

Affinity v2

INSTANT LASERFICHE INTEGRATION



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1 INTRODUCTION

DataNOW® Affinity is a multi-faceted integration tool that helps you incorporate Laserfiche® document imaging functionality into virtually any application. Within minutes, you can be scanning and retrieving documents from within the applications you use most. (Adding document management functions to an application is commonly referred to as *image enabling* an application.)

Affinity v2 includes a powerful array of new features that help you achieve fast and sophisticated integrations. With native support for HTML (web apps) and XML, the list of applications that can be image enabled using Affinity is virtually unlimited. The image enable process itself has been totally redesigned with flexibility in mind. You can capture, format, and re-use 3rd party data in creative new ways to build searches and create new documents.

Getting started with Affinity is easy. Just install Affinity on your workstation, connect to a Laserfiche repository, and get to work. With the help of this manual, you will be up and running in no time.

Affinity is designed to work with the Laserfiche document management system, version 8.0.2 and 7.2.1. The Laserfiche Client must be installed on your workstation. Affinity supports the following Microsoft® Windows® operating systems: XP/2003/Vista/2008. See the [Software Requirements](#) section for additional information.

If you need help, or you aren't sure how to make Affinity work for you, please contact your Laserfiche vendor, or call United Micro Data technical support (contact information below). Also, be sure to check out the [Troubleshooting](#) section of this document.

UNITED MICRO DATA

Affinity is presented by United Micro Data, a leading document solutions provider since 1983.

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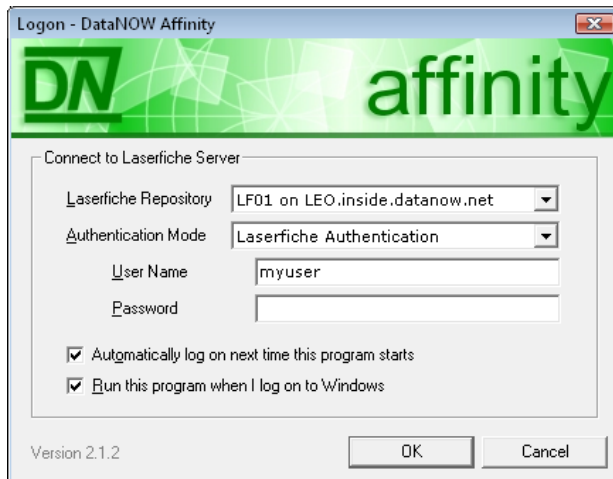
DATANOW – BUSINESS INFORMATION SOFTWARE

Affinity is a product of DataNOW, a Harris Computer Systems company. DataNOW specializes in delivering functional data for mission-critical environments. Our applications serve local governments, utilities, school districts, and private businesses. For more information about other DataNOW products and services, please visit our web site.

<http://www.datanow.net>

2 LOGGING ON

After you install Affinity, a new shortcut will be installed for you in the Windows Start Menu under the DataNOW Affinity program group. There may also be a shortcut to Affinity on your desktop, if the option to install it was selected during setup. Start Affinity by clicking the appropriate shortcut. When Affinity starts, the logon dialog will be displayed.



Connect to the Laserfiche repository using the same user settings you would use in the Laserfiche Client. The Logon settings are described below.

- **Laserfiche Repository** – Select the repository you want to use from the dropdown list.
- **Authentication Mode** – Select the authentication mode to connect to the Laserfiche server. If you usually use a user name and password to connect to your server, select Laserfiche Authentication. Otherwise, select Windows Authentication.
- **User Name/ Password** – This is the same user name and password you use in the Laserfiche Client. This is not required if you are using Windows Authentication.
- **Automatically log on next time this program starts** – Check this box to automatically connect to the repository next time you start Affinity. You can turn this option off from the Options dialog if you need to log on to another repository.

TIP: Affinity starts faster when you choose this setting because it doesn't have to poll for the repositories at your site.




- **Run this program when I log on to Windows** – Check this box to start Affinity next time you log on to Windows. It is highly recommended that you select this option along with **Automatically log on**. This way, Affinity is already running and ready to go when you need it.

NOTE: Affinity is a very small and efficient program. It does not use excessive system resources when running in the background. Also, it does not tie up a Laserfiche connection when idle.

IMPORTANT: If you cannot connect to the Laserfiche repository using Windows Authentication, but you can log on to the Laserfiche Client without a user name and password, make sure that a password has been set for the ADMIN account on your Laserfiche server. A blank ADMIN password may prevent users from logging on with Windows Authentication.

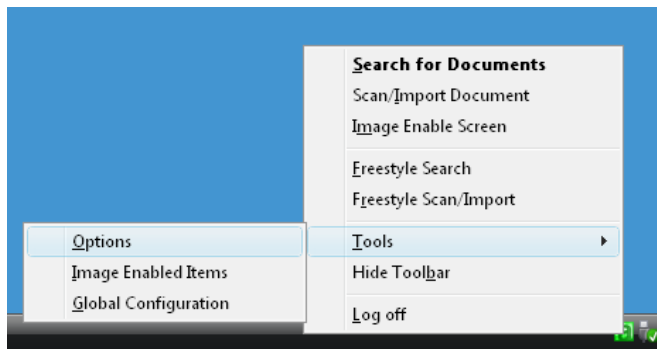
If you are connecting to a repository for the very first time at your site, the Global Configuration dialog will automatically open, and you will be prompted to enter a product key to activate the product. For more information about first time setup, see [Connecting to a Repository for the First Time](#).

Once you have logged on, you will see the Affinity icon appear in the system tray (also known as the notification area) on the Start Menu by the system clock. The Affinity icon is the small, green letter a.

Operating System	System Tray Icon
Windows XP Classic	
Windows XP Luna	
Windows Vista	

TIP: If you can't see the icon in your system tray, make sure it isn't being hidden. Windows XP and Vista will automatically hide icons by default. You can change how Windows hides icons by right-clicking the Windows task bar and selecting **Properties** from the popup menu.

The icon in your system tray is referred to as the *session icon*. This indicates that you are logged on and Affinity is running in the background. Many functions in Affinity are accessed by right-clicking the session icon.



The most important items are addressed below.

- **Tools > Global Configuration** – Opens the Global Configuration dialog. This dialog is used to configure system-wide settings for Affinity, including product activation.
- **Tools > Options** – Opens the Options dialog to configure preferences for the current user.
- **Log off** – Ends the session and closes Affinity.

When you log on to Affinity, the floating toolbar (below) will also appear on your desktop. It is translucent until your mouse hovers over it. The transparency of the toolbar can be configured in the Options dialog.



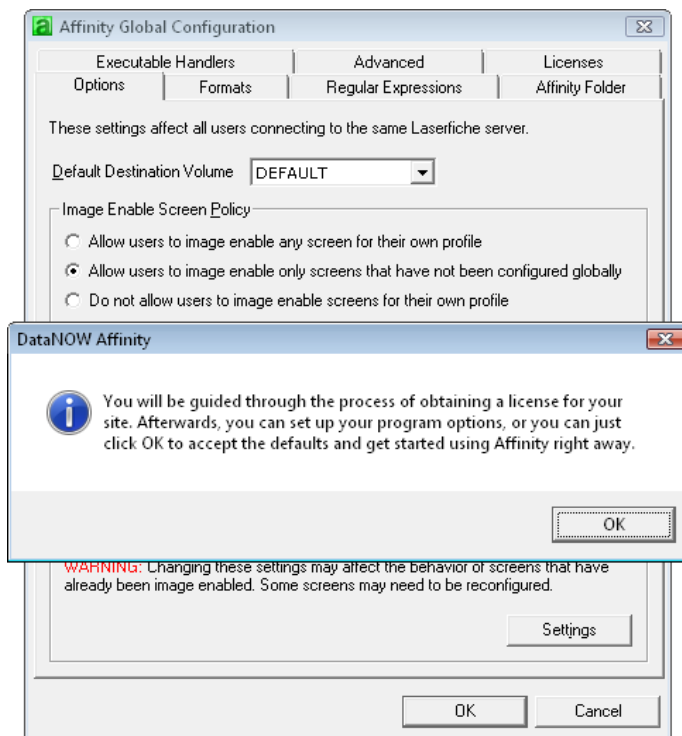
This toolbar is used with Affinity Image Enable functions. Click and drag the grey bar to reposition the toolbar. Click the small **X** to log off of Affinity (this behavior can be changed in the Options dialog). The toolbar can be turned off by selecting **Hide Toolbar** from the session icon popup menu. For more information about this toolbar, see [Image Enabling Applications](#).

3 CONNECTING TO A REPOSITORY FOR THE FIRST TIME

The first time Affinity connects to a repository, it guides you through the process of activating your product. It also prompts you to create a new folder in your repository where Affinity saves settings that apply to all users (known as *global settings*). This procedure does not have to be repeated every time you install Affinity on a computer at your site. All subsequent installations automatically retrieve the existing settings from the repository.

When you first connect to the repository:

1. The Affinity Global Configuration dialog opens and you are prompted to obtain a license for your site.



(Continued)

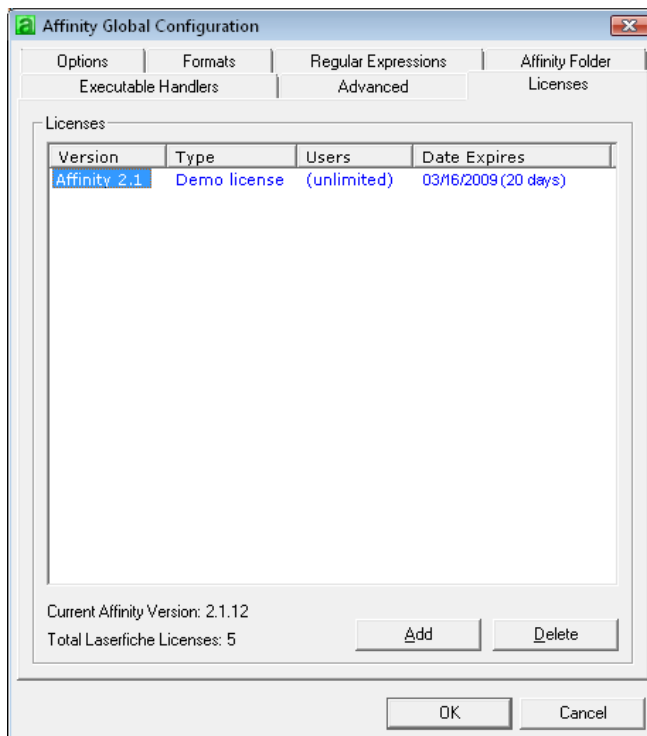
2. Click **OK**. The Product Activation Wizard opens.



3. If you have a product key, enter it and click **Finish**. Otherwise, select **Request a new product key** and follow the wizard through the simple process of requesting a new product key.

If your computer is connected to the Internet, you are able to activate a fully functional trial license instantly. If you do not have an Internet connection, the wizard helps you save your request, which you can send as an email from another location. After you receive your product key via email, you can return to the wizard to enter the key and activate the product.

4. After you activate Affinity, you are returned to the **Licenses** tab. Your current license status is shown.



For more information on licensing, see [Product Activation and Licensing](#).

5. In the dialog, you can configure the global settings as desired, or you can just click **OK** to accept the default settings.
6. After you click **OK**, you are prompted for a location to save Affinity settings in your repository. This location is known as the global configuration folder. Click **Yes** to create the folder in the default location: \DataNOW\Affinity. You must have Create Folder access in the root folder of the repository to perform this action. All Affinity users must have read access to this folder and its contents.

For more information about the global configuration folder and permissions, see the instructions on the **Affinity Folder** tab in the dialog.

4 PRODUCT ACTIVATION AND LICENSING

Affinity makes obtaining and managing licenses for your product simple. When you connect to a repository for the first time, Affinity guides you through the process of obtaining a demo license to activate your product for a trial period. You can purchase a full license by contacting your Laserfiche VAR, or United Micro Data (Craig Smith 1-800-375-0677). Your full license can be activated in the **Licenses** area of the Global Configuration dialog. If you accidentally delete or lose your license, your existing license can be re-acquired over the Internet from the Affinity license server.

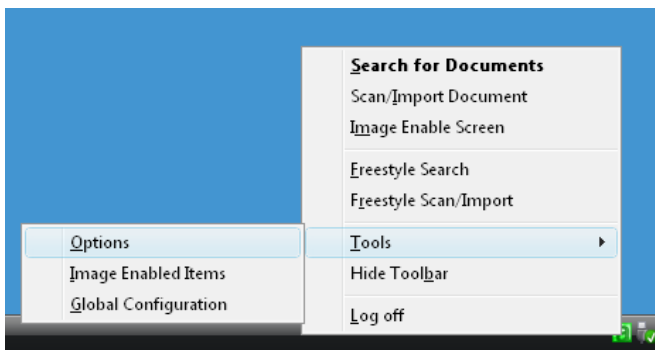
Affinity is licensed by the number of connections allowed on your Laserfiche server. The Affinity license must equal or exceed the total number of full and retrieval connections for your Laserfiche server. In Affinity, *connections* are synonymous with *users*.

The same Affinity license (and product key) can be used with multiple repositories hosted by the same Laserfiche server. However, additional Affinity licenses must be acquired for use with multiple servers at your site.

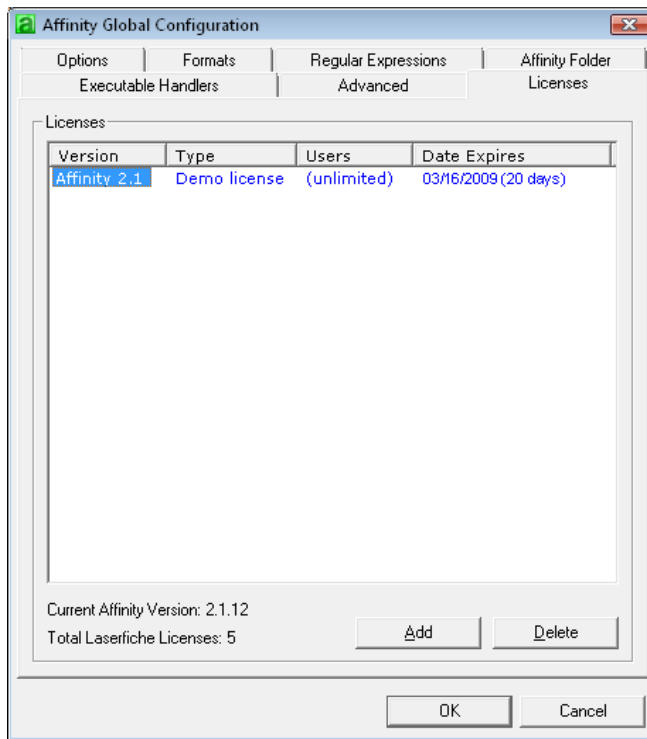
When new versions of Affinity are released, a new product license must be obtained for each version. The license version does not include the build number (e.g. 158 in version 2.1.158). Customers that pay annual support automatically qualify for new version licenses. Multiple licenses for Affinity can be managed on the same server to ease the transition between versions.

