

Windows APIs

For VBA7, there is a requirement to have Pointer-Safe APIs. For backward compatibility, there is a requirement to have "older syntax". The following modules are probably imperfect, but should be good enough.

This isn't exhaustive - but it's a cut of commonly-used structures and APIs.

The modules are semi-structured so they can be conditionally compiled properly.

WindowsAPI

[_WindowsApi.bas](#)

```
'
'   [_WindowsAPI]
'
Option Compare ' BINARY | TEXT | Database (if using MSAccess)
Option Explicit

#If VBA7 Then
'   Use _WindowsAPI7
'   Read version info into buffer
'   /* Length of buffer for info */
'   /* Information from GetFileVersionSize */
'   /* Filename of version stamped file */
'   Declare PtrSafe Function GetFileVersionInfo Lib "version.dll" Alias
"GetFileVersionInfoA" (ByVal lpstrFilename As String, ByVal dwHandle
As Long, ByVal dwLen As Long, lpData As Any) As Long
'   Declare PtrSafe Function VerQueryValue Lib "version.dll" (pBlock As
Any, ByVal lpSubBlock As String, ByVal lpBuffer As LongPtr, puLen As
Long) As Long
#Else
' ~~~~~
'   Imports - Shell32.DLL
' ~~~~~

Public Declare Function ExtractAssociatedIcon Lib "shell32.dll" Alias
"ExtractAssociatedIconA" (ByVal hInst As Long, ByVal lpIconPath As
String, lpIcon As Long) As Long
Public Declare Function ShellExecute Lib "shell32.dll" Alias
"ShellExecuteA" (ByVal hwnd As Long, ByVal lpOperation As String, ByVal
lpFile As String, ByVal lpParameters As String, ByVal lpDirectory As
String, ByVal nShowCmd As Long) As Long
Public Declare Function ShellExecuteForExplore Lib "shell32.dll" Alias
"ShellExecuteA" (ByVal hwnd As Long, ByVal lpOperation As String, ByVal
lpFile As String, lpParameters As Any, lpDirectory As Any, ByVal
```

```
nShowCmd As Long) As Long
```

```
' ~~~~~  
' Imports - Version.DLL  
' ~~~~~
```

```
'  
' Returns size of version info in Bytes  
'
```

```
Public Declare Function GetFileVersionInfoSize Lib "Version.dll" Alias  
"GetFileVersionInfoSizeA" (ByVal lpstrFilename As String, lpdwHandle  
As Long) As Long
```

```
'  
' Read version info into buffer: Arguments:  
' 1. Length of buffer for info.  
' 2. Information from GetFileVersionSize.  
' 3. Filename of version stamped file  
'
```

```
Public Declare Function GetFileVersionInfo Lib "Version.dll" Alias  
"GetFileVersionInfoA" (ByVal lpstrFilename As String, ByVal dwhandle  
As Long, ByVal dwlen As Long, lpData As Any) As Long
```

```
'  
' Returns selected version information from the specified  
' version-information resource.  
'
```

```
Public Declare Function VerQueryValue Lib "Version.dll" Alias  
"VerQueryValueA" (pBlock As Any, ByVal lpSubBlock As String, lp lpBuffer  
As Long, puLen As Long) As Long
```

```
' ~~~~~  
' Imports - Kernel 32  
' ~~~~~
```

```
Public Declare Function CloseHandle Lib "kernel32" (ByVal hObject As  
Long) As Long
```

```
Public Declare Function CreateFile Lib "kernel32" Alias "CreateFileA"  
(ByVal lpFileName As String, ByVal dwDesiredAccess As Long, ByVal  
dwShareMode As Long, ByVal lpSecurityAttributes As Long, ByVal  
dwCreationDisposition As Long, ByVal dwFlagsAndAttributes As Long,  
ByVal hTemplateFile As Long) As Long
```

```
Public Declare Function FileTimeToLocalFileTime Lib "kernel32"  
(lpFileTime As FILETIME, lpLocalFileTime As FILETIME) As Long
```

```
Public Declare Function FileTimeToSystemTime Lib "kernel32" (lpFileTime  
As FILETIME, lpSystemTime As SystemTime) As Long
```

```
Public Declare Function FreeLibrary Lib "kernel32" (ByVal hLibModule As  
Long) As Long
```

```
Public Declare Function GetComputerName Lib "kernel32" Alias
"GetComputerNameA" (ByVal lpBuffer As String, nSize As Long) As Long
Public Declare Function GetExitCodeProcess Lib "kernel32" (ByVal
hProcess As Long, lpExitCode As Long) As Long
Public Declare Function GetFileTime Lib "kernel32" (ByVal hFile As
Long, lpCreationTime As FILETIME, lpLastAccessTime As FILETIME,
lpLastWriteTime As FILETIME) As Long
Public Declare Function GetFreeSpace Lib "kernel32" (ByVal wFlags As
Integer) As Long
Public Declare Function GetModuleFileName Lib "kernel32" Alias
"GetModuleFileNameA" (ByVal hModule As Long, ByVal lpFileName As
String, ByVal nSize As Long) As Long
Public Declare Function GetModuleHandle Lib "kernel32" Alias
"GetModuleHandleA" (ByVal lpModuleName As String) As Long
Public Declare Function GetPrivateProfileInt Lib "kernel32" Alias
"GetPrivateProfileIntA" (ByVal lpApplicationName As String, ByVal
lpKeyName As String, ByVal nDefault As Long, ByVal lpFileName As
String) As Long
Public Declare Function GetPrivateProfileString Lib "kernel32" Alias
"GetPrivateProfileStringA" (ByVal lpApplicationName As String, ByVal
lpKeyName As Any, ByVal lpDefault As String, ByVal lpReturnedString As
String, ByVal nSize As Long, ByVal lpFileName As String) As Long
Public Declare Function GetProcAddress Lib "kernel32" (ByVal hModule As
Long, ByVal lpProcName As String) As Long
Public Declare Function GetShortPathName Lib "kernel32" Alias
"GetShortPathNameA" (ByVal lpszLongPath As String, ByVal lpszShortPath
As String, ByVal cchBuffer As Long) As Long
Public Declare Function GetSystemDirectory Lib "kernel32" Alias
"GetSystemDirectoryA" (ByVal lpBuffer As String, ByVal nSize As Long)
As Long
Public Declare Function GetTempPath Lib "kernel32" Alias "GetTempPathA"
(ByVal nBufferLength As Long, ByVal lpBuffer As String) As Long
Public Declare Function GetVersion Lib "kernel32" () As Long
Public Declare Function GetVersionEx Lib "kernel32" Alias
"GetVersionExA" (lpVersionInformation As OSVERSIONINFO) As Long
Public Declare Function GetWinFlags Lib "kernel32" Alias "GetWinFlagsA"
() As Long
Public Declare Function GetWindowsDirectory& Lib "kernel32" Alias
"GetWindowsDirectoryA" (ByVal lpBuffer As String, ByVal nSize As Long)
Public Declare Function GlobalAlloc Lib "kernel32" (ByVal uFlags As
Long, ByVal dwBytes As Long) As Long
Public Declare Function GlobalFree Lib "kernel32" (ByVal hMem As Long)
As Long
Public Declare Function GlobalLock Lib "kernel32" (ByVal hMem As Long)
As Long
Public Declare Function GlobalSize Lib "kernel32" (ByVal hMem As Long)
As Long
Public Declare Function GlobalUnlock Lib "kernel32" (ByVal hMem As
Long) As Long
Public Declare Function LoadLibrary Lib "kernel32" Alias "LoadLibraryA"
(ByVal lpLibFileName As String) As Long
```

```
Public Declare Function LocalFileTimeToFileTime Lib "kernel32"  
(lpLocalFileTime As FILETIME, lpFileTime As FILETIME) As Long  
Public Declare Function OpenProcess Lib "kernel32" (ByVal  
dwDesiredAccess As Long, ByVal bInheritHandle As Long, ByVal  
dwProcessId As Long) As Long  
Public Declare Function SetFileTime Lib "kernel32" (ByVal hFile As  
Long, lpCreationTime As Any, lpLastAccessTime As Any, lpLastWriteTime  
As Any) As Long  
Public Declare Function SystemTimeToFileTime Lib "kernel32"  
(lpSystemTime As SystemTime, lpFileTime As FILETIME) As Long  
Public Declare Function WaitForSingleObject Lib "kernel32" (ByVal  
hHandle As Long, ByVal dwMilliseconds As Long) As Long  
Public Declare Function WritePrivateProfileString Lib "kernel32" Alias  
"WritePrivateProfileStringA" (ByVal lpApplicationName As String, ByVal  
lpKeyName As Any, ByVal lpString As Any, ByVal lpFileName As String) As  
Long  
Public Declare Function lstrcpy Lib "kernel32" (ByVal lpString1 As Any,  
ByVal lpString2 As Any) As Long  
Public Declare Function lstrlenA Lib "kernel32" (ByVal lpString As  
Long) As Long  
Public Declare Function lstrlenW Lib "kernel32" (ByVal lpString As  
Long) As Long  
  
Public Declare Sub CopyMemory Lib "kernel32" Alias "RtlMoveMemory"  
(ByRef Destination As Any, ByRef Source As Any, ByVal Length As Long)  
Public Declare Sub ExitProcess Lib "kernel32" (ByVal uExitCode As Long)  
Public Declare Sub GlobalMemoryStatus Lib "kernel32" (lpBuffer As  
MEMORYSTATUS)  
Public Declare Sub MoveMemory Lib "kernel32" Alias "RtlMoveMemory"  
(ByVal Destination As Long, ByRef Source As Byte, ByVal Length As Long)  
Public Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)  
  
' ~~~~~  
' Imports - User 32  
' ~~~~~  
  
Public Declare Function BringWindowToTop Lib "user32" (ByVal hwnd As  
Long) As Long  
Public Declare Function CloseClipboard Lib "user32" () As Long  
Public Declare Function EmptyClipboard Lib "user32" () As Long  
Public Declare Function FindWindow Lib "user32" Alias "FindWindowA"  
(ByVal lpClassName As String, ByVal lpWindowName As String) As Long  
Public Declare Function FindWindowEx Lib "user32" Alias "FindWindowExA"  
(ByVal hwnd1 As Long, ByVal hwnd2 As Long, ByVal lpsz1 As String, ByVal  
lpsz2 As String) As Long  
Public Declare Function FlashWindow Lib "user32" (ByVal hwnd As Long,  
ByVal bInvert As Long) As Long  
Public Declare Function GetActiveWindow Lib "user32" () As Long  
Public Declare Function GetClassName Lib "user32" Alias "GetClassNameA"  
(ByVal hwnd As Long, ByVal lpClassName As String, ByVal nMaxCount As  
Long) As Long
```

```
Public Declare Function GetClientRect Lib "user32" (ByVal hwnd As Long,
lpRect As RECT) As Long
Public Declare Function GetClipboardData Lib "user32" (ByVal wFormat As
Long) As Long
Public Declare Function GetDC Lib "user32" (ByVal hwnd As Long) As Long
Public Declare Function GetDesktopWindow Lib "user32" () As Long
Public Declare Function GetParent Lib "user32" (ByVal hwnd As Long) As
Long
Public Declare Function GetSystemMetrics Lib "user32" (ByVal nIndex As
Long) As Long
Public Declare Function GetWindow Lib "user32" (ByVal hwnd As Long,
ByVal wCmd As Long) As Long
Public Declare Function GetWindowLong Lib "user32" Alias
"GetWindowLongA" (ByVal hwnd As Long, ByVal nIndex As Long) As Long
Public Declare Function GetWindowPlacement Lib "user32" (ByVal hwnd As
Long, lpwndpl As WINDOWPLACEMENT) As Long
Public Declare Function GetWindowRect Lib "user32" (ByVal hwnd As Long,
lpRect As RECT) As Long
Public Declare Function GetWindowText Lib "user32" Alias
"GetWindowTextA" (ByVal hwnd As Long, ByVal lpString As String, ByVal
cch As Long) As Long
Public Declare Function IsWindowVisible Lib "user32" (ByVal hwnd As
Long) As Long
Public Declare Function IsZoomed Lib "user32" (ByVal hwnd As Long) As
Long
Public Declare Function LockWindowUpdate Lib "user32.dll" (ByVal
hwndLock As Long) As Long
Public Declare Function MoveWindow Lib "user32" (ByVal hwnd As Long,
ByVal x As Long, ByVal y As Long, ByVal dx As Long, ByVal dy As Long,
ByVal fRepaint As Long) As Long
Public Declare Function OpenClipboard Lib "user32" (ByVal hwnd As Long)
As Long
Public Declare Function ReleaseDC Lib "user32" (ByVal hwnd As Long,
ByVal hdc As Long) As Long
Public Declare Function SendMessage Lib "user32" Alias "SendMessageA"
(ByVal hwnd As Long, ByVal wParam As Long, ByVal lParam As Any) As Long
Public Declare Function SetClipboardData Lib "user32" (ByVal wFormat As
Long, ByVal hMem As Long) As Long
Public Declare Function SetFocusAPI Lib "user32" Alias
"SetForegroundWindow" (ByVal hwnd As Long) As Long
Public Declare Function SetWindowPos Lib "user32" (ByVal hwnd As Long,
ByVal hWndInsertAfter As Long, ByVal x As Long, ByVal y As Long, ByVal
cX As Long, ByVal cY As Long, ByVal wFlags As Long) As Long
Public Declare Function ShowWindow Lib "user32" (ByVal hwnd As Long,
ByVal nCmdShow As Long) As Long
Public Declare Function UpdateWindow Lib "user32" (ByVal hwnd As Long)
Public Declare Function WinHelp Lib "user32" Alias "WinHelpA" (ByVal
hwnd As Long, ByVal lpHelpFile As String, ByVal wCommand As Long, ByVal
dwData As Long) As Long
Public Declare Function SetKeyboardState Lib "user32" (lppbKeyState As
```

```

Any) As Long
Public Declare Function GetKeyboardState Lib "user32" (pbKeyState As
Any) As Long
Public Declare Function GetWindowThreadProcessId Lib "user32" (ByVal
hwnd As Long, lpdwProcessId As Long) As Long
Public Declare Function AttachThreadInput Lib "user32" (ByVal idAttach
As Long, ByVal idAttachTo As Long, ByVal fAttach As Long) As Long
Public Declare Function SetForegroundWindow Lib "user32" (ByVal hwnd As
Long) As Long
Public Declare Function SetFocusAPI Lib "user32" Alias "SetFocus"
(ByVal hwnd As Long) As Long

Public Const VK_SHIFT = &H10
Public Const VK_LSHIFT = &HA0
Public Const VK_RSHIFT = &HA1

' ~~~~~
' Imports - AdvAPI 32
' ~~~~~

Public Declare Function GetUserName Lib "advapi32.dll" Alias
"GetUserNameA" (ByVal lpBuffer As String, nSize As Long) As Long

' ~~~~~
' Imports - Toolhelp.dll
' ~~~~~

Public Declare Function SystemHeapInfo Lib "ToolHelp.dll" (shi As
SYSHEAPINFO) As Integer

' ~~~~~
' Imports - Ole Accessibility / Automation / Programmability
' ~~~~~

Public Declare Function AccessibleObjectFromWindow Lib "oleacc" (ByVal
hwnd As Long, ByVal dwId As Long, ByRef riid As typUUID, ByRef
ppvObject As Object) As Long
' Public Declare Function LoadTypeLibEx Lib "oleaut32.dll" (ByVal
szFile As Long, ByVal regkind As Long, pptlib As ITypeLib) As Long
Public Declare Function OleCreatePictureIndirect Lib "olepro32.dll"
(lpPictDesc As PICTDESC, riid As GUID, ByVal fPictureOwnsHandle As
Long, ipic As IPicture) As Long

' ~~~~~
' Imports - msrbvm60
' ~~~~~

Public Declare Function VarPtrArray Lib "msrbvm60.dll" Alias "VarPtr"
(ptr() As Any) As Long

' ~~~~~

