

Version

3

GALKAM PTY LTD

Autoscan Image system

CREQ-EX

Stand alone Autoscan image viewer.

CREQ-EX – Stand alone image viewer

Table of Contents

Introduction	2
CREQ-EX Launcher	3
Screen Modes.	3
Configure Mode	3
Toolbar Mode.....	3
Tray Icon Mode.....	3
Toolbar Buttons	4
Mode Selector.....	4
DDE Client Link light	4
Search Field.....	4
Show Image Button.....	4
Hide Image Button	4
CReq Image System.....	4
Image Viewer Window	5
Viewing Images:.....	5
Image Function Buttons:.....	6
Configuration.....	8
Search paths.....	8
DDE Links	10
DDE Client Configuration	10
Example: Linking to a DDE server	11
DDE Server Functions	12
<i>DDE Macros</i>	13
DDE COM/DCOM	15

Introduction

CREQ-EX is an image viewing tool able to link to the Autoscan Image system. It allows the user to view documents on the AutoScan image store from their PC.

In addition to providing “type-in” and barcode access, CREQ-EX has powerful programmable interfaces allowing integration with DDE enabled Terminal emulators and software. It also has COM/DCOM interfaces allowing programmers to include support for Autoscan image access directly into new programs.

CREQ-EX is typically installed on each PC where access to images is required. The application connecting to the users Information system is typically linked to CREQ-EX via its DDE or DCOM services. This allows the user to view specific images related to the current case without leaving their usual application and without retyping or cutting/pasting case numbers. For example a Laboratory information system is typically accessed using some kind of terminal Emulator (eg Power Term Pro, Wintegrate, etc). The Terminal emulator can pass the image reference to CREQ-EX when the user presses a function key or clicks a tool button OR CREQ-EX can constantly monitor the Terminal emulator and make an image available to the user by a single click on CREQ-EX itself.

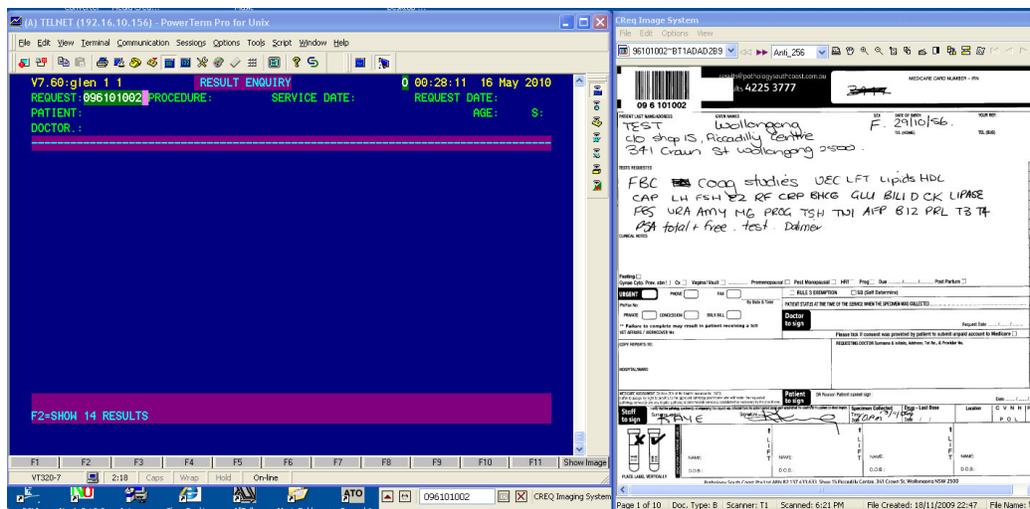


Figure 1 Example Linking Power-Term Pro with CREQ-EX via function buttons

2 Example Linking Power-Term Pro with CREQ-EX via function buttons.

Please Note: CREQ-VT is a fully functional VT320 Terminal emulator with built in Autoscan Imaging. If you have no particular preference for the terminal emulator, you might consider using CREQ-VT instead.