To manage your licenses:

1. Open the Affinity Global Configuration dialog by right clicking the Affinity session icon and selecting **Tools > Global Configuration**.



2. In the dialog, select the **Licenses** tab.



3. The current version of Affinity and the total number of Laserfiche licenses (full and retrieval) are listed at the bottom of the dialog.
4. Click **Add** to request a new product key, or to enter an existing product key. The Product Activation Wizard opens and guides you through the process of obtaining a product key.
5. The first time you request a product key, a demo license is activated for a trial period. If you purchase a full license, or if you are upgrading an existing license, return to the dialog and click Add and request a product key again. The upgraded license is automatically retrieved from the Affinity license server and activated. You do not need to manually remove the previous license to upgrade.

5 IMAGE ENABLING APPLICATIONS

5.1 IMAGE ENABLE - OVERVIEW

To *image enable* an application is to add document management functions, like searching and scanning, to the user interface. Not only does this make documents easier to save and find, but it effectively removes any limitations on the types of data that can be associated with an application.

For example, in a Human Resources application, you could save employee reviews, check stubs and tax documents for an employee, and retrieve them instantly without ever leaving the application's user interface.

Affinity features a unique multi-faceted approach to Laserfiche integration, providing solutions for a wide range of applications.

SCREEN CAPTURE

Affinity's quickest and most commonly used integration technique involves capturing data directly from an application's screen. This method requires no programming, and is ideal for image enabling 3rd party applications. Affinity screen capture is different than screen scraping. Affinity does not OCR the screen, so data capture is both fast and accurate. Affinity is not affected by different screen resolutions or fonts.

Affinity works with practically any web application running in Internet Explorer, as well as most GUI screens. For information about what kinds of applications work with Screen Capture, see [Software Requirements](#).

XML DATA SOURCES

Affinity can use data from practically any XML-formatted content to create dynamic, powerful integrations. Your application simply generates XML content, and Affinity does the rest. Within minutes, your application can support fully dynamic, user-configurable document management functions without knowing anything about Laserfiche programming, or the target site's repository.

APPLICATION PROGRAMMING INTERFACE

Affinity exposes an application programming interface (API) for developers seeking fast and powerful document management integrations. The Laserfiche toolkit is not required. The API can be used in conjunction with XML content for flexible and user-configurable integrations, or it can be used to search and add documents in the repository directly.

SPECIALTY INTEGRATIONS

Affinity is always looking for opportunities to expand its integration portfolio. Besides the universal integration tools, Affinity can create application-specific integrations. One example is the built-in [Microsoft Office Full Text Search](#).

If you aren't sure how to make Affinity work for you, please contact us.

5.2 AFFINITY TOOLBAR

The Affinity desktop toolbar is used for most image enable operations. By default, the toolbar automatically displays on your desktop when Affinity starts. It is translucent until your mouse hovers over it. The opacity of the toolbar can be configured in the Options dialog.

NOTE: Depending on your rights in Laserfiche and Affinity, you may not see all of the buttons in the toolbar. Users with read-only access will see only the binoculars (search).



Click and drag the grey bar to reposition the toolbar. Click the small **X** to log off of Affinity (this can be changed in the Options dialog). The toolbar can be turned off by selecting **Hide Toolbar** from the session icon popup menu. The transparency of the toolbar can be configured in the Options dialog.



Add Document – Scan or Import a document into your repository. Data is captured from the current application to populate template fields, folder names and file names. If the current application has been configured ahead of time, the Affinity Import dialog will open. Otherwise, the Freestyle dialog will open to allow you to point-and-click data into the proper fields.



Search – Search for documents in your repository using data from the current application. If the current screen has been configured ahead of time, the Laserfiche Client search window will automatically open with any hits. If only a single document is found, the document will automatically be opened. If the screen has not been configured, the Freestyle dialog will open to help you build a search by point-and-click.



Image Enable – Configure the current application for automatic search/scan/import.

TIP: Hold down Shift and click either the **Add Document** or **Search** buttons to open the Freestyle dialog for applications that have been image-enabled.

5.3 AFFINITY HOTKEYS

The primary functions on the toolbar, **Add Document**, **Search**, and **Image Enable**, can be mapped to keyboard shortcuts (hotkeys) in the Affinity Options dialog. This provides even quicker access to your documents, and truly makes Laserfiche feel like part of your business applications. If you use hotkeys, you might consider hiding the desktop toolbar. The toolbar settings are also located in the Affinity Options dialog.

6 SCREEN CAPTURE

6.1 OVERVIEW

Affinity's quickest and most commonly used integration technique involves capturing data directly from an application's screen. This method requires no programming, and is ideal for image enabling 3rd party applications. Affinity screen capture is different than screen scraping. Affinity does not OCR the screen, so it is fast and accurate, and is not affected by different font sizes or screen resolution.

Affinity screen capture uses on-screen data to:

- Automate document searches
- Name new documents
- Populate template field data for new documents
- Dynamically create folder structure

Affinity works with practically any web application running in Internet Explorer, as well as most GUI screens. For information about what kinds of applications work with Screen Capture, see [Software Requirements](#).

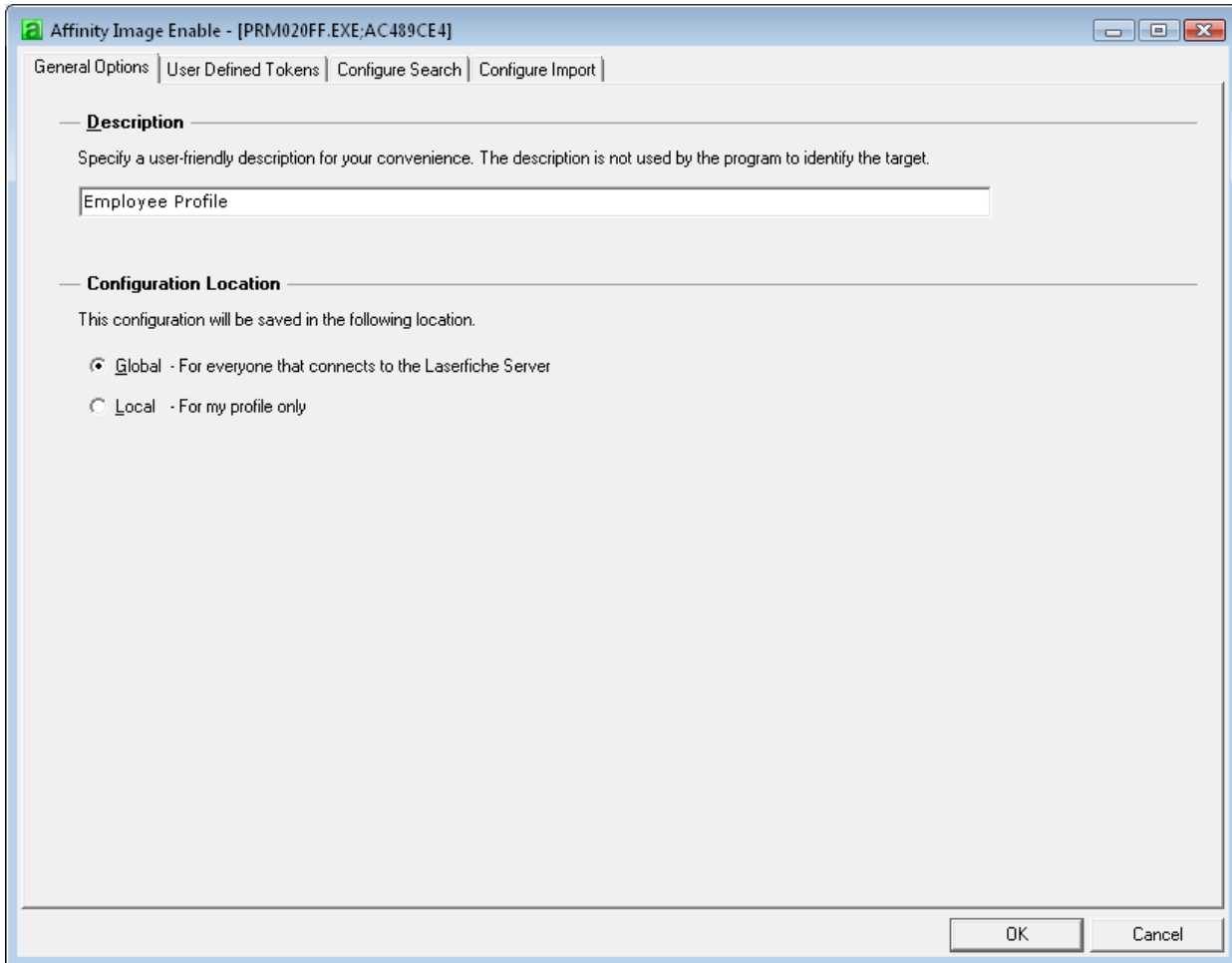
Image enabling a screen using Affinity is the ultimate in quick integration. Once a screen is image-enabled, it will work the same way every time you click **Search** or **Add Document** on the Affinity toolbar. Affinity is designed for multi-user environments. Once an application is image enabled, the configuration takes effect immediately for all Affinity users connected to the same repository.

The configuration process can be summarized as follows.

1. Click the **Image Enable** button on the Affinity toolbar to capture the target application's data.
2. Create user defined tokens from the application's data.
3. Configure a Laserfiche search expression using the new tokens you've created.
4. (Optional) Configure parameters to be used when creating new documents. Parameters include the document name, field values, destination folder, and volume.
5. Save the configuration. Now the screen is image enabled. The user can use the Affinity toolbar to search for documents, or add new documents to the repository.

6.2 GETTING STARTED

To begin the configuration process, bring the target application to the foreground (give it focus), then click the **Image Enable** button on the Affinity toolbar. If the screen has already been image enabled, you will be prompted whether to edit, overwrite, or delete the existing configuration. The Image Enable dialog will open and display the **General Options** tab.



- **Description** – This field is for descriptive purposes only. It defaults to the title of the captured window. You can change the default text to anything that you find useful.
- **Configuration Location** – When you image enable a screen, you can specify whether the configuration applies to all Affinity users connected to the same repository (global), or whether it applies only to your profile (local). Global configurations take effect instantly. The next time any Affinity user searches, scans, or imports using the targeted screen; it will use the settings you specify.

NOTE: The option to save the configuration locally will be disabled if the user does not have permissions to image enable the screen.

6.3 USER DEFINED TOKENS

You may already be familiar with the concept of tokens from Laserfiche. A token is a placeholder that represents another value, similar to a variable in a computer programming language. For example, in Laserfiche the token %(Date) represents today's date (\$Date\$ in Laserfiche 7). If you were to specify a new document name of "My Document %(Date)" on January 1st of 2009, the document will be created with the name "My Document 2009/01/01" (depending on the selected date format).

In Affinity, you will create new tokens that are used in search expressions, and also to specify parameters for creating new documents. In addition to user defined tokens, Affinity supports all standard Laserfiche tokens.

Select the **User Defined Tokens** tab in the Image Enable dialog to begin the process of mapping screen data to user defined tokens. The procedure for defining tokens is different depending on the type of application being configured.

To create tokens based on GUI screens, see the next section [Tokens – GUI Screens](#).

To create tokens based on web applications or XML data sources see [Tokens – Web Applications and XML](#).

6.3.1 TOKENS – GUI SCREENS

This section describes the process of mapping screen data to user defined tokens for GUI screens. If you are image enabling a web application or an XML data source, please see the next section.

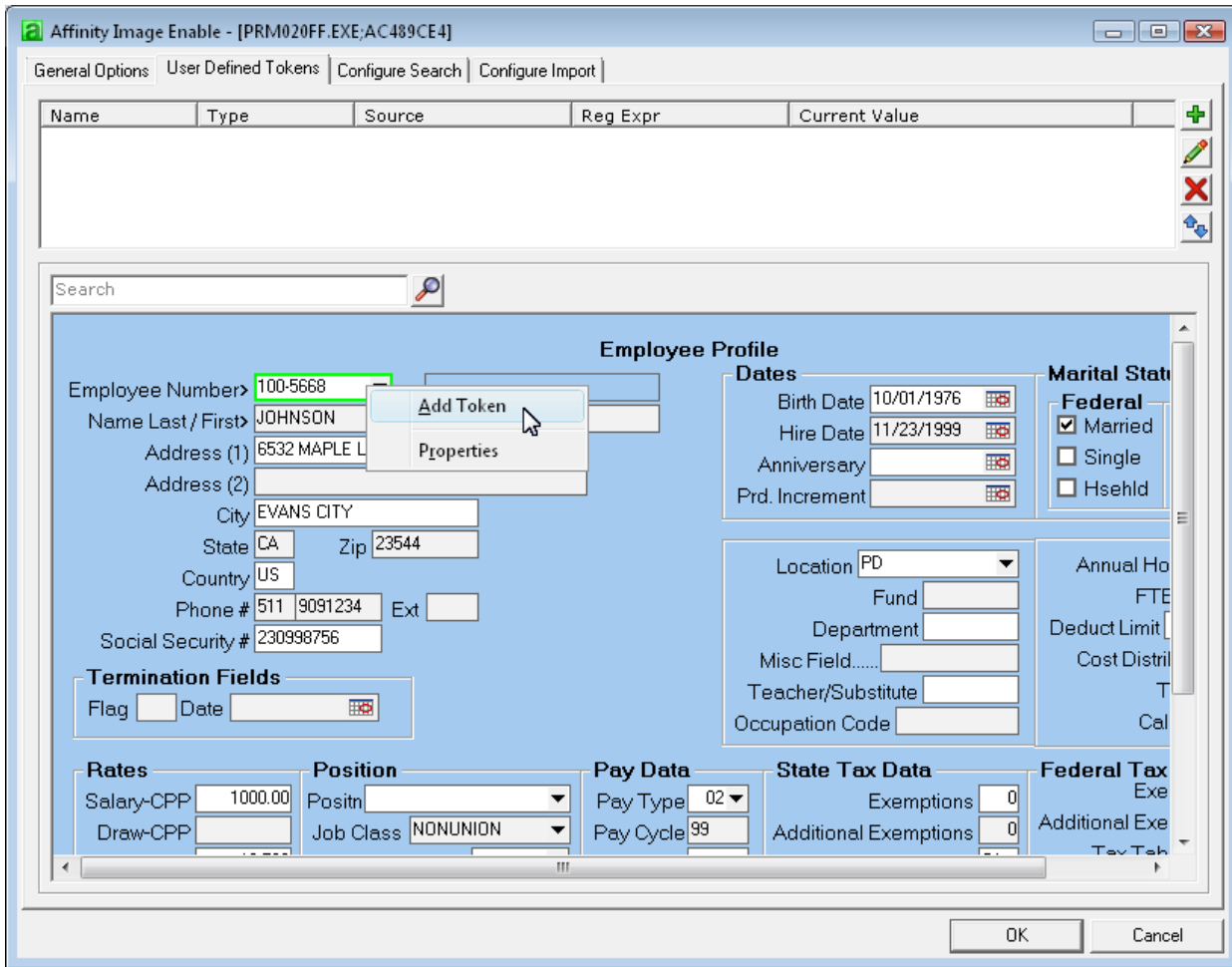
This example will create user defined tokens using the employee profile screen shown below. New tokens will be mapped to each of the fields that are highlighted in green: Employee Number, Last Name, First Name, and Social Security Number.