```



```

' Imports - GDI 32
' ~~~~~

Public Declare Function CreateBitmap Lib "gdi32" (ByVal nWidth As Long,
ByVal nHeight As Long, ByVal nPlanes As Long, ByVal nBitCount As Long,
lpBits As Any) As Long
Public Declare Function CreateCompatibleDC Lib "gdi32" (ByVal hdc As
Long) As Long
Public Declare Function CreateSolidBrush Lib "gdi32" (ByVal crColor As
Long) As Long
Public Declare Function DeleteDC Lib "gdi32" (ByVal hdc As Long) As
Long
Public Declare Function DeleteObject Lib "gdi32" (ByVal hObject As
Long) As Long
Public Declare Function GetDeviceCaps Lib "gdi32" (ByVal hdc As Long,
ByVal nIndex As Long) As Long
Public Declare Function PatBlt Lib "gdi32" (ByVal hdc As Long, ByVal x
As Long, ByVal y As Long, ByVal nWidth As Long, ByVal nHeight As Long,
ByVal dwRop As Long) As Long
Public Declare Function SelectObject Lib "gdi32" (ByVal hdc As Long,
ByVal hObject As Long) As Long

' ~~~~~
' Imports - GDI+
' ~~~~~

Public Declare Function GdipBitmapApplyEffect Lib "gdiplus.dll" (ByVal
Image As Long, ByVal Effect As Long, ByVal roi As Long, ByVal
useAuxData As Long, ByVal auxData As Long, ByVal auxDataSize As Long)
As Long
Public Declare Function GdipCreateBitmapFromFile Lib "gdiplus.dll"
(ByVal Filename As Long, bitmap As Long) As Long
Public Declare Function GdipCreateBitmapFromHBITMAP Lib "gdiplus.dll"
(ByVal hbm As Long, ByVal hPal As Long, bitmap As Long) As Long
Public Declare Function GdipCreateBitmapFromHICON Lib "gdiplus" (ByVal
hIcon As Long, bitmap As Long) As Long
Public Declare Function GdipCreateEffect Lib "gdiplus.dll" (ByVal cid1
As Long, ByVal cid2 As Long, ByVal cid3 As Long, ByVal cid4 As Long,
Effect As Long) As Long
Public Declare Function GdipCreateFromHDC Lib "gdiplus.dll" (ByVal hdc
As Long, GpGraphics As Long) As Long
Public Declare Function GdipCreateHBITMAPFromBitmap Lib "gdiplus.dll"
(ByVal bitmap As Long, hbmReturn As Long, ByVal background As Long) As
Long
Public Declare Function GdipCreateHICONFromBitmap Lib "gdiplus" (ByVal
bitmap As Long, hbmReturn As Long) As Long
Public Declare Function GdipDeleteEffect Lib "gdiplus.dll" (ByVal
Effect As Long) As Long
Public Declare Function GdipDeleteGraphics Lib "gdiplus.dll" (ByVal
graphics As Long) As Long

```

```
Public Declare Function GdipDisposeImage Lib "gdiplus.dll" (ByVal Image As Long) As Long
Public Declare Function GdipDrawImageRect Lib "gdiplus.dll" (ByVal graphics As Long, ByVal Image As Long, ByVal x As Single, ByVal y As Single, ByVal Width As Single, ByVal Height As Single) As Long
Public Declare Function GdipGetImageHeight Lib "gdiplus.dll" (ByVal Image As Long, Height As Long) As Long
Public Declare Function GdipGetImageThumbnail Lib "gdiplus.dll" (ByVal Image As Long, ByVal thumbWidth As Long, ByVal thumbHeight As Long, thumbImage As Long, Optional ByVal callback As Long = 0, Optional ByVal callbackData As Long = 0) As Long
Public Declare Function GdipGetImageWidth Lib "gdiplus.dll" (ByVal Image As Long, Width As Long) As Long
Public Declare Function GdipLoadImageFromStream Lib "gdiplus.dll" (ByVal stream As IUnknown, Image As Long) As Long
Public Declare Function GdipSaveImageToFile Lib "gdiplus.dll" (ByVal Image As Long, ByVal Filename As Long, clsidEncoder As GUID, encoderParams As Any) As Long
Public Declare Function GdipSaveImageToStream Lib "gdiplus.dll" (ByVal Image As Long, ByVal stream As IUnknown, clsidEncoder As GUID, encoderParams As Any) As Long
Public Declare Function GdipSetEffectParameters Lib "gdiplus.dll" (ByVal Effect As Long, Params As Any, ByVal Size As Long) As Long
Public Declare Function GdiplusShutdown Lib "gdiplus.dll" (ByVal token As Long) As Long
Public Declare Function GdiplusStartup Lib "gdiplus.dll" (token As Long, inputbuf As GDIPStartupInput, Optional ByVal outputbuf As Long = 0) As Long

' ~~~~~
' Imports - WinSock 32
' ~~~~~

Public Declare Function gethostbyaddr Lib "ws2_32.dll" (addr As Long, ByVal addrLen As Long, ByVal addrType As Long) As Long
Public Declare Function gethostname Lib "ws2_32.dll" (ByVal szHost As String, ByVal dwHostLen As Long) As Long
Public Declare Function inet_addr Lib "ws2_32.dll" (ByVal cp As String) As Long
Public Declare Function InternetQueryOption Lib "wininet.dll" Alias "InternetQueryOptionA" (ByVal hInternet As Long, ByVal dwOption As Long, lpBuffer As INTERNET_CONNECTED_INFO, lpdwBufferLength As Long) As Boolean
Public Declare Function InternetSetOption Lib "wininet.dll" Alias "InternetSetOptionA" (ByVal hInternet As Long, ByVal dwOption As Long, ByRef lpBuffer As Any, ByVal dwBufferLength As Long) As Long
Public Declare Function gethostbyname Lib "ws2_32.dll" (ByVal szHost As String) As Long
Public Declare Function WSACleanup Lib "ws2_32.dll" () As Long
Public Declare Function WSAGetLastError Lib "ws2_32.dll" () As Long
Public Declare Function WSASStartup Lib "ws2_32.dll" (ByVal
```



```

wVersionRequired As Long, lpWSADATA As WSADATA) As Long

' ~~~~~
' Imports - ICMP
' ~~~~~

'Close an Internet Control Message Protocol (ICMP) handle that
IcmpCreateFile opens.
'http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesdkr/htm/_wcesdk_icmpclosehandle.asp
Public Declare Function IcmpCloseHandle Lib "ICMP" (ByVal IcmpHandle As Long) As Long
'Create a handle on which Internet Control Message Protocol (ICMP) requests can be issued.
'http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesdkr/htm/_wcesdk_icmpcreatefile.asp
Public Declare Function IcmpCreateFile Lib "ICMP" () As Long
Public Declare Function IcmpSendEcho Lib "ICMP" (ByVal IcmpHandle As Long, ByVal DestinationAddress As Long, ByVal RequestData As String, ByVal RequestSize As Long, ByVal RequestOptions As Long, ReplyBuffer As ICMP_ECHO_REPLY, ByVal ReplySize As Long, ByVal TimeOut As Long) As Long

' ~~~~~
' Imports - OLE32.DLL
' ~~~~~

' Some useful functions for GUID work, borrowed from COM
'
' NOTE: StringFromGUID2 is identical in what it does to the other
ole32.dll
' functions StringFromIID and StringFromCLSID. Therefore, they are not
' defined here

Public Declare Function CLSIDFromProgID Lib "ole32.dll" (ByVal lpzszProgID As Long, pclsid As GUID) As Long
Public Declare Function CLSIDFromString Lib "ole32" (ByVal lpzsz As Any, pclsid As GUID) As Long
Public Declare Function CoCreateGuid Lib "ole32.dll" (rclsid As GUID) As Long
Public Declare Function CoCreateInstance Lib "ole32.dll" (rclsid As GUID, pUnkOuter As Any, ByVal dwClsContext As Long, riid As GUID, ppvObj As IUnknown) As Long
Public Declare Function CreateStreamOnHGlobal Lib "ole32" (ByVal hGlobal As Long, ByVal fDeleteOnRelease As Long, ByRef ppstm As Any) As Long
Public Declare Function GetHGlobalFromStream Lib "ole32" (ByVal pstm As Any, ByRef phglobal As Long) As Long
Public Declare Function IIDFromString Lib "ole32" (ByVal lpzsz As Long, ByRef lpiid As typUUID) As Long

```

```

Public Declare Function IsEqualGUID Lib "ole32.dll" (rguid1 As GUID,
rguid2 As GUID) As Long
Public Declare Function StringFromGUID2 Lib "ole32.dll" (rclsid As
GUID, ByVal lpsz As Long, ByVal cbMax As Long) As Long

'Public Const IdleCountInterval = 1000
'Help Constants
'Public Const HELP_CONTEXT = &H1           'Display topic in ulTopic
'Public Const HELP_QUIT = &H2              'Terminate help
'Public Const HELP_INDEX = &H3             'Display index
'Public Const HELP_CONTENTS = &H3
'Public Const HELP_HELPONHELP = &H4        'Display help on using help
'Public Const HELP_SETINDEX = &H5          'Set the current Index for
multi index help
'Public Const HELP_SETCONTENTS = &H5
'Public Const HELP_CONTEXTPOPUP = &H8
'Public Const HELP_FORCEFILE = &H9
'Public Const HELP_KEY = &H101             'Display topic for keyword
'Public Const HELP_COMMAND = &H102
'Public Const HELP_PARTIALKEY = &H105      'call the search engine in
winhelp

' ~~~~~
'   Types / Structures
' ~~~~~
'
' Only GDI+1.1:
'

Public Type BlurParameters
    Radius                As Single
    ExpandEdges           As Long
End Type

Public Type FILETIME
    dwLowDate             As Long
    dwHighDate            As Long
End Type

Public Type GDIPStartupInput
    GdiplusVersion        As Long
    DebugEventCallback     As Long
    SuppressBackgroundThread As Long
    SuppressExternalCodecs As Long
End Type

Public Type HOSTENT
    hName                 As Long
    hAliases              As Long

```

```

        hAddrType           As Integer
        hLen                As Integer
        hAddrList           As Long
    End Type

'
'   This structure describes the options that will be included in the
'   header of an IP packet.
'
'
http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcetcpip/htm/cerefIP\_OPTION\_INFORMATION.asp
'

Public Type IP_OPTION_INFORMATION
    Ttl                As Byte
    Tos                As Byte
    Flags              As Byte
    OptionsSize        As Byte
    OptionsData        As Long
End Type

'
'   This structure describes the data that is returned in response to
'   an echo request.
'
'
http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesdkr/htm/\_wcesdk\_icmp\_echo\_reply.asp
'

Public Type ICMP_ECHO_REPLY
    Address            As Long
    Status              As Long
    RoundTripTime      As Long
    DataSize           As Long
    Reserved           As Integer
    ptrData            As Long
    Options             As IP_OPTION_INFORMATION
    Data               As String * 250
End Type

Public Type ICMP_OPTIONS
    Ttl                As Byte
    Tos                As Byte
    Flags              As Byte
    OptionsSize        As Byte
    OptionsData        As Long
End Type

Public Type INTERNET_CONNECTED_INFO

