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BLACK ICE SOFTWARE

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How to Handle 32-bit Bitmap Images in The Imaging Toolkits

Some of Black Ice's Document Imaging methods don't support 32-bit bitmap images (for example some filtering and conversion methods). If the input is a 32-bit image, these methods may return with NULL. If you want to write universal methods that can handle 32-bit bitmap images also, then these cases must be handled. If the input is a 32-bit bitmap image (which can be checked with the GetBMPBitDepth method) you have to convert it to a 24-bit bitmap image using the Convert32BitDIBTo24Bit method before invoking one of these methods. For example, the Halftone method is one of these methods. The VB.NET code snippet below will show the technique that will work with all kinds of image formats.

```
Dim method As Short = 0
Dim intensity As Integer = 0
Dim hdib1 As Integer = 0
Dim hdib2 As Integer = 0
Dim testFile As String = "test.bmp"
Dim outFile As String = "out.bmp"

' if the source file is 32-bit convert it to 24-bit
If AxBIDIB1.GetBMPBitDepth(testFile) = 32 Then
   Dim hDib32 As Integer
   hDib32 = AxBIDIB1.Load32BitDIB(testFile)
   If hDib32 > 0 Then
      ' convert the 32-bit DIB to 24-bit DIB
      hdib1 = AxBIDIB1.Convert32BitDIBTo24Bit(hDib32)
      AxBIDIB1.DropDIB(hDib32)
   Else
      hdib1 = 0
   End If
Else
   hdib1 = AxBIDIB1.LoadDIBFromFile(testFile)
End If

' halftone
hdib2 = AxBIDIB1.Halftone(hdib1, method, intensity)
' save the converted image
AxBIDIB1.SaveDIBInImageFormat(outFile, hdib2, 0, 6, 201)

' release the memory
AxBIDIB1.DropDIB(hdib1)
AxBIDIB1.DropDIB(hdib2)
```

How to Print Annotations Programmatically with Document Imaging OCXs

In the following source code in this article, we'll show how to print Annotations programmatically through a VB.NET code snippet. It uses the BiTiff, BiAnno and BiPrint ocxs. The code snippet loads a test.tif file into a DIB, burns the created annotations into the DIB, and checks if a printer exists. If the created and prepared DIB exists it is printed by the actual printer driver. This is the easiest way to print annotations using the Black Ice ocxs.

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```
Dim hDib As Integer             ' DIB handle
Dim fileName As String          ' Input file name

Dim TiffObj As Object           ' Tiff ocx object
Dim AnnoObj As Object           ' Anno ocx object
Dim PrintObj As Object          ' Print ocx object

' Set input file name
fileName = "test.tif"

' Create dynamic ocx objects
TiffObj = CreateObject("BITIFF.BITiffCtrl.1")
AnnoObj = CreateObject("BIANNO.BIAnnoCtrl.1")

' Load tiff file
hDib = TiffObj.LoadTiffIntoDIB(fileName, 0, False)

' Create annotations
' …

' Burn the annotations into the DIB
hDib = BiAnno.AnnoBurnin(hDib)

' Print the prepared DIB
If System.Drawing.Printing.PrinterSettings.InstalledPrinters.Count > 0 Then
        If hDib <> 0 Then
                PrintObj = CreateObject("BIPRINT.BIPrintCtrl.1")
                PrintObj.PrepareToPrintEx(pDev, PrinterName, hwnd, view.GetDocument().szFileName, max-
                Page, 1, True, False, False, False, False, False, False, True, False)
                PrintObj.PrintDIBPage(hDib, srect(0), 1, 0, 0)
                PrintObj.EndPrint()
                PrintObj = Nothing
        End If
Else
        MessageBox.Show("Before you can print, you need to install a printer." + vbCrLf + "To do this,
        click Start, point to Settings, click Printers, and then double-click Add Printer.", "Annotation
        Sample")
End If
```

PRINTING TIP: HOW TO CREATE A SILENT MSI PRINTER DRIVER INSTALL FOR VISTA

If you want to create a silent MSI install for the Vista OS, you need to modify the uninstall dll. The entire source of the uninstall dll is available in the resource toolkit of the printer driver.

You need to move the restart spooler part of the CDlgUninstall::DeletePortMonitor function to the beginning of the CDlgUninstall::Uninstall function.

You need to move the following statements:

```
TRACE("Stop the spooler");
if (!StopTheSpooler())
        TRACE("Error stopping the
spooler");
TRACE("Start the spooler");
if (!StartTheSpooler())
        TRACE("Error starting the
spooler");
```

After these changes you can use the MSI install in the following way:

1. Install silently the printer driver:

C:\>msiexec /i C:\TiffNT.msi /q

2. Uninstall the printer driver without user interaction:

C:\>msiexec /x C:\TiffNT.msi /q

PRINTING TIP: HOW TO MODIFY THE DRIVER FILE NAMES FOR AN MSI INSTALL

Keeping in mind some important rules, you can easily modify the names of the printer driver files to suit your custom MSI install project. For example if you have a TIFF printer driver for the NT/XP operating system, you have the following files:

BuMAppNT.exe *(start application)*

BuMIniNT.exe *(printer driver INI file)*

BuMMonNT.dll *(port monitor dll)*

BuMProNT.dll *(print processor dll)*

BuMDrvNT.dll *(printer driver dll)*

BuMUifNT.dll *(user interface dll)*

BuMResNT.dll *(resource dll)*

BuMRmvNT.dll *(remove dll)*

Jpeg32.dll *(additional dll)*

Tiff32.dll *(additional dll)*

BiImgUser.dll *(additional dll)*

Two of these files should not be modified:

BuMAppNT.exe

BiImgUser.dll

If you modify these 2 files, your installed printer driver will not work properly.

To modify the name of the Jpeg32.dll and Tiff32.dll you have to update the printer driver's INI file and store the new file names, and file path, in the following way:

```
[Default Settings]
JpegDllName=C:\MyJpeg.dll
TiffDllName=C:\MyTiff.dll
```

Or you can use the *SetJPEGDLLName* and *SetTIFFDLLName* functions in the BlackIceDEVMODE.dll for specifying the path and the name of the dlls. You can use these functions during installation time. These files aren't driver specific files therefore you can use these files as "shared files" in your install project. If these files already exist on the target computer at the specified locations, you won't need to overwrite them, since every user-level Black Ice printer driver uses the same Tiff32.dll and Jpeg32.dll. The BiImgUser.dll is also not a driver specific file, so you can install it as "shared file".

If you rename the BuMResNT.dll, you have to update the printer driver's INI file in the following way:

```
[Default Settings]
ResourceDLLName=
C:\Windows\System32\MyBuMResNT.dll
```

Or you can use the *SetResourceDllName* function of the BlackIceDEVMODE.dll during installation time. (You can check the usage of the *SetResourceDllName* function in the InstallShield project of the printer driver resource toolkit.)

Having renamed your driver files, add the new files to your MSI install project, and update the modified file names in the registry editor of the MSI project.

After these changes you can use your custom MSI install with your custom driver files.

Note: if you have a ColorPlus or PDF printer driver, you also have the Pdf32.dll file for printing PDF files. The Pdf32.dll should not be renamed in your install project.