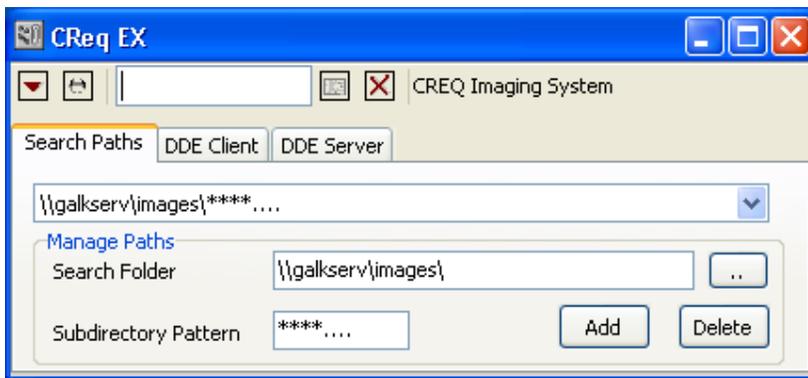
CREQ-EX Launcher

Screen Modes.

CREQ-EX has 3 display Modes: Configure, Toolbar and Tray Icon.

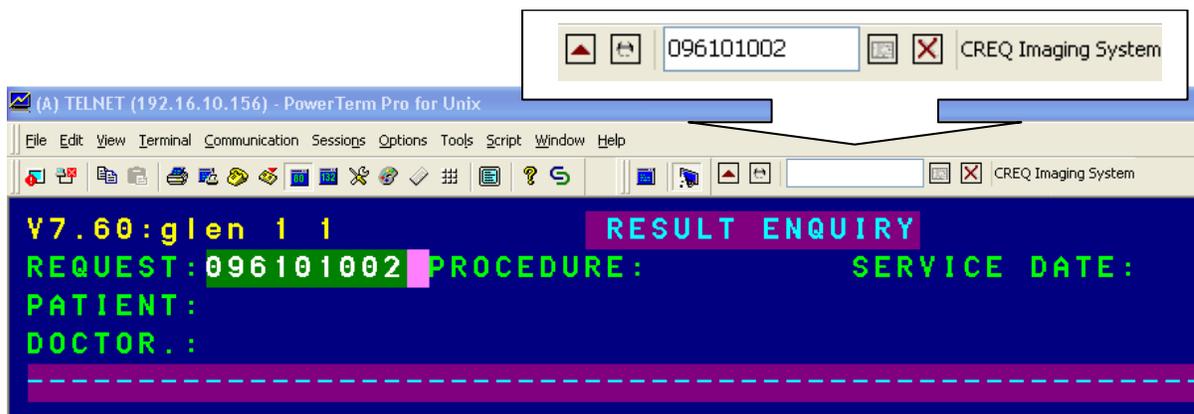
Configure Mode

This mode is used to configure the CREQ-features (but is not generally used in everyday situations). It includes the toolbar plus the configuration tabs (see



Toolbar Mode

A small toolbar hover window which can be positioned unobtrusively in a corner or appear alongside other buttons on your emulators toolbar.



You can move the toolbar to any position on the screen by dragging the "CREQ Image System" (note: the toolbar cannot actually be docked to application toolbars)

Tray Icon Mode



Just appears as an icon near the clock (requires DDE Server or COM linkage)

Toolbar Buttons

The toolbar operates the same way in both Toolbar mode and Configure mode.

Mode Selector		changes between Edit Mode and Toolbar mode.
DDE Client Link light		<u>for systems using DDE client linkage:</u> Clicking the light will enable the link (if the DDE Server application is running). If the light is GREEN, this indicates an active DDE client connection.
Search Field	<input type="text" value="3123111"/>	Enter the reference/lab/specimen number you wish to view. (can be filled by DDE application, typed, barcoded). Press ENTER to search for documents.
Show Image Button		Performs the search and displays the Image window - usually instantly. (This can also be activated by a DDE "SHOW" macro.
Hide Image Button		Resets and hides the previous searches. Can be activated by (DDE "HIDE" macro
CReq Image System	CREQ Imaging System	Drag this label to re-position the toolbar.

The CREQ-EX launcher will always remember where you have left it. So once you have selected a good spot, you don't need to move it again.

Image Viewer Window

When an image search is successful, the Image Viewer window will be displayed.

Administrator TIP: You can display a “MISSING IMAGE” by creating a document called “NOIMAGE.TIF” and placing this in the root of the Image store.

The Document window displays images and documents stored in the Autoscan system.

Viewing Images:

The window is fully adjustable and mobile. It can be set to full screen, or resized to fit beside another application.

It will always remember the users size and position preferences.