```

```
    dwConnectedState      As Long
    dwFlags                As Long
End Type

Public Type MEMORYSTATUS
    dwLength              As Long
    dwMemoryLoad          As Long
    dwTotalPhys           As Long
    dwAvailPhys           As Long
    dwTotalPageFile       As Long
    dwAvailPageFile       As Long
    dwTotalVirtual        As Long
    dwAvailVirtual        As Long
End Type

Type POINTAPI
    x                    As Long
    y                    As Long
End Type

Type POINTL
    x                    As Long
    y                    As Long
End Type

Type RECT
    Left                As Long
    Top                 As Long
    Right               As Long
    Bottom              As Long
End Type

Type WINDOWPLACEMENT
    Length              As Long
    Flags               As Long
    showCmd             As Long
    ptMinPosition       As POINTAPI
    ptMaxPosition       As POINTAPI
    rcNormalPosition    As RECT
End Type

Public Type SYSHEAPINFO
    dwSize              As Long
    wUserFreePercent    As Integer
    wGDIFreePercent     As Integer
    hUserSegment        As Integer
    hGDISeament         As Integer
End Type

Public Type OSVERSIONINFO
    dwOSVersionInfoSize As Long
```

```

        dwMajorVersion           As Long
        dwMinorVersion           As Long
        dwBuildNumber            As Long
        dwPlatformId             As Long
        szCSDVersion              As String * 128      ' Maintenance
string for PSS usage
End Type

Public Type OSVERSIONINFOEX
    dwOSVersionInfoSize         As Long
    dwMajorVersion               As Long
    dwMinorVersion               As Long
    dwBuildNumber                As Long
    dwPlatformId                 As Long
    szCSDVersion                  As String * 128      ' Maintenance
string for PSS usage
    wServicePackMajor           As Integer
    wServicePackMinor           As Integer
    wSuiteMask                   As Integer
    wProductType                 As Byte
    wReserved                     As Byte
End Type

Public Type PICTDESC
    cbSizeOfStruct               As Long
    PicType                       As Long
    hImage                       As Long
    xExt                          As Long
    yExt                          As Long
End Type

'Only GDI+1.1:

Public Type SharpenParameters
    Radius                       As Single
    Amount                       As Single
End Type

Public Type TSize
    x                            As Double
    y                            As Double
End Type

Type SECURITY_ATTRIBUTES
    nLength                      As Long
    lpSecurityDescriptor         As LongPtr
    bInheritHandle               As Long
End Type

```

```

'   Structure contains version information about a file.
'   (This information is language and code page independent.)

Public Type VS_FIXEDFILEINFO
    dwSignature                As Long    'Contains the value
    '0xFEEF04BD (szKey)
    dwStrucVersion             As Long    'Specifies the binary
    'version number of this structure.
    dwFileVersionMS            As Long    'most significant 32
    'bits of the file's binary version number.
    dwFileVersionLS            As Long    'least significant 32
    'bits of the file's binary version number.
    dwProductVersionLS         As Long    'most sig. 32 bits of
    'binary version of product this file was distributed with.
    dwFileFlagsMask            As Long    'least sig. 32 bits of
    'binary version of product this file was distributed with.
    dwProductVersionMS         As Long    'Contains a bitmask that
    'specifies the valid bits in dwFileFlags.
    dwFileFlags                As Long    'Contains a bitmask that
    'specifies the Boolean attributes of the file.
    dwFileOS                   As Long    'operating system for
    'which this file was designed.
    dwFileType                 As Long    'general type of file.
    dwFileSubtype              As Long    'function of the file.
    dwFileDateMS               As Long    'most sig. 32 bits of
    'the file's 64-bit binary creation date and time stamp.
    dwFileDateLS               As Long    'least sig. 32 bits of
    'the file's 64-bit binary creation date and time stamp.
End Type

Public Type typUUID                'GUID
    Data1                As Long
    Data2                As Integer
    Data3                As Integer
    Data4(7)             As Byte
End Type

' Note that although Variants now have
' a VT_GUID type, this type is unsupported in VBA,
' so we must define our own here that will have the same
' binary layout as all GUIDs are expected by COM to
' have.
'

Public Type GUID
    Data1                As Long
    Data2                As Integer
    Data3                As Integer
    Data4(7)             As Byte    ' 0 to 7 (8 Bytes)
End Type

```



```

Public Type EncoderParameter
    UUID As GUID
    NumberOfValues As Long
    Type As Long
    Value As Long
End Type

Public Type EncoderParameters
    Count As Long
    Parameter As EncoderParameter
End Type

Public Type WSADATA
    wVersion As Integer
    wHighVersion As Integer
    szDescription(0 To MAX_WSADescription) As Byte
    szSystemStatus(0 To MAX_WSASYSStatus) As Byte
    wMaxSockets As Integer
    wMaxUDPDG As Integer
    dwVendorInfo As Long
End Type

Public Type SystemTime
    wYear As Integer
    wMonth As Integer
    wDayOfWeek As Integer
    wDay As Integer
    wHour As Integer
    wMinute As Integer
    wSecond As Integer
    wMilliseconds As Integer
End Type

' ~~~~~
' Enumerations
' ~~~~~

Public Enum EShellShowConstants
    essSW_Hide = 0
    essSW_MAXIMIZE = 3
    essSW_MINIMIZE = 6
    essSW_SHOWMAXIMIZED = 3
    essSW_SHOWMINIMIZED = 2
    essSW_SHOWNORMAL = 1
    essSW_SHOWNOACTIVATE = 4
    essSW_SHOWNA = 8
    essSW_SHOWMINNOACTIVE = 7
    essSW_SHOWDEFAULT = 10
    essSW_RESTORE = 9

```

```

    essSW_SHOW = 5
End Enum

Public Enum ShellAndWaitResult
    Success = 0
    Failure = 1
    Timeout = 2
    InvalidParameter = 3
    SysWaitAbandoned = 4
    UserWaitAbandoned = 5
    UserBreak = 6
End Enum

Public Enum ActionOnBreak
    IgnoreBreak = 0
    AbandonWait = 1
    PromptUser = 2
End Enum

Public Enum PicFileType
    pictypeBMP = 1
    pictypeGIF = 2
    pictypePNG = 3
    pictypeJPG = 4
End Enum

'
'   RGB Color Constants RGB(R,G,B) = Long(&HBBGGRR)
'
Public Enum eColorPalette
    Aqua = &HFFFF00
    Black = &H0
    Blue = &HFF0000
    Gray = &HC0C0C0
    Green = &HFF00
    Manila = &HA0FFFF
    PaleAqua = &HFFFFA0
    Red = &HFF
    White = &HFFFFFF
    Yellow = &HC0C0
End Enum

'
'   API declarations.

' *****
'End user functions
' *****

```

```
#End If
```

WindowsAPI7A

[_WindowsApi7A.bas](#)

```
'
'   [_WindowsAPI7A]
'
Option Compare Database
Option Explicit
#If VBA7 Then

' ~~~~~
'   Imports - Shell32.DLL
' ~~~~~

Public Declare PtrSafe Function ExtractAssociatedIcon Lib "shell32.dll"
Alias "ExtractAssociatedIconA" (ByVal hInst As LongPtr, ByVal
lpIconPath As String, lpiIcon As Long) As LongPtr
Public Declare PtrSafe Function ExtractIcon Lib "shell32.dll" Alias
"ExtractIconA" (ByVal hInst As LongPtr, ByVal lpzExeFileName As
String, ByVal nIndex As Long) As LongPtr
Public Declare PtrSafe Function ShellExecute Lib "shell32.dll" Alias
"ShellExecuteA" (ByVal hwnd As LongPtr, ByVal lpOperation As String,
ByVal lpFile As String, ByVal lpParameters As String, ByVal lpDirectory
As String, ByVal nShowCmd As Long) As LongPtr
Public Declare PtrSafe Function ShellExecuteForExplore Lib
"shell32.dll" Alias "ShellExecuteA" (ByVal hwnd As LongPtr, ByVal
lpOperation As String, ByVal lpFile As String, ByVal lpParameters As
Any, ByVal lpDirectory As Any, ByVal nShowCmd As Long) As LongPtr

' ~~~~~
'   Imports - Version.DLL
' ~~~~~

'   Read version info into buffer
'   /* Length of buffer for info */
'   /* Information from GetFileVersionSize */
'   /* Filename of version stamped file */
Public Declare PtrSafe Function GetFileVersionInfo Lib "Version.dll"
Alias "GetFileVersionInfoA" (ByVal lptstrFilename As String, ByVal
dwHandle As LongPtr, ByVal dwLen As Long, lpData As Any) As Long
Public Declare PtrSafe Function GetFileVersionInfoSize Lib
"Version.dll" Alias "GetFileVersionInfoSizeA" (ByVal lptstrFilename As
String, lpdwHandle As LongPtr) As Long
'Public Declare PtrSafe Function VerQueryValue Lib "Version.dll" Alias
"VerQueryValueA" (pBlock As Any, ByVal lpSubBlock As String, ByVal
```

```

lpBuffer As LongPtr, puLen As Long) As Long
Public Declare PtrSafe Function VerQueryValue Lib "Version.dll" Alias
"VerQueryValueA" (pBlock As Any, ByVal lpSubBlock As String, lpBuffer
As Any, puLen As Long) As Long

' (SJZ) 20131009:
' Public Declare PtrSafe Function VerQueryValue Lib "version.dll"
Alias "VerQueryValueA" (pBlock As Any, ByVal lpSubBlock As String,
ByVal lpBuffer As LongPtr, puLen As Long) As Long
'
' This is declared as shown below (private) within a module that uses
it
' due to a bug that I can't figure out right now
'
' Private Declare Function apiVerQueryValue Lib "version.dll" Alias
"VerQueryValueA" _
(pBlock As Any, ByVal lpSubBlock As String, lpBuffer As Long,
puLen As Long) As Long

' ~~~~~
' Imports - Kernel 32
' ~~~~~

Public Declare PtrSafe Function CloseHandle Lib "kernel32" (ByVal
hObject As LongPtr) As Long
' Declare PtrSafe Function CreateFile Lib "kernel32" Alias
"CreateFileA" (ByVal lpFileName As String, ByVal dwDesiredAccess As
Long, ByVal dwShareMode As Long, lpSecurityAttributes As
SECURITY_ATTRIBUTES, ByVal dwCreationDisposition As Long, ByVal
dwFlagsAndAttributes As Long, ByVal hTemplateFile As LongPtr) As
LongPtr
Public Declare PtrSafe Function CreateFile Lib "kernel32" Alias
"CreateFileA" (ByVal lpFileName As String, ByVal dwDesiredAccess As
Long, ByVal dwShareMode As Long, lpSecurityAttributes As Any, ByVal
dwCreationDisposition As Long, ByVal dwFlagsAndAttributes As Long,
ByVal hTemplateFile As LongPtr) As LongPtr

Public Declare PtrSafe Function CreateFileA Lib "kernel32" (ByVal
lpFileName As String, ByVal dwDesiredAccess As Long, ByVal dwShareMode
As Long, ByVal lpSecurityAttributes As Long, ByVal
dwCreationDisposition As Long, ByVal dwFlagsAndAttributes As Long,
ByVal hTemplateFile As Long) As LongPtr 'Creates a file and returns
a handle to it

' Public Declare PtrSafe Function CreateProcess Lib "kernel32" Alias
"CreateProcessA" (ByVal lpApplicationName As String, ByVal
lpCommandLine As String, lpProcessAttributes As SECURITY_ATTRIBUTES,
lpThreadAttributes As SECURITY_ATTRIBUTES, ByVal bInheritHandles As
Long, ByVal dwCreationFlags As Long, lpEnvironment As Any, ByVal
lpCurrentDirectory As String, lpStartupInfo As STARTUPINFO,
lpProcessInformation As PROCESS_INFORMATION) As Long

```

```

Public Declare PtrSafe Function CreateProcess Lib "kernel32" Alias
"CreateProcessA" (ByVal lpApplicationName As String, ByVal
lpCommandLine As String, ByVal lpProcessAttributes As Long, ByVal
lpThreadAttributes As Long, ByVal bInheritHandles As Long, ByVal
dwCreationFlags As Long, ByVal lpEnvironment As Long, ByVal
lpCurrentDirectory As String, lpStartupInfo As STARTUPINFO,
lpProcessInformation As PROCESS_INFORMATION) As Long
'
'   Ordinarily this would be declared as:
'   Private Declare PtrSafe Function CreateThread Lib "kernel32"
'   (lpThreadAttributes As SECURITY_ATTRIBUTES, ByVal dwStackSize As
'   LongPtr, lpStartAddress As LongPtr, lpParameter As Any, ByVal
'   dwCreationFlags As Long, lpThreadId As Long) As LongPtr
'
'   We want to live life on the edge though so we define it as this:
'
Public Declare PtrSafe Function CreateThread Lib "kernel32"
(lpThreadAttributes As Any, ByVal dwStackSize As LongPtr,
lpStartAddress As LongPtr, lpParameter As Any, ByVal dwCreationFlags As
Long, lpThreadId As Long) As LongPtr

Public Declare PtrSafe Function ExpandEnvironmentStrings Lib "kernel32"
Alias "ExpandEnvironmentStringsA" (ByVal lpSrc As String, ByVal lpDst
As String, ByVal nSize As Long) As Long
Public Declare PtrSafe Sub ExitThread Lib "kernel32" (ByVal dwExitCode
As Long)

Public Declare PtrSafe Function FileTimeToLocalFileTime Lib "kernel32"
(lpFileTime As FILETIME, lpLocalFileTime As FILETIME) As Long
Public Declare PtrSafe Function FileTimeToSystemTime Lib "kernel32"
(lpFileTime As FILETIME, lpSystemTime As SystemTime) As Long
Public Declare PtrSafe Function FindClose Lib "kernel32" (ByVal
hFindFile As LongPtr) As Long
Public Declare PtrSafe Function FindFirstFile Lib "kernel32" Alias
"FindFirstFileA" (ByVal lpFileName As String, lpFindFileData As
WIN32_FIND_DATA) As LongPtr
Public Declare PtrSafe Function FindNextFile Lib "kernel32" Alias
"FindNextFileA" (ByVal hFindFile As LongPtr, lpFindFileData As
WIN32_FIND_DATA) As Long
Public Declare PtrSafe Function FormatMessage Lib "kernel32" Alias
"FormatMessageA" (ByVal dwFlags As Long, lpSource As Any, ByVal
dwMessageId As Long, ByVal dwLanguageId As Long, ByVal lpBuffer As
String, ByVal nSize As Long, Arguments As LongPtr) As Long
Public Declare PtrSafe Function FreeLibrary Lib "kernel32" (ByVal
hLibModule As LongPtr) As Long

Public Declare PtrSafe Function GetCommandLine Lib "kernel32" Alias
"GetCommandLineA" () As String
Public Declare PtrSafe Function GetComputerName Lib "kernel32" Alias
"GetComputerNameA" (ByVal lpBuffer As String, nSize As Long) As Long
Public Declare PtrSafe Function GetDiskFreeSpace Lib "kernel32" Alias

