

# **OneTimeDownload-5M**

Link Management for ASP.Net

**Version 1**

for Visual Studio .NET

***Desaware, Inc.***

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# **OneTimeDownload-5M –Link Manager for ASP.Net**

## ***Introduction***

OneTimeDownload-5M is a component that allocates, implements and manages temporary links. These are URL's that are active for a limited amount of time, and are often uniquely associated with individual users. Typical scenarios for this type of link include:

- Implementing special offers or discounts – where each customer receives a unique link that expires after a set time.
- Software or document distribution – where a link expires after a set time, or a limited time after first use.
- Choose one file or document – where a group of links are provided, and all others become invalid once one is selected.
- Email campaign tracking – where each Email has a unique link, making it easy to track responses to specific outgoing messages.

## ***Features***

- Create unlimited unique links, each with a specified expiration date.
- Specify time a link remains active after first use.
- Links are associated with a URL, file path, and optional description or user defined data.
- Links can be grouped. Use of one link invalidates the others in the group.
- Highly secure. 128 bit link identifiers virtually eliminate the possibility of guessing a link.
- Specify IP limits to increase security. Once a link is used by the specified number of IP addresses, only those IP addresses can continue to access it.
- Document/file download links. Supports direct download for common file types.

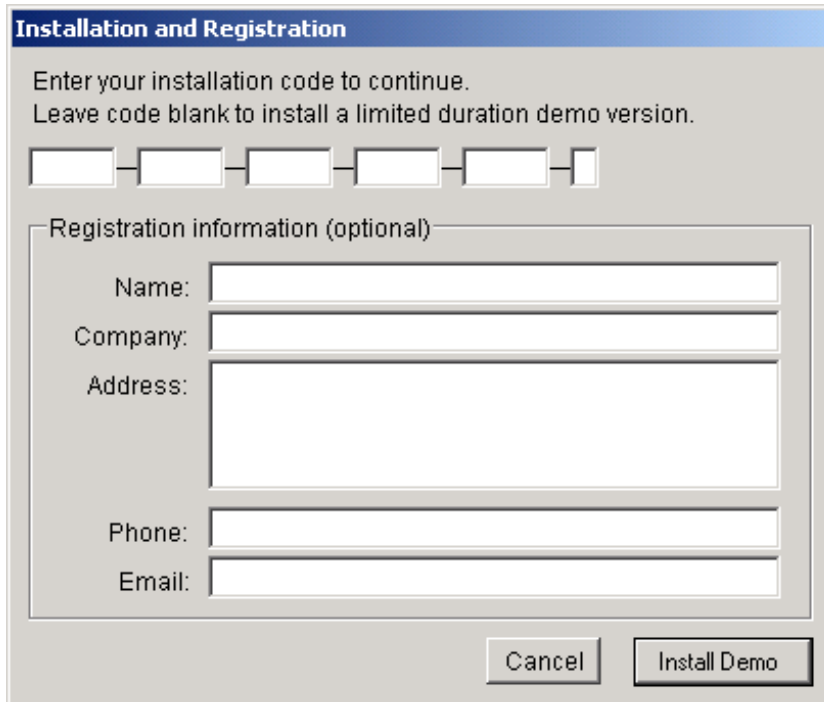
As with all software in Desaware's 5-Minute software line, the OneTimeDownload-5M component is easy to learn, use and deploy. Many developers will find the base component sufficient for most tasks, however a source code license is available for those who need additional customization.

## **Learning to use OneTimeDownload-5M**

The Desaware.OneTimeDownload.Dll component contains a single class named Desaware.OneTimeDownload.LinkManager.

## Installation

Use the OneTimeDownload.msi or OneTimeDownload11.msi installation package to install the OneTimeDownload package on your system. The installation will display the following installation/registration screen:



The image shows a Windows-style dialog box titled "Installation and Registration". It has a blue header bar with the title. Below the header, the text reads: "Enter your installation code to continue. Leave code blank to install a limited duration demo version." Below this text is a row of six small, empty rectangular input boxes. Underneath the input boxes is a section titled "Registration information (optional)" which is enclosed in a thin border. Inside this section are five labels with corresponding input fields: "Name:", "Company:", "Address:" (with a larger text area), "Phone:", and "Email:". At the bottom right of the dialog box are two buttons: "Cancel" and "Install Demo".