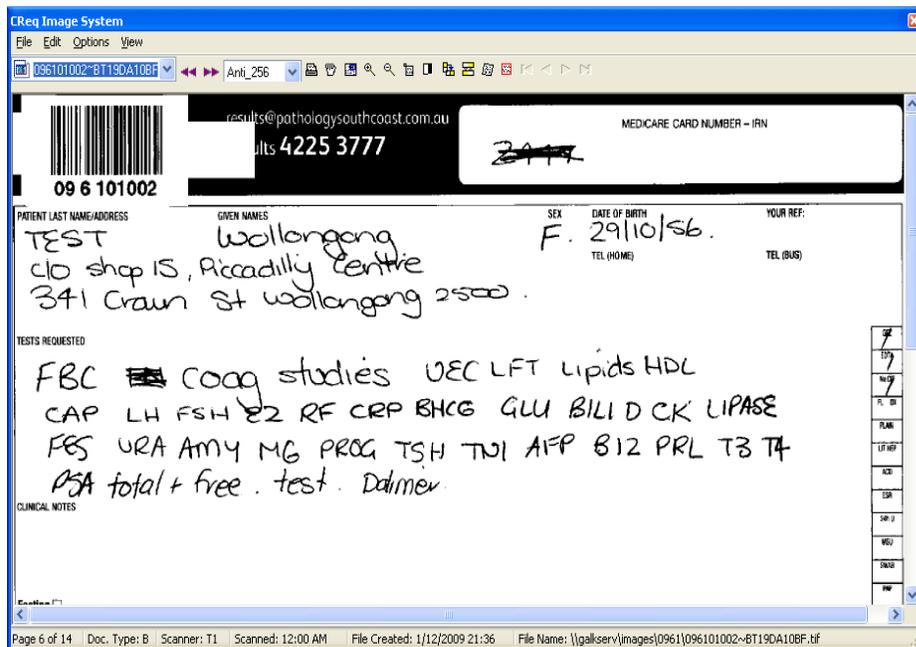
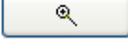
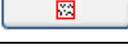
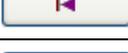
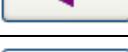
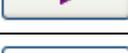
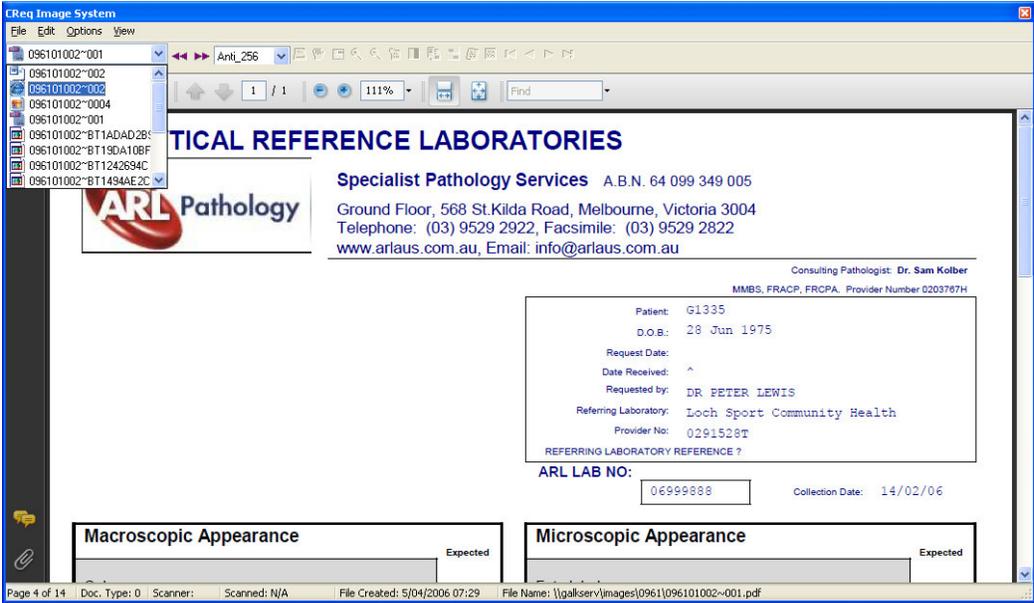


Image Function Buttons:

Previous Document		Moves back to the previous document
Next Document		Move forward to the next document
Image Enhancement Level		Sets the level of image enhancement. (None, no enhancement, Anti_256 best)
Print		Prints the current image
Drag		Allows you to move about the image using the mouse instead of scroll bars.
Magnifier		Magnifies a small section of the image adjacent to the pointer Returns pointer to normal (magnifier off)
Zoom	 In	Enlarges displayed image.
	 Out	Shrinks displayed image.
Reset Zoom		Restores image size to 100% of screen size.
Best Fit		Shows the entire image in the view window
Rotate 90°		Rotates image clock wise 1/4 turn.
Flip		Turns the image upside down.
De-skew		Straightens the displayed image
Remove Border		Removes unwanted white space from top and bottom of image.
First image		Shows the first image in the scanned batch.
Previous Image		Shows the previous image in the scanned batch.
Next		Shows the next image in the scanned batch.
Last		Shows the last image in the scanned batch.