```

```
"GetDiskFreeSpaceA" (ByVal lpRootPathName As String,  
lpSectorsPerCluster As Long, lpBytesPerSector As Long,  
lpNumberOfFreeClusters As Long, lpTotalNumberOfClusters As Long) As  
Long  
Public Declare PtrSafe Function GetDiskFreeSpaceEx Lib "kernel32" Alias  
"GetDiskFreeSpaceExA" (ByVal lpRootPathName As String,  
lpFreeBytesAvailableToCaller As Currency, lpTotalNumberOfBytes As  
Currency, lpTotalNumberOfFreeBytes As Currency) As Long 'Retrieves  
Drive Space Information  
  
Public Declare PtrSafe Function GetDriveType Lib "kernel32" Alias  
"GetDriveTypeA" (ByVal nDrive As String) As Long  
Public Declare PtrSafe Function GetEnvironmentVariable Lib "kernel32"  
Alias "GetEnvironmentVariableA" (ByVal lpName As String, ByVal lpBuffer  
As String, ByVal nSize As Long) As Long  
Public Declare PtrSafe Function GetExitCodeProcess Lib "kernel32"  
(ByVal hProcess As LongPtr, lpExitCode As Long) As Long  
Public Declare PtrSafe Function GetExitCodeThread Lib "kernel32" (ByVal  
hThread As LongPtr, lpExitCode As Long) As Long  
Public Declare PtrSafe Function GetFileAttributes Lib "kernel32" Alias  
"GetFileAttributesA" (ByVal lpFileName As String) As Long  
Public Declare PtrSafe Function GetFileTime Lib "kernel32" (ByVal hFile  
As LongPtr, lpCreationTime As FILETIME, lpLastAccessTime As FILETIME,  
lpLastWriteTime As FILETIME) As Long  
Public Declare PtrSafe Function FlushFileBuffers Lib "kernel32" (ByVal  
hFile As LongPtr) As Long  
Public Declare PtrSafe Function GetFullPathName Lib "kernel32" Alias  
"GetFullPathNameA" (ByVal lpFileName As String, ByVal nBufferLength As  
Long, ByVal lpBuffer As String, ByVal lpFilePart As String) As Long  
Public Declare PtrSafe Function GetLastError Lib "kernel32" () As Long  
'Retrieves last error information  
Public Declare PtrSafe Function GetLogicalDriveStrings Lib "kernel32"  
Alias "GetLogicalDriveStringsA" (ByVal nBufferLength As Long, ByVal  
lpBuffer As String) As Long  
'Retrieves the long path associated with the specified short path  
Public Declare PtrSafe Function GetLongPathNameA Lib "kernel32" (ByVal  
lpszShortPath As String, ByVal lpszLongPath As String, ByVal cchBuffer  
As Long) As Long  
Public Declare PtrSafe Function GetLongPathName Lib "kernel32" (ByVal  
lpszShortPath As String, ByVal lpszLongPath As String, ByVal cchBuffer  
As Long) As Long  
Public Declare PtrSafe Function GetModuleFileName Lib "kernel32" Alias  
"GetModuleFileNameA" (ByVal hModule As LongPtr, ByVal lpFileName As  
String, ByVal nSize As Long) As Long  
Public Declare PtrSafe Function GetModuleHandle Lib "kernel32" Alias  
"GetModuleHandleA" (ByVal lpModuleName As String) As LongPtr  
Public Declare PtrSafe Function GetPrivateProfileInt Lib "kernel32"  
Alias "GetPrivateProfileIntA" (ByVal lpApplicationName As String, ByVal  
lpKeyName As String, ByVal nDefault As Long, ByVal lpFileName As  
String) As Long  
Public Declare PtrSafe Function GetPrivateProfileString Lib "kernel32"
```



```

Alias "GetPrivateProfileStringA" (ByVal lpApplicationName As String,
ByVal lpKeyName As Any, ByVal lpDefault As String, ByVal
lpReturnedString As String, ByVal nSize As Long, ByVal lpFileName As
String) As Long
Public Declare PtrSafe Function GetProcAddress Lib "kernel32" (ByVal
hModule As LongPtr, ByVal lpProcName As String) As LongPtr
Public Declare PtrSafe Function GetShortPathName Lib "kernel32" Alias
"GetShortPathNameA" (ByVal lpszLongPath As String, ByVal lpszShortPath
As String, ByVal cchBuffer As Long) As Long
Public Declare PtrSafe Function GetSystemDirectory Lib "kernel32" Alias
"GetSystemDirectoryA" (ByVal lpBuffer As String, ByVal nSize As Long)
As Long
Public Declare PtrSafe Function GetTempFileName Lib "kernel32" Alias
"GetTempFileNameA" (ByVal lpszPath As String, ByVal lpPrefixString As
String, ByVal wUnique As Long, ByVal lpTempFileName As String) As Long
Public Declare PtrSafe Function GetTempPath Lib "kernel32" Alias
"GetTempPathA" (ByVal nBufferLength As Long, ByVal lpBuffer As String)
As Long
#If Win64 Then
Public Declare PtrSafe Function GetTickCount64 Lib "kernel32" () As
LongLong
#End If
Public Declare PtrSafe Function getTickCount Lib "kernel32" Alias
"GetTickCount" () As Long
Public Declare PtrSafe Function GetTimeZoneInformation Lib "kernel32"
(lpTimeZoneInformation As typTIME_ZONE_INFORMATION) As Long
Public Declare PtrSafe Function GetVersion Lib "kernel32" () As Long
Public Declare PtrSafe Function GetVersionEx Lib "kernel32" Alias
"GetVersionExA" (lpVersionInformation As OSVERSIONINFO) As Long
Public Declare PtrSafe Function GetVolumeInformation Lib "kernel32"
Alias "GetVolumeInformationA" (ByVal lpRootPathName As String, ByVal
lpVolumeNameBuffer As String, ByVal nVolumeNameSize As Long,
lpVolumeSerialNumber As Long, lpMaximumComponentLength As Long,
lpFileSystemFlags As Long, ByVal lpFileSystemNameBuffer As String,
ByVal nFileSystemNameSize As Long) As Long

'   Public Declare Function GetWinFlags Lib "kernel32" Alias
"GetWinFlagsA" () As Long
Public Declare PtrSafe Function GetWindowsDirectory Lib "kernel32"
Alias "GetWindowsDirectoryA" (ByVal lpBuffer As String, ByVal nSize As
Long) As Long
Public Declare PtrSafe Function GlobalAlloc Lib "kernel32" (ByVal
wFlags As Long, ByVal dwBytes As LongPtr) As LongPtr
Public Declare PtrSafe Function GlobalFree Lib "kernel32" (ByVal hMem
As LongPtr) As LongPtr
Public Declare PtrSafe Function GlobalHandle Lib "kernel32" (wMem As
Any) As LongPtr
Public Declare PtrSafe Function GlobalLock Lib "kernel32" (ByVal hMem
As LongPtr) As LongPtr
Public Declare PtrSafe Function GlobalReAlloc Lib "kernel32" (ByVal
hMem As LongPtr, ByVal dwBytes As LongPtr, ByVal wFlags As Long) As

```

LongPtr

Public Declare PtrSafe **Function** GlobalSize Lib "kernel32" (ByVal hMem As LongPtr) As LongPtr

Public Declare PtrSafe **Function** GlobalUnlock Lib "kernel32" (ByVal hMem As LongPtr) As Long

Public Declare PtrSafe **Function** GlobalFlags Lib "kernel32" (ByVal hMem As LongPtr) As Long

Public Declare PtrSafe **Function** LoadLibrary Lib "kernel32" Alias "LoadLibraryA" (ByVal lpLibFileName As String) As LongPtr

Public Declare PtrSafe **Function** LocalFileTimeToFileTime Lib "kernel32" (lpLocalFileTime As FILETIME, lpFileTime As FILETIME) As Long

Public Declare PtrSafe **Function** lstrcat Lib "kernel32" Alias "lstrcatA" (ByVal lpString1 As String, ByVal lpString2 As String) As LongPtr

Public Declare PtrSafe **Function** lstrcpyn Lib "kernel32" Alias "lstrcpynA" (ByVal lpString1 As String, ByVal lpString2 As String, ByVal iMaxLength As Long) As LongPtr

Public Declare PtrSafe **Function** lstrcpy Lib "kernel32" Alias "lstrcpyA" (ByVal lpString1 As String, ByVal lpString2 As String) As LongPtr

Public Declare PtrSafe **Function** lstrcmp Lib "kernel32" Alias "lstrcmpA" (ByVal lpString1 As String, ByVal lpString2 As String) As Long

Public Declare PtrSafe **Function** lstrcmpi Lib "kernel32" Alias "lstrcmpiA" (ByVal lpString1 As String, ByVal lpString2 As String) As Long

Public Declare PtrSafe **Function** lstrlen Lib "kernel32" Alias "lstrlenA" (ByVal lpString As String) As Long

Public Declare PtrSafe **Function** lstrlenW Lib "kernel32" (ByVal lpString As String) As Long

Public Declare PtrSafe **Function** OpenProcess Lib "kernel32" (ByVal dwDesiredAccess As Long, ByVal bInheritHandle As Long, ByVal dwProcessId As Long) As LongPtr

Public Declare PtrSafe **Function** QueryPerformanceFrequencyAny Lib "kernel32" Alias "QueryPerformanceFrequency" (lpFrequency As Any) As Long

Public Declare PtrSafe **Function** QueryPerformanceCounterAny Lib "kernel32" Alias "QueryPerformanceCounter" (lpPerformanceCount As Any) As Long

Public Declare PtrSafe **Function** ReadFile Lib "kernel32" (ByVal hFile As LongPtr, lpBuffer As Any, ByVal nNumberOfBytesToRead As Long, lpNumberOfBytesRead As Long, ByVal lpOverlapped As Long) As Long

Public Declare PtrSafe **Function** SetEnvironmentVariable Lib "kernel32" Alias "SetEnvironmentVariableA" (ByVal lpName As String, ByVal lpValue As String) As Long

' Declare PtrSafe Function SetFileTime Lib "kernel32" (ByVal hFile As LongPtr, lpCreationTime As FILETIME, lpLastAccessTime As FILETIME, lpLastWriteTime As FILETIME) As Long

Public Declare PtrSafe **Function** SetFileTime Lib "kernel32" (ByVal hFile

```

As LongPtr, lpCreationTime As Any, lpLastAccessTime As Any,
lpLastWriteTime As Any) As Long
Public Declare PtrSafe Function SetFileAttributes Lib "kernel32" Alias
"SetFileAttributesA" (ByVal lpFileName As String, ByVal
dwFileAttributes As Long) As Long
Public Declare PtrSafe Function SetVolumeLabel Lib "kernel32" Alias
"SetVolumeLabelA" (ByVal lpRootPathName As String, ByVal lpVolumeName
As String) As Long
Public Declare PtrSafe Function SystemTimeToFileTime Lib "kernel32"
(lpSystemTime As SystemTime, lpFileTime As FILETIME) As Long
Public Declare PtrSafe Function SystemTimeToTzSpecificLocalTime Lib
"kernel32" (lpTimeZoneInformation As typTIME_ZONE_INFORMATION,
lpUniversalTime As SystemTime, lpLocalTime As SystemTime) As Long

Public Declare PtrSafe Function WaitForSingleObject Lib "kernel32"
(ByVal hHandle As LongPtr, ByVal dwMilliseconds As Long) As Long
Public Declare PtrSafe Function WaitForInputIdle Lib "user32" (ByVal
hProcess As LongPtr, ByVal dwMilliseconds As Long) As Long
Public Declare PtrSafe Function WriteFile Lib "kernel32" (ByVal hFile
As LongPtr, lpBuffer As Any, ByVal nNumberOfBytesToWrite As Long,
lpNumberOfBytesWritten As Long, ByVal lpOverlapped As Long) As Long
Public Declare PtrSafe Function WritePrivateProfileString Lib
"kernel32" Alias "WritePrivateProfileStringA" (ByVal lpApplicationName
As String, ByVal lpKeyName As Any, ByVal lpString As Any, ByVal
lpFileName As String) As Long

Public Declare PtrSafe Sub CopyMemory Lib "kernel32" Alias
"RtlMoveMemory" (Destination As Any, Source As Any, ByVal Length As
Long)

Public Declare PtrSafe Sub CopyMemoryBV Lib "kernel32" Alias
"RtlMoveMemory" (ByVal lpDestination As Any, ByVal lpSource As Any,
ByVal Length As Long)
Public Declare PtrSafe Sub ExitProcess Lib "kernel32" (ByVal uExitCode
As Long)
Public Declare PtrSafe Sub GetLocalTime Lib "kernel32" (lpSystemTime As
SystemTime)
Public Declare PtrSafe Sub GetSystemTime Lib "kernel32" (lpSystemTime
As SystemTime)
Public Declare PtrSafe Sub GlobalMemoryStatus Lib "kernel32" (lpBuffer
As MEMORYSTATUS)
Public Declare PtrSafe Sub Sleep Lib "kernel32" (ByVal dwMilliseconds
As Long)

' ~~~~~
' Imports - User 32
' ~~~~~

Public Declare PtrSafe Function AttachThreadInput Lib "user32" (ByVal
idAttach As Long, ByVal idAttachTo As Long, ByVal fAttach As Long) As
Long