The screenshot shows the 'Employee Profile' window with the following data:

- Employee Number:** 100-5668 (highlighted in green)
- Name Last/First:** JOHNSON BILL (highlighted in green)
- Address (1):** 6532 MAPLE LANE
- Address (2):** (empty)
- City:** EVANS CITY
- State:** CA
- Zip:** 23544
- Country:** US
- Phone #:** 511 9091234
- Ext:** (empty)
- Social Security #:** 230998756 (highlighted in green)
- Termination Fields:** Flag (empty), Date (empty)
- Dates:** Birth Date: 10/01/1976, Hire Date: 11/23/1999, Anniversaries: (empty), Prd. Increment: (empty)
- Marital Status:** Federal: Married (checked), State: Married (checked); Single, Hsehd: (unchecked)
- Location:** PD
- Fund:** (empty)
- Department:** (empty)
- Misc Field.....:** (empty)
- Teacher/Substitute:** (empty)
- Occupation Code:** (empty)
- Annual Hours:** 2080
- FTE %:** .75
- Deduct Limit:** (empty)
- Cost Distribution:** (empty)
- Tenure:** (empty)
- Calendar:** (empty)
- Rates:** Salary-CPP: 1000.00, Draw-CPP: (empty), Hourly: 12.500, Overtime: 37.521, DoubleTime: (empty)
- Position:** Positn: (empty), Job Class: NONUNION, Salary Code: (empty), Grade: (empty), Step: (empty), Max Step: (empty)
- Pay Data:** Pay Type: 02, Pay Cycle: 99, Shift Code: (empty), OT Exempt: (empty), No Pay: (empty)
- State Tax Data:** Exemptions: 0, Additional Exemptions: 0, Tax Table Code: CA, Addl Withhold \$: (empty), Addl Withhold %: (empty), Withhold Flag: 0
- Federal Tax Data:** Exemptions: 0, Additional Exemptions: 0, Tax Table Code: (empty), Addl Withhold \$: (empty), Addl Withhold %: .250, Fixed Federal Flag: 0, No FICA: 0, No Medicare: 0

At the bottom of the screen, there is a control bar with buttons: Init Screen, Delete Record, New Hire, OK, Expanded Screen, Compute Salary, Return, Exit. Below these buttons are labels: UPDATE, CAPS, NUM, INS.

The **User Defined Tokens** section of the Image Enable dialog is separated into two areas. The top area lists the tokens defined for the screen. The lower area contains the screen of your application. In the screen shot below the token list is empty.



To create a new token that represents the employee number, simply click the Employee Number field in the screen capture, and select **Add Token** on the popup menu. The User Defined Token dialog will open.

TIP: Select **Properties** on the popup menu to view additional details about the control. This information can be used for troubleshooting purposes.

In this example, the user has named the token 'EmpNo'. A regular expression has been selected to remove all non-numeric characters from the employee number.

The screenshot shows a 'User Defined Token' dialog box with the following fields and options:

- Token Name:** EmpNo
- Data Source:** Coordinate (X=0133, Y=0039)
- Regular Expression:** Numbers only
- Table:**

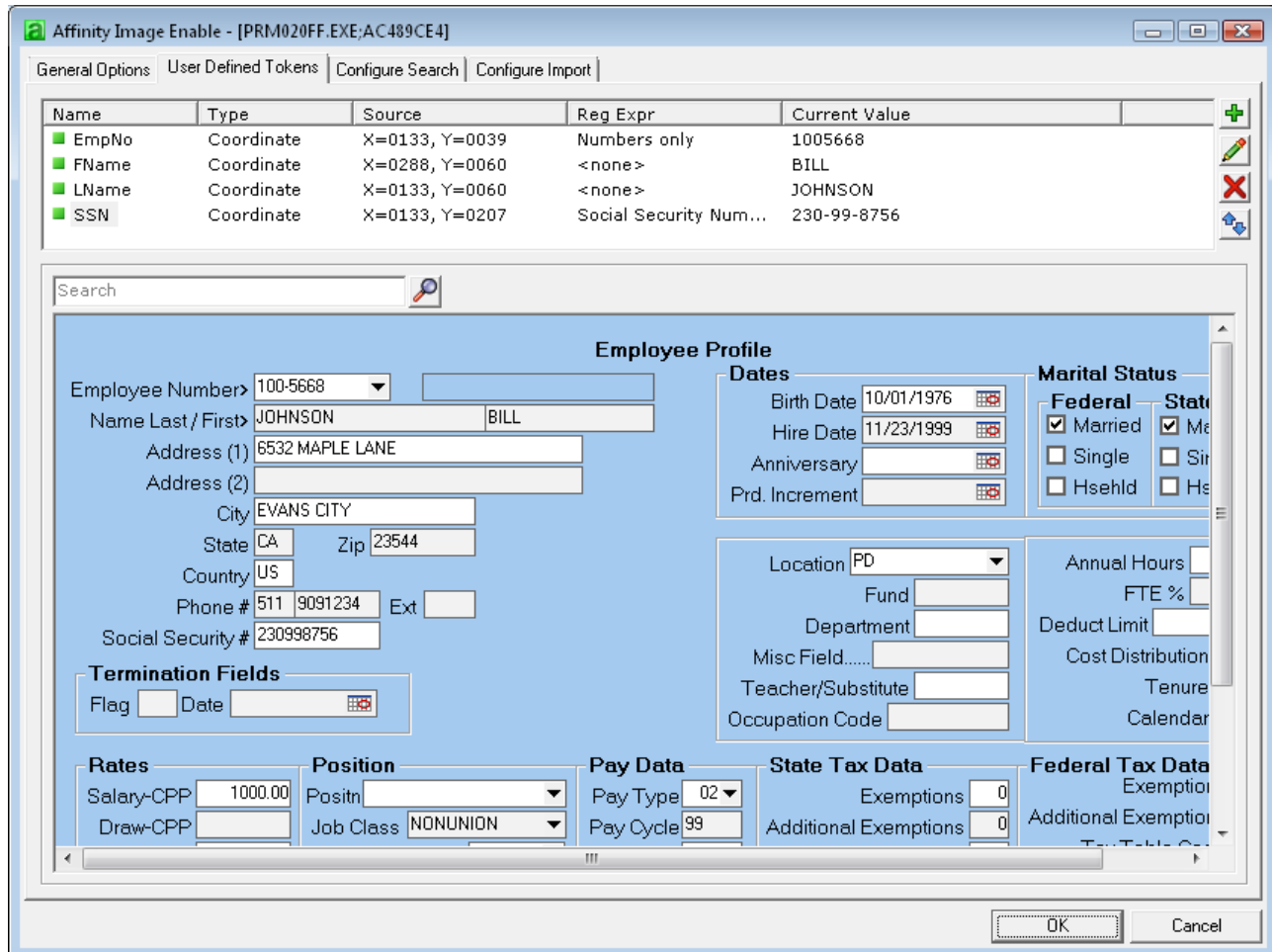
Step	Pattern	Action	Replacement
1	\D	Replace All	
- Test Value:** 100-5668
- Results:** 1005668
- Buttons:** Test, OK, Cancel

- **Token Name** – Defines the name of the token. This name cannot contain spaces or punctuation. Short, descriptive names are recommended.
- **Data Source** – Displays the source of the token's data. In the case of GUI screens, only 'Coordinate' is available as a selection.
- **Reg Exp** – (Optional) The regular expression used to reformat the token's data. For more information about regular expressions in Affinity, see [Regular Expressions](#).
- **Test Value** – Used to test the selected regular expression. By default, this field contains the current value for the token. Click the **Test** button to apply the regular expression against the token value.
- **Results** – Displays the token value after the regular expression is applied by clicking the **Test** button.

Click **OK** to save the token. The new token will appear in the token list.

In this example, new tokens have been created for the Employee Number (EmpNo), Last Name (LName), First Name (FName), and Social Security Number (SSN). The current value for each token is also displayed in the list view. Note that the value for SSN has been reformatted to contain dashes using regular expressions.

TIP: Multiple tokens can be created from the same data source. For example, if the screen contained only one field for the employee's full name, separate tokens for the first and last name could be mapped to the same field. Regular expressions could be used to capture only the part of the name appropriate for each token.



The toolbar on the right-hand side of the token list is used to manage tokens. The buttons are as follows:



Add Token – (Ctrl + A) Adds a new token using the currently selected field.



Edit Token – (Ctrl + E) Edits the currently selected token.



Delete Token – (Ctrl + D) Deletes the selected token.



Locate Token Source – (Ctrl + L) Highlights the on-screen control that is mapped to the currently selected token.

6.3.2 TOKENS – WEB APPLICATIONS AND XML

This section describes the process of mapping screen data to user defined tokens for a web application or an XML data source. If you are image enabling a GUI screen, please see the previous section.

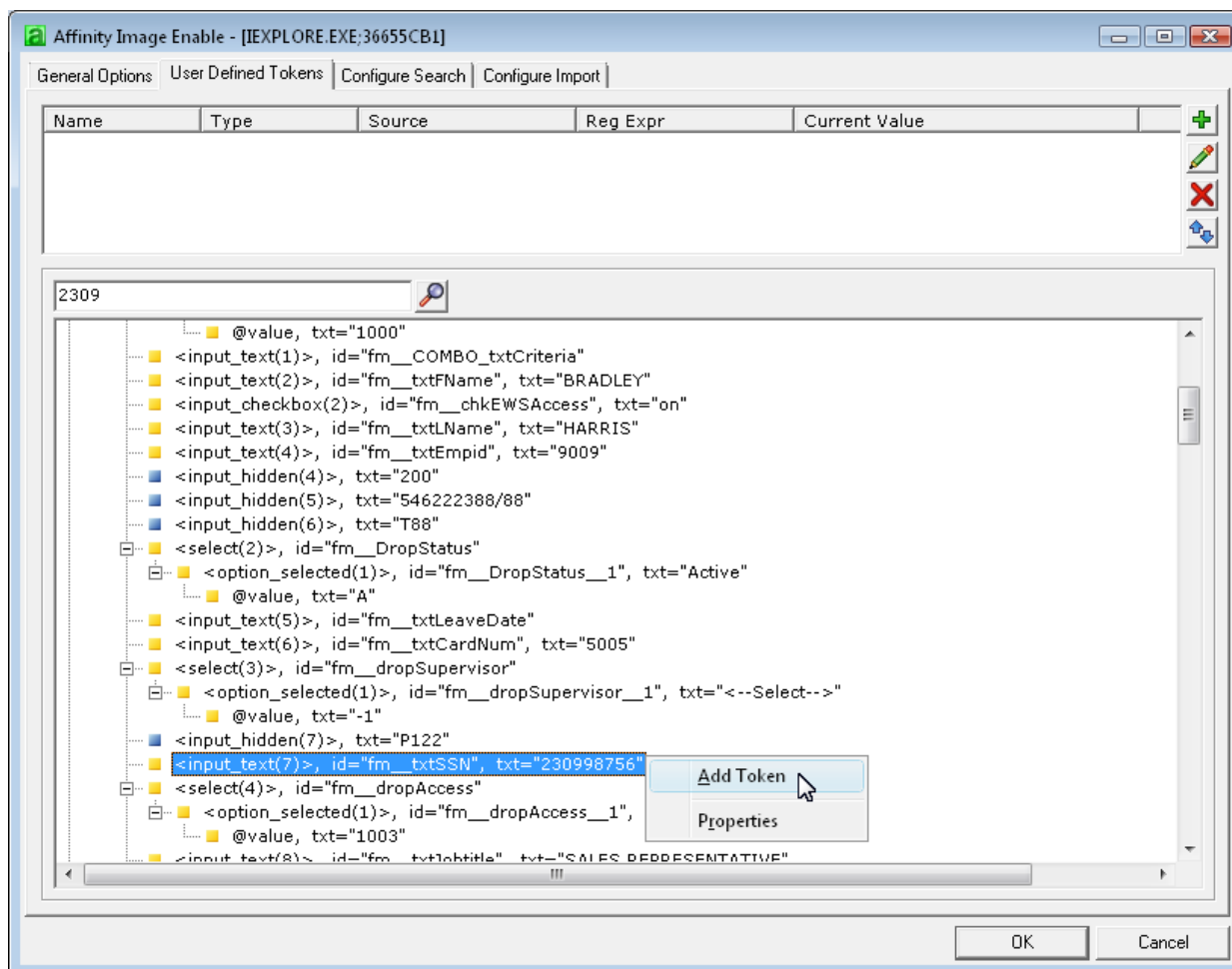
This example will create user defined tokens using the employee profile screen from the Novatime® web application. New tokens will be mapped to the fields highlighted in green: Employee Number, Last Name, First Name, and Social Security Number.