If you do not enter a registration code, the application will be installed with a license valid for 30 days. To do a licensed install, uninstall the product, then reinstall using a valid installation code.

To register online, simply include the specified registration information. This will allow us to notify you about product updates and allow you to obtain free technical support.

## Samples

The FreeEBookExample sample application is the one we used recently for one of our own promotions. We sent out a link for a free eBook. The link we sent directed people to a page where they could choose from among the available ebooks. Once an ebook was chosen, the links to the other ebooks became invalid.

This application demonstrates most of the features of the OneTimeDownload package, and includes source code.

To install the sample application, click on the start menu and select the FreeEbookExample installation link. Refer to the FreeEbookExample section of this document or the readme file for information on configuring the sample program.

The Mailer sample is the application that we used to send out the free ebook links. It uses the FreeEBookExample web service to retrieve a unique link for each individual email address it sends to. The FreeEbookExample must be installed before you can use the Mailer sample.

## Licensing

The installation program will prompt you to enter your license key. If you do not provide a license key, you will be given a 30 day temporary license, with a 100 key limit for evaluation purposes.

Once you install the product, the installer will create a license file in the main product directory. This license file has a .DLSC extension.

You can use the OneTimeDownload component by adding a reference to it from any project, or copying it to the executable directory for the application. However, you **MUST** copy the .DLSC file for the system into that directory as well along with a couple of dependent files - Desaware.MachineLicense.dll and Desaware.Dls.Interfaces.dll.

The OneTimeDownload component is licensed for each machine. Once licensed on a system, you can use the component on as many web applications as you wish on that system.

## ***LinkManager class Quick Start***

The LinkManager class is designed to be used directly by any ASP.Net web application or web service. The class is easy to use – the only part that can be tricky is setting up the database correctly.

The LinkManager class constructor takes two parameters: a connection string and an enumeration indicating the database provider to use (oledb, sql or ODBC – ODBC is only supported on the 1.1 framework). It is up to you to make sure the connection string is correct and can be used by ASP.Net. The LinkManager class includes a method VerifyDB which verifies the connection string, and makes sure the database has been initialized correctly for use by the LinkManager (creating the necessary table if it is not present).

This document assumes that you already know how to configure a database for use with ASP.Net. For those who are not familiar with this task, a later section will walk you through the process of setting up an Access database, which is adequate for smaller sites.

## Creating the LinkManager Object

Create an instance of the LinkManager class by passing it a connection string and a member of the DatabaseProvider enumeration. The following code shows how to create an instance of the object using OleDb:

[VB]

```
Dim otd As LinkManager  
otd = New LinkManager(connstring, DatabaseProvider.OleDb)
```

[C#]

```
LinkManager otd;  
  
otd = new LinkManager(connstring, DatabaseProvider.OleDb);
```

## Creating a URL or file download link

To create a single link to a specified file or URL, use the CreateLink method as shown here:

[VB]

```
Dim link As String
link = otd.CreateLink(FileOrUrl, Description, ExpirationDate,
ActiveHours, MaxIps)
```

[C#]

```
string link;
link = otd.CreateLink(FileOrUrl, Description, ExpirationDate,
ActiveHours, MaxIps);
```

ActiveHours is the number of hours a link remains valid after first use. MaxIps is the number of unique IP addresses allowed to access the link.

## Creating a mutually exclusive set of links

To create a group of links, where use of one link will invalidate the others, first create a parent link. Then create a group of links that specify that parent as shown here:

[VB]

```
Dim mainlink, childlink1 As String
mainlink = otd.CreateLink(FileOrUrl, Description, ExpirationDate,
ActiveHours, MaxIps)
childlink1 = otd.CreateLink(FirstChoice, Description, ExpirationDate,
ActiveHours, MaxIps, mainlink, ExclusionSet)
```

[C#]

```
string mainlink, childlink1;
mainlink = otd.CreateLink(FileOrUrl, Description, ExpirationDate,
ActiveHours, MaxIps);
childlink1 = otd.CreateLink(FirstChoice, Description, ExpirationDate,
ActiveHours, MaxIps, mainlink, ExclusionSet);
```

The mainlink parameter defines the parent link for this set. The ExclusionSet parameter defines the set of links to choose from.