```

```
Public Declare PtrSafe Function BringWindowToTop Lib "user32" (ByVal  
hwnd As LongPtr) As Long  
  
Public Declare PtrSafe Function CloseClipboard Lib "user32" () As Long  
  
Public Declare PtrSafe Function EmptyClipboard Lib "user32" () As Long  
Public Declare PtrSafe Function EnumWindows Lib "user32" (ByVal  
lpEnumFunc As LongPtr, ByVal lParam As LongPtr) As Long  
  
Public Declare PtrSafe Function FindWindow Lib "user32" Alias  
"FindWindowA" (ByVal lpClassName As String, ByVal lpWindowName As  
String) As LongPtr  
Public Declare PtrSafe Function FindWindowEx Lib "user32" Alias  
"FindWindowExA" (ByVal hwnd1 As LongPtr, ByVal hwnd2 As LongPtr, ByVal  
lpsz1 As String, ByVal lpsz2 As String) As LongPtr  
Public Declare PtrSafe Function FlashWindow Lib "user32" (ByVal hwnd As  
LongPtr, ByVal bInvert As Long) As Long  
  
Public Declare PtrSafe Function GetActiveWindow Lib "user32" () As  
LongPtr  
Public Declare PtrSafe Function GetClassName Lib "user32" Alias  
"GetClassNameA" (ByVal hwnd As LongPtr, ByVal lpClassName As String,  
ByVal nMaxCount As Long) As Long  
' Public Declare PtrSafe Function GetClientRect Lib "user32" (ByVal  
hwnd As LongPtr, lpRect As RECT) As Long  
Public Declare PtrSafe Function GetClientRect Lib "user32" (ByVal hwnd  
As LongPtr, lpRect As Any) As Long  
Public Declare PtrSafe Function GetClipboardData Lib "user32" (ByVal  
wFormat As Long) As LongPtr  
Public Declare PtrSafe Function GetDC Lib "user32" (ByVal hwnd As  
LongPtr) As LongPtr  
Public Declare PtrSafe Function GetDesktopWindow Lib "user32" () As  
LongPtr  
Public Declare PtrSafe Function GetKeyboardState Lib "user32"  
(pbKeyState As Any) As Long  
Public Declare PtrSafe Function GetParent Lib "user32" (ByVal hwnd As  
LongPtr) As LongPtr  
Public Declare PtrSafe Function GetPriorityClipboardFormat Lib "user32"  
(lpPriorityList As Long, ByVal nCount As Long) As Long  
Public Declare PtrSafe Function GetSystemMetrics Lib "user32" (ByVal  
nIndex As Long) As Long  
Public Declare PtrSafe Function GetWindow Lib "user32" (ByVal hwnd As  
LongPtr, ByVal wCmd As Long) As LongPtr  
Public Declare PtrSafe Function GetWindowPlacement Lib "user32" (ByVal  
hwnd As LongPtr, lpwndpl As WINDOWPLACEMENT) As Long  
Public Declare PtrSafe Function GetWindowRect Lib "user32" (ByVal hwnd  
As LongPtr, lpRect As RECT) As Long  
Public Declare PtrSafe Function GetWindowText Lib "user32" Alias  
"GetWindowTextA" (ByVal hwnd As LongPtr, ByVal lpString As String,  
ByVal cch As Long) As Long
```

```
Public Declare PtrSafe Function GetWindowTextLength Lib "user32" Alias
"GetWindowTextLengthA" (ByVal hwnd As LongPtr) As Long
Public Declare PtrSafe Function GetWindowThreadProcessId Lib "user32"
(ByVal hwnd As LongPtr, lpdwProcessId As LongPtr) As LongPtr

Public Declare PtrSafe Function IsWindowVisible Lib "user32" (ByVal
hwnd As LongPtr) As Long
Public Declare PtrSafe Function IsZoomed Lib "user32" (ByVal hwnd As
LongPtr) As Long

Public Declare PtrSafe Function LockWindowUpdate Lib "user32" (ByVal
hwndLock As LongPtr) As Long

Public Declare PtrSafe Function MoveWindow Lib "user32" (ByVal hwnd As
LongPtr, ByVal x As Long, ByVal y As Long, ByVal nWidth As Long, ByVal
nHeight As Long, ByVal bRepaint As Long) As Long

Public Declare PtrSafe Function OpenClipboard Lib "user32" (ByVal hwnd
As LongPtr) As Long

Public Declare Function PostMessage Lib "user32" Alias "PostMessageA"
(ByVal hwnd As LongPtr, ByVal wParam As Long, ByVal lParam As Long) As Long

Public Declare PtrSafe Function ReleaseDC Lib "user32" (ByVal hwnd As
LongPtr, ByVal hdc As LongPtr) As Long

Public Declare PtrSafe Function SendMessage Lib "user32" Alias
"SendMessageA" (ByVal hwnd As LongPtr, ByVal wParam As Long, ByVal lParam
As LongPtr, lParam As Any) As LongPtr
Public Declare PtrSafe Function SetClipboardData Lib "user32" Alias
"SetClipboardDataA" (ByVal wFormat As Long, ByVal hMem As LongPtr) As
LongPtr
Public Declare PtrSafe Function SetFocusAPI Lib "user32" Alias
"SetFocus" (ByVal hwnd As LongPtr) As Long
Public Declare PtrSafe Function SetForegroundWindow Lib "user32" (ByVal
hwnd As LongPtr) As Long
Public Declare PtrSafe Function SetKeyboardState Lib "user32"
(lpPBKeyState As Any) As Long
Public Declare PtrSafe Function SetWindowPos Lib "user32" (ByVal hwnd
As LongPtr, ByVal hWndInsertAfter As LongPtr, ByVal x As Long, ByVal y
As Long, ByVal cx As Long, ByVal cy As Long, ByVal wFlags As Long) As
Long
Public Declare PtrSafe Function SetWindowText Lib "user32" Alias
"SetWindowTextA" (ByVal hwnd As LongPtr, ByVal lpString As String) As
Long
Public Declare PtrSafe Function ShowWindow Lib "user32" (ByVal hwnd As
LongPtr, ByVal nCmdShow As Long) As Long

Public Declare PtrSafe Function UpdateWindow Lib "user32" (ByVal hwnd
As LongPtr) As Long
```



```

Public Declare PtrSafe Function WinHelp Lib "user32" Alias "WinHelpA"
(ByVal hwnd As LongPtr, ByVal lpHelpFile As String, ByVal wCommand As
Long, ByVal dwData As LongPtr) As Long

#If Win64 Then
Public Declare PtrSafe Function GetWindowLongPtr Lib "user32" Alias
"GetWindowLongPtrA" (ByVal hwnd As LongPtr, ByVal nIndex As Long) As
LongPtr
Public Declare PtrSafe Function SetWindowLongPtr Lib "user32" Alias
"SetWindowLongPtrA" (ByVal hwnd As LongPtr, ByVal nIndex As Long, ByVal
dwNewLong As LongPtr) As LongPtr
Public Declare PtrSafe Function GetClassLongPtr Lib "user32" Alias
"GetClassLongPtrA" (ByVal hwnd As LongPtr, ByVal nIndex As Long) As
LongPtr
Public Declare PtrSafe Function SetClassLongPtr Lib "user32" Alias
"SetClassLongPtrA" (ByVal hwnd As LongPtr, ByVal nIndex As Long, ByVal
dwNewLong As LongPtr) As LongPtr
#Else
Public Declare PtrSafe Function GetWindowLongPtr Lib "user32" Alias
"GetWindowLongA" (ByVal hwnd As LongPtr, ByVal nIndex As Long) As
LongPtr
Public Declare PtrSafe Function SetWindowLongPtr Lib "user32" Alias
"SetWindowLongA" (ByVal hwnd As LongPtr, ByVal nIndex As Long, ByVal
dwNewLong As LongPtr) As LongPtr
Public Declare PtrSafe Function GetClassLongPtr Lib "user32" Alias
"GetClassLongA" (ByVal hwnd As LongPtr, ByVal nIndex As Long) As
LongPtr
Public Declare PtrSafe Function SetClassLongPtr Lib "user32" Alias
"SetClassLongA" (ByVal hwnd As LongPtr, ByVal nIndex As Long, ByVal
dwNewLong As LongPtr) As LongPtr
#End If

'Help Constants
'Public Const HELP_CONTEXT = &H1           'Display topic in ulTopic
'Public Const HELP_QUIT = &H2              'Terminate help
'Public Const HELP_INDEX = &H3             'Display index
'Public Const HELP_CONTENTS = &H3
'Public Const HELP_HELPONHELP = &H4        'Display help on using help
'Public Const HELP_SETINDEX = &H5          'Set the current Index for
multi index help
'Public Const HELP_SETCONTENTS = &H5
'Public Const HELP_CONTEXTPOPUP = &H8
'Public Const HELP_FORCEFILE = &H9
'Public Const HELP_KEY = &H101             'Display topic for keyword
'Public Const HELP_COMMAND = &H102
'Public Const HELP_PARTIALKEY = &H105      'call the search engine in
winhelp

' ~~~~~
' Types / Structures

```



```

' ~~~~~
'
'  Only GDI+1.1:
'
Public Type BlurParameters
    Radius                As Single
    ExpandEdges           As Long
End Type

Public Type FILETIME
    dwLowDate             As Long
    dwHighDate            As Long
End Type

Public Type GDIPStartupInput
    GdiplusVersion        As Long
    DebugEventCallback     As Long
    SuppressBackgroundThread As Long
    SuppressExternalCodecs As Long
End Type

Public Type HOSTENT
    hName                 As Long
    hAliases               As Long
    hAddrType              As Integer
    hLen                   As Integer
    hAddrList              As Long
End Type

'
'  This structure describes the options that will be included in the
'  header of an IP packet.
'  http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcetcip/htm/cerefIP\_OPTION\_INFORMATION.asp
'
Public Type IP_OPTION_INFORMATION
    Ttl                As Byte
    Tos                As Byte
    Flags              As Byte
    OptionsSize        As Byte
    OptionsData        As Long
End Type

'
'  This structure describes the data that is returned in response to
'  an echo request.
'  http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesdkr/htm/\_wcesdk\_icmp\_echo\_reply.asp
'

```

```
Public Type ICMP_ECHO_REPLY
    Address           As Long
    Status            As Long
    RoundTripTime     As Long
    DataSize          As Long
    Reserved          As Integer
    ptrData           As Long
    Options           As IP_OPTION_INFORMATION
    Data              As String * 250
End Type

Public Type ICMP_OPTIONS
    Ttl               As Byte
    Tos               As Byte
    Flags             As Byte
    OptionsSize       As Byte
    OptionsData       As Long
End Type

Public Type INTERNET_CONNECTED_INFO
    dwConnectedState  As Long
    dwFlags           As Long
End Type

Public Type MEMORYSTATUS
    dwLength          As Long
    dwMemoryLoad      As Long
    dwTotalPhys       As Long
    dwAvailPhys       As Long
    dwTotalPageFile   As Long
    dwAvailPageFile   As Long
    dwTotalVirtual    As Long
    dwAvailVirtual    As Long
End Type

Public Type POINTAPI
    x                 As Long
    y                 As Long
End Type

Public Type POINTL
    x                 As Long
    y                 As Long
End Type

Public Type PROCESS_INFORMATION
    hProcess          As LongPtr
    hThread           As LongPtr
    dwProcessId       As Long
    dwThreadId        As Long
```

End Type

Public Type RECT

Left	As Long
Top	As Long
Right	As Long
Bottom	As Long

End Type

Public Type STARTUPINFO

Cb	As Long
lpReserved	As String
lpDesktop	As String
lpTitle	As String
dwX	As Long
dwY	As Long
dwXSize	As Long
dwYSize	As Long
dwXCountChars	As Long
dwYCountChars	As Long
dwFillAttribute	As Long
dwFlags	As Long
wShowWindow	As Integer
cbReserved2	As Integer
lpReserved2	As LongPtr
hStdInput	As LongPtr
hStdOutput	As LongPtr
hStdError	As LongPtr

End Type

Public Type WINDOWPLACEMENT

Length	As Long
Flags	As Long
showCmd	As Long
ptMinPosition	As POINTAPI
ptMaxPosition	As POINTAPI
rcNormalPosition	As RECT

End Type

Public Type SYSHEAPINFO

dwSize	As Long
wUserFreePercent	As Integer
wGDIFreePercent	As Integer
hUserSegment	As Integer
hGDIsegment	As Integer

End Type

Public Type OSVERSIONINFO

dwOSVersionInfoSize	As Long
dwMajorVersion	As Long
dwMinorVersion	As Long

```
    dwBuildNumber           As Long
    dwPlatformId            As Long
    szCSDVersion            As String * 128      ' Maintenance
string for PSS usage
End Type

Public Type OSVERSIONINFOEX
    dwOSVersionInfoSize    As Long
    dwMajorVersion         As Long
    dwMinorVersion         As Long
    dwBuildNumber          As Long
    dwPlatformId           As Long
    szCSDVersion           As String * 128      ' Maintenance
string for PSS usage
    wServicePackMajor      As Integer
    wServicePackMinor      As Integer
    wSuiteMask             As Integer
    wProductType           As Byte
    wReserved              As Byte
End Type

Public Type PICTDESC
    cbSizeOfStruct         As Long
    PicType                As Long
    hImage                 As Long
    xExt                   As Long
    yExt                   As Long
End Type

'Only GDI+1.1:

Public Type SharpenParameters
    Radius                 As Single
    Amount                 As Single
End Type

Public Type TSize
    x                     As Double
    y                     As Double
End Type

Public Type SECURITY_ATTRIBUTES
    nLength                As Long
    lpSecurityDescriptor   As LongPtr
    bInheritHandle        As Long
End Type

'
'   Structure contains version information about a file.
'   (This information is language and code page independent.)
```

Public Type VS_FIXEDFILEINFO

```

    dwSignature                As Long      'Contains the value
0xFEEF04BD (szKey)
    dwStrucVersion              As Long      'Specifies the binary
version number of this structure.
    dwFileVersionMS             As Long      'most significant 32
bits of the file's binary version number.
    dwFileVersionLS             As Long      'least significant 32
bits of the file's binary version number.
    dwProductVersionLS          As Long      'most sig. 32 bits of
binary version of product this file was distributed with.
    dwFileFlagsMask             As Long      'least sig. 32 bits of
binary version of product this file was distributed with.
    dwProductVersionMS          As Long      'Contains a bitmask that
specifies the valid bits in dwFileFlags.
    dwFileFlags                 As Long      'Contains a bitmask that
specifies the Boolean attributes of the file.
    dwFileOS                    As Long      'operating system for
which this file was designed.
    dwFileType                  As Long      'general type of file.
    dwFileSubtype                As Long      'function of the file.
    dwFileDateMS                As Long      'most sig. 32 bits of
the file's 64-bit binary creation date and time stamp.
    dwFileDateLS                As Long      'least sig. 32 bits of
the file's 64-bit binary creation date and time stamp.