The screenshot shows the Novatime Supervisor Web Services interface in Internet Explorer. The browser address bar shows the URL: http://216.64.133.163/novatime/timeanywhere.aspx. The page title is "TimeAnywhere - Internet Explorer provided by Dell". The Novatime logo is visible in the top left corner. The user is logged in as "DEMO" with the name "Demo User". The date and time are "Monday, January 26, 2009 23:30:32". The interface has a navigation menu with tabs: Overview, General, Personal, Pay Profile, H.R. Profile, and Reviews. The "General" tab is selected. The main content area shows the employee profile for "HARRIS, BRADLEY". There is a photo of the employee and a link to "Add/Change Picture". The profile is divided into two sections: "Required Information" and "Work Team".

Required Information:	
*First Name:	BRADLEY
*Last Name:	HARRIS
*Employee ID:	9009
*Status & Term/Date:	Active
Badge Number:	5005
Assign To:	<--Select-->
S.S.N.:	230998756
Access Group:	Employee Access
Job Title:	SALES REPRESENTATIVE
Send Schedule Requests to:	<--Select-->

Work Team	
Facility:	100 [LOS ANGELES]
Department:	320 [SALES]
Job:	500 [ENGINEER]
Customer:	<--Select-->
Task:	<--Select-->

The **User Defined Tokens** section of the Image Enable dialog is separated into two areas. The top area lists the tokens defined for the screen. In the screen shot below, the token list is empty because no tokens have been defined yet. The lower area contains the data from the web application or XML content in a tree view.



For web applications, each node in the tree view represents data extracted from the original HTML content. This data is not limited to form fields. Practically all data, including labels and paragraph text, is made accessible. For additional details about how Affinity uses HTML data, see [Appendix A: HTML Content Details](#).

When image enabling an XML data source, each node in the tree view represents an element or attribute.


Each node label is in the form of: *<Name>, id="ID", txt="Value"*

Name is the tag or element name. *ID* is the unique identifier associated with the element, if one exists. *Value* is the element's data, if any.

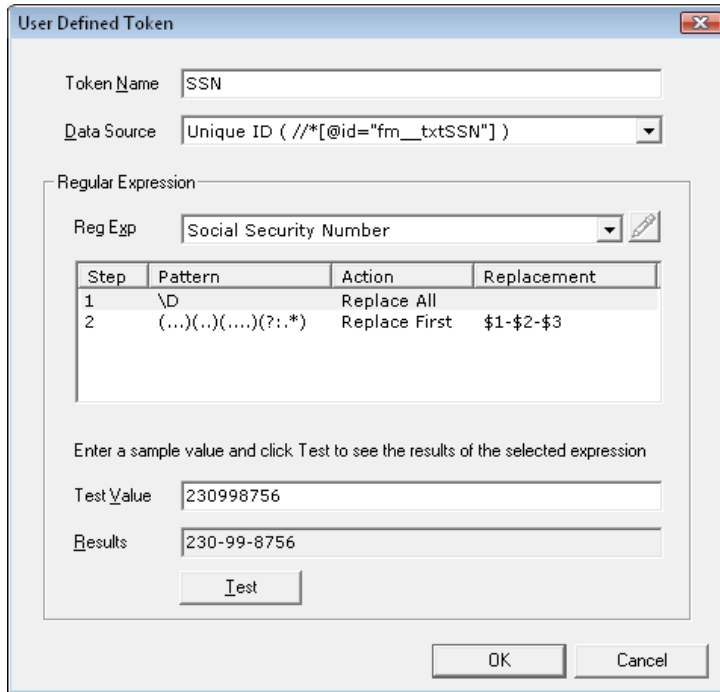
A gold node icon ■ indicates that a unique identifier (ID) is associated with the element. Elements with IDs are usually easier to find, and are more resilient to content changes. In HTML documents, almost every form member should have a unique ID.

A blue node icon ■ indicates that the element does not have a unique identifier. Nodes without IDs are located according to a unique, reproducible path generated by Affinity. This novel approach enables practically any data within the content to be used; not just form data. Paths are more vulnerable to content changes than unique identifiers.

Nodes with a prefix '@' denote an attribute. Attributes belong to a parent element, and never contain other nodes.

To create a new token that represents the social security number (SSN), first locate the node that contains the SSN by using the search box. In the example, the SSN number is '230998756'. To locate the node, the user enters '2309' in the search box and clicks the search button . To repeat the search, just click the search button again, or press F3. Finally, create the token by clicking the node, then select **Add Token** from the popup menu. The User Defined Token dialog will open.

In this example, the user has named the token 'SSN'. A regular expression has been selected to reformat the SSN with dashes.



The dialog box 'User Defined Token' contains the following fields and controls:

- Token Name:** A text box containing 'SSN'.
- Data Source:** A dropdown menu showing 'Unique ID (//*[@id="fm_txtSSN"])'.
- Regular Expression:** A section with a dropdown menu set to 'Social Security Number' and a 'Reg Exp' text box.
- Table:** A table with 4 columns: Step, Pattern, Action, and Replacement.

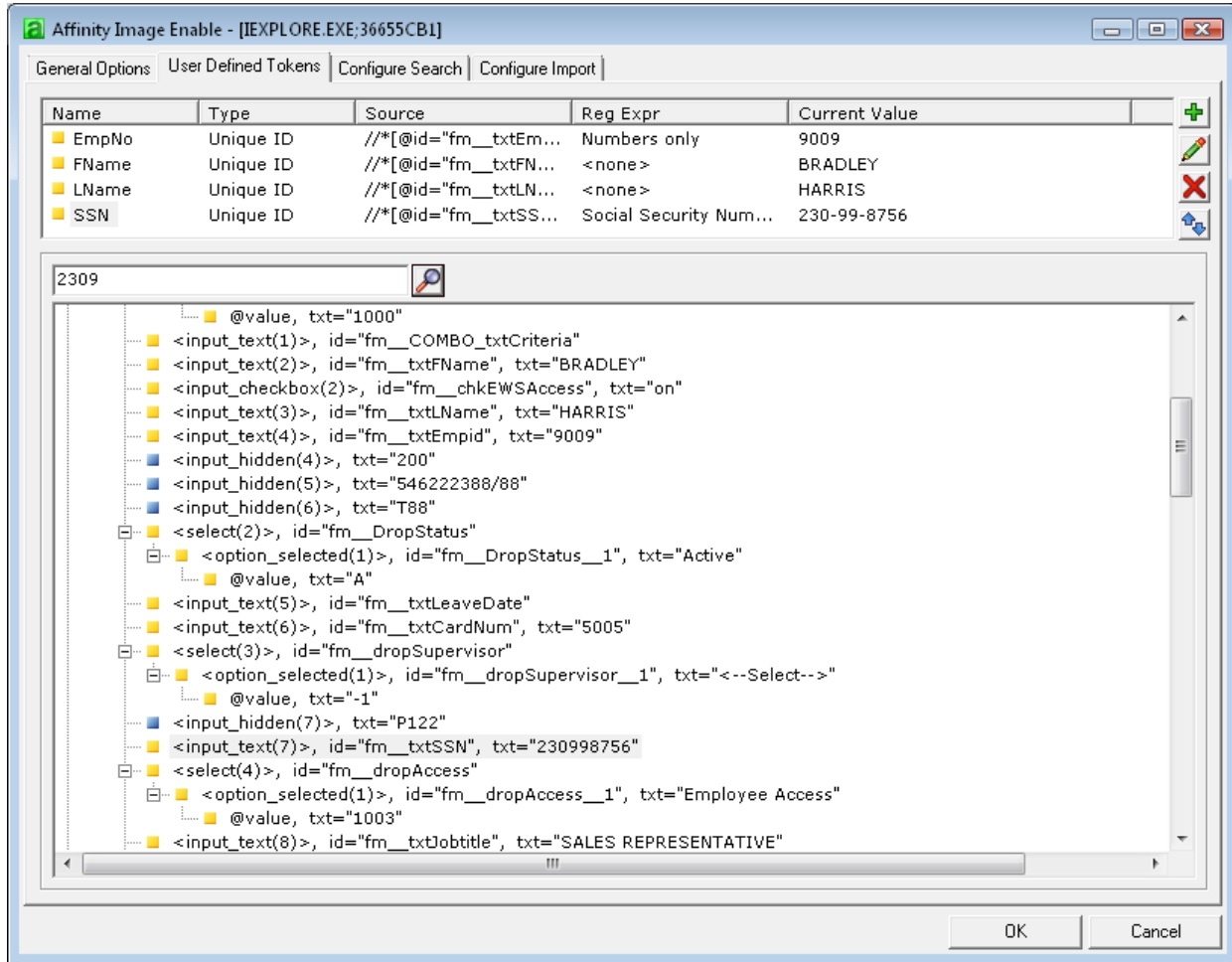
Step	Pattern	Action	Replacement
1	\D	Replace All	
2	(...)(...)(...)(?:.*)	Replace First	\$1-\$2-\$3
- Test Value:** A text box containing '230998756'.
- Results:** A text box containing '230-99-8756'.
- Buttons:** 'Test', 'OK', and 'Cancel'.

- **Token Name** – Defines the name of the token. This name cannot contain spaces or punctuation. Short, descriptive names are recommended.
- **Data Source** – Displays the source of the token's data.
- **Reg Exp** – (Optional) The regular expression used to reformat the token's data. For more information about regular expressions in Affinity, see [Regular Expressions](#).
- **Test Value** – Used to test the selected regular expression. By default, this field contains the current value for the token. Click the **Test** button to apply the regular expression against the token value.
- **Results** – Displays the token value after the regular expression is applied by clicking the **Test** button.

Click **OK** to save the token. The new token will appear in the token list.

In this example, new tokens have been created for the Employee Number (EmpNo), Last Name (LName), First Name (FName), and Social Security Number (SSN). The current value for each token is also displayed in the list.

TIP: Multiple tokens can be created from the same data source. For example, if the screen contained only one field for the employee's full name, separate tokens for the first and last name could be mapped to the same field. Regular expressions could be used to capture only the part of the name appropriate for each token.



The toolbar on the right-hand side of the token list is used to manage tokens. The buttons are as follows:



Add Token – (Ctrl + A) Adds a new token using the currently selected node.



Edit Token – (Ctrl + E) Edits the currently selected token.




Delete Token – (Ctrl + D) Deletes the selected token.



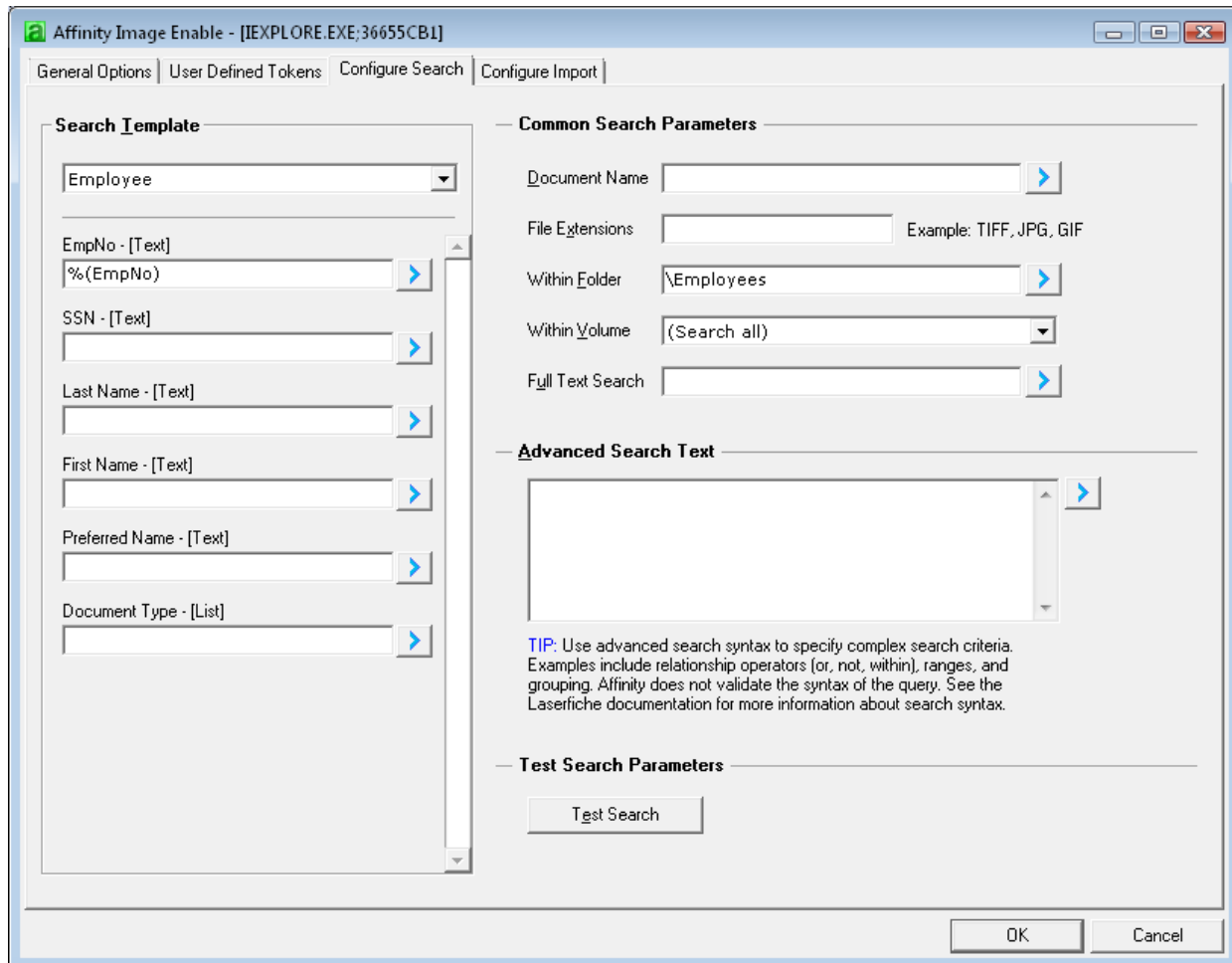
Locate Token Source – (Ctrl + L) Highlights the node mapped to the currently selected token.

6.4 CONFIGURE SEARCH

Select the **Configure Search** tab in the Image Enable dialog to build a dynamic search expression using user defined tokens. Tokens can quickly be inserted into any of the supported fields by clicking the parameter's associated token button , or by pressing F4.

