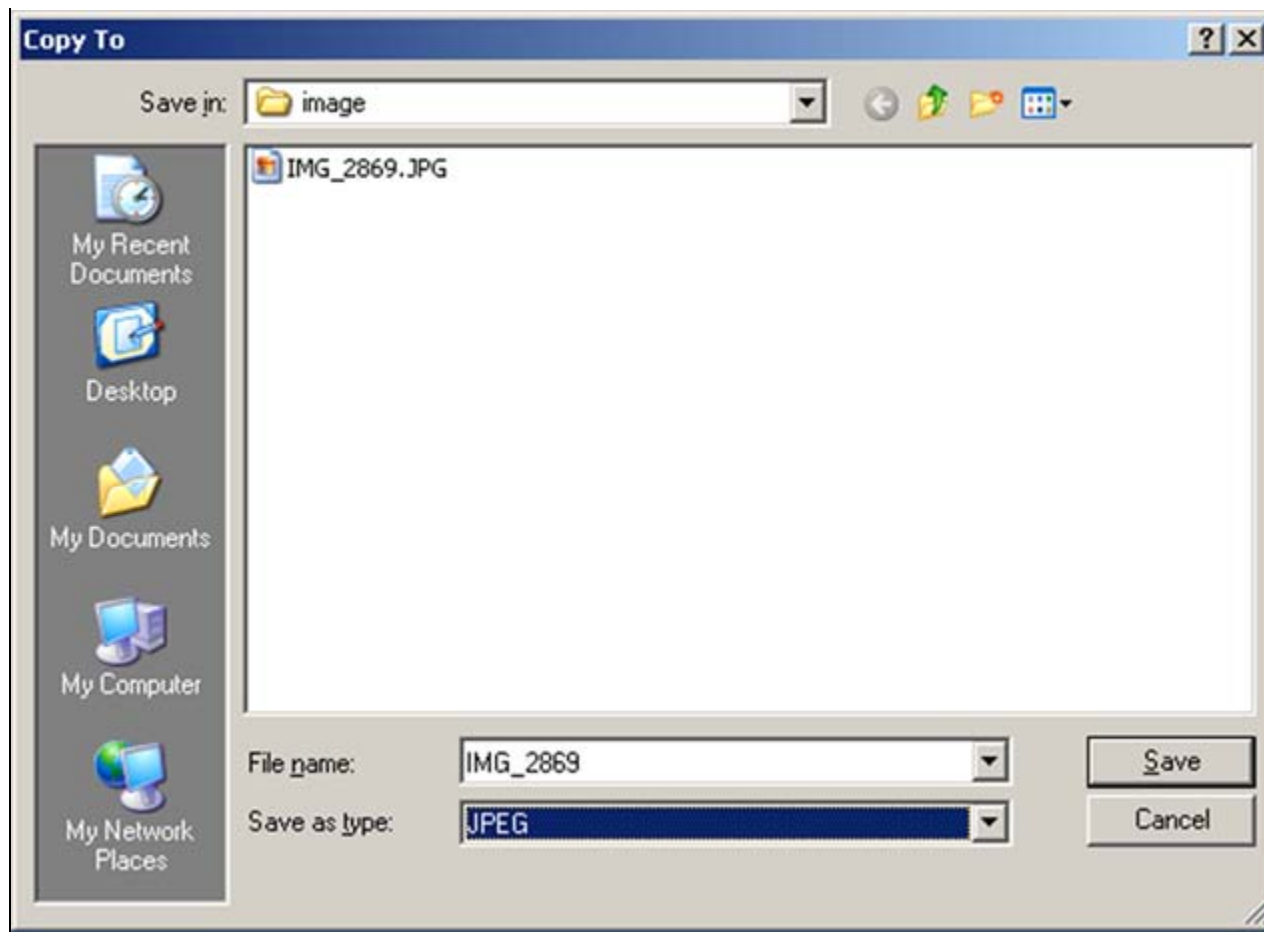


FIGURE 4: COPY TO WINDOW

5. Click **Save** to save the file as a JPEG image file.

After you convert the image to JPG, you need to resize it. This can reduce the file size by an additional 25% or more, depending on the image's final size.

Various utilities are available to resize the images. For Microsoft Windows XP, you can use the Image Resizer, part of Microsoft PowerToys. For the other operating systems, there are free image resizer utilities available from various websites, such as www.tucows.com or download.cnet.com/windows.

Memory Usage Based on ArcestrA Graphics Symbol Design

Depending on how you design the ArcestrA Graphics Symbol, the more AGSs you embed into one single AGS, the higher the memory usage.

Testing is done in a Managed Application by placing the respective AGS into a window and then switching from WindowMaker to WindowViewer. When you do this, note the memory usage using Windows Task Manager.

Refer to the comparison chart below showing the RAM usage of the various AGS designs:

ArchestrA Graphics Symbol (AGS)	WindowMaker Only	WindowMaker and WindowViewer
8 individual AGS	705 MB	756 MB
Combining 8 different AGS into a single AGS	727 MB	785 MB
Combining 8 similar AGS and a JPEG background into a single AGS	748 MB	809 MB

Therefore, design your AGSs with care in order to optimize memory usage.

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