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## **Softsite32 Enterprise**

### Performance Tuning

Softsite32 Enterprise will run straight out of the box, but you can optimize your performance through a number of steps. These steps will help you to get the most performance out of the hardware that you have chosen.

Configuration choices will need to be made, whether you will run the system dark (without video displayed, and with a viewing station) or running the system viewable.

#### **Step 1 - Launch the correct registry.**

The correct registry key will improve performance under your type of processor your server is running.

1. Locate the Softsite32 Enterprise installation directory (C:\Program Files\Softsite32 Enterprise)
2. Open the Registry Keys folder
3. Execute the registry key that corresponds with your system. AMD processors use the IJLPIII-Reg, Intel processors above a Pentium 3 use the IJLPIV-Reg (this includes xeon, core duo, core2 duo, core2 extreme).
4. Restart Enterprise

#### **Step 2 - Adjust display depth on monitor.**

If using Enterprise to monitor, as well as record, adjusting the display depth can increase video card performance

1. Open the display properties, from the control panel.
2. Select the settings tab.
3. Change the color quality from 32bit to 16bit while Enterprise is running. Watch the cpu usage to see if your cpu usage decreases with this setting. If it does use this setting, if not return to the 32bit setting.

#### **Step 3 - Disable display on Enterprise.**

If using Enterprise as a dark recorder, you should disable video display to improve performance

1. There are 2 methods to disabling video.
  - a. Disabling the display.
  - b. Enabling List mode.
2. To disable display, you can turn it off by hitting *alt+v*, or you can also disable the display by default. To do this, open the softsite.ini, change the *EnableImageDisplay = TRUE* to equal false *EnableImageDisplay = FALSE*. Save the file and restart Enterprise. You can also disable display by using a command line override, in the group shortcut, */VID=OFF*
3. List mode turns off video and changes the graphical display of the cameras. Instead of a grid view you will see a list much like a spreadsheet. To enable list mode, open the softsite.ini, change the *Display = Image* to list *Display = List*.

#### **Step 4 - Adjust the thread delay.**

Thread delay allows the cpu to "rest" in between frames of video. Adjusting this setting, can increase cpu performance, but also if set incorrectly can cause the video to skip, or the frame rate to decrease. You should start at 1 and then add increments of 5, when you start to see skipping/ or



a decrease in frame rate, your number is set to high. Megapixel camera have a much lower tolerance to Thread delay and should only be set as high as 5. In most cases setting the thread delay to 1, is all that's needed.

1. You can adjust Thread Delay (Thdelay) from 3 places; INI, Global Settings or the displayed images tab on each camera. The INI method will set the delay to any cameras set to 0(default), the global settings method, sets them in the database, if this is done the ini will no longer work unless they are set to 0. The Displayed images tab method, involves configuring performance per camera.
2. To set the INI, open softsite.ini and change the *ThDelay = 0* to 1 and then increment as discussed above. Save the softsite.ini and restart Enterprise.
3. To set the ThDelay using the global settings, launch Enterprise, go to *setup, hardware, global settings*. Enter a number into the *Thread Delay (MS)* field. Then hit apply.
4. To set the ThDelay using the Display images tab, launch Enterprise, go to *setup, hardware*, click on the camera, and select the displayed images tab. Hit the preview button, select optimize performance. Enter a number into the *Thread Delay (MS)* field. Then hit apply.
5. After using one of these methods restart Enterprise, monitor your cpu usage and also your frame rate. Repeat the process until you reach the highest ThDelay you can have before your frame rate is affected.

#### **Step 5 - Optimize the camera buffers.**

You can do this globally, if you have a majority of the same size cameras averaging the same image sizes. You can also do this on a per camera basis if you have many differing image sizes and resolutions. The average CIF camera size(320x240, 352x240) is 8000-10000 bytes.

1. Find the image size of a camera, go to *setup, hardware*, select a camera, displayed images tab, hit the preview button. A snapshot of your camera will appear and statistics are displayed at the top of the window. The left set is the image size in bytes. Close the preview window.
2. Hit Update at the bottom of the Displayed Images tab. This will automatically set the buffers using the number you saw in the last step.
3. To update the buffers globally, go to *setup, hardware, global settings*, set the read and the internet buffer size, to the image size you saw in step 1, and hit apply.

#### **Step 6 - Set pixel skip and ROI mask.**

Pixel skip decreases the number of pixels counted by the motion detection algorithm, this will make the motion detection less sensitive, but increase the speed that it runs, lowering the cpu usage.

1. Go to *setup, hardware*, select a camera, recording tab, motion settings. Locate pixel skip, and set it. You should start with 1, and can go as high as you would like
2. Hit update and restart Enterprise.
3. To update the pixel skip globally, go to *setup, hardware, global settings*, set the pixel skip, and hit apply.

ROI (Region of Interest) allows you to block out areas that you do not wish to trigger motion. This will decrease the number pixels counted by the motion detection algorithm.

1. To create an ROI mask select enable on the same panel as the pixel skip.
2. Select Edit ROI, you should see a snapshot of the image, select the edit tab
3. Draw on the image any areas you want to be ignored(all of the image will still be recorded)



**JDS Digital Security Systems**  
P.O. Box 374  
New Baltimore, MI 48047  
(586) 749-6342  
(734) 629-1555  
[www.jdssecuritysoftware.com](http://www.jdssecuritysoftware.com)

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4. Select Save

### **Step 7 - Video server performance**

Using video servers with our software, creates multiple connections to the same ip address (video server). Windows by default has a set limit the number of connection that is made before windows will share the connection. When this occurs you may not see full performance out of your video servers as you would expect.

1. Locate the registry keys folder in step 1.
2. Execute both maxconn registry keys.
3. Restart Windows for these to take effect.

### **Step 8 - Lower Frame Rates**

If using Enterprise as a dark recorder you should lower your frame rates to match your needed recording. It is recommended you set your video receive FPS to 1 above your necessary requirement, then set the recording tab every frame.

1. Select a camera, then selected the advanced button, located above Max FPS.
2. Set the Video receive rate fps, and hit apply.
3. Go to the recording tab and set the recording rate to every frame.

If all of these steps still have your system running very high cpu, you should lower the frame rate of your cameras.

The only other option is to disperse cameras to another computer, running Enterprise.