The most common search parameters are represented by fields in the search builder. However, more complex searches can always be specified by writing an advanced text search.

The following example searches for all documents in the 'Employees' folder whose Employee template field EmpNo is equal to the value of the EmpNo token.

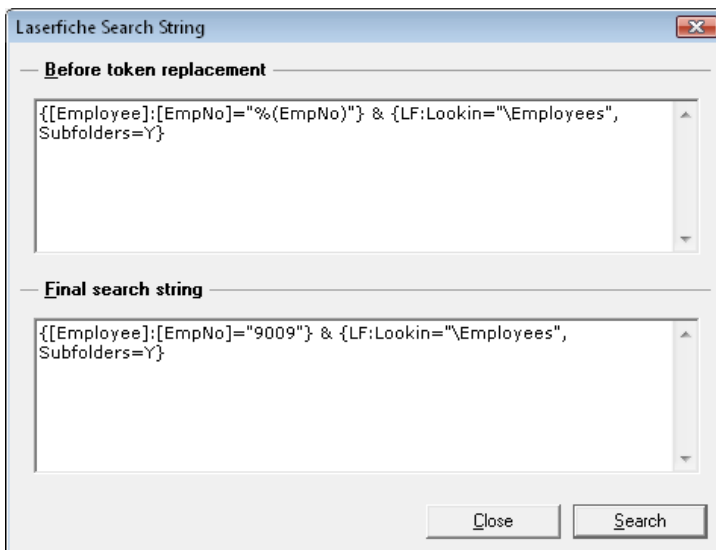


- **Search Template** – Select the template for the search. To exclude the template as a search parameter, you must select **(Do not search template)** from the drop-down list. If you select a template, but omit all field values, your search will still be constrained to the selected template.
- **Template Fields** – Specifies the field values to search for. Wildcards are supported. Comparison operators (=, >, >=, <, <=, <>) are not supported. Values specified in separate fields are combined using the AND (&) search operator. To use comparison operators, or to combine multiple values using OR (|), or to specify multi-valued field searches, you must write an advanced text search.
- **Document Name** – The document name to search for. Wildcards are supported.

- **File Extensions** – Restricts your search to one or more electronic document extensions. For example, to limit the results to all Microsoft Word documents, specify a value of 'DOC, DOCX'.
- **Within Folder** – Restricts the search to the specified folder and subfolders.
- **Within Volume** – Restricts the search to the specified volume.
- **Full Text Search** – Searches the full text index.
- **Advanced Search Text** – Specifies any Laserfiche advanced search string. The syntax of the search string is not validated by Affinity.

Only parameters containing values will be included in the search. To specify a blank value for any search parameter, you must use an advanced search string. Multiple parameters are combined using the AND (&) search operator.

Click **Test Search** if you want to verify that your search will work as expected. The Laserfiche Search String dialog will open.




The top box displays the resulting search expression as an advanced search string before token replacement. The bottom box displays the final search string with literal values. Click the **Search** button to execute the search in the Laserfiche client.

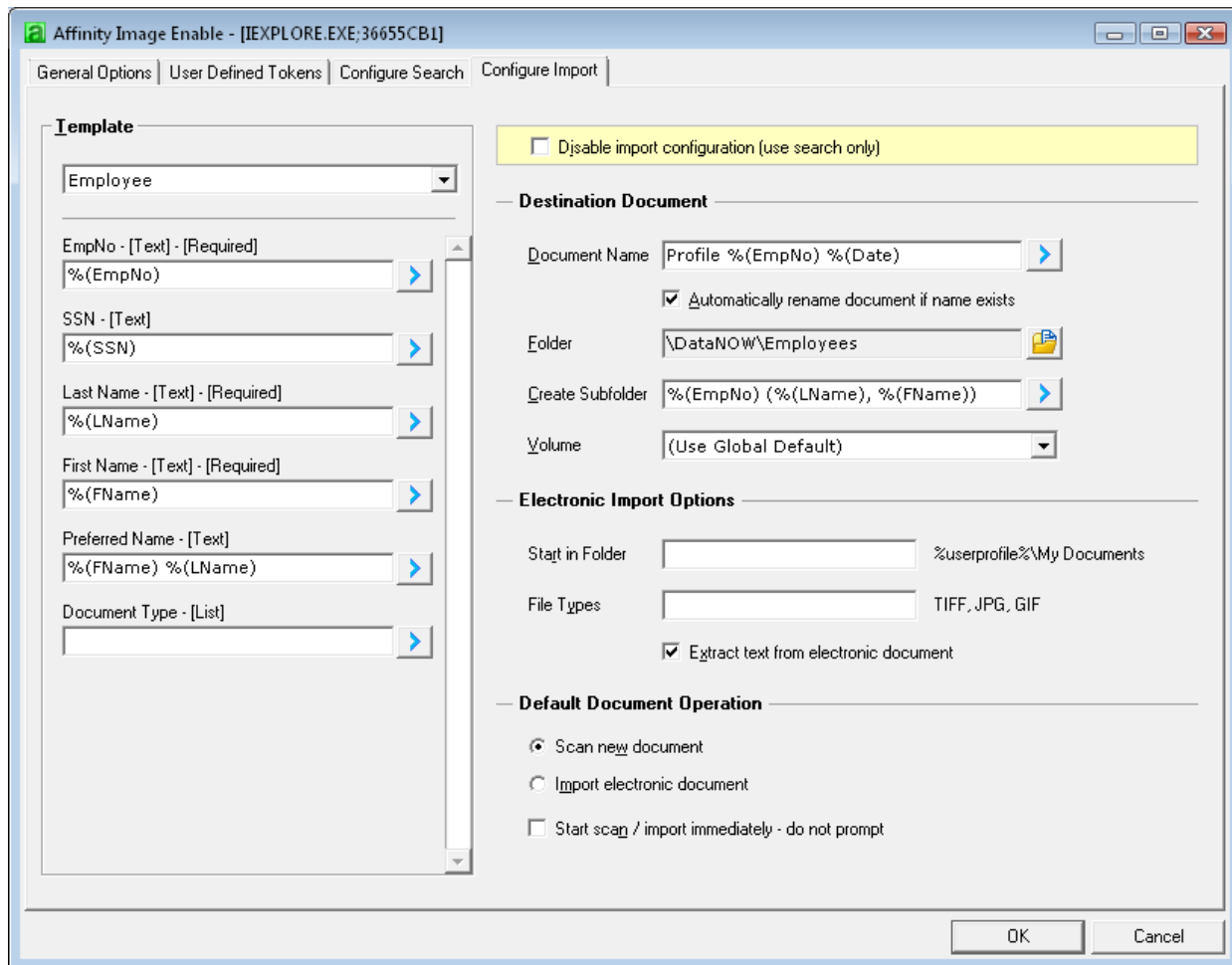
TIP: For complex searches, use the common search parameters to build a basic search, then edit and copy the resulting advanced search string from the test search area. This approach can save time and reduce syntax errors.

6.5 CONFIGURE IMPORT

Select the **Configure Import** tab in the Image Enable dialog to specify parameters used to create new documents.

Tokens can quickly be inserted into any of the supported fields by clicking the parameter's associated token button , or by pressing F4. All standard Laserfiche tokens are supported. Some of the lesser-used Laserfiche tokens may not appear in the token menu, but are still supported when entered manually.

The example below uses tokens created from the employee profile screen to populate template fields, name the document, and dynamically create a destination folder. Notice that in the Preferred Name field, the FName and LName tokens are used together. Also, the subfolder uses multiple tokens to create a descriptive name that includes the employee's ID and name: '9009 (HARRIS, BRADLEY)'.



The screenshot shows the 'Affinity Image Enable' dialog box with the 'Configure Import' tab selected. The 'Template' section on the left lists fields like 'EmpNo', 'SSN', 'Last Name', 'First Name', 'Preferred Name', and 'Document Type', each with a token button. The 'Destination Document' section on the right includes 'Document Name', 'Folder', 'Create Subfolder', and 'Volume' fields, along with checkboxes for 'Automatically rename document if name exists' and 'Disable import configuration (use search only)'. The 'Electronic Import Options' section includes 'Start in Folder' and 'File Types' fields, and a checkbox for 'Extract text from electronic document'. The 'Default Document Operation' section includes radio buttons for 'Scan new document' and 'Import electronic document', and a checkbox for 'Start scan / import immediately - do not prompt'.

- **Template** – (Required) Select the template to assign to the document.
- **Template Fields** – Specifies values for each template field.
- **Disable import configuration** – Select this option if you do not wish to specify import parameters. The configuration will only be used to search for documents. If a user clicks the **Add Document** button on the Affinity toolbar, the Freestyle Import dialog will open instead.

- **Document Name** – The default name for the destination document. If a name is not specified, the user will be required to enter a name, or the original name of the source file will be used when an electronic file is imported.
- **Automatically rename document** – Specifies whether the document is automatically renamed if an entry by the same name already exists in the destination folder. A number will be appended to the document name, like ‘Employee Resume (2)’.
- **Folder** – (Required) The default destination folder for the new document. Click the folder button (or press F4) to browse for a folder in the repository.
- **Create Subfolder** – Specifies one or more folders to create in the parent folder. This field can be used to dynamically create folder structures and organize documents. Any number of subfolders can be created by separating each folder name by a backslash. If a token value contains a backslash when creating the folder, it will be replaced by an underscore – a new folder will not be created unintentionally.
- **Volume** – The default destination volume for new documents. Select **(Use Global Default)** to use the default volume configured in the Global Configuration dialog.
- **Start in Folder** – The default folder to open in the file dialog when importing an electronic file. By default, the current user’s personal profile folder (‘My Documents’) will be used. Expandable environment strings are supported.
- **File Types** – A list of file extensions that will appear in the file dialog if the user browses the file system to import an electronic document.
- **Extract text from electronic document** – Check this box if you wish to add the contents of the file to the full text index in the repository. Only the contents of files with an associated IFilter will be extracted.
- **Default Document Operation** – These options determine the default action that will be executed (scan or import) when the user presses Enter in the Affinity Import dialog.
- **Start scan / import immediately** – If this option is selected, the default document operation will be executed immediately when the Affinity Import dialog is displayed.

6.6 SEARCHING FOR DOCUMENTS

Once the screen has been configured, you are ready to begin searching for documents. To initiate the search, make sure the target application has focus, and then click the **Search** button on the Affinity toolbar. Affinity will display the search results in the Laserfiche Client. If only a single document is found, Laserfiche will automatically open it.

TIP: If you are using a per-connection licensing model in Laserfiche, get in the habit of closing all of the Laserfiche windows and documents when they are no longer needed. This will release the connection back into the server connection pool for others to use.

6.7 ADDING NEW DOCUMENTS

To add a new document to the repository, give the target application focus, then click the **Add Document** button on the Affinity toolbar. The Affinity Import dialog will open, displaying the field values and other configured parameters captured from the screen. Click **Scan** to scan a new document using Laserfiche Scanning. Click **Import** to browse for an electronic file on your computer or network.

Affinity Import - [IEXPLORE.EXE;36655CB1 (Global)]

Destination

Document Name
New Document %(Date)

Folder
\\DataNOW\Employees

Subfolder
9009 (HARRIS, BRADLEY)

Volume
VOL00

Automatically rename file

Extract text from electronic file

Employee Template

EmpNo - [Text] - [Required]
9009

SSN - [Text]
230-99-8756

Last Name - [Text] - [Required]
HARRIS

First Name - [Text] - [Required]
BRADLEY

Preferred Name - [Text]
BRADLEY HARRIS

Document Type - [List]

Scan

Import

TIP: For date and time fields, press Spacebar to automatically fill in the current date or time.

7 FREESTYLE SCREEN CAPTURE

Freestyle Screen Capture lets you get to work right away without any configuration or programming at all. Freestyle allows you to just point-and-click text on the screen to populate template fields for searches or for new documents.

TIP: The Freestyle dialog is always just a click away. Even if you aren't going to use data on the screen for searching, you can perform other searches from Freestyle. This is usually a lot quicker than opening the Laserfiche client to build a search.

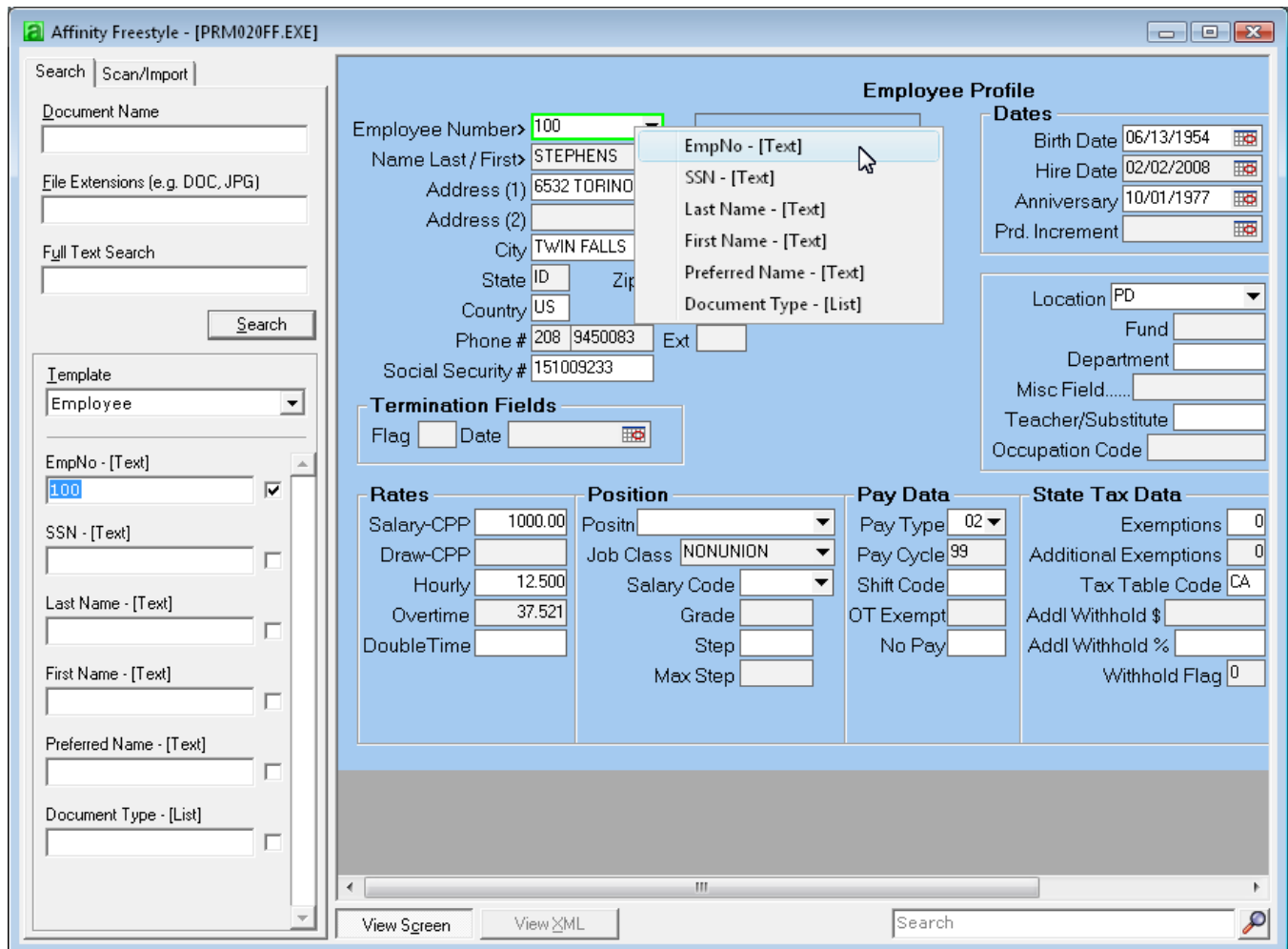
7.1 SEARCHING FOR DOCUMENTS – FREESTYLE

To begin a freestyle search, give the target application focus, and then click the **Search** button on the Affinity toolbar. The Freestyle dialog will open.