As soon as you access a link, all other links that share the same mainlink and ExclusionSet values become invalid.

## Creating a URL from a link identifier

The CreateLink method returns a link identifier (in the form of a GUID string). There are three methods you can use to obtain a URL for this link identifier:

The GetSimpleLink function is the easiest.

[VB]

```
url = GetSimpleLink(LinkId, BaseUrl)
```

[C#]

```
url = GetSimpleLink(LinkId, BaseUrl);
```

LinkId is the value returned from the CreateLink method

BaseUrl is the base URL for the web application. If the BaseUrl parameter ends with “.asp”, “.aspx”, “.htm” or “.html”, the link is build directly using the link ID. For example:

```
BaseUrl = "http://www.5MinuteSoftware.com/linkhandler.aspx"
LinkId = "bff0d253-b924-4653-afa7-ac9341eab17e"
Result = "http://www.5MinuteSoftware.com/linkhandler.aspx?LinkId=bff0d253-b924-4653-afa7-ac9341eab17e"
```

If the BaseUrl parameter ends with any other extension, the link will be build to the otd.aspx web page (included with the product).

```
BaseUrl = "http://www.5MinuteSoftware.com"
LinkId = "bff0d253-b924-4653-afa7-ac9341eab17e"
Result = "http://www.5MinuteSoftware.com/otd.aspx?LinkId=bff0d253-b924-4653-afa7-ac9341eab17e"
```

The GetALink method works the same way, except that it also accepts a Description parameter and it returns the URL in the form of a <A> reference tag.

The GetHyperLink method also accepts a Description parameter, and it returns the URL in the form of a System.Web.UI.WebControls object.

## Validating and retrieving the file or URL for a link

When your ASP.Net application receives a request, you can retrieve the File or URL for that link as follows:

[VB]

```
Dim ls As LinkStatus
Try
    link = Request.Item("LinkId").ToString()
    filepath = otd.GetFilePath(link, Request.UserHostAddress, ls)
Catch
    ' Handle the error here
End Try
```

[C#]

```
LinkStatus ls;
try
{
    link = Request["LinkId"].ToString();
    filepath = otd.GetFilePath(link, Request.UserHostAddress, ref ls);
}
catch (Exception ex)
```



```
{
    // Handle the error here
}
```

The LinkStatus parameter is set to one of the following values:

```
Valid = 0
Expired = 1
Excluded = 2
Invalid = 3
IpLimited = 4
Exception = 5
```

Be sure to pass the UserHostAddress as the second parameter in order to allow IP tracking to work.

## Finding the child links for a link

Sometimes a link refers to a specific URL, in which case the preceding example applies. However, sometimes a link directs users to a page which contains additional links. In this case you'll need to obtain information about the child links that are available for a parent. This is accomplished as follows:

[VB]

```
Dim ChildLinks As DataSet
Dim ls As LinkStatus
ChildLinks = otd.GetChildLinks(parentlink, Request.UserHostAddress, ls)
```

[C#]

```
DataSet ChildLinks;
LinkStatus ls;
ChildLinks = otd.GetChildLinks(parentlink, Request.UserHostAddress, ref
ls);
```

The returned DataSet contains a single table, with a row for each valid child link. The columns are as follows:

LinkID – The link identifier for the child link  
 Path – The File or URL for the child  
 Description – The description of the child link

Refer to the Database Schema appendix for details on additional columns.

The GetChildLinks method counts as a request against the parent link (i.e., it records the first request, the IP, etc.), but does NOT count as a request against the child links.