The document viewer supports a range of document types include MS-Word, PDF, JPG, BMP, TIFF, PCX/DCX..

When multiple images are stored in the system, they are accessible from the Document Drop down list, or by using the next/previous document buttons.



Configuration.

Switch to Configure mode using the Mode Selector button.

There are 3 Configuration tabs: Search Paths, DDE Client and DDE Server.

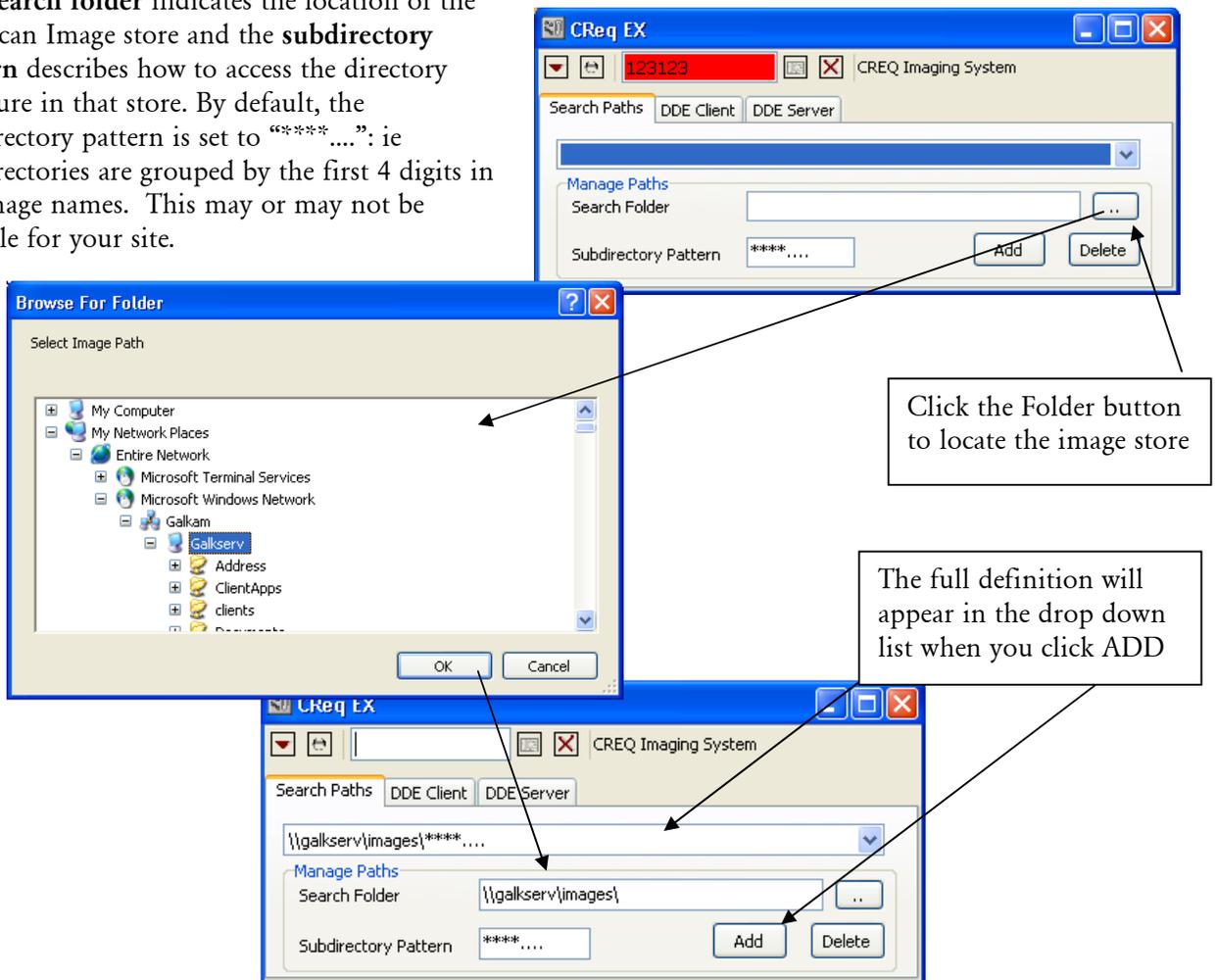
Search paths.

