Content

In a world where crackers abound and privacy is key encryption is also required. The ability to securely pass information from point A to point B without anyone at a random point C able to intercept the data is becoming paramount to companies. Storing passwords to the disk drive without those passwords being compromised becomes priority.

Mirage is a programmer's interface to some of the most sophisticated encryption routines available today, all without learning how encryption works. With a simple function call anyone can protect their data so securely that it would take a cracker hundreds of years to break the code.

Is the data real or is it a *Mirage*?

Decrypt Method

Decrypts an 8-bit character string with a 4-bit password string using the encryption method and mode specified.

Syntax

Decrypt *(Data As String, DataLen As Long, Password As String, Method As Byte, mode As Byte) As String*

The **Decrypt** method syntax has these parts:

Part	Description
Data	8-bit character string to encrypt
DataLen	Length of Data variable
Password	4-bit password string
Method	A predefined encryption method
Mode	The mode of encryption to use
Output	An 8-bit character string representing the encrypted data

Method	Description
Twofish	MIRAGE_TW Block size: 12 Password len Supported mo

Mode

ECB

CBC

CFB

Remarks
Data and Password data restrictions vary depending on the Method and Mode selected.

Encrypt Method

Encrypts an 8-bit character string with a 4-bit password string using the encryption method and mode specified.

Syntax

Encrypt *(Data As String, DataLen As Long, Password As String, Method As Byte, mode As Byte) As String*

The **Encrypt** method syntax has these parts:

Part	
Data	8-bit character string to encrypt
DataLen	Length of Data variable
Password	4-bit password string
Method	A predefined encryption method
Mode	The mode of encryption to use
Output	An 8-bit character string representing the encrypted data

Method	**Description**
Twofish	MIRAGE_TWOFISH Block size: 128 bits (16 characters) Password length: 72-256 bits (9-32 characters) Supported modes: ECB, CBC, CFB

Mode	**Description**
ECB	MIRAGE_MODE_ECB Electronic Code Book The input block must be a multiple of the block size.
CBC	MIRAGE_MODE_CBC Cipher Block Chaining The input block must be a multiple of the block size.
CFB	MIRAGE_MODE_ECB K-bit Cipher FeedBack The input block can be any length.

Remarks
Data and Password data restrictions vary depending on the Method and Mode selected.

Mirage Control Events

Mirage Control has no Events.

Note: Demonstration and international versions are limited to 40 bit keys. Any key lengths longer are trimmed and padded with zeroes.

Mirage Control Example

Mirage Control Visual Basic Example.

```
' Encrypt methods
Public Const MIRAGE_TWOFISH = &H0

' Encryption modes
Public Const MIRAGE_MODE_ECB = &H10
Public Const MIRAGE_MODE_CBC = &H11
Public Const MIRAGE_MODE_CFB = &H12
Public Const MIRAGE_MODE_OFB = &H13

Private Function StringToMode(ByVal mode As String)
    Select Case UCase(mode)
    Case "ECB"
        StringToMode = MIRAGE_MODE_ECB
    Case "CFB"
        StringToMode = MIRAGE_MODE_CFB
    Case "CBC"
        StringToMode = MIRAGE_MODE_CBC
    Case Else
        StringToMode = -1
    End Select
End Function

Private Sub Decrypt_Click()
    Dim key As String
    Dim ret As String
    Dim data As String
    Dim mode As Integer

    mode = StringToMode(Combo1.Text)
    key = Mirage1.StrToHex(Text2.Text, Len(Text2.Text))
    data = Mirage1.HexToStr(Text3.Text, Len(Text3.Text))
    ret = Mirage1.Decrypt(data, Len(data), key, MIRAGE_TWOFISH, mode)
    If Len(data) <> Len(ret) Then
        Debug.Print "Error occurred."
    End If
    Text4.Text = ret
End Sub

Private Sub Encrypt_Click()
    Dim key As String
    Dim ret As String
    Dim data As String
    Dim mode As Integer

    mode = StringToMode(Combo1.Text)
    key = Mirage1.StrToHex(Text2.Text, Len(Text2.Text))
    ret = Mirage1.Encrypt(Text1.Text, Len(Text1.Text), key, 0, mode)
    If InStr(1, ret, Chr(0)) Then
        Debug.Print "Null found.    " & Len(Text1.Text) & ":" & Len(ret)
    End If
    data = Mirage1.StrToHex(ret, Len(ret))
    Text3.Text = data
End Sub

Private Sub Go_Click()
    Dim i As Long
```

```
    Dim tmp As String
    Dim key As String
    Dim ret As String
    Dim data As String
    Dim mode As Integer

    Randomize
    tmp = ""
    For i = 1 To 64
        tmp = tmp & Chr(Asc("a") + CInt(Rnd * 26))
    Next
    Text1.Text = tmp
    tmp = ""
    For i = 1 To 32
        tmp = tmp & Chr(Asc("a") + CInt(Rnd * 26))
    Next
    Text2.Text = tmp
    mode = StringToMode(Combo1.Text)
    key = Mirage1.StrToHex(Text2.Text, Len(Text2.Text))
    ret = Mirage1.Encrypt(Text1.Text, Len(Text1.Text), key, 0, mode)
    If InStr(1, ret, Chr(0)) <> 0 Or Len(ret) <> Len(Text1.Text) Then
        Debug.Print "Null found.   " & Len(Text1.Text) & ":" & Len(ret)
    End If
    data = Mirage1.StrToHex(ret, Len(ret))
    If (Len(data) \ 2) <> Len(ret) Then
        Debug.Print "StrToHex    " & Len(data) & ":" & Len(ret)
    End If
    Text3.Text = data
End Sub
```