NOTE: If the screen has been image enabled, the pre-configured search will be executed instead of opening the Freestyle dialog. To open the Freestyle dialog for an image enabled screen, hold down Shift on your keyboard, and then click **Search** on the Affinity toolbar.

(Continued)

To quickly perform a template search, select the desired template from the **Template** drop-down list. Next, just click the on-screen field that contains the text you want to search for. Select a template field from the popup menu. The text will be inserted into the field list to be searched for on the left hand side of the screen. Finally, just press Enter, or click **Search**. The search results will be displayed in the Laserfiche client.



Here are some helpful tips for using the Freestyle dialog.

- Laserfiche wildcards and ranges are supported for searches.
- If you specify multiple search items, they will be combined in an AND (&) search. In other words, only documents meeting all of the search criteria will be returned.
- If you do not want to include template criteria in your search, select **(Do not search template)** from the **Template** dropdown list.
- Check the box next to a blank template field to search for a field that contains no value.
- Clear the box next to a template field containing a value to exclude it from the search.
- For date and time fields, press Spacebar to automatically fill in the current date or time (similar to the Laserfiche Client behavior).

7.2 ADDING NEW DOCUMENTS – FREESTYLE

To add a new document to your repository using Freestyle, give the target application focus, and then click the Add Document button on the Affinity toolbar. The Freestyle dialog will open.

NOTE: If the screen has been image enabled, the Affinity Import dialog will be displayed instead of the Freestyle dialog. To open the Freestyle dialog for an image enabled screen, hold down Shift on your keyboard, and then click **Add Document** on the Affinity toolbar.

Select the desired template from the **Template** drop-down list. To populate the template fields, just click the on-screen text that you want to use, then select a destination field from the popup menu. The text will be inserted into the field on the left hand side of the screen.

The screenshot shows the Affinity Freestyle dialog box with the following data entered:

- Employee Profile:** Employee Number: 100, Name Last / First: STEPHENS, Address (1): 6532 TORIN, City: TWIN FALLS, State: ID, Country: US, Phone #: 208 9450083, Social Security #: 151009233.
- Dates:** Birth Date: 06/13/1954, Hire Date: 02/02/2008, Anniversary: 10/01/1977, Prd. Increment: [blank].
- Termination Fields:** Flag: [checkbox], Date: [calendar icon].
- Rates:** Salary-CPP: 1000.00, Draw-CPP: [blank], Hourly: 12.500, Overtime: 37.521, DoubleTime: [blank].
- Position:** Position: [dropdown], Job Class: NONUNION, Salary Code: [dropdown], Grade: [dropdown], Step: [dropdown], Max Step: [dropdown].
- Pay Data:** Pay Type: 02, Pay Cycle: 99, Shift Code: [dropdown], OT Exempt: [checkbox], No Pay: [checkbox].
- State Tax Data:** Exemptions: 0, Additional Exemptions: 0, Tax Table Code: CA, Addl Withhold \$: [dropdown], Addl Withhold %: [dropdown], Withhold Flag: 0.
- Left Sidebar:** Document Name: Emp Review %(Date), Folder: \Employees, Volume: VOL00, Template: Employee. Template fields include: EmpNo - [Text] - [Required] (100), SSN - [Text] (151009233), Last Name - [Text] - [Required] (STEPHENS), First Name - [Text] - [Required] (KIRK), Preferred Name - [Text] (KIRK STEPHENS), Document Type - [List] (Employee Review).

Select a destination name, folder and volume for your document. Click **Scan** to scan a new document using Laserfiche Scanning. Click **Import** to browse for an electronic file on your computer or network.

Here are some additional tips for using the Freestyle Import dialog.

- If a destination document name is not specified when importing an electronic document, the original name of the document is used.
- For date and time fields, press Spacebar to automatically fill in the current date or time.
- Laserfiche tokens are supported in the document name and template fields.

8 REGULAR EXPRESSIONS

8.1 OVERVIEW

A regular expression is a pattern used to match a string. Once a string is found, it can be returned as-is, or replaced with another value. For example, the pattern '\d' matches any numeric character (0-9).

Affinity uses regular expressions to manipulate and reformat data when creating user defined tokens. With a little practice, your integration projects can achieve a great deal of sophistication that would otherwise require extensive custom programming.

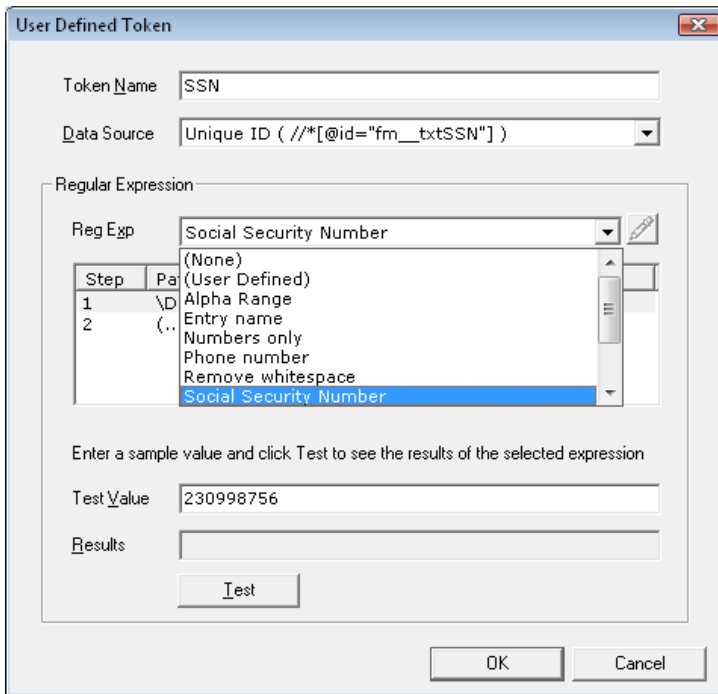
In Affinity, the most common use for regular expressions is to standardize data for indexing or naming entries. For example, if an employee's documents are indexed with an inconsistently formatted employee number (e.g. '0001-0999', '00010999', '0001 0999'), it is difficult to find all of the employee's documents again. Regular expressions can be used to reformat all forms of the employee number with consistent results.


Another common use for regular expressions is to extract sub strings from data input. For example, you could extract the last name from a field that contained both a person's first and last name (e.g. 'Johnson' from 'Dale Johnson').

TIP: There are many Internet resources for common data manipulation tasks using regular expressions.

8.2 USING REGULAR EXPRESSIONS

Regular expressions are used in Affinity to manipulate data when creating or editing a user defined token (see [User Defined Tokens](#)).



To specify an ad-hoc expression for a token, select **(User Defined)** from the drop-down list, then click the **Edit** button .

The regular expression drop-down also contains named expressions defined in the Global Configuration dialog. Affinity includes several useful expressions when installed. You can add your own named expressions for commonly used data formatting tasks. To define a new named expression, right-click the Affinity session icon; select **Tools > Global Configuration** to open the Global Configuration dialog; and go to the **Regular Expressions** tab.

8.3 BUILDING REGULAR EXPRESSIONS

You build expressions in Affinity using the Regular Expressions dialog. Affinity's approach to regular expressions is unique. It allows you to perform different actions against your data, in separate and distinct steps. The following example displays the built-in expression for formatting a social security number.

	Pattern	Action	Replacement value
Step 1	\D	Replace all	
Step 2	(...)(...)(...)(?:.*)	Replace first	\$1-\$2-\$3
Step 3		Find all	
Step 4		Find all	

Test Expression

Enter a sample value below and click Test to see the results.

Test: 123456789

Results: 123-45-6789

Test

OK Cancel

- **Name** – Specifies a name for the regular expression. The name is only used when defining global expressions. **IMPORTANT:** Renaming a global expression will cause the image enabled items that implement it to stop functioning.
- **Description** – A user-friendly description for the data manipulation task.
- **Steps 1 - 4** – Consecutive data manipulation tasks to apply to the input. You are not required to use all of the steps.
- **Pattern** – The regular expression pattern used to search the input.
- **Action** – The action to take when a pattern match is found. The actions are as follows.
 - **Find All** – Returns all instances in the input that match the pattern.
 - **Find First** – Returns only the first instance in the input that matches the pattern.
 - **Replace All** – Replaces all matching instances in the input with a supplied value.
 - **Replace First** – Replaces only the first match in the input with a supplied value.
- **Replacement value** – The value to replace pattern matches in the input. The replacement value is used only with Replace All and Replace First actions.

- **Test** – A test value used to test the regular expression.
- **Results** – Displays test value after the regular expression is applied by clicking the **Test** button.

The steps for the Social Security Number expression are described here.

Pattern	Action	Replacement	Explanation
\D	Replace All	<empty string>	Removes all non-numeric characters.
(...)(..)(....)(?:.*)	Replace First	\$1-\$2-\$3	Reformats the value with dashes inserted after characters 3 and 5. The pattern captures character positions 1-3, 4-5, and 6-9, and discards any remaining characters. The replacement value re-inserts the captured values (\$1, \$2, and \$3) with dashes in between.

8.4 REGULAR EXPRESSION SYNTAX

A regular expression is a pattern that consists of literals and metacharacters. *Literals* are characters that represent themselves, such as A-Z. *Metacharacters* are characters that have special meaning in the pattern.

IMPORTANT: Not all systems implement the same regular expression syntax. Be sure to use the reference included here to check your syntax.

NOTE: In Affinity, pattern matching is not case-sensitive (A = a). Patterns themselves are always case sensitive. For example \D is not the same as \d.

LITERALS

Literals match a specific character: The character 'A' matches 'A'. Some characters have special meaning when used in a pattern, so they must be escaped with a backslash. To match a backslash '\', use two backslashes together '\\'. All of the following characters must be escaped with a backslash.

\ / | ^ \$ * + ? . () { } []

METACHARACTERS

Metacharacter	Function
\	Marks the next character as a literal or a special character. For example, 'd' matches character 'd', but '\d' matches a numeric character. A backslash is also used for an octal escape or a backreference.
^	Anchor indicating that the pattern must occur at the beginning of the string. '^abc' will match 'abc', but not 'xabc'.
\$	Anchor indicating that the pattern must occur at the end of the string. 'abc\$' will match 'xabc', but not 'xabcx'.

Metacharacter	Function
[xyz]	Matches any one of the characters in the set. [abc] matches 'a' in 'Paul'.
[^xyz]	Negative character set. Matches any character not in the set.
[a-z]	Matches a range of characters. Multiple ranges can be specified in the same set like '[a-z0-9]'.
[^a-z]	Negative character range. Matches characters not in the range. Multiple ranges can be specified in the same set like '[^a-z0-9]'.
x y	The pipe character denotes logical OR. 'x y' will match either 'x' or 'y'.
(pattern)	<p>Creates a subexpression. '(ab) (cd)' matches either 'ab' or 'cd'.</p> <p>A subexpression produces a submatch, which can be used in a replacement expression. A submatch is referenced in the replacement with \$0...\$9. For example, the pattern '(123)(456)' matches '123456', and assigns '123' to \$1, and '456' to \$2. A replacement expression of '\$2-\$1' will produce the value '456-123'.</p> <p>NOTE: Affinity automatically concatenates submatches when Find First or Find All actions are used. For example, if Find First is used with the expression '(\w+)\W+(\w+)', and the input 'one two', the value 'onetwo' is returned. This is because the middle expression was not captured.</p>
(?:pattern)	<p>Non-capturing subexpression. Resulting submatches are not saved for reuse in a replacement expression.</p> <p>Non-capturing matches are not returned during a search. '(\w+)(?:\W+)(\w+)' will match 'One, Two' and return only 'OneTwo'.</p>
(?=pattern)	<p>Positive look-ahead search (non-capturing match). Produces a match if the subexpression occurs anywhere in the string starting at the subexpression. '(Affinity)(?=2.0 2.1)' will match 'Affinity 2.0' but will not match 'Affinity 1.0'.</p> <p>The subexpression does not consume characters. '(Affinity)(?=2.0 2.1)(.*)' will match 'Affinity 2.0' and return 'Affinity 2.0'.</p>
(?!pattern)	<p>Negative look-ahead search (non-capturing match). Produces a match if the subexpression does not occur anywhere in the string starting at the subexpression. '(Affinity)(?!2.0 2.1)' will match 'Affinity 1.0' but will not match 'Affinity 2.0'.</p> <p>The subexpression does not consume characters. '(Affinity)(?!2.0 2.1)(.*)' will match 'Affinity 1.0' and return 'Affinity 1.0'.</p>
{n}	Matches the preceding character or subexpression exactly n times, where n is >=0. 'a{2}' matches 'aa', but not 'a'.
{n,}	Matches the preceding character or subexpression at least n times, where n is >= 0. 'a{2,}' matches 'aa' and 'aaa', but not 'a'.
{n,m}	Matches the preceding character or subexpression at least n times, and at most m times. n and m are both >=0, and n <= m. 'a{1,2}' matches 'a' and 'aa', but returns only 'aa' from 'aaaaa'.