## Sending a file

The easiest way to handle links is to use the otd.aspx page provided with this product (source code for the page is included as part of the FreeEbook sample project).

```
[VB]
Try
    mainlink = Request.Item("LinkID").ToString()

    Dim otd As New LinkManager(connstring, linktype)

    Dim ls As LinkStatus
    Dim filepath As String
    filepath = otd.GetFilePath(mainlink, Request.UserHostAddress, ls)

    If Not ls = LinkStatus.Valid Then
        ErrorTransfer(ls)    End If

    otd.SendTheFile(filepath, Response)
Catch

End Try

Private Sub ErrorTransfer(ByVal ls As LinkStatus)
    Session.Item("OTDLinkStatus") = ls
    Server.Transfer("LinkInvalidChoice.aspx", False)
End Sub

[C#]
try
{
    mainlink = Request["LinkID"].ToString();

    LinkManager otd = new LinkManager(connstring, linktype);

    LinkStatus ls;
    string filepath;
    filepath = otd.GetFilePath(mainlink, Request.UserHostAddress, ref
ls);

    if (ls != LinkStatus.Valid)
    {
        ErrorTransfer(ls);
    }
    otd.SendTheFile(filepath, Response);
}
catch (Exception ex)
{
}

private void ErrorTransfer(LinkStatus ls)
{
    Session.Item("OTDLinkStatus") = ls;
    Server.Transfer("LinkInvalidChoice.aspx", false);
}
```

}

## Configuring the FreeEbookExample sample program

The FreeEbookExample project demonstrates most of the features of the OneTimeDownload component.

We gave some thought into whether to completely automate the installation, but decided it would be a better experience to actually require you to build and explicitly configure the web application.

If you wish to automate the installation/configuration of web application databases that you deploy, check out our InstallationHelper-5M product at <http://www.5MinuteSoftware.com>.

### **Demo Installation**

To install and configure the FreeEbookExample sample program, do the following:

1. Be sure your ASP.Net compatible web server is running.
2. Using the Program/Start menu, install the FreeEbookExample.msi installer file.
3. Copy the OneTimeDownload license file (OneTimeDownload5M10.dlsc) from the OneTimeDownload "bin" folder to the bin folder of the new web application.
4. Open the project file. Typically  
`http://localhost/FreeEbookExample/FreeEbookExample.vbproj`
5. Edit the web.config file. The DataSource field in the connection string should include the full path to the linkdb.mdb database. You can specify an alternate connection string if you wish.
6. From the Windows explorer, right click on the DB directory and select the security tab. Add the ASPNET user (Use NETWORK SERVICE if no ASPNET user is found on XP systems, use the IIS\_WPG group on Windows 2003 server).
7. You should now be able to run the application. Set the default page when prompted to CreateNewLink.aspx.
8. Though not required for this application, we do recommend you secure the CreateNewLink.aspx web service by either adding authentication, or using an IP filter.

### **Things to try:**

1. Run the project. This will bring up the CreateNewLink page. Click on the GetBookLink hyperlink, then Invoke the method. You should receive a result that looks something like this:  
`<string xmlns="http://OneTimeDownload.desaware.com/"><a href="http://localhost/freeEbookExample/Bookchoice.aspx?LinkID=4e29f19e-8312-4fec-b552-4812f1d67907">4e29f19e-8312-4fec-b552-4812f1d67907</a></string>`
2. Copy the link URL, in this case  
`http://localhost/freeEbookExample/Bookchoice.aspx?LinkID=4e29f19e-8312-`

4fec-b552-4812f1d67907

and paste it into the web browser address box.

3. Experiment with the site navigation. See what happens when you click on a sample book, navigate back, try to reuse the link, or enter an invalid link.

## Reference

The following is detailed reference information for the Desaware OneTimeDownload classes. Properties and methods of base classes are not listed unless they are overridden.

### Note on thread safety:

Unless otherwise noted, as is common in the .NET framework, static methods of objects are thread safe. Instance methods are not.

### ***Enum DatabaseProvider***

This enumeration is used to indicate the .NET provider to use with a connection string.

0 – SqlClient

1 – OleDb

2 - ODBC

Generally speaking, the ODBC option will only be valid on the 1.1 .NET framework.

