

This is part of **Win16 API** which allow to create versions of program from one source code to run under OS/2 and Win16. Under OS/2 program can be running under Win-OS/2 if program is Windows NE executable, and with help on Windows Libraries for OS/2, if it is OS/2 NE executable. Here is a WLO to OS/2 API mapping draft

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LocalReAlloc

Brief

Changes the size or the attributes of a specified local memory object. The size can increase or decrease. This function can also be used to discard a movable discardable block.

Syntax

```
HLOCAL WINAPI LocalReAlloc(
HLOCAL hMem,
UINT uBytes,
UINT uFlags
);
```

Parameters

hMem – Handle to the local memory object to be reallocated. This handle is returned by the LocalAlloc or a previous LocalReAlloc function.

uBytes – New size, in bytes, of the memory block. If uFlags specifies the LMEM_MODIFY flag, this parameter is ignored.

uFlags – Specifies how to reallocate the local memory object. If the LMEM_MODIFY flag is specified, this parameter modifies the attributes of the memory object, and the uBytes parameter is ignored. Otherwise, this parameter controls the reallocation of the memory object.

The LMEM_MODIFY flag can be combined with the following flags:

Flag	Description
LMEM_DISCARDABLE	Makes a movable block discardable. This flag is ignored if the object was not previously allocated as movable .
LMEM_MOVEABLE	You cannot combine LMEM_MOVEABLE with LMEM_MODIFY to change a fixed memory object into a movable one. The function returns an error if an application attempts this .

If this parameter does not specify LMEM_MODIFY, it can be any combination of the following flags:

Flag	Description
LMEM_MOVEABLE	Behavior depends on the value of uBytes

If uBytes is zero: Discards a previously movable and discardable memory block. The function fails if the object's lock count is not zero or the block is not movable and discardable. The handle remains valid.\

If uBytes is non-zero: Enables the system to move the reallocated block to a new location without changing the movable or fixed attribute of the memory object. If the object is fixed, the handle returned may be different from the handle specified in the hMem parameter. If the object is movable, the block can be moved without invalidating the handle, even if the object is currently locked. |

Flag	Description
LMEM_ZEROINIT	If the memory object is growing in size, the contents of the additional memory are initialized to zero .
LMEM_NOCOMPACT	Prevents memory from being compacted or discarded to satisfy the allocation request.
LMEM_NODISCARD	Prevents discardable blocks from being discarded to satisfy the allocation request.

Return Value

If the function succeeds, the return value is a handle to the reallocated memory object.

If the function fails, the return value is NULL. To get extended error information, call GetLastError.

Notes

If LocalReAlloc fails, the original memory is not freed, and the original handle and pointer are still valid .

If the function reallocates a movable object, the return value is a handle. To convert the handle to a pointer, use the LocalLock function.

If the function reallocates a fixed object, the value of the handle returned is the address of the first byte of the memory block. To access the memory, a process can simply cast the return value to a pointer .

When uBytes is zero and the LMEM_MOVEABLE flag is used, the function discards the block. The handle remains valid and can be used later to re-allocate the block .

In 16-bit Windows, if the data segment that contains the heap is moveable, calling this function may cause the data segment to move if Windows must increase the size of the heap and cannot do so in its current location. An application can prevent this by calling the LockData function .

Example Code

C Binding

```
#include <windows.h>

HLOCAL hMem = NULL;
LPSTR lpData = NULL;

// Allocate a fixed block of 100 bytes
hMem = LocalAlloc(LPTR, 100);

// Increase the size to 200 bytes, allow the block to move, and zero-init
new memory
hMem = LocalReAlloc(hMem, 200, LMEM_MOVEABLE | LMEM_ZEROINIT);

// Convert a fixed block to movable (this is done by reallocating with the
same size)
// Note: This does not use LMEM_MODIFY with LMEM_MOVEABLE, which is illegal.
hMem = LocalReAlloc(hMem, LocalSize(hMem), LMEM_MOVEABLE);

// Discard a movable discardable block
LocalReAlloc(hMem, 0, LMEM_MOVEABLE);
```

MASM Binding

```
; AX = hMem, BX = new size, CX = flags
push ax
push bx
push cx
call LocalReAlloc
```