Note: Demonstration and international versions are limited to 40 bit keys. Any key lengths longer are trimmed and padded with zeroes.

HexToString Method

Converts a 4-bit hex string to an 8-bit character string.

Syntax

HexToString *(Data As String, DataLen As Long) As String*

The **HexToString** method syntax has these parts:

Part	Description
Data	4-bit hex string
DataLen	Length of Data variable
Output	8-bit character string

Remarks
The output will be half the length of the input.

Mirage Control Methods

Mirage Control has the following Methods:

StringToHex
HexToString
Encrypt
Decrypt

Note: Demonstration and international versions are limited to 40 bit keys. Any key lengths longer are trimmed and padded with zeroes.

Product Purchase

Pricing Information
Mirage single user license is US $49.00, You may obtain site license pricing information from WinWare Inc's web site at http://www.winwareinc.com or call (949) 675-7140.

Delivery
We will eMail your registered copy, a shipping and hanling fee of US $15.00 will apply if you want it delivered via regular mail.

Order Online
You can order Mirage online using secure shopping at WinWare Inc's web site.
http://www.winwareinc.com

Phone
Please have your credit card handy and Call 800-507-4357 or 949-675-7140

E-Mail
To order by email, send your name, email, company, address, telephone number, fax number, product name, quantity desired, and credit card number / expiration date to:
sales@winwareinc.com

Fax
To order by fax, send your name, email, company, address, telephone number, fax number, product name, quantity desired, and credit card number / expiration date to:
949-675-7149

Mail
To order by mail, send your name, email, company, address, telephone number, fax number, quantity desired, and a check or money order for the correct amount to:

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WinWare Incorporated
Order Processing
3334 East Coast Hwy. # 419
Corona del Mar CA 92625
```

Product Support

Registered users can access technical support for Mirage on the web at http://www.winwareinc.com, or via email at support@winwareinc.com.

Before contacting technical support

Please be sure to include the following items when contacting WinWare for technical support:

- Version of Mirage that you are using.
- Your full name as stated upon registration
- A brief and specific description of your problem or request. Lengthy or complicated descriptions take more time to analyze and will usually require additional time to respond -- please be patient.

Mirage Control Properties

Mirage Control has no public properties.

Note: Demonstration and international versions are limited to 40 bit keys. Any key lengths longer are trimmed and padded with zeroes.

See Also

Cryptography and Security Links

eEye Digital Security Team
RSA Laboratories
Counterpane Systems

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StringToHex Method

Converts an 8-bit character string to a 4-bit hex string.

Syntax

StringToHex *(Data As String, DataLen As Long) As String*

The **StringToHex** method syntax has these parts:

Part	Description
Data	8-bit character string
DataLen	Length of Data variable
Output	4-bit hex string

Remarks
The output will be twice the length as the input.