

Black Ice Newsletter

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FREE BARCODE SDK/ACTIVEX! See Page 2 for details.

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PDF417 Barcode Toolkits Released!

Black Ice Software is proud to announce the release of both a PDF417 Read and PDF417 Write module for the Black Ice Barcode SDK/ActiveX. The PDF417 Barcode modules are imaging toolkit independent, and as such can be used with any Black Ice or third party imaging toolkit. The Black Ice PDF417 Barcode Reading SDK/ActiveX toolkit is a robust and efficient 2D PDF417 library of reading/decoding, searching barcodes, and detecting barcode orientation functions.

PDF417, or Portable Data File 417, is a two-dimensional stacked bar code capable of encoding over a kilobyte of data per label. This is useful for situations when a bar code will be used to store a substantial amount of data about an item, allowing developers to avoid database interaction. PDF417 also offers the ability to encode binary data (not just ASCII or alphanu-

meric characters); this makes it possible to encode photographs, fingerprints and any other type of data structure. Since a PDF417 barcode symbol can store a substantial amount of information, item specific data, such as the content of a shipping manifest or equipment maintenance history, can be stored directly on the item without requiring access to a database. PDF417 is used today in a wide variety of industries and applications, such as healthcare, transportation, retailing, government, and manufacturing.



PDF417 is an error-correcting symbology designed for real-world applications where portions of labels can get destroyed in handling. The Black Ice PDF417 reading/ (Continued on Page 2...)

Controlling Print Jobs using the BlackIceDEVMODE Controls

The Black Ice Technical Support department frequently receives questions about how to control the printing of the Black Ice printer drivers. In order to simplify the development and speed up the coding time for our customers, Black Ice has recently added print control functionality to the BlackIceDEVMODE.dll and BlackIceDEVMODE.OCX controls, offering an easy and comfortable solution for controlling print jobs. The

BlackIceDEVMODE.OCX allows Visual Basic, VB.NET, C#, and Delphi developers to fully control print jobs of the Black Ice printer drivers, which was very difficult to accomplish prior to this implementation.

The BlackIceDEVMODE.dll and BlackIceDEVMODE.OCX controls are part of the Printer Driver Resource Toolkit.

(Continued on Page 2...)

Subscription Service available for Printer Drivers, call for details.
 Get your subscription to receive the latest technologies and upgrades!

(PDF417, continued from Page 1)

decoding performs error correction by making calculations to reconstruct corrupted or undecoded portions of the symbol, providing reliable decoding even with imperfect barcode symbols.

Developers can read PDF417 barcodes regardless of orientation, skewing or flipping. PDF417 barcodes can be detected and read from specific areas of interest from an image. When combined with additional Black Ice Imaging toolkits, barcodes can be read from a variety of supported image file formats and can be acquired from scanners or digital cameras.

Encoding data into a PDF417 bar code is a two-step process. First, data is converted into codeword values of 0 - 928, which represent the data. This is "high-level encoding." Then the values are physically represented by particular bar/space patterns, which is "low-level encoding." Decoding is the reverse process.

Some common uses for PDF417 Barcodes include:

Transportation:

- Distribution
- Shipping logs
- Automated Data Entry
- ID Cards
- Passenger ID Verification
- Baggage Claim
- Asset Tracking

(Print Jobs, continued from Page 1)

which comes free with the purchase of any Black Ice printer driver.

The Print Job Control functionality includes features like pausing, restarting and deleting print jobs. The developers can get a list of the current print jobs, then pause or delete any print jobs they need to control. Developers can also query the total number of print jobs for the specified printer and the status of each specified job to see if the job is printing, paused, etc.

Additional print job specific information that can be re-

Military and Government:

- Identification Cards
- Hazardous Material Marking
- Product Tracking
- Equipment Service Histories
- Small Item Marking
- Automated Data Entry
- Document Tracking

Product Distribution:

- Shipping/Receiving
- Manufacturer to Retailer
- Carton/Pallet Identification
- Automated Receiving

Services and Utilities:

- Automatic Data Entry
- Drivers License Registration
- Work Order Processing
- Asset Tracking
- PC Hardware Marking
- Inspection Tags
- Medical ID Cards

Developers can download a fully functional evaluation version of the Black Ice Barcode SDK/ActiveX demo from the Black Ice Website at <http://www.blackice.com/barcode.htm>. The Barcode SDK/ActiveX demo includes support for PDF417 Reading, PDF417 Writing, Data Matrix Reading and Writing, and Linear 1D barcode Reading and Writing.

trieved from the Black Ice printers includes: *

- the name of the machine that created the print job
- the name of the user that owns the print job
- the name of the print job (the document name, for example, "MS-WORD: Review.doc")
- Datatype (EMF 1.003, or RAW)
- the job's priority
- the job's position in the print queue
- total number of pages in the document
- the number of pages that have printed the time the job was submitted

*This is preliminary information and may be subject to change

**FREE
OFFER**

Free 1D Barcode toolkit with the purchase of the Black Ice Document Imaging SDK
Offer good only through September 30th so act fast! Contact sales@blackice.com for details.

Printer Driver Tips & Tricks

Messaging Interface: Broadcast vs. CopyData

The Black Ice Printer Drivers can interact with custom application through the Black Ice Printer Driver Messaging Interface. The Black Ice Printer Drivers will send messages to any application for every Start Document, Start Page, End Page, and End Document event, allowing developers to create application which will be aware of when the output images are created so the application can retrieve, process, and/or manipulate the output files.