See also

LocalAlloc

LocalFree

LocalLock

LocalDiscard

LocalSize

LockData

Group	Functions
Module Management	GetVersion GetModuleHandle GetModuleUsage GetModuleFileName GetProcAddress MakeProcInstance FreeProcInstance GetInstanceData Catch Throw GetCodeHandle LoadLibrary FreeLibrary
Global Memory Management	GlobalAlloc GlobalCompact GlobalDiscard GlobalFree GlobalLock GlobalReAlloc GlobalSize GlobalUnlock GlobalFlags
Local Memory Management	LocalInit LocalAlloc LocalCompact LocalDiscard LocalFree LocalLock LocalFreeze LocalMelt LocalReAlloc LocalSize LocalUnlock LocalHandleDelta LockData UnlockData LocalFlags
Task Scheduling	GetCurrentTask Yield SetPriority
Resource Management	AddFontResource RemoveFontResource LoadBitmap LoadCursor LoadIcon LoadMenu LoadString LoadAccelerators FindResource LoadResource AllocResource LockResource FreeResource AccessResource SizeofResource SetResourceHandler
String Manipulation	AnsiUpper AnsiLower AnsiNext AnsiPrev AnsiUpperBuff AnsiLowerBuff lstrcmp lstrcmpi IsCharAlpha IsCharAlphaNumeric IsCharUpper IsCharLower _wsprintf wvsprintf
Atom Management	InitAtomTable AddAtom DeleteAtom FindAtom GetAtomName GlobalAddAtom GlobalDeleteAtom GlobalFindAtom GlobalGetAtomName
Initialization Files	GetProfileInt GetProfileString WriteProfileString
Debugging	FatalExit
File Input/Output	_lopen _lcreat _llseek _lread _lwrite _lclose OpenFile GetTempFileName GetTempDrive
Registry	RegOpenKey RegCreateKey RegCloseKey RegDeleteKey RegSetValue RegQueryValue RegEnumKey
Window Management	CreateWindow CreateWindowEx DestroyWindow ShowWindow CloseWindow OpenIcon MoveWindow SetWindowPos BringWindowToTop GetWindow GetParent SetParent GetNextWindow GetTopWindow GetWindowRect GetClientRect AdjustWindowRect AdjustWindowRectEx EnableWindow IsWindowEnabled IsWindowVisible IsIconic IsZoomed IsWindow IsChild FindWindow EnumWindows EnumChildWindows EnumTaskWindows GetDesktopWindow GetDesktopHwnd WindowFromPoint ChildWindowFromPoint GetWindowText SetWindowText GetWindowTextLength GetClassName GetWindowLong SetWindowLong GetWindowWord SetWindowWord GetWindowTask GetWindowPlacement SetWindowPlacement ArrangeIconicWindows CascadeChildWindows TileChildWindows ShowOwnedPopups AnyPopup GetLastActivePopup SetActiveWindow GetActiveWindow SetFocus GetFocus SetCapture GetCapture ReleaseCapture SetSysModalWindow GetSysModalWindow LockWindowUpdate RedrawWindow UpdateWindow InvalidateRect InvalidateRgn ValidateRect ValidateRgn GetUpdateRect GetUpdateRgn ExcludeUpdateRgn BeginDeferWindowPos DeferWindowPos EndDeferWindowPos FlashWindow
Message Handling	GetMessage PeekMessage PostMessage PostAppMessage SendMessage ReplyMessage InSendMessage WaitMessage TranslateMessage DispatchMessage GetMessagePos GetMessageTime GetMessageExtraInfo PostQuitMessage RegisterWindowMessage SetMessageQueue GetQueueStatus GetInputState QuerySendMessage
Painting and Drawing	BeginPaint EndPaint GetDC GetDCEx GetWindowDC ReleaseDC DrawText GrayString TabbedTextOut GetTabbedTextExtent FillRect InvertRect FrameRect DrawFocusRect DrawIcon ScrollDC ScrollWindow ScrollWindowEx FillWindow PaintRect GetControlBrush