```

End Type**Public Type** typUUID

'GUID

```

    Data1                      As Long
    Data2                      As Integer
    Data3                      As Integer
    Data4(7)                   As Byte

```

End Type

```

' Note that although Variants now have
' a VT_GUID type, this type is unsupported in VBA,
' so we must define our own here that will have the same
' binary layout as all GUIDs are expected by COM to
' have.
'

```

Public Type GUID

```

    Data1                      As Long
    Data2                      As Integer
    Data3                      As Integer
    Data4(7)                   As Byte      ' 0 to 7 (8 Bytes)

```

End Type**Public Type** EncoderParameter

```
    UUID                                As GUID
    NumberOfValues                      As Long

Type
    Value                              As Long
End Type

Public Type EncoderParameters
    Count                              As Long
    Parameter                          As EncoderParameter
End Type

Public Type WSADATA
    wVersion                           As Integer
    wHighVersion                       As Integer
    szDescription(0 To MAX_WSADescription) As Byte
    szSystemStatus(0 To MAX_WSASYSStatus) As Byte
    wMaxSockets                        As Integer
    wMaxUDPDG                          As Integer
    dwVendorInfo                       As Long
End Type

Public Type SystemTime
    wYear                              As Integer
    wMonth                             As Integer
    wDayOfWeek                         As Integer
    wDay                               As Integer
    wHour                             As Integer
    wMinute                           As Integer
    wSecond                           As Integer
    wMilliseconds                      As Integer
End Type

Public Type TIME_ZONE_INFORMATION
    bias                              As Long
    StandardName(0 To 31)             As Integer
    StandardDate                      As SystemTime
    StandardBias                      As Long
    DaylightName(0 To 31)             As Integer
    DaylightDate                      As SystemTime
    DaylightBias                      As Long
End Type

Public Type typTIME_ZONE_INFORMATION
    bias                              As Long
    StandardName(0 To 63)             As Byte
    StandardDate                      As SystemTime
    StandardBias                      As Long
    DaylightName(0 To 63)             As Byte
    DaylightDate                      As SystemTime
```



```

    DaylightBias                As Long
End Type

Public Type WIN32_FIND_DATA
    dwFileAttributes            As Long
    ftCreationTime              As FILETIME
    ftLastAccessTime           As FILETIME
    ftLastWriteTime            As FILETIME
    nFileSizeHigh              As Long
    nFileSizeLow               As Long
    dwReserved0                As Long
    dwReserved1                As Long
    cFileName(0 To MAX_PATH - 1) As Byte
    cAlternate(0 To 13)        As Byte
End Type

Public Enum ERegistryClassConstants
    HKEY_CLASSES_ROOT = &H80000000
    HKEY_CURRENT_USER = &H80000001
    HKEY_LOCAL_MACHINE = &H80000002
    HKEY_USERS = &H80000003
    HKEY_PERFORMANCE_DATA = &H80000004
    HKEY_CURRENT_CONFIG = &H80000005
    HKEY_DYN_DATA = &H80000006
End Enum

'/////////////////////////////////////////////////////////////////
'
//
'           Registry API Constants
//
'
'/////////////////////////////////////////////////////////////////

' Reg Create Type Values...
Public Const REG_OPTION_RESERVED = 0           ' Parameter is reserved
Public Const REG_OPTION_NON_VOLATILE = 0        ' Key is preserved when
system is rebooted
Public Const REG_OPTION_VOLATILE = 1            ' Key is not preserved when
system is rebooted
Public Const REG_OPTION_CREATE_LINK = 2         ' Created key is a symbolic
link
Public Const REG_OPTION_BACKUP_RESTORE = 4      ' open for backup or
restore

' Reg Data Types...
Public Const REG_NONE = 0                      ' No value type
Public Const REG_INVALID As Long = -1&
Public Const REG_SZ = 1                        ' Unicode nul terminated

```

```

string
Public Const REG_EXPAND_SZ = 2           ' Unicode nul terminated
string
Public Const REG_BINARY = 3             ' Free form binary
Public Const REG_DWORD = 4              ' 32-bit number
Public Const REG_DWORD_LITTLE_ENDIAN = 4 ' 32-bit number (same as
REG_DWORD)
Public Const REG_DWORD_BIG_ENDIAN = 5   ' 32-bit number
Public Const REG_LINK = 6                ' Symbolic Link (unicode)
Public Const REG_MULTI_SZ = 7           ' Multiple Unicode strings
Public Const REG_RESOURCE_LIST = 8       ' Resource list in the
resource map
Public Const REG_FULL_RESOURCE_DESCRIPTOR = 9 ' Resource list in the
hardware description
Public Const REG_RESOURCE_REQUIREMENTS_LIST = 10
Public Const REG_CREATED_NEW_KEY = &H1   ' New Registry Key created
Public Const REG_OPENED_EXISTING_KEY = &H2 ' Existing Key opened
Public Const REG_WHOLE_HIVE_VOLATILE = &H1 ' Restore whole hive
volatile
Public Const REG_REFRESH_HIVE = &H2       ' Unwind changes to last
flush
Public Const REG_NOTIFY_CHANGE_NAME = &H1 ' Create or delete (child)
Public Const REG_NOTIFY_CHANGE_ATTRIBUTES = &H2
Public Const REG_NOTIFY_CHANGE_LAST_SET = &H4 ' Time stamp
Public Const REG_NOTIFY_CHANGE_SECURITY = &H8
Public Const REG_LEGAL_CHANGE_FILTER = (REG_NOTIFY_CHANGE_NAME Or
REG_NOTIFY_CHANGE_ATTRIBUTES Or REG_NOTIFY_CHANGE_LAST_SET Or
REG_NOTIFY_CHANGE_SECURITY)
Public Const REG_LEGAL_OPTION = (REG_OPTION_RESERVED Or
REG_OPTION_NON_VOLATILE Or REG_OPTION_VOLATILE Or
REG_OPTION_CREATE_LINK Or REG_OPTION_BACKUP_RESTORE)

#If True Then                               ' Protect Enums from case
changes in the IDE
Public Enum ERegistryValueTypes
    'Predefined Value Types
    eREG_NONE = REG_NONE                    'No value type
    eReg_SZ = REG_SZ                        'Unicode nul terminated
string
    eREG_EXPAND_SZ = REG_EXPAND_SZ          'Unicode nul terminated
string w/enviornment var
    eREG_BINARY = REG_BINARY                'Free form binary
    eREG_DWORD = REG_DWORD                  '32-bit number
    eREG_DWORD_LITTLE_ENDIAN = REG_DWORD_LITTLE_ENDIAN '32-bit number
(same as REG_DWORD)
    eREG_DWORD_BIG_ENDIAN = REG_DWORD_BIG_ENDIAN '32-bit number
    eREG_LINK = REG_LINK                    'Symbolic Link (unicode)
    eREG_MULTI_SZ = REG_MULTI_SZ            'Multiple Unicode strings
    eREG_RESOURCE_LIST = REG_RESOURCE_LIST 'Resource list in the
resource map
    eREG_FULL_RESOURCE_DESCRIPTOR = REG_FULL_RESOURCE_DESCRIPTOR

```

```

'Resource list in the hardware description
    eREG_RESOURCE_REQUIREMENTS_LIST = REG_RESOURCE_REQUIREMENTS_LIST
    eREG_INVALID = REG_INVALID
End Enum
#End If

Public Type ACL
    AclRevision           As Byte
    Sbz1                  As Byte
    AclSize                As Integer
    AceCount              As Integer
    Sbz2                  As Integer
End Type

' typedef ACL *PACL;

' end_ntddk

' The structure of an ACE is a common ace header followed by ace type
' specific data. Pictorally the structure of the common ace header
is
' as follows:

' AceType denotes the type of the ace, there are some predefined ace
' types
'
' AceSize is the size, in bytes, of ace.
'
' AceFlags are the Ace flags for audit and inheritance, defined
Integerly.

Public Type ACE_HEADER
    AceType               As Byte
    AceFlags              As Byte
    AceSize               As Integer
End Type

'
' We'll define the structure of the predefined ACE types. Pictorally
' the structure of the predefined ACE's is as follows:

' Mask is the access mask associated with the ACE. This is either
the
' access allowed, access denied, audit, or alarm mask.
'
' Sid is the Sid associated with the ACE.
'
' The following are the four predefined ACE types.
' Examine the AceType field in the Header to determine

```

```
' which structure is appropriate to use for casting.

Public Type ACCESS_ALLOWED_ACE
    Header As ACE_HEADER
    mask As Long
    SidStart As Long
End Type

Public Type ACCESS_DENIED_ACE
    Header As ACE_HEADER
    mask As Long
    SidStart As Long
End Type

Public Type SYSTEM_AUDIT_ACE
    Header As ACE_HEADER
    mask As Long
    SidStart As Long
End Type

Public Type SYSTEM_ALARM_ACE
    Header As ACE_HEADER
    mask As Long
    SidStart As Long
End Type

' The following declarations are used for setting and querying
information
' about and ACL. First are the various information classes available
to
' the user.
'

Public Const AclRevisionInformation = 1
Public Const AclSizeInformation = 2
'
' This record is returned/sent if the user is requesting/setting the
' AclRevisionInformation
'

Public Type ACL_REVISION_INFORMATION
    AclRevision As Long
End Type

'
' This record is returned if the user is requesting
AclSizeInformation
'
```

Public Type ACL_SIZE_INFORMATION

AceCount As Long
 AclBytesInUse As Long
 AclBytesFree As Long

End Type

```
' // Begin SHGetFileInfo
```

```
' * The SHGetFileInfo API provides an easy way to get attributes
' * for a file given a pathname.
```

```
' *
```

```
' * PARAMETERS
```

```
' *
```

```
' * pszPath file name to get info about
' * dwFileAttributes file attribs, only used with
```

```
SHGFI_USEFILEATTRIBUTES
```

```
' * psfi place to return file info
' * cbFileInfo size of structure
' * uFlags flags
```

```
' *
```

```
' * RETURN
```

```
' * TRUE if things worked
```

```
' */
```

Public Type SHFILEINFO

hIcon As LongPtr ' out: icon
 iIcon As Long ' out: icon index
 dwAttributes As Long ' out: SFGAO_ flags
 szDisplayName(0 To MAX_PATH - 1) As Byte ' out: display name
 (or path)
 szTypeName(0 To 79) As Byte ' out: type name

End Type**Public Type** SHFILEOPSTRUCT

hwnd As LongPtr
 wFunc As Long
 pFrom As String
 pTo As String
 fFlags As Integer
 fAnyOperationsAborted As Long
 hNameMappings As LongPtr
 lpszProgressTitle As String ' only used if

```
FOF_SIMPLEPROGRESS
```

End Type

```
'
```

```
////////////////////////////////////
```

```
'
```

```
//
```

```
'
```

```
SECURITY_DESCRIPTOR
```

```
//
```

```
'
```

```
//
```


the security descriptor. This may affect the treatment of the SID with respect to inheritance of a primary group.

SE_DACL_PRESENT - This boolean flag, when set, indicates that the security descriptor contains a discretionary ACL. If this flag is set and the Dacl field of the SECURITY_DESCRIPTOR is null, then a null ACL is explicitly being specified.

SE_DACL_DEFAULTED - This boolean flag, when set, indicates that the ACL pointed to by the Dacl field was provided by a defaulting mechanism rather than explicitly provided by the original provider of the security descriptor. This may affect the treatment of the ACL with respect to inheritance of an ACL. This flag is ignored if the DaclPresent flag is not set.

SE_SACL_PRESENT - This boolean flag, when set, indicates that the security descriptor contains a system ACL pointed to by the Sacl field. If this flag is set and the Sacl field of the SECURITY_DESCRIPTOR is null, then an empty (but present) ACL is being specified.

SE_SACL_DEFAULTED - This boolean flag, when set, indicates that the ACL pointed to by the Sacl field was provided by a defaulting mechanism rather than explicitly provided by the original provider of the security descriptor. This may affect the treatment of the ACL with respect to inheritance of an ACL. This flag is ignored if the SaclPresent flag is not set.

SE_SELF_RELATIVE - This boolean flag, when set, indicates that the security descriptor is in self-relative form. In this form, all fields of the security descriptor are contiguous in memory and all pointer fields are expressed as offsets from the beginning of the security descriptor. This form is useful for treating security descriptors as opaque data structures for transmission in communication protocol or for storage on secondary media.