### ***Enum LinkStatus***

This enumeration is used by several methods to return the current status of a link.

0 – Valid: The link is still valid.

1 – Expired: The link has expired.

2 – Excluded: The link is blocked because another link with the same parent link and exclusion group has already been used.

3 – Invalid: The link is not valid.

4 – IpLimited: The maximum number of unique IP addresses allowed to use this link has been exceeded.

5 – Exception: An exception occurred while processing the request.

### ***Class LinkManager***

This class implements the functionality of the OneTimeDownload software. It is used to define, manage and process links.

### Fields:

MimeMap	<div><pre>[VB] MimeMap As String(,) [C#] string[, ] MimeMap</pre></div> <div>This is a two dimensional array defining MIME types and extensions used by the SendTheFile method. The first column is the extension in the form “.xxx”. The second column is the mimetype. For example: <pre>{“.jpg”, “image/jpeg”}</pre></div>
---------	---

	You can replace the default list.
--	-----------------------------------

## Methods:

Constructor	<pre>[VB] Sub New(ByVal connectionString As String,             ByVal connectionType As DatabaseProvider) [C#] void LinkManager (string connectionString,             DatabaseProvider connectionType)</pre> <p>The constructor for the LinkManager class requires a valid database connection string and a DatabaseProvider enumeration that specifies the type of database provider to use.</p> <p>Exceptions:</p> <p>Licensing exceptions will be raised if the component is not licensed for this system.</p>
VerifyDB	<pre>[VB] Sub VerifyDB() [C#] void VerifyDB()</pre> <p>This method verifies that the database can be accessed and that the Links table is defined. It will attempt to create the Link table if it is not yet present.</p> <p>Exceptions:</p> <p>Exceptions raised by the database provider will be forwarded to the caller.</p>
CreateLink	<pre>[VB] Function CreateLink(ByVal filePath As String,             ByVal description As String, ByVal expirationDate             As Date, ByVal activeHours As Integer, ByVal maxIPs             As Integer) As String [C#] string CreateLink (string filePath, string             description, DateTime expirationDate, int             activeHours, int maxIPs)</pre> <p>This function creates a new link and returns the link identifier string.</p> <p>Parameters:</p> <p>FilePath – Typically the path of the file or URL associated with the link. This can actually be any string of up to 255 characters that you wish to associate with the link.</p> <p>Description – A description of the link. This can actually be any string of up to 255 characters that you wish to associate with the link.</p> <p>ExpirationDate – The absolute date at which this link expires.</p> <p>ActiveHours – The number of hours the link remains active after the first time it is used.</p>

	<p>MaxIPs – The maximum number of unique IP addresses that can access this link.</p> <p>Exceptions:</p> <p>Exceptions raised by the database provider will be forwarded to the caller.</p>
CreateLink	<pre>[VB] Function CreateLink(ByVal FilePath As String, ByVal Description As String, ByVal ExpirationDate As Date, ByVal ActiveHours As Integer, ByVal MaxIPs As Integer, ByVal ParentID As String, ByVal ExclusionSet As Integer) As String [C#] string CreateLink (string FilePath, string Description, DateTime ExpirationDate, int ActiveHours, int MaxIPs, string ParentID, int ExclusionSet)</pre> <p>This overload is identical to the previous one, with the following additional parameters:</p> <p>ParentID – The link identifier of a valid link which will act as a “parent” to this one. Functions are available to obtain a list of child links for a parent, so this provides a way to group links.</p> <p>ExclusionSet – If greater than zero, this link belongs to an exclusion set. As soon as one link in an exclusion set is accessed, all other links in the same exclusion set that share the same parent link become invalid and will return a link status of excluded.</p> <p>Exceptions will be raised if an invalid or expired parent is specified, or if a parent is specified that itself has a parent (nested parents are not allowed)</p>
GetALink	<pre>[VB] Function GetALink(ByVal LinkId As String, ByVal Description As String, ByVal BaseURL As String) As String [C#] string GetALink (string LinkId, string Description, string BaseURL)</pre> <p>This function formats a link identifier into an &lt;a&gt; tag. The result will be roughly in the form:</p> <p><code>&lt;a href="BaseURL?LinkID=linkid"&gt;Description&lt;/a&gt;</code></p> <p>The BaseURL is the URL for the link. If empty, the function will use otd.aspx. If BaseURL does not reference an ASP, ASPX, HTM or HTML page, the function will append otd.aspx to the URL.</p> <p>The description will be HTML encoded if necessary.</p>
GetSimpleLink	<pre>[VB] Function GetSimpleLink(ByVal LinkId As String, ByVal BaseURL As String) As String</pre>