Group	Functions
Menus	CreateMenu CreatePopupMenu DestroyMenu GetMenu SetMenu GetSystemMenu GetSubMenu AppendMenu InsertMenu ModifyMenu DeleteMenu RemoveMenu ChangeMenu CheckMenuItem EnableMenuItem HiliteMenuItem GetMenuState GetMenuString GetMenuItemCount GetMenuItemID DrawMenuBar TrackPopupMenu GetMenuCheckMarkDimensions SetMenuItemBitmaps IsMenu
Clipboard	OpenClipboard CloseClipboard EmptyClipboard GetClipboardOwner GetOpenClipboardWindow SetClipboardData GetClipboardData CountClipboardFormats EnumClipboardFormats RegisterClipboardFormat GetClipboardFormatName IsClipboardFormatAvailable GetPriorityClipboardFormat SetClipboardViewer GetClipboardViewer ChangeClipboardChain
Caret	CreateCaret DestroyCaret SetCaretPos GetCaretPos HideCaret ShowCaret SetCaretBlinkTime GetCaretBlinkTime
Cursor and Icon	SetCursor GetCursor SetCursorPos GetCursorPos ShowCursor ClipCursor GetClipCursor LoadCursor LoadIcon CreateCursor CreateIcon CopyCursor CopyIcon DestroyCursor DestroyIcon CreateCursorIconIndirect
Scroll Bars	SetScrollPos GetScrollPos SetScrollRange GetScrollRange ShowScrollBar EnableScrollBar CalcChildScroll
Dialog Boxes	DialogBox DialogBoxIndirect DialogBoxParam DialogBoxIndirectParam CreateDialog CreateDialogIndirect CreateDialogParam CreateDialogIndirectParam EndDialog GetDlgItem SetDlgItemText GetDlgItemText SetDlgItemInt GetDlgItemInt CheckDlgButton IsDlgButtonChecked CheckRadioButton SendDlgItemMessage GetNextDlgGroupItem GetNextDlgTabItem GetDlgCtrlID IsDialogMessage MapDialogRect GetDialogBaseUnits DefDlgProc DlgDirList DlgDirListComboBox DlgDirSelect DlgDirSelectEx DlgDirSelectComboBox DlgDirSelectComboBoxEx
Device Context Management	GetDC GetDCEx GetWindowDC ReleaseDC SaveDC RestoreDC CreateDC CreateCompatibleDC DeleteDC ResetDC
Coordinates and Transformations	SetMapMode GetMapMode SetWindowOrg GetWindowOrg SetWindowExt GetWindowExt SetViewportOrg GetViewportOrg SetViewportExt GetViewportExt OffsetWindowOrg OffsetViewportOrg ScaleWindowExt ScaleViewportExt DPtoLP LPtoDP
Drawing Functions	SetPixel GetPixel MoveTo LineTo Polyline Polygon PolyPolygon Rectangle RoundRect Ellipse Arc Chord Pie FloodFill ExtFloodFill DrawFocusRect PatBlt BitBlt StretchBlt StretchDIBits SetDIBits GetDIBits SetDIBitsToDevice
Regions	CreateRectRgn CreateRectRgnIndirect CreateRoundRectRgn CreateEllipticRgn CreateEllipticRgnIndirect CreatePolygonRgn CreatePolyPolygonRgn CombineRgn EqualRgn OffsetRgn FillRgn FrameRgn InvertRgn PaintRgn SelectClipRgn ExcludeClipRect IntersectClipRect OffsetClipRgn GetClipBox GetRgnBox PtInRegion RectInRegion SetRectRgn
Bitmaps	CreateBitmap CreateBitmapIndirect CreateCompatibleBitmap CreateDiscardableBitmap CreateDIBitmap CreateDIBPatternBrush SetBitmapBits GetBitmapBits SetBitmapDimension GetBitmapDimension
Brushes and Pens	CreateSolidBrush CreateHatchBrush CreatePatternBrush CreateBrushIndirect CreatePen CreatePenIndirect SetBrushOrg GetBrushOrg SelectObject GetObject DeleteObject GetStockObject UnrealizeObject