The Messaging Interface for Windows XP/2000/NT drivers includes two ways of notifying the message handling application using window messages:

- by broadcasting the messages to all running applications
- by sending the message only to one specific application

Broadcasting the messages:

When the printer driver messages are broadcasted to all running applications, each running application's message loop will process the messages. The Black Ice printer driver will wait for the application(s) to either process the message or it will wait for 500 milliseconds before it times out. If a third party application is written incorrectly and it does not process the messages promptly, then the printer driver will be forced to wait until the event times out before it can proceed to the next phase of printing. Black Ice has found that even the 500 millisecond timeout can cause noticeable delays in the printing, if the system is running a faulty application, during the printing of large documents.

Sending the message only to one specific application:

When the Copy Data method is used, the printer driver does not broadcast the printer driver messages. Instead of broadcasting the messages to all application, the driver sends the messages only to a specific application. This way a poorly written third party application will not cause delays in the printing, however only one application can receive the messages at a time.

Whenever possible, Black Ice recommends using the Copy Data method with the Black Ice printer drivers. This way developers can ensure that no third party applications, which are out of the developers control, will interfere with the Black Ice printer driver process.

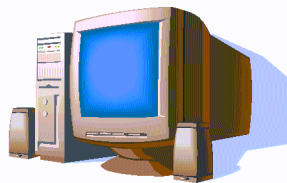
The RTK (Resource Toolkit) comes with several sample applications, with full source code, which show how to use both methods of the Messaging Interface.

Printer Settings Changed Message

According to Microsoft specifications and guidelines, when any printer settings are changed programmatically, the application which changes the printer settings must notify the system and any running applications that the printer settings have been changed. When notified, every running application should be designed so that it will reload the printer settings to obtain the newly changed settings and eventually reformat the document to conform with the new parameters.

In order to inform other applications that the printer settings are changed, the developers should broadcast the WM_DEVMODECHANGE message using the SendMessage or SendMessageTimeout Win32 API call:

```
SendMessageTimeout (HWND_BROADCAST,
                   WM_DEVMODECHANGE,
                   0L,
                   (LPARAM)szPrinterName,
                   SMTO_NORMAL,
                   1000,
                   NULL);
```



When an actively running application receives the WM_DEVMODECHANGE message, the application should load the new devmode from the specified printer, and use the new settings from that point on. If an application is written incorrectly and either ignores this message or does not load the new devmode then the output print-job from that application can be incorrect. Some common problems experienced when using poorly written printing applications includes incorrect DPI, orientation, etc. For example, if default Printer A has a DPI of 600, and Printer B is specified for printing with a DPI of 72, an application which does not correctly process the WM_DEVMODECHANGE message may still print at 600 DPI.

The BlackIceDEVMODE DLL and OCX will automatically send the WM_DEVMODECHANGE message when the printer settings are changed.

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Inside



**New PDF417 Barcode Toolkits released,
Controlling Print Jobs with the Black Ice drivers and more**

Time to upgrade?



Latest Version Numbers

Printer Drivers

| Product | Version | Date |
|---|---------|----------|
| Color Printer Driver for Win95/98/ME | 5.62 | 04/20/04 |
| Metafile Printer Driver for Win95/98/ME | 5.62 | 04/20/04 |
| Mono Printer Driver for Win95/98/ME | 5.62 | 04/20/04 |
| PDF Printer Driver for Win95/98/ME | 5.62 | 04/20/04 |
| Mono Printer Driver for NT/Win2000/XP | 8.75 | 07/19/04 |
| Color Printer Driver for NT/Win2000/XP | 8.75 | 07/19/04 |
| Mono Printer Driver for NT/W2K/XP | 8.75 | 07/19/04 |
| Metafile Printer Driver for NT/W2K/XP | 8.75 | 07/19/04 |
| PDF Printer Driver for NT/W2K/XP | 8.75 | 07/19/04 |
| Terminal Server Printer Drivers/Win2003 | 8.75 | 07/19/04 |

Impact Products

| Product | Version | Date |
|------------------------|---------|----------|
| Impact Fax Server | 4.36 | 02/18/04 |
| Impact Fax on Demand | 4.06 | 12/01/00 |
| Impact Fax Broadcast | 4.00 | 08/03/04 |
| Impact ColorFax | 6.00 | 07/22/04 |
| Drag and Drop Printing | 2.00 | 12/24/02 |

Fax, Voice and Image Toolkits

| Product | Version | Date |
|--------------------------------------|---------|----------|
| Fax C++/ActiveX/COM | 10.07 | 06/17/04 |
| Voice C++/ActiveX/COM | 10.07 | 06/17/04 |
| Tiff SDK/ActiveX/COM | 10.24 | 07/06/04 |
| Annotation SDK/ActiveX/COM | 10.24 | 07/06/04 |
| Fax Cover Page Generator SDK/ActiveX | 10.24 | 07/06/04 |
| Image SDK/ActiveX | 10.24 | 07/06/04 |
| Document Imaging SDK/ActiveX | 10.24 | 07/06/04 |
| Barcode SDK/ActiveX | 4.00 | 08/17/04 |

Free Software

| Product | Version | Date |
|------------------------------------|---------|----------|
| Impact ColorFax Lite | 6.00 | 07/22/04 |
| Tiff Viewer Plug-in - Free Version | 5.60 | 07/22/04 |
| ModemWeasel | 2.00 | 08/01/02 |

Internet Tools

| Product | Version | Date |
|--------------------------------|---------|----------|
| Print2Email | 3.01 | 01/20/03 |
| Tiff Viewer Plug-in - Complete | 5.60 | 07/22/04 |
| Print Monitoring Server | 2.40 | 04/02/04 |