	<pre>[C#] string GetSimpleLink (string LinkId, string BaseUrl)</pre> <p>Returns a simple link in the form:  <i>BaseUrl?LinkID=linkid</i></p> <p>The BaseURL parameter is handled as described for the GetALink method.</p>
GetHyperLink	<pre>[VB] Function GetHyperLink(ByVal LinkId As String, ByVal Description As String, ByVal BaseURL As String) As HyperLink [C#] string GetHyperLink (string LinkId, string Description, string BaseURL)</pre> <p>This method is identical to the GetALink method, except that it returns the link as a System.Web.UI.WebControls.HyperLink object.</p>
GetFilePath	<pre>[VB] Function GetFilePath(ByVal LinkId As String, ByVal Ip As String, ByRef ls As LinkStatus) As String [C#] string GetFilePath (string LinkId, string Ip, ref LinkStatus ls)</pre> <p>This method retrieves the FilePath specified when the link was created. You should pass the calling IP as the IP parameter in order for IP tracking to occur. The ls parameter is set to the status of this link. The FilePath will only be returned if the link status is valid.</p> <p>This method counts as a request for the link. The first time this method is called for a link, the request date is recorded. The expiration date is updated based on the number of hours the link is supposed to be active. If this link has a parent, and its exclusion set is greater than zero, all other links with the same parent and exclusion set immediately become blocked.</p>
SendTheFile	<pre>[VB] Sub SendTheFile(ByVal path As String, ByVal response As Web.HttpResponse) [C#] void SendTheFile (string path, System.Web.HttpResponse response)</pre> <p>This method sends the file to the Response object provided. For document types specified in the MimeMap field (.jpg, .doc, .zip, .tif, .bmp, .rtf, .pdf), calling this function sends the file and stops processing the page.</p> <p>The method uses the MimeMap field to set the Response</p>

	ContentType.
GetChildLinks	<p>[VB] Function GetChildLinks (ByVal ParentId As String, ByVal RequestingIP As String, ByRef ls As LinkStatus) As DataSet  [C#] DataSet GetChildLinks (string ParentId, string RequestingIP, ref LinkStatus ls)</p> <p>This method returns a dataset containing information about any child links for the specified parent link. The returned DataSet contains a single table, with a row for each valid child link. The columns are as follows:</p> <p>LinkID – The link identifier for the child link  Path – The File or URL for the child  Description – The description of the child link</p> <p>Refer to the Database Schema appendix for details on additional columns.</p> <p>This method counts as a request for the parent link. The first time this method is called for a link, the request date is recorded. The expiration date is updated based on the number of hours the link is supposed to be active. If this link has a parent, and its exclusion set is greater than zero, all other links with the same parent and exclusion set immediately become blocked. This method does not count as a request for the child links.</p>
DeleteExpiredLinks	<p>[VB] Sub DeleteExpiredLinks ()  [C#] void DeleteExpiredLinks ()</p> <p>This method deletes any expired links from the database. You should call this periodically to prevent the database from becoming cluttered with old data.</p>

## Security

The LinkManager component is implemented in managed code. It will support partial trust components.

Partial trust components must have the following permissions:

- The appropriate database access permissions.
- File access permissions if required by the database.



## Licensing

The Desaware OneTimeDownload-5M toolkit is available in two different licenses.

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## Appendix

### ***Database Schema***

The following schema is used for the OneTimeDownload-5M database. You won't need this information for normal use, however it can be useful if you wish to generate reports of link activity.

