Note: This API calls are shared between DOS and Win16 personality.

DPMI is a shared interface for DOS applications to access Intel 80286+ CPUs services. DOS DMPI host provides core services for protected mode applications. Multitasking OS with DOS support also provides DMPI in most cases. Windows standard and extended mode kernel is a DPMI client app. Standard and extended mode kernel differs minimally and shares common codebase. Standard Windows kernel works under DOSX extender. DOSX is a specialized version of 16-bit DPMI Extender (but it is standard DPMI host). Standard mode is just DPMI client, exnhanced mode is DPMI client running under Virtual Machime Manager (really, multitasker which allow to run many DOS sessions). Both modes shares DPMI interface for kernel communication. The OS/2 virtual DOS Protected Mode Interface (VDPMI) device driver provides Version 0.9 DPMI support for virtual DOS machines. Win16 (up to Windows ME) provides Version 0.9 DPMI support. Windows in Standard Mode provides DPMI services only for Windows Applications, not DOS sessions.

DPMI host often merged with DPMI extender. Usually DPMI extender provide DPMI host standard services and DOS translation or True DPMI services.

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Int 31H, AH=05H, AL=01H

Version

0.9

Brief

Allocate Memory Block

Input

```
AX = 0501H
BX:CX = size of block (bytes, must be nonzero)
```

Return

```
if function successful
Carry flag = clear
BX:CX = linear address of allocated memory block
SI:DI = memory block handle (used to resize and free block)
```

```
if function unsuccessful
Carry flag = set
AX = error code
8012H   linear memory unavailable
8013H   physical memory unavailable
8014H   backing store unavailable
8016H   handle unavailable
8021H   invalid value (BX:CX = 0)
```

Notes

The allocated block is guaranteed to have at least paragraph alignment.

This function always creates committed pages.

This function does not allocate any descriptors for the memory block. It is the responsibility of the client to allocate and initialize any descriptors needed to access the memory with additional DPMI function calls.

Under DPMI hosts that support virtual memory, the memory block will be allocated unlocked. The client can lock some or all of the memory after it is allocated with the Lock Linear Region function (Int 31H Function 0600H).

Under many DPMI hosts, allocations by this function are page granular. This means, for example, that if the DPMI host uses a page size of 4 KB (1000H), an allocation of 1001H bytes will actually result in an allocation of 2000H bytes. Therefore, it is best to always allocate memory in multiples of the unit of granularity (under DPMI 0.9, use 4K bytes), which can be obtained with Int 31H Function 0604H.

See also

Note

Text based on http://www.delorie.com/djgpp/doc/dpmi/

DPMI	
Process manager	**INT 2FH** 1680H, 1687H
Signals	
Memory manager	
Misc	**INT 2FH** 1686H, 168AH
Devices	

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