PDF VERSION   **PRINTER FRIENDLY VERSION**   **NEWSLETTER ARCHIVES**

DMAC TECHNICAL REVIEW
TECHNICAL NEWS AND VIEWS CONCERNING THE UNIBASE BY DMAC ENVIRONMENT

Volume 20, Number 1	*Winter, 2009*	*Austin, Texas*

Unibase by DMAC, Unibase Imaging, Release 8.6 Now Support Full Color PDF Images

As soon as DMAC added the type 4 (Color) to the capabilities specified in the IDC file, some DMAC clients requested that full color multipage PDF file images (type 5) be supported.

So the process has begun. DMAC now has support for PDF files with multipage full color (24 bit as 32 bit) support. Naturally DMAC started the support with the eight bit palette which was in the type "color." The DMAC clients doing the testing for DMAC turned up their noses at 8 bit color; they needed full color. So full color it is.

A decompressed PDF image (type 5) requires 32 times the memory of a black and white Tiff image (type 2) of the same pixel size. PDF's tend to store much larger images than TIFFS also. For those new to the arguments of memory and cpu speed, the DMAC beta clients for this feature argued that the full color was needed AND zooming, panning etc. were needed at the highest speeds – no condensed images in memory. Unibase Imaging does a look ahead in a separate thread on decoding image files so usually at least three images are in memory at one time.

Unibase Imaging has an environment variable which can up the limit on uncompressed images in memory from 3 (or less if no ram available) to 50 – but WOW that is a lot of memory when each image takes 180,000,000 bytes.

Of course this required testing of and changes for workstations with more than four gigabytes of memory. Now the DMAC beta PDF clients are pushing for zoning of the PDFs as they can for Tiffs and JPEGS. Life is never dull.#

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Unibase Imaging, Release 8.6, Adds More Color to Tiffs and JPEG Images

Unibase by DMAC and Unibase Imaging now support color Tiff images. The new image type 4 (color) in the idc file can be used for all Tiff and Jpeg files. The big difference between type 2 (TIFF black and white) or 3 (JPEG) and type 4 (COLOR) is that all images are stored internally in the workstation memory as eight bit color images with a palette of 256 colors regardless of the file format.

DMAC believes this will support all Tiff and JPEG image file formats. If the JPEG file is in full color, a palette is created as the file is set up to be displayed.

The eight bit palette was utilized for in memory retention of the images to enable workstations with limited memory and speed to handle the images. Using type 4 requires eight times as much memory per image as does a type 2 Tiff file format.

All the pan and zoom features expected for the most popular TIFF black and white images are now supported for the TIFF color and JPEG images. #

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PCI (Payment Card Industry) Standard Brings Changes to Unibase Login

Now that Unibase by DMAC, release 8.6 (and 8.5) support PCI standard requirements – the feedback from DMAC clients in interesting.

Logging into Unibase now requires a password. A Unibase user is now a member of a group. The group defines the privileges the user has. A new password can be required at set intervals. The user cannot reuse a recent password.

Yes, a supervisor with the privilege can require a user to enter a new password the next time they log in. But there must always be at least one supervisor with all permissions or big trouble comes up.

The automatic conversion feature for the user file works fairly well when converting from the old Unibase 8.4 and 8.5 file format. Upgrading from earlier versions of Unibase requires manually reentering the user information. And those who have kept user file for a long time (decades?) may find them so corrupt that the user data must be reentered also.

The password file is encrypted with over 1024 bit encryption. See the discussion on encryption of fields. #

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Encryption of Fields Brings Up Questions Of "How Many Bits of Encryption?"

Probably the most interesting question which has come from clients has to do with the field by field encryption capability now available in Unibase.

Brief History of Ace Contact Manager

This field by field encryption allows storage of the field data in the proper place on disk in an encrypted format. DMAC uses an RSA type algorithm which is based upon the size of the field.

So one way to think of encryption is this. If the minimum allowable field size of 12 characters is stored at 12 characters times 8 bits per character or 96 bits of encrypted data, then there are 96 bits of encryption. For a field size of 120 characters then there are 960 bits of encryption. DMAC encrypts the field using every bit in the field. DMAC and the user always reserve two extra characters in each field to expand the bits of encryption.#

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PCI (Payment Card Industry) Standard Encryption In Unibase Allows Client to Create "Seeds"

One of the interesting concepts in the Unibase by DMAC field by field encryption approach is to allow the DMAC user to create "Seeds" which make their data even more secure.

These seeds can be changed, stored elsewhere, and dynamically accessed from within Unibase. All these features enable the Unibase client to meet the specific requirements of the PCI Standard as determined by their organization.#

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"Pan" and "Rotate" Verbs Can Manipulate Base Image Display as Window Zero

A long time ago DMAC provided the capability to create additional windows to compliment the main display window in Unibase Imaging. Verbs were provided to manipulate these windows.

This year a user wanted to manipulate the main display – so it was added to the verbs as window zero. Sounds simple – but facilitates keying something from an always upside down field without the operator having to enter the keystrokes to rotate the image. A keystroke saved is a keystroke earned.#

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Visual Studio 8 Platform Now; Visual Studio 10 Platform in 2011

This past two years DMAC moved Unibase to the Visual Studio 8 platform. Subtle changes occurred. Not so subtle changes also occurred. Release 8.6 came about because of the not so subtle changes.

In 2011 Unibase will move to the Visual Studio 10 Platform. No doubt changes will occur with this move – probably force the release level to change to 8.7.

For the curious, what are some of the changes? For one, .net Framework 4.0 will be used by Unibase instead of .net Framework 3.5. This means that the Windows Update "optional" upgrade to .net Framework 4.0 will become required to run the 8.7 version – just as in the past

.net Framework 3.5 was required for 8.6. No calls to the framework will change in Unibase but no doubt something will work differently.

Another change will be that Installshield 2011 will be used to install Unibase instead of Installshield 2009. Installshield 2011 does a better job on installing on Windows Servers 2008 and 2008r2 (Yes, Unibase release 8.5 runs on these servers) and will probably be less forgiving on permissions to install on servers. So DMAC clients need to make sure they have, or know who has, the administrator password for the server upon which Unibase is loaded. Every year things grow tighter.#

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WebBase Demo Moves To New Windows 2008R2 Server

Sounds so simple, yet 'tis so difficult. And yet, not a line of code in Unibase, Unibase Imaging, WebBase, or the IIS interface changed – just bringing up a Windows 2008r2 Server after six months of not installing a server was difficult.

Fred says all this so you will know that bringing up a new server release is mind stretching. Of course, Unibase, Unibase Imaging, and WebBase are always being updated as small "updates" from Microsoft change things on Windows 7, Windows Server 2008, etc. Everything in Unibase was up to date before we installed the new server and the latest release of Unibase for the demo.

The biggest difference between Server 2008 and Server 2008r2 appears to be that you have to specifically choose a whole lot more options – or else they do not install. And of course the user interface changes to keep you on your toes.

Regardless, the WebBase demo now runs faster on a new server. You can access the demo from the www.dmac-unibase.com website Tab "WebBase." DMAC has more users finding new uses for WebBase each year.#

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