The database contains a single table named Links

Column name	Description
ID	Autonumber field. Not used by the component.
LinkID	Link identifier string. Takes the form of a standard GUID string.
Path	The URL or file path associated with the links. Up to 255 characters.
ParentID	The identifier string of the parent if any. Will be null if there is no parent.
Description	A text description of the link. Up to 255 characters.
ExclusionSet	The number of the exclusion set to which this link belongs. Ignored if less than or equal to zero.
Excluded	True if this link has been excluded due to being part of an exclusion set in which another link has been used.

ValidUntil	The expiration date for this link.
ActiveTime	The number of hours a link is valid after it is used for the first time.
FirstRequest	The time and date of the first request for this link.
RequestingIPs	A semicolon delimited list of IP addresses used to request this link.
MaxIPs	The maximum number of IP addresses that may be used to request this link.

## Product and Book Catalog

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### Software

#### Desaware Licensing System<sup>TM</sup>

The Desaware Licensing System is a cryptographic based licensing system for .NET. Designed for per server/machine and component licensing, it is extremely easy to use and can be configured for both moderate and high security scenarios. With 128 bit end to end cryptographic licensing, the Desaware Licensing System does not depend on hidden files, registry entries or other invasive techniques.

#### CAS/Tester<sup>TM</sup>

CAS/Tester is an automated Code Access Security tester for .NET assemblies. Because you can never be certain what permissions are allowed on a target system, it is essential that you test your assemblies under a variety of configurations and make sure it will fail gracefully regardless of how a system is configured. CAS/Tester executes your assembly on multiple configurations (over 80 predefined, and no limit to the number you can define). Detailed reports show exactly what exceptions occur under each scenario and where.

For components, class libraries, Windows Forms controls, Windows Forms applications and console applications – CAS/Tester will help your developers implement code access security, and testers verify behavior.

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StateCoder is a .NET namespace that is designed to make it easy to create and support powerful State Machines in .NET using Visual Basic .NET, C# and other .NET Languages.

With Desaware's StateCoder, you will create .NET code that is more reliable, easier and cheaper to test, support, understand and modify.

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You *can* do that in Visual Basic—*SpyWorks* is the tool that lets you do things in VB, VB.Net and C# that are normally not possible.

- Use hooks to detect messages or keystrokes for selected windows or the entire system.
- Export functions from Visual Basic DLL's, **C# or VB.NET DLL assemblies!**
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Available in both COM and .NET editions.

The .NET edition provides numerous features beyond those provided by the service framework included with .NET. Among these are the ability to easily expose objects simultaneously via DCOM and .NET Remoting, the ability to test the service without actually installing it as a service, and self-installation features.

The COM edition allows you to create powerful services with VB6 – you can even run services and debug them from within the VB6 environment.

## Desaware Event Log Toolkit

Desaware's *Event Log Toolkit* makes creation of custom event sources easy, and provides all the tools needed to create and log custom events. Both VB6 and .NET developers will benefit from the ability to precisely define event log messages, severity and categories. Includes VB6 classes (with source) for advanced event log management and reporting.

## VersionStamper

Safely distribute your COM component-based applications, avoiding “DLL-Hell”.

VersionStamper verifies that applications have the correct versions of DLL, OCX and other components, offering remote diagnostics, reporting and the ability to make your applications and components self-updating.

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OLE Structured Storage is the technology Microsoft uses with their own office applications to store multiple streams of complex data into a single file. Easier to use than a database, and more flexible for hierarchical data storage, StorageTools is the key to using structured storage from within Visual Basic, C#, VB .NET and other .NET languages.

## **The Desaware ActiveX Gallimaufry**

This eclectic set of ActiveX controls written in Visual Basic is both useful and educational. Includes full VB source code. These include: a taskbar control, common dialog controls, TWAIN control (for scanners and digital cameras) and more. Includes full VB6 source.

## **5 Minute Software™ by Desaware**

Desaware's new line of software is designed so you can learn, build and deploy solutions in about five minutes. Providing simple, targeted solutions to common problems, Desaware's 5-Minute Software line is a new approach to .NET components.

