

< IN THE SPOTLIGHT >

Harness More Power with Address Object's Add-Ons

OK, so by now you are a seasoned user of Address Object – the customizable API tool that cleans your database of inaccurate and undeliverable addresses. But even with all that power, there are several additional levels of resolution that will maximize your validation process – that's where the Address Object “add-ons” come into play.

Address Object offers several key “add-on” no cost solutions, and several subscription add-ons you can use in conjunction with the data quality tool. These add-ons include RBDI (Residential Business Delivery Indicator), EWS (Early Warning System), Canadian Address Validation, DPV™ and LACSLink™. Utilizing these add-ons will significantly increase the power to enhance, update and resolve contact address information. In this article we will talk about the benefits of these add-ons and how to integrate them.



Subscription Add-Ons

Canadian Address

Canadian Address add-on verifies Canadian postal addresses at the point-of-entry or in a batch process by standardizing and correcting addresses to Canada Post

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DATA QUALITY TOOLS

< Address Object >

< Canadian Address Object >

Data Quality Web Service

DQ*Plus

Email Object

GeoCoder Object

MatchUp API

Name Object

Personator API

Phone Object

Presort Object

Right Fielder API

The Insider Pro

I am pleased to announce some exciting new developments for 2008. The eagerly anticipated 64-bit native versions of Address Object and GeoCoder Object are now shipping along with a newly reformatted DVD. Additionally, several new platforms for the Data Quality Tools are supported including IBM's AIX (POWER) and HP's HP/UX (PA-RISC). On another front our flagship Merge/Purge tool, MatchUp API is now 32/64-bit native as well. With all these offerings, the choices

in platform, architecture, and solution are in your hands. A Linux Web server, an MS Windows desktop, a big iron UNIX transaction server, JAVA, .NET, backend, frontend? You decide.

Sincerely,

Bud Walker



Bud Walker
DQT Product Manager

Tips + Tricks

Featured product: **Address Object**



By Admound Chou, DQT Assistant Manager

Bypass COM when using Address Object in .NET

Most people using Address Object in Windows use the COM Object version of Address Object, named AddrObj.dll. But did you know that we also distribute a standard Windows dll version of Address Object? Look in your Address Object folder (C:\Program Files\Melissa DATA\COM Objects\AddrObj) and you will see mdAddr.dll. Visual Studio has built in support for COM Objects that makes them easy to use, but if you want to bypass the COM interface and are prepared for some extra work, keep reading.

Invoking the standard dll version of Address Object is fairly straightforward in C++ with mdAddr.h and mdAddr.lic provided for you. In C# and VB.NET, this process is slightly more complicated. The following code samples are written in C#.

We will use the DllImport Attribute in System.Runtime.InteropServices to gain direct access to mdAddr.dll. We must specify every method in Address Object that we want to use with a variable in the following format:

```
[DllImport("mdAddr.dll", CharSet = CharSet.Ansi)]
static private extern IntPtr mdAddrCreate();
[DllImport("mdAddr.dll", CharSet = CharSet.Ansi)]
static private extern int mdAddrInitializeDataFiles(IntPtr mdAddrObj);
[DllImport("mdAddr.dll", CharSet = CharSet.Ansi)]
static private extern void mdAddrSetAddress(IntPtr mdAddrObj, string Address);
[DllImport("mdAddr.dll", CharSet = CharSet.Ansi)]
static private extern IntPtr mdAddrGetAddress(IntPtr mdAddrObj);
```

These methods are only a few methods that must be implemented. You can see every method contained in mdAddr.dll by looking at mdAddr.h in the "C version of interface" section. After we have mapped all the methods available in Address Object, we can go ahead and invoke them.

First, we start by creating a new instance of Address Object and store the pointer to that instance.

```
private IntPtr m_addrObj = mdAddrCreate();
```

Then, we can use that pointer to call Address Object methods on that instance.

```
int result = mdAddrInitializeDataFiles(m_addrObj);
mdAddrSetAddress(m_addrObj, "22382 Avendia Empresa");
string Address = Marshal.PtrToStringAnsi(mdAddrGetAddress(m_addrObj));
```

Mixing managed (.NET) and unmanaged (mdAddr.dll) code is always a tricky topic. Here are some tips about areas we have to pay attention to:

Address Object uses the Ansi character set, while many versions of Windows (Windows NT, Windows 2000, Windows XP, Windows Server 2003, Windows Vista) use Unicode. So, we must specify that strings passed to mdAddr.dll are in ANSI format with "CharSet = CharSet.Ansi" inside the DllImport attribute.

Notice that we use an int return type for mdAddrInitializeDataFiles, but an IntPtr return type for mdAddrGetAddress, even though we expect a string. This is because unlike int, string in .NET is a class and the CLI will try to free the memory allocated for a class after it is done being used. However, since this string was created by mdAddr.dll and in unmanaged memory, trying to free this block of memory will cause memory corruption. Instead, we return a pointer (IntPtr) to that string so .NET will not try and free its memory. When we want to retrieve it, we use Marshal.PtrToStringAnsi to convert the unmanaged Ansi string into the default encoding (Unicode for Windows) and copy the data into managed memory. This way, we leave the unmanaged memory to mdAdd.dll as we should.