Before being able to access images, you must tell CREQ-EX where the images are located.

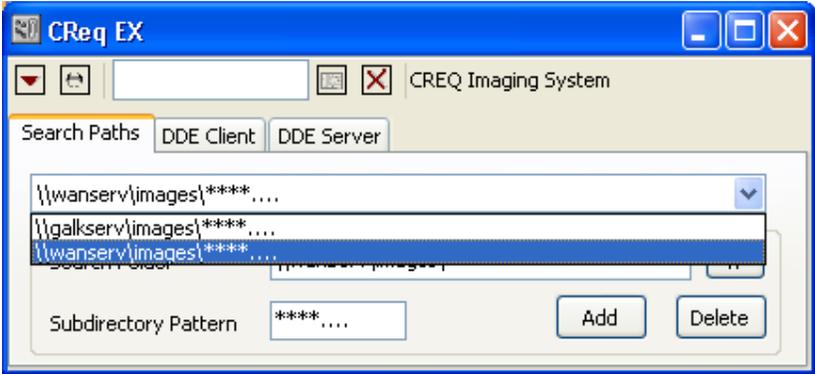
Autoscan stores documents in “Image Stores” which are accessible through windows (Active Directory) shares. CREQ-EX may be linked to multiple Autoscan Image sources. This is done through the Search Paths Tab.

When you first open CREQ-EX, you will see that there are no Search paths defined. Attempting to do a search results in an error. You must first set a Search Folder AND a subdirectory pattern.

The **Search folder** indicates the location of the Autoscan Image store and the **subdirectory pattern** describes how to access the directory structure in that store. By default, the subdirectory pattern is set to “****...”: ie subdirectories are grouped by the first 4 digits in the image names. This may or may not be suitable for your site.



You may add as many search paths as is required. Remember to put the LOCAL search paths FIRST (ie put image stores located on wide area networks (slow links) LAST).



Administrator TIP: The creq.inf file contains the configuration for CREQ-EX search paths and DDE Client Linkages. Configure the first CREQ-EX client and then copy the creq.inf file to

DDE Links

DDE is an older (but widely supported) windows technology that allows windows programs to communicate with each other. Typically one program acts as a “SERVER” offering “Topics” which other programs (acting as clients) can use to send and receive data.

In pathology and radiology laboratories for example, images are typically stored under an EPISODE or LABORATORY number. The users work on the laboratory system using a DDE Terminal emulator (eg G-Link, Powerterm, Wintegrate etc).

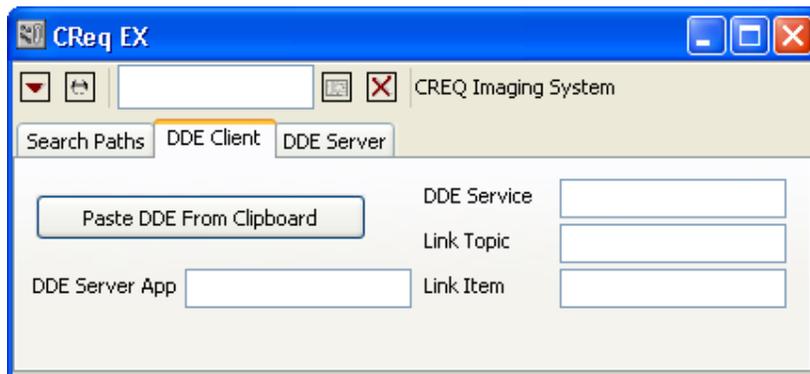
When acting as a DDE Client, CREQ-EX is able to *ASK* the terminal emulator what the current lab number is (if visible) and to work out whenever it changes. This way, the user can just click on “Show IMAGE” to display image relevant to what they are working on in the Pathology system. One limitation of DDE client connectivity is that CREQ-EX can only connect to one instance of the emulator at a time.

When acting as a DDE SERVER, the TERMINAL Emulator is able to *TELL* CREQ-EX that it wants to view a particular image or group of images. This is usually done through programmable buttons on the emulator OR in some cases from commands sent by the pathology or radiology system itself.

It is most desirable if the conversation can be configured so that CREQ-EX acts as a server DDE Server - this gives the terminal emulator greater control AND it is not limited to a single instance. In this role, CREQ-EX can usually configured to run as a tray ICON. It is however, possible for CREQ-EX to act in both roles at once.

DDE Client Configuration

In Configure mode, Click on the DDE Client tab.