## **OneTimeDownload-5M™**

OneTimeDownload-5M is a component that allocates, implements and manages temporary links. These are URL's that are active for a limited amount of time, and are often uniquely associated with individual users. Typical scenarios for this type of link include implementing special offers or discounts, software or document distribution, email campaign tracking and more.

## **IniFileTool-5M™**

While XML is often used for application configuration, it can be notoriously difficult for end-users to edit. A single minor error can prevent an entire XML file from loading. INIFileTool-5M makes it easy for you to read and write INI files from your .NET applications or web applications. Not only does it avoid the need for API calls, but more important, it is a 100% managed code solution that does not use API calls, thus is able to run in partial trust scenarios

## **InstallationHelper-5M™**

The Visual Studio Deployment project offers an easy to use method for installing ASP.Net web applications and services. However, there are a number of common tasks that are important, but difficult to accomplish. From creating and configuring databases during installation (SQL or Access), to configuring IIS, to writing custom configuration data, InstallationHelper-5M is the missing piece for many installation tasks.

## [Books by Dan Appleman](#)

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Written for Visual Basic 6 developers who are ready to learn and migrate to .NET, this book is ideal to not only get you started, but give you the foundation you need to progress further.

In Strategies you'll learn when and why to migrate to .NET, and when you shouldn't. In Concepts you'll not only learn new concepts, but will unlearn old design patterns that can get you into trouble. And in Code you'll learn about the changes to the language itself, along with a thorough introduction to the .NET framework, including key concepts such as distributed programming and security.

### [How Computer Programming Works](#)

This fully illustrated beginner's book is the perfect book for friends, family and kids – anyone who would like to know more about programming. It's the book to read before you get a programming book, teaching key concepts like variables, compilers, program flow, etc. Think of it as a computer science course for everyone.

## [eBooks by Dan Appleman](#)

### [Hijacking .NET](#)

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In this best-selling E-book, you will find an in-depth comparison of the two languages. In a feature by feature, head to head contest, you'll learn there really is a best choice, but that it depends on your specific situation.

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*Did you know that you ship your complete source code any time you distribute a .NET assembly?*

One of the consequences of the architecture of .NET is that a great deal of information about an assembly is kept with the assembly in a part of the file called the Manifest. This information makes it remarkably easy to not just recompile the assembly, but to decompile it, make modifications, then recompile it. In this PDF-eBook, you'll learn about a technique called *Obfuscation*, that can help you avoid this problem. And you'll receive an in depth look at one particular approach to obfuscating your .NET assemblies, **along with a link to a free download of Desaware's open source QND-Obfuscator.**

## **Regular Expressions with .NET**

It might surprise you to know that yet another language is built into Visual Studio – one that can be used in conjunction with VB .NET or any other .NET language. Regular Expressions is an extremely powerful language designed to parse and manipulate blocks of text. Ideal for processing text and validation, understanding Regular Expressions is essential for any .NET developer.

This eBook is intended to be a complete introduction to Regular Expressions that can even be read and understood by programmers who have never heard of them. It is also intended to help experienced Regular Expression programmers come up to speed quickly on the .NET implementation of Regular Expressions.

## **Tracing and Logging with .NET**

The .NET framework includes a powerful tracing and diagnostic system, one that goes far beyond the simple Debug.WriteLine most developers are accustomed to. In this eBook will introduce you to the .NET diagnostic system, teach you tracing and logging design patterns, and demonstrate advanced techniques such as tracing directly into a database or directing trace data directly to an outgoing Email message.

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Each eBook in this series contains a selection of Dan Appleman's technical articles on .NET. Covering virtually every subject in .NET, and written in a variety of styles, you'll find them entertaining as well as educational. Refer to the web site for a complete list of articles.

## **Introduction to NT/2000 Security Programming with Visual Basic 6**

NT Security is a subject that is intimidating, to say the least. But if you dig past the confusing acronyms, you'll find that it's actually very easy to understand. This eBook will help you get started on the right foot with NT security, and give you the foundation of knowledge you'll need to understand even the most obscure security concepts. It will also introduce you to techniques for adding security based features to your applications (with an emphasis on Visual Basic applications).

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