Want to learn more about this topic on your own? You can search for articles on P/Invoke. Do you have extra insight on this topic? Want to view our code? Come visit the Developer API's section at the Melissa Data forums for more discussion.

<http://forum.MelissaData.com/default.aspx>

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Add more power with add-ons

SERP™ requirements while appending postal code and municipality. The Canadian database is a subscription product and is released on a monthly schedule. Subscribers of Canadian Address data are notified by email where to download the latest Canadian data file. The add-on can be activated simply by setting the PathToCanadaFiles property with the actual path to the Canadian data files. Additionally the Address Object License string will need to be updated to use the Canadian Address add-on.

RBDI (Residential Business Delivery Indicator)

RBDI identifies a property type as residential or business and is a must-have for shippers. The solution helps minimize parcel shipping costs by verifying the address delivery type – down to the 11-digit ZIP Code™. This allows shippers to pre-charge the customer for the additional cost of shipping to residences. RBDI is available as an add-on to Address Object for an additional fee. It's easy-to-install and runs seamlessly with the address checking function in Address Object. RBDI can be activated by setting the PathToRBDIDataFiles property and using the correct License String.



No Cost Add-Ons

DPV™

The DPV for Address Object is recommended to increase delivery rates because it verifies that an address actually exists. The CASS Certified™ engine in Address Object matches the address to street ranges, but the DPV add-on determines if the address can be confirmed as a specific mail delivery point. Organizations who need to eliminate undeliverables, and are interested in qualifying for automation and presort discounts, are mandated to use DPV processing under postal CASS™ regulations. DPV also identifies if the address is a Commercial Mail Receiving Agency (CMRA). DPV is a database of 145+ million records, and is updated monthly. It integrates seamlessly with Address Object for use in

your custom applications. To activate DPV, make sure the PathToDPVDataFiles property is set and the path contains valid DPV Data files.

EWS (Early Warning System)

EWS is a file of new street names that are not yet available within the ZIP + 4® national database. New streets that are activated after the ZIP + 4 monthly release are not accessible to address matching products such as Address Object until

a subsequent product release. If a valid address is updated with erroneous match results, the address will remain incorrect unless there is manual intervention. Published weekly, the EWS file prevents potential miscoding of the new streets that are added to the ZIP + 4 database between the monthly scheduled updates. The weekly release of EWS can be downloaded every Thursday

afternoon from <ftp://ftp.MelissaData.com/updates/ews.txt> and can be dropped in the Address Object library folder to install.

LACSLink™

The LACSLink file was developed in response to 9-1-1 situation to convert U.S. business and residential rural route addresses to street-style addresses for easy locating by emergency systems. Because residents do not actually move when they receive a new address, change of address forms are not filed. LACSLink processing identifies these addresses and automatically updates your record from the old rural route format to the street format. LACSLink add-on, like the DPV add-on, is mandated for automation and presort discounts under postal CASS™ regulations. To activate LACSLink simply set the PathToLACSLinkDataFiles and make sure the path contains the LACSLink data files.

For more details on any of these add-ons or to get a 30-day free trial, please call 1-800-MELISSA option 3 or go to www.MelissaData.com/dqt

News Bytes

>> Suite^{Link}™ Latest Add-On for Address Object

The Suite^{Link} add-on database will enable integrators to substantially improve business addressing information by adding known secondary (suite) information to business addresses, after checking the input company name. Business addresses which normally would be returned as general delivery ZIP + 4 or as undeliverable within a high rise will benefit because the suite can now be appended.

>> GeoCoder Launches New Updates

GeoCoder Object will now be released on a quarterly basis to return even more precise up to the minute latitude/longitude data. GeoCoder adds lat/long coordinates to the ZIP + 4 level. Starting with the spring release, there will be four seasonal releases during the spring, summer, fall and winter. For more information, go to www.MelissaData.com/insidiergeocoder

>> Data Quality Suite's New DVD Format, and 64-Bit Updates

Melissa Data announces the availability of the 64-bit versions of Address, Phone, Email and Geocoder Objects. There is also new support for the HP/UX and AIX operating systems in addition to the previous supported platforms Linux, Windows and Solaris. To accommodate the new platforms and 32/64-bit versions of the products, there is a change to the DVD layout to make locating the right product more intuitive. For the next two scheduled bimonthly releases, both the new format DVD and the old format DVD will be shipped together. This will give customers the chance to become familiar with the new format and avoid any confusion.

Free Gift Card

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Your input will help us target our newsletter content to better meet your needs. For your participation, we will reward the first 25 respondents with a \$10 Starbucks gift card.

Here's the link to participate in the survey:

www.MelissaData.com/dqsurvey

Thanks again.

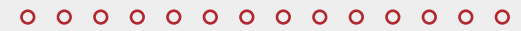
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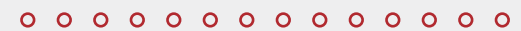
www.MelissaData.com/insiderdqws

Validate Canadian addresses in real-time. See how Canadian Address Object can work for you.

www.MelissaData.com/insidercanadaadd

Parse names, determine gender, detect vulgar words. Download a free trial of Name Object.

www.MelissaData.com/insidernameobject



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