Consult the HELP of your terminal emulator to find out the DDE Service and Link Topic details for your emulator. Fill in the DDE details as indicated and then click the DDE Client LINK light to establish the connection.

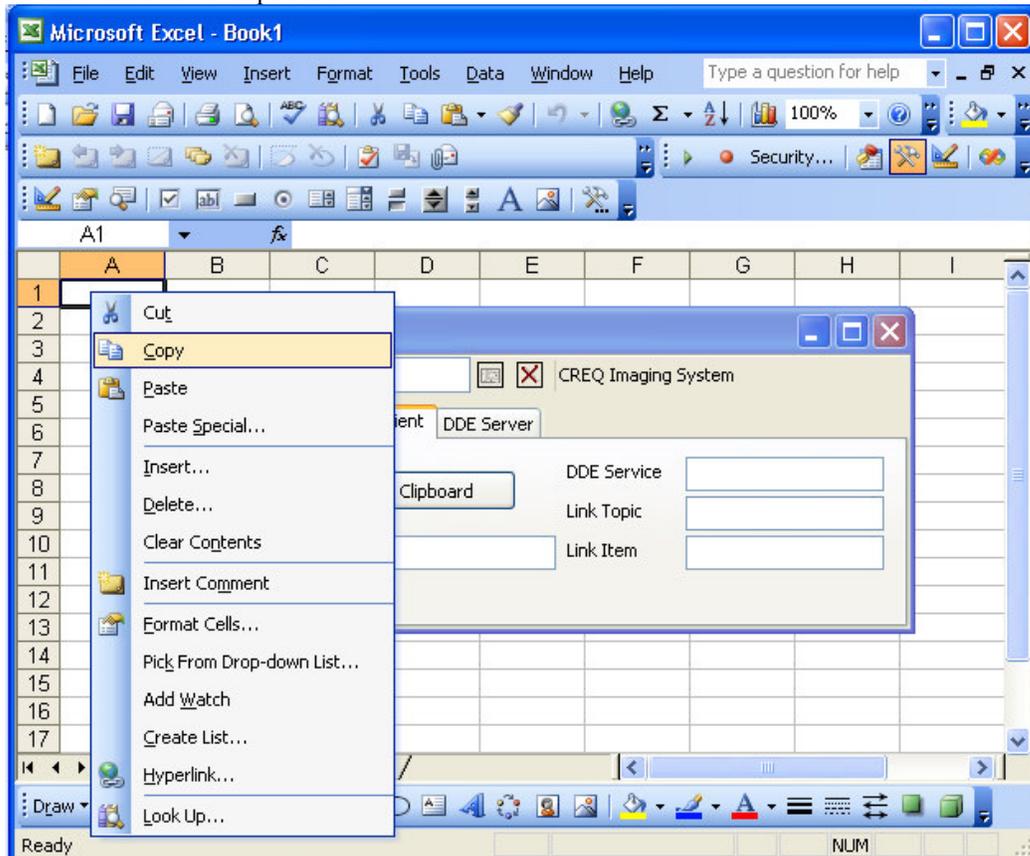
Alternatively, you can use the CLIPBOARD method (if supported by the host program). For example, in Wintegrate, you can select an area of text from the screen, then Click Edit→Copy. Then switching to CREQ-EX, click the PASTE DDE and the conversation will be learned automatically and stored.

Many windows applications support DDE (not just terminal emulators). Below is an example of establishing a DDE client connection to MS EXCEL.