In general, this data structure should be treated opaquely to ensure

```
future
' compatibility.
'
'
```

Public Type SECURITY_DESCRIPTOR

```
Revision           As Byte
Sbz1               As Byte
Control            As Integer
Owner              As LongPtr
Group              As LongPtr
Sacl               As ACL
Dacl               As ACL
```

End Type

```
' Where:
```

```
' Revision - Contains the revision level of the security
' descriptor. This allows this structure to be passed between
' systems or stored on disk even though it is expected to
' change in the future.
```

```
' Control - A set of flags which qualify the meaning of the
' security descriptor or individual fields of the security
' descriptor.
```

```
' Owner - is a pointer to an SID representing an object's owner.
' If this field is null, then no owner SID is present in the
' security descriptor. If the security descriptor is in
' self-relative form, then this field contains an offset to
' the SID, rather than a pointer.
```

```
' Group - is a pointer to an SID representing an object's primary
' group. If this field is null, then no primary group SID is
' present in the security descriptor. If the security
```

```
descriptor
```

```
' is in self-relative form, then this field contains an offset
to
' the SID, rather than a pointer.
```

```
' Sacl - is a pointer to a system ACL. This field value is only
' valid if the DaclPresent control flag is set. If the
' SaclPresent flag is set and this field is null, then a null
' ACL is specified. If the security descriptor is in
' self-relative form, then this field contains an offset to
' the ACL, rather than a pointer.
```

```
' Dacl - is a pointer to a discretionary ACL. This field value is
' only valid if the DaclPresent control flag is set. If the
' DaclPresent flag is set and this field is null, then a null
```

```

'         ACL (unconditionally granting access) is specified. If the
'         security descriptor is in self-relative form, then this
field
'         contains an offset to the ACL, rather than a pointer.
'
'~~~~~
'   Enumerations
'~~~~~

#If True Then                                '   Protect Enums from case
changes in the IDE
Public Enum EShellShowConstants
    essSW_Hide = 0
    essSW_MAXIMIZE = 3
    essSW_MINIMIZE = 6
    essSW_SHOWMAXIMIZED = 3
    essSW_SHOWMINIMIZED = 2
    essSW_SHOWNORMAL = 1
    essSW_SHOWNOACTIVATE = 4
    essSW_SHOWNA = 8
    essSW_SHOWMINNOACTIVE = 7
    essSW_SHOWDEFAULT = 10
    essSW_RESTORE = 9
    essSW_SHOW = 5
End Enum

Public Enum ShellAndWaitResult
    Success = 0
    Failure = 1
    TimeOut = 2
    InvalidParameter = 3
    SysWaitAbandoned = 4
    UserWaitAbandoned = 5
    UserBreak = 6
End Enum

Public Enum ActionOnBreak
    IgnoreBreak = 0
    AbandonWait = 1
    PromptUser = 2
End Enum

Public Enum PicFileType
    pictypeBMP = 1
    pictypeGIF = 2
    pictypePNG = 3
    pictypeJPG = 4
End Enum

```

```

'   RGB Color Constants RGB(R,G,B) = Long(&HBBGGRR)
'
Public Enum eColorPalette
    Aqua = &HFFFF00
    Black = &H0
    Blue = &HFF0000
    Gray = &HC0C0C0
    Green = &HFF00
    Manila = &HA0FFFF
    PaleAqua = &HFFFFA0
    Red = &HFF
    White = &HFFFFFF
    Yellow = &HC0C0
End Enum
#End If
'
'   API declarations.

' *****
'End user functions
' *****
#Else
'   Use _WindowsAPI
#End If

```

WindowsAPI7B

[_WindowsApi7B.bas](#)

```

'
'   [_WindowsAPI7B]
'
Option Compare Database
Option Explicit
#If VBA7 Then

' ~~~~~
'   Imports - AdvAPI 32
' ~~~~~

Public Declare PtrSafe Function GetUserName Lib "advapi32.dll" Alias
    "GetUserNameA" (ByVal lpBuffer As String, nSize As Long) As Long
Public Declare PtrSafe Function GetUserNameW Lib "advapi32.dll"
    (lpBuffer As Byte, nSize As Long) As Long
Public Declare PtrSafe Function RegCloseKey Lib "advapi32.dll" (ByVal
    hKey As LongPtr) As Long
Public Declare PtrSafe Function RegConnectRegistry Lib "advapi32.dll"

```

```
Alias "RegConnectRegistryA" (ByVal lpMachineName As String, ByVal hKey As LongPtr, phkResult As LongPtr) As Long
Public Declare PtrSafe Function RegCreateKey Lib "advapi32.dll" Alias "RegCreateKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String, phkResult As LongPtr) As Long
Public Declare PtrSafe Function RegCreateKeyEx Lib "advapi32.dll" Alias "RegCreateKeyExA" (ByVal hKey As LongPtr, ByVal lpSubKey As String, ByVal Reserved As Long, ByVal lpClass As String, ByVal dwOptions As Long, ByVal samDesired As Long, lpSecurityAttributes As SECURITY_ATTRIBUTES, phkResult As LongPtr, lpdwDisposition As Long) As Long
Public Declare PtrSafe Function RegDeleteKey Lib "advapi32.dll" Alias "RegDeleteKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String) As Long
Public Declare PtrSafe Function RegDeleteValue Lib "advapi32.dll" Alias "RegDeleteValueA" (ByVal hKey As LongPtr, ByVal lpValueName As String) As Long
Public Declare PtrSafe Function RegEnumKey Lib "advapi32.dll" Alias "RegEnumKeyA" (ByVal hKey As LongPtr, ByVal dwIndex As Long, ByVal lpName As String, ByVal cbName As Long) As Long
Public Declare PtrSafe Function RegEnumKeyEx Lib "advapi32.dll" Alias "RegEnumKeyExA" (ByVal hKey As LongPtr, ByVal dwIndex As Long, ByVal lpName As String, lpcbName As Long, ByVal lpReserved As LongPtr, ByVal lpClass As String, lpcbClass As Long, lpftLastWriteTime As FILETIME) As Long
Public Declare PtrSafe Function RegQueryValueExString Lib "advapi32.dll" Alias "RegQueryValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal lpReserved As LongPtr, lpType As Long, ByVal lpData As String, lpcbData As Long) As Long
Public Declare PtrSafe Function RegQueryValueExLong Lib "advapi32.dll" Alias "RegQueryValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal lpReserved As LongPtr, lpType As Long, lpData As Long, lpcbData As Long) As Long
Public Declare PtrSafe Function RegQueryValueExByte Lib "advapi32" Alias "RegQueryValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal lpReserved As LongPtr, ByRef lpType As Long, szData As Byte, ByRef lpcbData As Long) As Long
Public Declare PtrSafe Function RegQueryValueExNULL Lib "advapi32.dll" Alias "RegQueryValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal lpReserved As LongPtr, lpType As Long, ByVal lpData As Long, lpcbData As Long) As Long
Public Declare PtrSafe Function RegSetValueExString Lib "advapi32.dll" Alias "RegSetValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal Reserved As Long, ByVal dwType As Long, ByVal lpValue As String, ByVal cbData As Long) As Long
Public Declare PtrSafe Function RegSetValueExLong Lib "advapi32.dll" Alias "RegSetValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String, ByVal Reserved As Long, ByVal dwType As Long, lpValue As Long, ByVal cbData As Long) As Long
Public Declare PtrSafe Function RegSetValueExByte Lib "advapi32" Alias "RegSetValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String,
```

```
ByVal lpReserved As LongPtr, ByVal dwType As Long, szData As Byte,
ByVal cbData As Long) As Long
```

```
' From API Documentation:
```

```
' Declare PtrSafe Function RegEnumValue Lib "advapi32.dll" Alias
"RegEnumValueA" (ByVal hKey As LongPtr, ByVal dwIndex As Long, ByVal
lpValueName As String, lpcbValueName As Long, ByVal lpReserved As
LongPtr, lpType As Long, lpData As Byte, lpcbData As Long) As Long
```

```
' Corrected below:
```

```
Public Declare PtrSafe Function RegEnumValue Lib "advapi32.dll" Alias
"RegEnumValueA" (ByVal hKey As LongPtr, ByVal dwIndex As Long, ByVal
lpValueName As String, lpcbValueName As Long, ByVal lpReserved As
LongPtr, ByVal lpType As Long, ByVal lpData As Long, ByVal lpcbData As
Long) As Long
```

```
' Calls from above are made TypeSafe within the registry class
'
```

```
Public Declare PtrSafe Function RegFlushKey Lib "advapi32.dll" (ByVal
hKey As LongPtr) As Long
```

```
Public Declare PtrSafe Function RegGetKeySecurity Lib "advapi32.dll"
(ByVal hKey As LongPtr, ByVal SecurityInformation As Long,
pSecurityDescriptor As SECURITY_DESCRIPTOR, lpcbSecurityDescriptor As
Long) As Long
```

```
Public Declare PtrSafe Function RegLoadKey Lib "advapi32.dll" Alias
"RegLoadKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String, ByVal
lpFile As String) As Long
```

```
Public Declare PtrSafe Function RegNotifyChangeKeyValue Lib
"advapi32.dll" (ByVal hKey As LongPtr, ByVal bWatchSubtree As Long,
ByVal dwNotifyFilter As Long, ByVal hEvent As LongPtr, ByVal
fAsynchronous As Long) As Long
```

```
Public Declare PtrSafe Function RegOpenKey Lib "advapi32.dll" Alias
"RegOpenKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String,
phkResult As LongPtr) As Long
```

```
Public Declare PtrSafe Function RegOpenKeyEx Lib "advapi32.dll" Alias
"RegOpenKeyExA" (ByVal hKey As LongPtr, ByVal lpSubKey As String, ByVal
ulOptions As Long, ByVal samDesired As Long, phkResult As LongPtr) As
Long
```

```
Public Declare PtrSafe Function RegQueryInfoKey Lib "advapi32.dll"
Alias "RegQueryInfoKeyA" (ByVal hKey As LongPtr, ByVal lpClass As
String, lpcbClass As Long, ByVal lpReserved As LongPtr, lpcSubKeys As
Long, lpcbMaxSubKeyLen As Long, lpcbMaxClassLen As Long, lpcValues As
Long, lpcbMaxValueNameLen As Long, lpcbMaxValueLen As Long,
lpcbSecurityDescriptor As Long, lpftLastWriteTime As FILETIME) As Long
```

```
Public Declare PtrSafe Function RegQueryValue Lib "advapi32.dll" Alias
"RegQueryValueA" (ByVal hKey As LongPtr, ByVal lpSubKey As String,
ByVal lpValue As String, lpcbValue As Long) As Long
```

```
Public Declare PtrSafe Function RegQueryValueEx Lib "advapi32.dll"
Alias "RegQueryValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As
String, ByVal lpReserved As LongPtr, lpType As Long, lpData As Any,
lpcbData As Long) As Long ' Note that if you declare the lpData
parameter as String, you must pass it By Value.
```



```
Public Declare PtrSafe Function RegReplaceKey Lib "advapi32.dll" Alias
"RegReplaceKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String,
ByVal lpNewFile As String, ByVal lpOldFile As String) As Long
Public Declare PtrSafe Function RegRestoreKey Lib "advapi32.dll" Alias
"RegRestoreKeyA" (ByVal hKey As LongPtr, ByVal lpFile As String, ByVal
dwFlags As Long) As Long
Public Declare PtrSafe Function RegSaveKey Lib "advapi32.dll" Alias
"RegSaveKeyA" (ByVal hKey As LongPtr, ByVal lpFile As String,
lpSecurityAttributes As SECURITY_ATTRIBUTES) As Long
Public Declare PtrSafe Function RegSetKeySecurity Lib "advapi32.dll"
(ByVal hKey As LongPtr, ByVal SecurityInformation As Long,
pSecurityDescriptor As SECURITY_DESCRIPTOR) As Long
Public Declare PtrSafe Function RegSetValue Lib "advapi32.dll" Alias
"RegSetValueA" (ByVal hKey As LongPtr, ByVal lpSubKey As String, ByVal
dwType As Long, ByVal lpData As String, ByVal cbData As Long) As Long
Public Declare PtrSafe Function RegSetValueEx Lib "advapi32.dll" Alias
"RegSetValueExA" (ByVal hKey As LongPtr, ByVal lpValueName As String,
ByVal Reserved As Long, ByVal dwType As Long, lpData As Any, ByVal
cbData As Long) As Long      ' Note that if you declare the lpData
parameter as String, you must pass it By Value.
Public Declare PtrSafe Function RegUnLoadKey Lib "advapi32.dll" Alias
"RegUnLoadKeyA" (ByVal hKey As LongPtr, ByVal lpSubKey As String) As
Long
Public Declare PtrSafe Function InitiateSystemShutdown Lib
"advapi32.dll" Alias "InitiateSystemShutdownA" (ByVal lpMachineName As
String, ByVal lpMessage As String, ByVal dwTimeout As Long, ByVal
bForceAppsClosed As Long, ByVal bRebootAfterShutdown As Long) As Long
Public Declare PtrSafe Function AbortSystemShutdown Lib "advapi32.dll"
Alias "AbortSystemShutdownA" (ByVal lpMachineName As String) As Long

Public Declare PtrSafe Function LookupAccountName Lib "advapi32.dll"
Alias "LookupAccountNameA" (ByVal lpSystemName As String, ByVal
lpAccountName As String, ByVal Sid As LongPtr, cbSid As Long, ByVal
ReferencedDomainName As String, cbReferencedDomainName As Long, peUse
As Integer) As Long
Public Declare PtrSafe Function InitializeSecurityDescriptor Lib
"advapi32.dll" (pSecurityDescriptor As SECURITY_DESCRIPTOR, ByVal
dwRevision As Long) As Long
Public Declare PtrSafe Function GetSecurityDescriptorDacl Lib
"advapi32.dll" (pSecurityDescriptor As SECURITY_DESCRIPTOR,
lpbDaclPresent As Long, pDacl As ACL, lpbDaclDefaulted As Long) As Long
Public Declare PtrSafe Function GetFileSecurityN Lib "advapi32.dll"
Alias "GetFileSecurityA" (ByVal lpFileName As String, ByVal
RequestedInformation As Long, ByVal pSecurityDescriptor As Long, ByVal
nLength As Long, lpnLengthNeeded As Long) As Long
Public Declare PtrSafe Function GetFileSecurity Lib "advapi32.dll"
Alias "GetFileSecurityA" (ByVal lpFileName As String, ByVal
RequestedInformation As Long, pSecurityDescriptor As
SECURITY_DESCRIPTOR, ByVal nLength As Long, lpnLengthNeeded As Long) As
Long
Public Declare PtrSafe Function GetAclInformation Lib "advapi32.dll"
```

```

(pAcl As ACL, pAclInformation As Any, ByVal nAclInformationLength As
Long, ByVal dwAclInformationClass As Integer) As Long
Public Declare PtrSafe Function EqualSid Lib "advapi32.dll" (pSid1 As
Any, pSid2 As Any) As Long
Public Declare PtrSafe Function GetLengthSid Lib "advapi32.dll" (pSid
As Any) As Long
Public Declare PtrSafe Function InitializeAcl Lib "advapi32.dll" (pAcl
As ACL, ByVal nAclLength As Long, ByVal dwAclRevision As Long) As Long
Public Declare PtrSafe Function GetAce Lib "advapi32.dll" (pAcl As ACL,
ByVal dwAceIndex As Long, pAce As Any) As Long
Public Declare PtrSafe Function AddAce Lib "advapi32.dll" (pAcl As ACL,
ByVal dwAceRevision As Long, ByVal dwStartingAceIndex As Long, pAceList
As Any, ByVal nAceListLength As Long) As Long
Public Declare PtrSafe Function AddAccessAllowedAce Lib "advapi32.dll"
(pAcl As ACL, ByVal dwAceRevision As Long, ByVal AccessMask As Long,
pSid As Any) As Long
Public Declare PtrSafe Function AddAccessDeniedAce Lib "advapi32.dll"
(pAcl As Byte, ByVal dwAceRevision As Long, ByVal AccessMask As Long,
pSid As Byte) As Long
Public Declare PtrSafe Function SetSecurityDescriptorDacl Lib
"advapi32.dll" (pSecurityDescriptor As SECURITY_DESCRIPTOR, ByVal
bDaclPresent As Long, pDacl As ACL, ByVal bDaclDefaulted As Long) As
Long
Public Declare PtrSafe Function SetFileSecurity Lib "advapi32.dll"
Alias "SetFileSecurityA" (ByVal lpFileName As String, ByVal
SecurityInformation As Long, pSecurityDescriptor As
SECURITY_DESCRIPTOR) As Long