Metacharacter	Function
\n	<p>If n is less than or equal to the number of preceding submatches, n refers to the submatch index from 1 to 99. '(\\w+)(\\s+)(\\w+)(\\s+)(\\1)(\\s+)(\\3)' matches 'one two one two', but not 'one two three four'.</p> <p>If n is greater than the number of preceding submatches, n will be interpreted as an octal ASCII value.</p>
\\uxxxx	Matches a Unicode character where xxxx is four hexadecimal digits. \\u00A9 matches the copyright symbol ©.

8.5 EXAMPLES

SIMPLE CHARACTER REPLACEMENT

This example removes all non-numeric characters from a string. This simple technique is commonly used as a first step in standardizing account numbers. For example, both '123/456' and '1 23 456' would be returned as '123456'.

Pattern	Action	Replacement	Explanation
\\D	Replace All	<empty string>	Removes all non-numeric characters.

SUBMATCHES

This example uses subexpressions to capture different parts of a string. The resulting submatches are then re-used to format the string. An input of '123 456789' would be reformatted as '123-45-6789'.

Pattern	Action	Replacement	Explanation
\\D	Replace All	<empty string>	Removes all non-numeric characters.
(...)(..)(....)(?:.*)	Replace First	\$1-\$2-\$3	Reformats the value with dashes inserted after characters 3 and 5. The pattern captures character positions 1-3, 4-5, and 6-9, and discards any remaining characters. The replacement value re-inserts the captured values (\$1, \$2, and \$3) with dashes in between.

WORD SELECTION

In some cases, your input value may contain more information than you need. One common scenario is selecting only the last name from a full name field. For example, you could return only 'Johnson' from the input value 'Duke R. Johnson'.

Pattern	Action	Replacement	Explanation
<code>(\w+)(?:\W*)\$</code>	Find First	<not applicable>	Returns the last word character sequence in the string. '(\w+)' creates a submatch containing a group of one or more word characters (A-Z, 0-9, and underscore). '(?:\W*)' matches any non-word characters and discards them in a non-capturing subexpression. '\$' denotes that the pattern must match the end of the string.

ALPHA RANGE

Affinity is a powerful tool for dynamically creating folder structures and organizing documents. Consider the following scenario:

- Two user defined tokens are created from the first and last name of an employee profile screen. The tokens are named FName and LName, respectively.
- The administrator wants to collect the documents for each employee in a folder titled with the employee's name. A subfolder is dynamically created using the tokens: '%(LName), %(FName)'.
- However, the site has a large number of employees, and the administrator does not want all of the employee subfolders to be created in the same parent folder. Instead, he would like the employee folders to be grouped alphabetically according to the last name. For example, an employee 'Mike Anderson' would have his folder created in a parent folder named 'A-G'.
 - \Employees\A-G\Anderson, Mike
 - \Employees\H-N\Nielsen, Amanda
 - \Employees\O-U\Pederson, Nick

This grouping can be achieved by creating a third token that will be assigned a range based on the first letter of the employee's last name. That token, we will call it Range, could be used to create the subfolder dynamically like: '%(Range)\%(LName), %(FName)'.

(Continued)

The following regular expression could be used to create the Range token based on the employee's last name as the input.

Pattern	Action	Replacement	Explanation
[A-G].*	Replace First	A-G	Matches any string that begins with letters A-G, and replaces the entire string with the value 'A-G'.
[H-N].*	Replace First	H-N	Matches any string that begins with letters H-N, and replaces the entire string with the value 'H-N'.
[O-U].*	Replace First	O-U	Matches any string that begins with letters O-U, and replaces the entire string with the value 'O-U'.
[V-Z].*	Replace First	V-Z	Matches any string that begins with letters V-Z, and replaces the entire string with the value 'V-Z'.

9 AFFINITY APPLICATION PROGRAMMING INTERFACE (API)

Affinity includes a fully-documented application programming interface (API) that is accessible from practically any development environment, including .NET solutions and scripting languages like JavaScript and VBScript. Affinity exposes the interface through both command line (shell) functions, and an ActiveX/COM interface. The Affinity API is a great fit for Visual Basic for Applications (VBA) macros in ESRI® ArcMap® and Microsoft® Office.

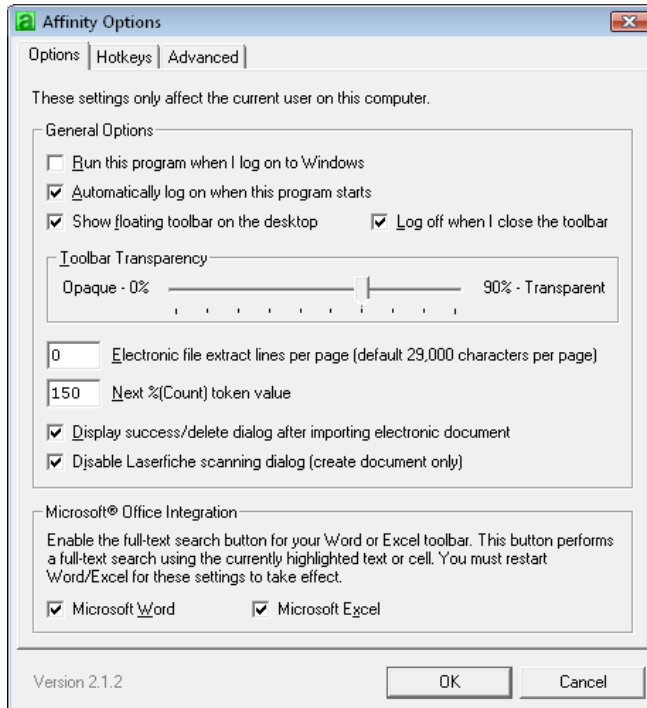
In Affinity v2, API integrations are even easier with new support for XML data sources. Your application simply generates XML content describing your data, and Affinity does the rest. Tracking repository items, like templates and folder names, is no longer necessary. You can achieve a user configurable document management interface for your application with minimal effort.

The Affinity API documentation can be found online at <http://affinity.datanow.net/api>. Examples from the Affinity API documentation can be pasted directly into your code. Very little programming experience is necessary. The Laserfiche toolkit is not required.

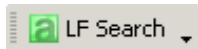
10 MICROSOFT OFFICE FULL-TEXT SEARCH

Affinity includes a simple add-in for performing full text searches from Microsoft Word and Excel.

To enable this add-in, close any instances of Word or Excel that are already running. Open the Affinity Options dialog. At the bottom of the dialog, select the Microsoft applications you would like to enable full-text search for.



Start Word or Excel. You will see a new toolbar with the Affinity icon labeled **LF Search**. Click and drag the toolbar to dock wherever you prefer in the Office interface. **NOTE:** In Microsoft Office 2007, the toolbar will show up under the Add-ins section of the band instead of on the main toolbar.



To search from Word, simply highlight any text in the current document you would like to search for. Then, click the Affinity full-text button on the Office toolbar. The Laserfiche client will open with any search results for the selected word or phrase.

To search from Excel, open a spreadsheet and highlight a single cell that contains the value or phrase you would like to search for. Then, click the Affinity full-text button on the Office toolbar. The Laserfiche client will open with any search results for the current selection.

11 SOFTWARE REQUIREMENTS

AFFINITY SOFTWARE REQUIREMENTS

Affinity version 2.0 requires Laserfiche® Client version 7.2.1.

Affinity version 2.1 requires Laserfiche® Client version 8.0.2 or above.

The Affinity installer package installs the required Laserfiche runtime tools: a separate toolkit installation is not required.

Affinity supports the following Microsoft® Windows® XP/2003/Vista/2008.

Affinity requires Microsoft XML Core Services 6.0 (MSXML6). MSXML6 is not included in the Affinity installer package. Please download the latest release from Microsoft:
<http://www.microsoft.com/downloads>.

WEB APPLICATION REQUIREMENTS

Affinity can image enable most web applications running in Internet Explorer 7. Other versions of Internet Explorer may also work, but Affinity v2 was designed and tested using version 7. Affinity can use practically any HTML content, including dynamic content from ASP.NET and PHP applications. It cannot use Adobe Flash or Microsoft Silverlight content.

GUI SCREEN CAPTURE REQUIREMENTS

Affinity Screen Capture (including Freestyle) works with graphical user interfaces (GUIs) that utilize input controls based on standard Windows control classes. Other controls that implement window classes, handles, and standard message handling are also supported. Examples of common control classes that work with Affinity include: Edit (text boxes); Rich Edit; ComboBox (drop downs); Button (push and radio); and Static (labels).

Most screens can be configured to automate searches and import/scanning using screen recognition techniques. However, screens whose controls change size and position (such as when the window resizes) may prevent the screen from being recognized. In cases where the screen cannot be consistently recognized for automation, the Freestyle dialog can still be used to make searching/scanning functions easier and faster.

Application development environments that implement GUIs compatible with Affinity Screen Capture include (but are not limited to) Microsoft® Visual Basic, Microsoft® Visual C++, Microsoft® VB.NET, Microsoft® C#, Microsoft® J#, and Borland® Delphi®.

AFFINITY API REQUIREMENTS

Affinity includes a fully-documented application programming interface (API) that is accessible from practically any development environment, including .NET solutions and scripting languages like JavaScript and VBScript. Affinity exposes the interface through both command line (shell) functions, and an ActiveX/COM interface. The Affinity API is a perfect fit for Visual Basic for Applications (VBA) macros in ESRI® ArcMap® and Microsoft® Office. Many applications can be image enabled safely and quickly using examples directly from the online Affinity API documentation:
<http://affinity.datanow.net/api>.

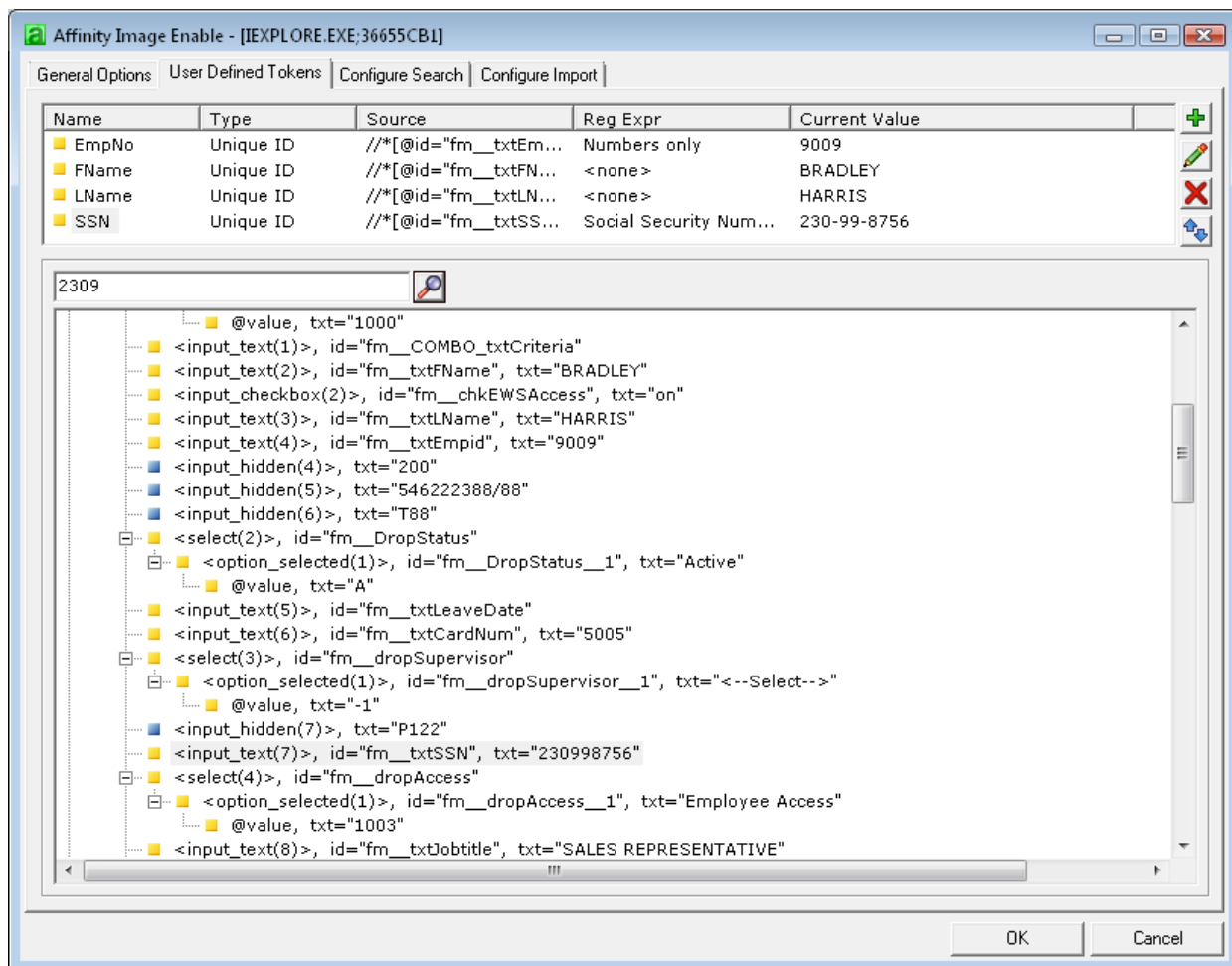
APPENDIX A: HTML CONTENT DETAILS

Affinity can image enable most web applications running in Internet Explorer, including dynamic content from ASP.NET and PHP applications. It cannot use Adobe Flash or Microsoft Silverlight content.

The basic process of image enabling a web application is covered in [Screen Capture](#). In this section, you will find some additional details for handling HTML content.

HTML BASICS

When you image enable a web application, Affinity translates the HTML content into a consistent and reproducible XML data format. This XML content is displayed in the Image Enable dialog tree view when you create user defined tokens.



Each node in the tree view represents data extracted from the original HTML document. This data is not limited to form fields. Practically all data is accessible. This includes paragraph text, labels, and even individual table cells. "Unseen" data, such as hidden form fields, titles, meta tags, etc. are also exposed.