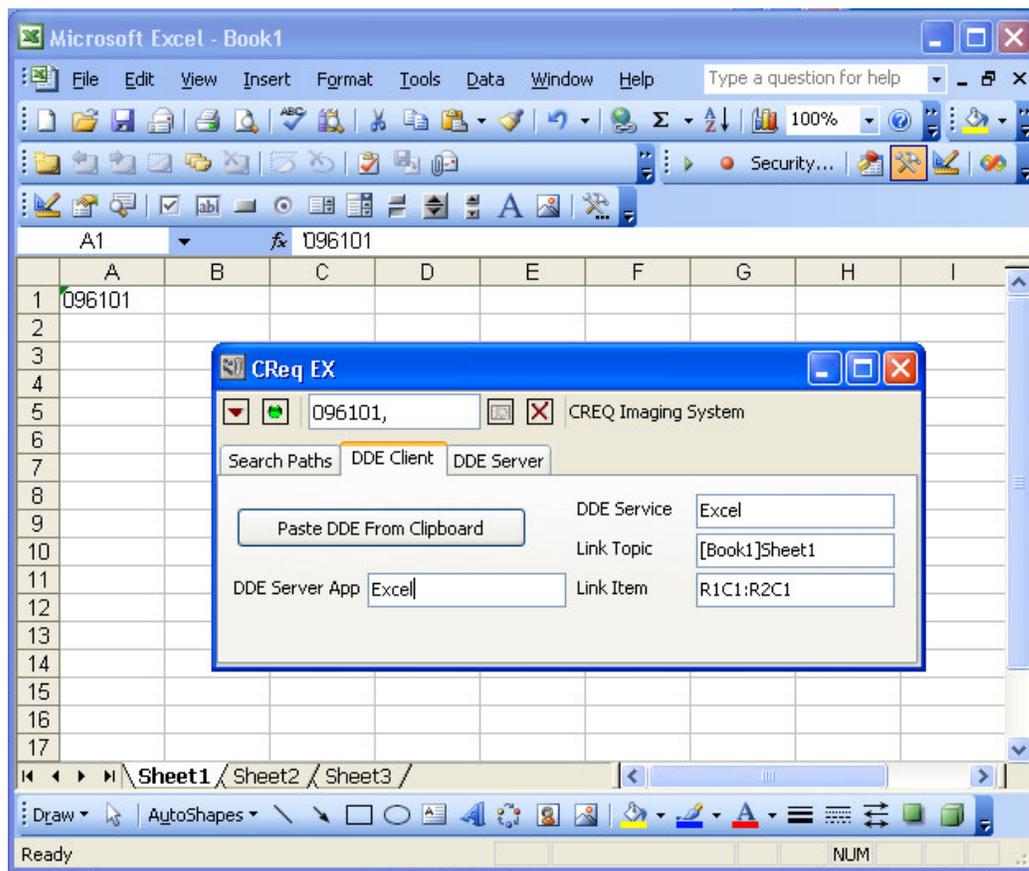
Example: Linking to a DDE server

The following example, while not particularly useful in the real world, demonstrates connecting to a DDE server (in this case MS Excel) using the Paste From Clipboard Method. This method requires that the DDE server supports DDE Clipboard functions.

1. Open Excel and CREQ-EX.
2. Right click on Cell A1 on Excel. This copies not only the cell contents, but the DDE link information to clipboard.



3. On the CREQ-EX DDE Client Tab, click "Paste DDE from Clipboard"



- This automatically establishes the link between the two applications and the contents of Cell A1 is copied into CREQ-EX's search field.

You can now type an image reference into EXCEL and this will automatically appear in CREQ-EX. To view the image click the Show Image button.

DDE Server Functions

When CREQ-EX is first run on a computer, all of the necessary registrations are made to enable DDE Client applications to ask WINDOWS to locate and start CREQ-EX and to make the functions available.

Your terminal emulator (or other application) acts as a DDE Client and can ask CREQ-EX to perform functions (even it is not current running - windows will automatically start it if it isnt).

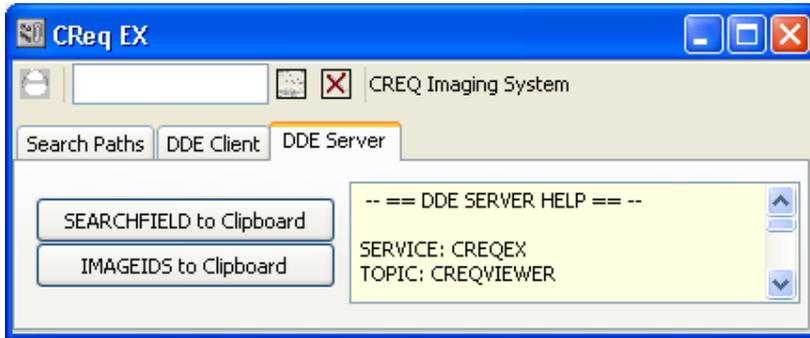
CREQ-EX's DDE Server details are as follows:

SERVICE: CREQEX
TOPIC: CREQVIEWER

There are two LINK Items to choose from:

SEARCHFIELD	Links to the Search Field	Allows the DDE client to Read and Write (poke) text from and to the Search Field
IMAGEIDS	Lists images found in a search	The DDE client can read the list of images from the most recent search