```

```

' ~~~~~
' Imports - Toolhelp.dll
' ~~~~~

```

```

Public Declare PtrSafe Function SystemHeapInfo Lib "ToolHelp.dll" (shi
As SYSHEAPINFO) As Long

```

```

' ~~~~~
' Imports - Ole Accessibility / Automation / Programmability
' ~~~~~

```

```

Public Declare PtrSafe Function AccessibleObjectFromWindow Lib "oleacc"
(ByVal hwnd As LongPtr, ByVal dwId As Long, ByRef riid As typUUID,
ByRef ppvObject As Object) As LongPtr
' Public Declare Function LoadTypeLibEx Lib "oleaut32.dll" (ByVal
szFile As Long, ByVal regkind As Long, pptlib As ITypeLib) As Long
Public Declare PtrSafe Function OleCreatePictureIndirect Lib
"olepro32.dll" (lpPictDesc As PICTDESC, riid As GUID, ByVal
fPictureOwnsHandle As LongPtr, ipic As IPicture) As LongPtr

```

```

' ~~~~~
' Imports - msvbvm60
' ~~~~~

Public Declare PtrSafe Function VarPtrArray Lib "msvbvm60.dll" Alias
"VarPtr" (ptr() As Any) As LongPtr

' ~~~~~
' Imports - GDI 32
' ~~~~~

Public Declare PtrSafe Function CreateBitmap Lib "gdi32" (ByVal nWidth
As Long, ByVal nHeight As Long, ByVal nPlanes As Long, ByVal nBitCount
As Long, lpBits As Any) As LongPtr
Public Declare PtrSafe Function CreateCompatibleDC Lib "gdi32" (ByVal
hdc As LongPtr) As LongPtr
Public Declare PtrSafe Function CreateSolidBrush Lib "gdi32" (ByVal
crColor As Long) As LongPtr
Public Declare PtrSafe Function DeleteDC Lib "gdi32" (ByVal hdc As
LongPtr) As Long
Public Declare PtrSafe Function DeleteObject Lib "gdi32" (ByVal hObject
As LongPtr) As Long
Public Declare PtrSafe Function GetDeviceCaps Lib "gdi32" (ByVal hdc As
LongPtr, ByVal nIndex As Long) As Long
Public Declare PtrSafe Function PatBlt Lib "gdi32" (ByVal hdc As
LongPtr, ByVal x As Long, ByVal y As Long, ByVal nWidth As Long, ByVal
nHeight As Long, ByVal dwRop As Long) As Long
Public Declare PtrSafe Function SelectObject Lib "gdi32" (ByVal hdc As
LongPtr, ByVal hObject As LongPtr) As LongPtr

' ~~~~~
' Imports - GDI+
' ~~~~~
'
' This requires a lot of work - stopped at GdipCreateBitmapFromHICON
'

Public Declare PtrSafe Function GdipBitmapApplyEffect Lib "gdiplus.dll"
(ByVal Image As Long, ByVal Effect As Long, ByVal roi As Long, ByVal
useAuxData As Long, ByVal auxData As Long, ByVal auxDataSize As Long)
As Long
Public Declare PtrSafe Function GdipCreateBitmapFromFile Lib
"gdiplus.dll" (ByVal Filename As LongPtr, bitmap As LongPtr) As LongPtr
Public Declare PtrSafe Function GdipCreateBitmapFromHBITMAP Lib
"gdiplus.dll" (ByVal hbm As LongPtr, ByVal hPal As LongPtr, bitmap As
LongPtr) As LongPtr
Public Declare PtrSafe Function GdipCreateBitmapFromHICON Lib "gdiplus"
(ByVal hIcon As LongPtr, bitmap As LongPtr) As LongPtr
Public Declare PtrSafe Function GdipCreateEffect Lib "gdiplus.dll"
(ByVal cid1 As LongPtr, ByVal cid2 As LongPtr, ByVal cid3 As LongPtr,
ByVal cid4 As LongPtr, Effect As Long) As LongPtr

```

```
Public Declare PtrSafe Function GdipCreateFromHDC Lib "gdiplus.dll"
(ByVal hdc As LongPtr, GpGraphics As Long) As LongPtr
Public Declare PtrSafe Function GdipCreateHBITMAPFromBitmap Lib
"gdiplus.dll" (ByVal bitmap As LongPtr, hbmReturn As LongPtr, ByVal
background As Long) As Long
Public Declare PtrSafe Function GdipCreateHICONFromBitmap Lib "gdiplus"
(ByVal bitmap As LongPtr, hbmReturn As LongPtr) As Long
Public Declare PtrSafe Function GdipDeleteEffect Lib "gdiplus.dll"
(ByVal Effect As Long) As Long
Public Declare PtrSafe Function GdipDeleteGraphics Lib "gdiplus.dll"
(ByVal graphics As Long) As Long
Public Declare PtrSafe Function GdipDisposeImage Lib "gdiplus.dll"
(ByVal Image As Long) As Long
Public Declare PtrSafe Function GdipDrawImageRect Lib "gdiplus.dll"
(ByVal graphics As Long, ByVal Image As Long, ByVal x As Single, ByVal
y As Single, ByVal Width As Single, ByVal Height As Single) As Long
Public Declare PtrSafe Function GdipGetImageHeight Lib "gdiplus.dll"
(ByVal Image As LongPtr, Height As Long) As Long
Public Declare PtrSafe Function GdipGetImageThumbnail Lib "gdiplus.dll"
(ByVal Image As LongPtr, ByVal thumbWidth As Long, ByVal thumbHeight As
Long, thumbImage As LongPtr, Optional ByVal callback As LongPtr = 0,
Optional ByVal callbackData As LongPtr = 0) As LongPtr
Public Declare Function GdipGetImageWidth Lib "gdiplus.dll" (ByVal
Image As Long, Width As Long) As Long
Public Declare Function GdipLoadImageFromStream Lib "gdiplus.dll"
(ByVal stream As IUnknown, Image As Long) As Long
Public Declare Function GdipSaveImageToFile Lib "gdiplus.dll" (ByVal
Image As Long, ByVal Filename As Long, clsidEncoder As GUID,
encoderParams As Any) As Long
Public Declare Function GdipSaveImageToStream Lib "gdiplus.dll" (ByVal
Image As Long, ByVal stream As IUnknown, clsidEncoder As GUID,
encoderParams As Any) As Long
Public Declare Function GdipSetEffectParameters Lib "gdiplus.dll"
(ByVal Effect As Long, Params As Any, ByVal Size As Long) As Long
Public Declare Function GdiplusShutdown Lib "gdiplus.dll" (ByVal token
As Long) As Long
Public Declare Function GdiplusStartup Lib "gdiplus.dll" (token As
Long, inputbuf As GDIPStartupInput, Optional ByVal outputbuf As Long =
0) As Long

' ~~~~~
' Imports - WinSock 32
' ~~~~~

Public Declare PtrSafe Function gethostbyaddr Lib "ws2_32.dll" (addr As
LongPtr, ByVal addrLen As LongPtr, ByVal addrType As Long) As Long
Public Declare PtrSafe Function gethostname Lib "ws2_32.dll" (ByVal
szHost As String, ByVal dwHostLen As Long) As Long
Public Declare PtrSafe Function inet_addr Lib "ws2_32.dll" (ByVal cp As
String) As Long
Public Declare PtrSafe Function InternetQueryOption Lib "wininet.dll"
```

```

Alias "InternetQueryOptionA" (ByVal hInternet As LongPtr, ByVal
dwOption As Long, lpBuffer As INTERNET_CONNECTED_INFO, lpdwBufferLength
As Long) As Boolean
Public Declare PtrSafe Function InternetSetOption Lib "wininet.dll"
Alias "InternetSetOptionA" (ByVal hInternet As LongPtr, ByVal dwOption
As Long, ByRef lpBuffer As Any, ByVal dwBufferLength As Long) As Long
Public Declare PtrSafe Function gethostbyname Lib "ws2_32.dll" (ByVal
szHost As String) As Long
Public Declare PtrSafe Function WSACleanup Lib "ws2_32.dll" () As Long
Public Declare PtrSafe Function WSAGetLastError Lib "ws2_32.dll" () As
Long
Public Declare PtrSafe Function WSASStartup Lib "ws2_32.dll" (ByVal
wVersionRequired As Long, lpWSADATA As WSADATA) As Long

' ~~~~~
' Imports - ICMP
' ~~~~~

'Close an Internet Control Message Protocol (ICMP) handle that
IcmpCreateFile opens.
'http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesd
kr/htm/_wcesdk_icmpclosehandle.asp
Public Declare Function IcmpCloseHandle Lib "ICMP" (ByVal IcmpHandle As
Long) As Long
'Create a handle on which Internet Control Message Protocol (ICMP)
requests can be issued.
'http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcesd
kr/htm/_wcesdk_icmpcreatefile.asp
Public Declare Function IcmpCreateFile Lib "ICMP" () As Long
Public Declare Function IcmpSendEcho Lib "ICMP" (ByVal IcmpHandle As
Long, ByVal DestinationAddress As Long, ByVal RequestData As String,
ByVal RequestSize As Long, ByVal RequestOptions As Long, ReplyBuffer As
ICMP_ECHO_REPLY, ByVal ReplySize As Long, ByVal TimeOut As Long) As
Long

' ~~~~~
' Imports - OLE32.DLL
' ~~~~~

' Some useful functions for GUID work, borrowed from COM
'
' NOTE: StringFromGUID2 is identical in what it does to the other
ole32.dll
' functions StringFromIID and StringFromCLSID. Therefore, they are not
' defined here

Public Declare Function CLSIDFromProgID Lib "ole32.dll" (ByVal
lpszProgID As Long, pclsid As GUID) As Long
Public Declare Function CLSIDFromString Lib "ole32.dll" (ByVal lpsz As
Any, pclsid As GUID) As Long

```



```

Public Declare Function CoCreateGuid Lib "ole32.dll" (rclsid As GUID)
As Long
Public Declare Function CoCreateInstance Lib "ole32.dll" (rclsid As
GUID, pUnkOuter As Any, ByVal dwClsContext As Long, riid As GUID,
ppvObj As IUnknown) As Long
Public Declare Function CoInitialize Lib "ole32.dll" () As Long
Public Declare Function CreateStreamOnHGlobal Lib "ole32.dll" (ByVal
hGlobal As Long, ByVal fDeleteOnRelease As Long, ByRef ppstm As Any) As
Long
Public Declare Function GetHGlobalFromStream Lib "ole32.dll" (ByVal
pstm As Any, ByRef phglobal As Long) As Long
Public Declare Function IIDFromString Lib "ole32.dll" (ByVal lpsz As
Long, ByRef lpiid As typUUID) As Long
Public Declare Function IsEqualGUID Lib "ole32.dll" (rguid1 As GUID,
rguid2 As GUID) As Long
Public Declare Function StringFromGUID2 Lib "ole32.dll" (rclsid As
GUID, ByVal lpsz As Long, ByVal cbMax As Long) As Long

```

```

' ~~~~~
' Imports - psapi.dll
' ~~~~~

```

```

Public Declare PtrSafe Function GetProcessImageFileName Lib "psapi.dll"
Alias "GetProcessImageFileNameA" _
    (ByVal hProcess As LongPtr, _
    ByVal lpImageFileName As String, _
    ByVal nSize As Long) As Long

```

```

' ~~~~~
' Imports - Shell32.dll
' ~~~~~

```

```

Public Declare PtrSafe Function SHGetFileInfo Lib "shell32.dll" Alias
"SHGetFileInfoA" (ByVal pszPath As String, ByVal dwFileAttributes As
Long, psfi As SHFILEINFO, ByVal cbFileInfo As Long, ByVal uFlags As
Long) As LongPtr
Public Declare PtrSafe Function SHGetNewLinkInfo Lib "shell32.dll"
Alias "SHGetNewLinkInfoA" (ByVal pszLinkto As String, ByVal pszDir As
String, ByVal pszName As String, pfMustCopy As Long, ByVal uFlags As
Long) As Long
Public Declare PtrSafe Function SHFileOperation Lib "shell32.dll" Alias
"SHFileOperationA" (lpFileOp As SHFILEOPSTRUCT) As Long
Public Declare PtrSafe Function SHGetSpecialFolderLocation Lib
"shell32.dll" (ByVal hWndOwner As LongPtr, ByVal nFolder As Long, pidl
As ITEMIDLIST) As Long 'Gets the path of the specified system folder
Public Declare PtrSafe Function SHGetPathFromIDList Lib "shell32.dll"
Alias "SHGetPathFromIDListA" (ByVal pidl As LongPtr, ByVal pszPath As
String) As Long 'Resolves the value returned by
SHGetSpecialFolderLocation into a valid path

'Get Special Folder

```

```
Public Type SHITEMID
```

```
    Cb           As Long  
    abID        As Byte
```

```
End Type
```

```
Public Type ITEMIDLIST
```

```
    mkid        As SHITEMID
```

```
End Type
```

```
Public Declare PtrSafe Function FindExecutable Lib "shell32.dll" Alias  
"FindExecutableA" (ByVal lpFile As String, ByVal lpDirectory As String,  
ByVal lpResult As String) As LongPtr
```

```
#End If
```

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