When you scroll through the tree view, you may notice that not all of the nodes are visible. Only the first 100 or so nodes are expanded initially to reduce load time and memory overhead. All of the data is still there; just use the search box to find it.

Each node label is in the form of: `<Name>, id="ID", txt="Value"`

Name is the tag's name. *ID* is the unique identifier associated with the element, if one exists. *Value* is the element's data, if any. See the following node label, and the HTML tag it was derived from. In the special case of an input tag, the node name also includes the field's type.

■ `<input_text(1)>, id="GLAccount", txt="888-901-899077"`

```
<input name="GLAccount" type="text" maxlength="60" value="888-901-899077"/>
```

A gold node icon ■ indicates that a unique identifier is associated with the element. In HTML, this may be either an ID or Name attribute. Elements with unique identifiers are usually easier to find, and are more resilient to content changes. In HTML documents, almost every form member should have a unique ID.

A blue node icon ■ indicates that the element does not have a unique identifier. Nodes without IDs are located according to a unique, reproducible path generated by Affinity. This novel approach enables practically any data within the content to be used, not just form data. However, paths are more vulnerable to content changes than are unique identifiers.

Nodes with a prefix '@' denote an attribute. Attributes belong to a parent element, and never contain other nodes. In XML content, Affinity lists all of an element's attributes. In HTML, few attributes contain useful data, so Affinity filters out most of them to simplify the content.

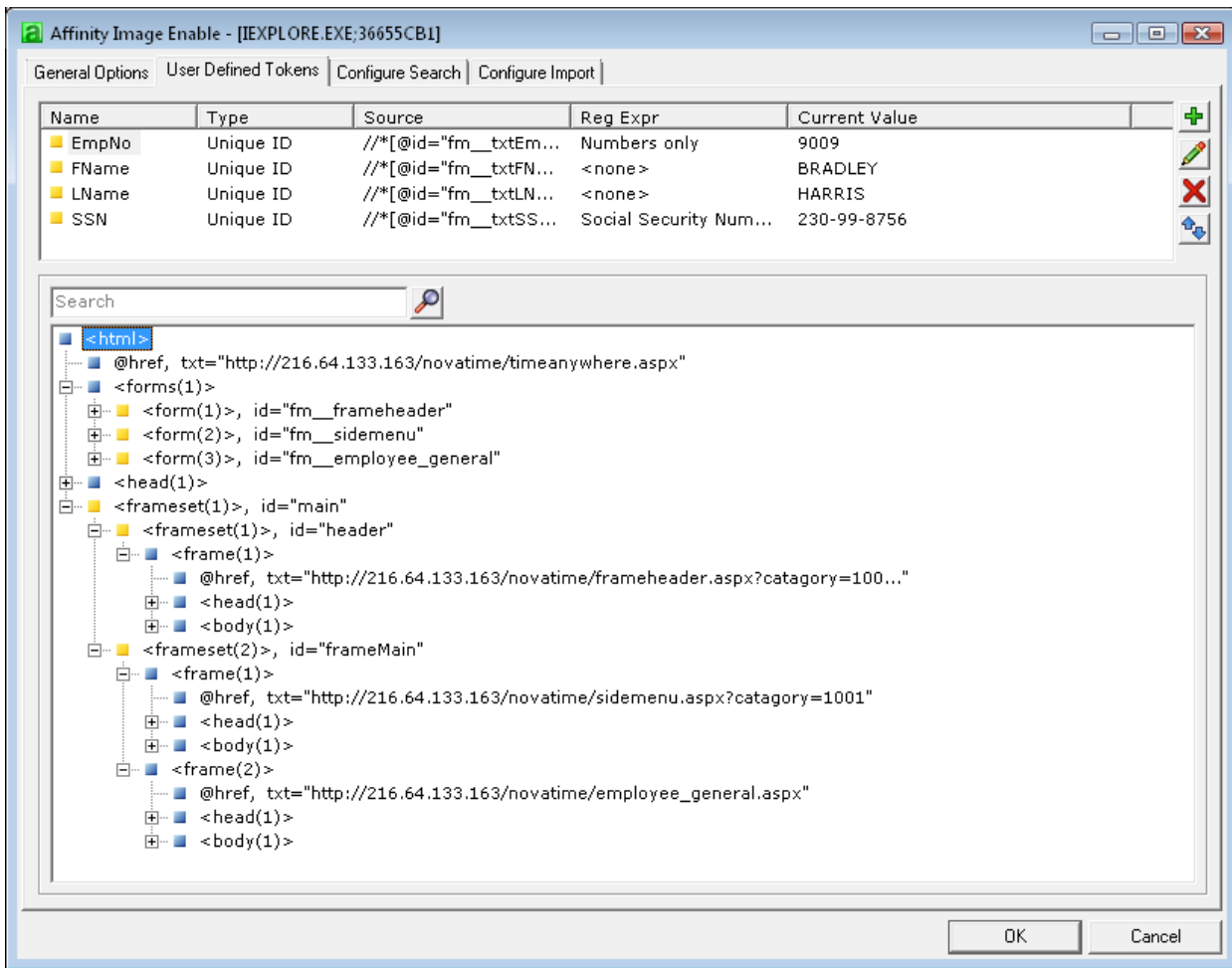
NOTE: Affinity automatically adds attributes named '@error' to elements whose content has generated an error. The most common errors occur when an HTML frame element (`<frame>` or `<iframe>`) references a domain that is different from the main page. This generally produces an 'Access denied' error. If you suspect that Affinity is not capturing all of a page's content, search for '@error' attributes to determine if there were errors reading the data.

CONTENT ORGANIZATION

To find the data you need, you should use the dialog's search box. Picking through the tree view, node by node, can be a time-intensive process for large or complex documents. Still, understanding the general structure of the content will help you make better sense of your search results.

When Affinity translates an HTML page, it creates two general sections: a forms section, and a document section. In this screen shot, the tree view has been partially collapsed to illustrate the basic structure. The primary elements are described below.

(Continued)



- **<html>** – This is always the root node of an HTML document.
- **@href** – The main document node, and every frame node, contains an @href attribute with the location of the container's target, including any query string. Parameters can be extracted from the query string using regular expressions. HTML anchors (links) in the document also have an associated @href attribute.
- **<forms(1)>** – This node contains a summary of all of the document's forms and their respective members (text boxes, drop down lists, check boxes, etc.) Most often, the data you need belongs to an input form, so these items have been grouped at the top of the content for convenience.

NOTE: Each form element appears twice in the overall content: once in the forms section, and again in its original position within the HTML body. The IDs of the form elements located in the forms section are prefixed with 'fm__' to differentiate them from the original definitions.

- **(...n)** – The remainder of the content contains a distillation of the HTML document's data. The basic structure of the HTML content is preserved, but all formatting information, comments, scripts, etc. are removed. In the example above, the original document starts with the `<head>` node, followed by `<frameset>`.

HTML FORM DATA

Affinity performs special processing for several HTML elements. This section describes behavior associated with specific form members.

Input Field Names

Input fields (HTML `<input type="type">`) are named according to the input type. For example, text boxes are named `<input_text>`, and radio buttons are named `<input_radio>`.

Field Identifiers

As documented above, each form member appears twice in the image enable content: once in the forms section, and once in the document section. The forms section appears at the top of the content to make field data easier to find. Field IDs in the forms section are prefixed with 'fm__' so they do not conflict with the IDs of the original field definitions.

If a document contains duplicate IDs, only the first instance is used.

Password Fields

Affinity does not include data contained in password fields.

Select Lists

Select lists (drop-downs) are defined using the `<select>` and `<option>` tags in HTML. In Affinity, only currently selected list items are included in the content. Lists that allow multiple selections are supported. If no items are selected, none will appear in the content.

An option's element data contains the HTML text that is displayed to the user. Affinity also assigns an attribute named 'value' (`@value`) to each option element that contains the form data (that is, the value submitted with the form).

Checkboxes

The data for a selected checkbox is the value that is submitted for the HTML form. If a checkbox is unselected (unchecked), its value is blank.

Radio Buttons

In a radio button group, only the selected radio button's data will appear in the image enable content. If none of the buttons are selected, none will appear in the content. The data for the radio button is the same value that is submitted for the HTML form.

APPENDIX B: TROUBLESHOOTING / FAQ

Issue	Solution
<p>Screen Capture won't capture the intended screen. Some other application like GoToMyPC or WebEx is interfering.</p>	<p>Add the application's executable name to the executable filter.</p> <ol style="list-style-type: none"> 1. Make sure the interfering application is running. 2. If you want to add the executable to the filter for your own profile, go to the Advanced tab in the Affinity Options dialog. If you want to add the executable to the filter for all users, open the Global Configuration dialog and go to the Options tab. 3. Click the Settings button to open the filter dialog. 4. Click Auto Detect to add the interfering applications to the filter. If your application is not detected, find the executable name and enter it manually. 5. Save your settings. <p>If you make the change to the global configuration, the change may not take effect immediately for other users. Ask them to log back on to Affinity to get the changes.</p> <p>NOTE: Starting with Affinity v2, GoToMyPC and WebEx are automatically filtered.</p>
<p>Affinity does not seem to capture all of the page content when I try to image enable a web application.</p>	<p>Web content may not be captured in the following scenarios.</p> <ol style="list-style-type: none"> 1. The content is contained in a frame (<frame> or <iframe>), that references another domain. Affinity cannot access data in separate domains due to security constraints within Internet Explorer. You can determine if there are errors when loading or accessing data by searching the XML output for @error. If the content of a frame accesses a different domain, the @error description is usually 'Access denied.' 2. The content displayed on the page may not be rendered in HTML. Affinity cannot capture content in Java applets, Adobe Flash, Microsoft Silverlight, or other similar plug-ins.
<p>I am trying to image enable two different screens in the same GUI application, but Affinity does not seem to tell the two screens apart.</p>	<p>Affinity uniquely identifies screens belonging to the same application by sampling the positions of each screen's constituent controls. In some cases, the default sampling does not produce unique results between two screens. This is common for screens that load a common cluster of controls, such as a frame or toolbar.</p> <p>This can be resolved by changing the default sample range for the application using in the Executable Handlers section in the Global Configuration dialog.</p>
<p>Will I have to re-image enable items when I upgrade to Affinity v2?</p>	<p>Affinity v2 is compatible with previous versions. You will not have to reconfigure screens after upgrading from version 1.</p>

Issue	Solution
<p>The Freestyle dialog keeps opening for a screen that I have image-enabled.</p>	<p>When you image-enable the screen, make note of the caption of the Image Enable dialog. It lists the executable's file name, and the 'fingerprint' or ID for the screen.</p> <p>When the Freestyle dialog appears, you will probably see that the ID in the dialog caption has changed. This means that some feature on the screen has changed and Affinity was not able to recognize it as a screen that had been image enabled.</p> <p>For GUI screens, this generally means that a key control on the screen has moved or changed size. This can sometimes be resolved by changing the sample range for the application in the Executable Handlers section of the Global Configuration dialog.</p> <p>For web applications, this is often caused because an inline frame's source (location) has changed. In Affinity, search the captured content for all '@href' and '@src' attributes. Make note of the locations and see if the URL portion changes each time the screen is captured. If necessary, inline frames can be filtered from screen identification in the Global Configuration dialog.</p>
<p>I cannot log on using Windows Authentication.</p>	<p>If you cannot connect to the Laserfiche repository using Windows Authentication, but you can log on to the Laserfiche Client without a user name and password, make sure that a password has been set for the 'admin' account on your Laserfiche server. A blank password for 'admin' will prevent users from logging on with Windows Authentication.</p>
<p>It takes a very long time for the Affinity logon window to open.</p>	<p>The Affinity logon window automatically retrieves the names of all of the repositories that are visible on your network. This can take a while on large or slower networks.</p> <p>Enable the option to log on automatically, and Affinity will immediately connect to the selected repository next time you log on. This is much faster because Affinity caches the repository name in instead of searching the network.</p>
<p>I can't make the toolbar go to or stay on my secondary display device.</p>	<p>The toolbar in Affinity does not currently support docking on a secondary device.</p>
<p>When I right-click the Affinity session icon, nothing happens.</p>	<p>A modal dialog, such as an error window or the Options dialog is open. It is probably behind another window where you cannot see it. Find the window and close it.</p>
<p>I do not have the option to save an image enable screen configuration to my local profile.</p>	<p>Open the Options tab in the Global Configuration dialog. Change the Image Enable Screen Policy to allow users to save configurations to their profile.</p>

Issue	Solution
<p>Can the Affinity global configuration in my repository folder be moved after it has been created? How do I notify the Affinity client that the folder has moved?</p>	<p>The Affinity configuration folder can be moved using the following steps:</p> <ol style="list-style-type: none"> 1. Make note of the user permissions for the current configuration folder, its contents, and particularly the <code>__DNA_GLOBAL_CFG_20</code> entry. 2. Close all instances of Affinity that are connected to the same repository. 3. Move (do not copy) the Affinity configuration folder to another location in the repository. 4. Verify the user permissions for the folder and contents. 5. The next time Affinity runs, it will automatically find the new location of the global configuration folder. <p>IMPORTANT: Do not keep multiple copies of the configuration folder in your repository. Affinity uses the unique entry name <code>__DNA_GLOBAL_CFG_20</code> to locate your global settings when it is first installed, or when the folder is moved. If there are multiple copies of this entry, different users may receive different settings.</p>
<p>After upgrading to Affinity v2, template fields that I configured to appear locked in the Import Document dialog are no longer locked.</p>	<p>Field locking is no longer supported in Affinity v2.</p>
<p>When I try to uninstall or upgrade Affinity, I receive a message that the file AFBHO10.DLL is in use.</p>	<p>AFBHO.DLL is the Affinity plug-in for Internet Explorer (IE). Make sure all instances of IE are closed before trying to uninstall or upgrade Affinity.</p>
<p>What is AFEVT10.EXE? I often see it listed in Windows Task Manager.</p>	<p>The Affinity Event Server (AFEVT10.EXE) is a small executable that runs in the background, and is required by various applications and components that communicate with Affinity. AFEVT10.EXE is automatically started when dependent applications load, and therefore may appear in the task list even if Affinity is not running. Never terminate this process manually, or else you will cause errors in the dependent applications (such as Internet Explorer), and Affinity will not function properly.</p>