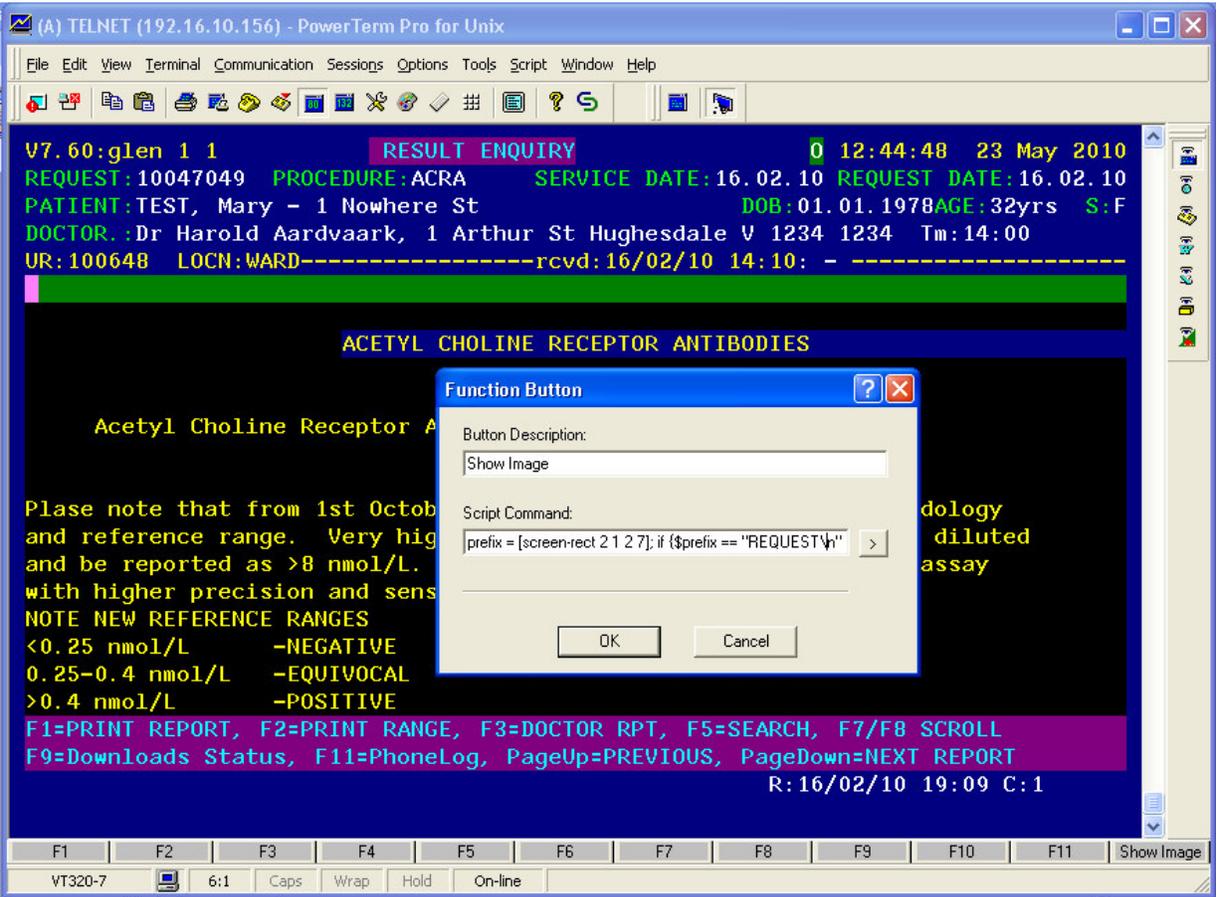
Both these LINK items can be “COPIED” from the DDE Server Tab in Config mode. Use the buttons on the left to automatically copy DDE Data for supported applications. A DDE Server help reference is also shown.



DDE Macros.

CREQ-EX also supports DDE MACRO commands. Macros allow the DDE client to control the Server application asking it to perform actions.

SEARCH [reference]	Inserts [reference] into search field and clicks Form search button
SHOW <reference>	Changes view to indicated image reference (by name or Index)
RESET	Clears currently displayed image and list
LIST	Causes IMAGEIDS to be updated
HIDE	Hides Image window.



In this example, PowerTerm Pro is configured to connect the SEARCH Macros on CREQ-EX to display an image, if the word "REQUEST" appears in the top left position.

Configure the PowerTerm Pro F12 button

```
prefix = [screen-rect 2 1 2 7]; if {$prefix == "REQUEST\\n" } {labnum = [screen-rect 2 9 2 18];conv = [dde
initiate CREQEX CREQVIEWER]; dde execute $conv "RESET";; dde execute $conv "SEARCH
$labnum";dde terminate $conv}
```