Group	Functions
Fonts and Text	CreateFont CreateFontIndirect CreateScalableFontResource AddFontResource RemoveFontResource EnumFonts EnumFontFamilies GetTextMetrics GetTextExtent GetTextFace GetCharWidth GetCharABCWidths GetOutlineTextMetrics GetGlyphOutline GetKerningPairs SetTextColor GetTextColor SetBkColor GetBkColor SetBkMode GetBkMode SetTextAlign GetTextAlign SetTextCharacterExtra GetTextCharacterExtra SetTextJustification TextOut ExtTextOut TabbedTextOut GetTabbedTextExtent
Metafiles	CreateMetaFile CloseMetaFile DeleteMetaFile CopyMetaFile GetMetaFile GetMetaFileBits SetMetaFileBits PlayMetaFile PlayMetaFileRecord EnumMetaFile IsValidMetaFile
Printing	StartDoc EndDoc StartPage EndPage SetAbortProc AbortDoc QueryAbort OpenJob CloseJob DeleteJob WriteSpool StartSpoolPage EndSpoolPage SpoolFile
Palettes	CreatePalette SelectPalette RealizePalette GetPaletteEntries SetPaletteEntries ResizePalette AnimatePalette UpdateColors GetNearestPaletteIndex GetNearestColor SetSystemPaletteUse GetSystemPaletteUse GetSystemPaletteEntries
Device Capabilities	GetDeviceCaps GetRasterizerCaps GetEnvironment SetEnvironment GetAspectRatioFilter Escape CreateIC
Miscellaneous GDI	SetROP2 GetROP2 SetPolyFillMode GetPolyFillMode SetStretchBltMode GetStretchBltMode SetMapperFlags GetMapperFlags LineDDA MulDiv GetCurrentPosition GetBoundsRect SetBoundsRect FastWindowFrame
Timer	SetTimer KillTimer GetTickCount GetTimerResolution GetCurrentTime
Hooks	SetWindowsHook SetWindowsHookEx UnhookWindowsHook UnhookWindowsHookEx CallNextHookEx DefHookProc CallMsgFilter
Communications	OpenComm CloseComm ReadComm WriteComm SetCommState GetCommState GetCommError TransmitCommChar SetCommEventMask GetCommEventMask SetCommBreak ClearCommBreak UngetCommChar BuildCommDCB EscapeCommFunction FlushComm EnableCommNotification
Networking (WNet)	WNetErrorText WNetOpenJob WNetCloseJob WNetAbortJob WNetHoldJob WNetReleaseJob WNetCancelJob WNetSetJobCopies WNetWatchQueue WNetUnwatchQueue WNetLockQueueData WNetUnlockQueueData WNetGetConnection WNetGetCaps WNetDeviceMode WNetBrowseDialog WNetGetUser WNetAddConnection WNetCancelConnection WNetGetError WNetGetErrorText WNetEnable WNetDisable WNetRestoreConnection WNetWriteJob WNetConnectDialog WNetDisconnectDialog WNetConnectionDialog WNetViewQueueDialog WNetPropertyDialog WNetGetDirectoryType WNetDirectoryNotify WNetGetPropertyText
System Information	GetSystemMetrics GetSysColor SetSysColors SystemParametersInfo GetFreeSystemResources GetSystemDebugState GetDoubleClickTime SetDoubleClickTime SwapMouseButton GetKeyState GetAsyncKeyState GetKeyboardState SetKeyboardState mouse_event GetMouseEventProc EnableHardwareInput IsUserIdle LockInput MessageBeep WinHelp
Window Classes	RegisterClass RegisterClassEx UnregisterClass GetClassInfo GetClassInfoEx GetClassWord SetClassWord GetClassLong SetClassLong GetClassName
Window Properties	SetProp GetProp RemoveProp EnumProps
MDI Support	DefFrameProc DefMDIChildProc TranslateMDISysAccel
Drivers	OpenDriver CloseDriver SendDriverMessage GetDriverModuleHandle GetDriverInfo GetNextDriver DefDriverProc

Group	Functions
Miscellaneous	InitApp ExitWindows ExitWindowsExec OLDEXITWINDOWS BEAR11 BEAR86 BEAR182 UserSeeUserDo OldSetDeskPattern SetRect SetRectEmpty CopyRect IsRectEmpty PtInRect OffsetRect InflateRect IntersectRect UnionRect EqualRect SubtractRect

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