



This is part of **Family API** which allow to create dual-os version of program runs under OS/2 and DOS

**Note:** This is legacy API call. It is recommended to use 32-bit equivalent

2021/09/17 04:47 · prokushev · [0 Comments](#)

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OS/2 Video Subsystem (VIO in short) aimed to provide text-mode and graphics-mode (full screen sessions only) video output. Original VIO supports 43 functions which mostly improvement of Video BIOS INT 10H API. Functions are much richer comparing to Video BIOS. It is supports Logical Video Buffer, which allow to have output in background sessions, while screen no accesable. Temporary video session allow to build message notifications system to handle errors and exceptions. Most of functions (41 function) can be replaced by user-defined functions by Alternate Video System. Alternate Video System can hanlde function and then return to caller or pass control lower, to Base Video System. You can register not all but some Alternate Video Subsystem functions, and user Base Video Subsystem for othe functions. Some VIO functions supported in Dual-mode applications by Family API. Under DOS functions simplier but powerfull yes. Many command line tools are Dual Mode applications, as well as many MS-DOS base Microsoft products also dual-mode applications. VIO also provide limited set of graphic mode support. VIO originalli is 16-bit and implemented starting from fist version of OS/2.

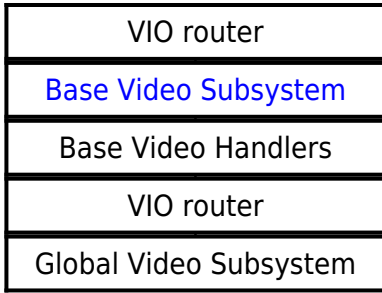
## Video Subsystem

Application
<a href="#">VIOCALLS</a>
VIO router
Alternate Video Subsystem
VIO router
<a href="#">Base Video Subsystem</a>

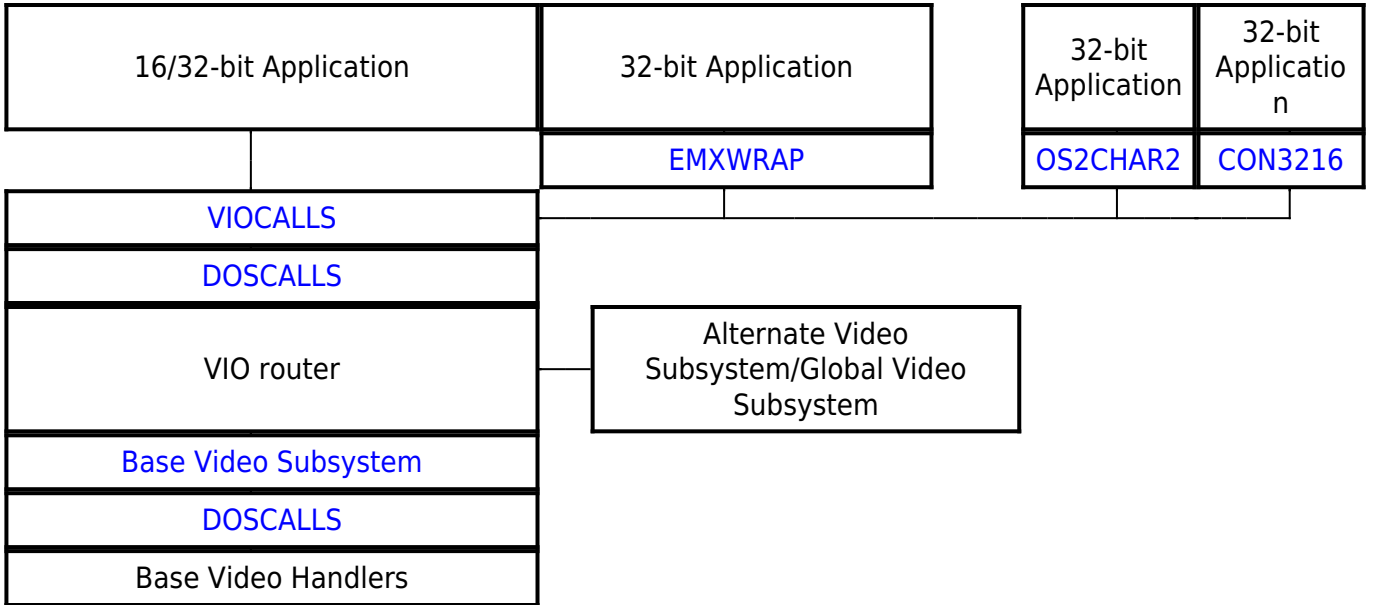
OS/2 Video subsystem placed in VIOCALLS.DLL. Called VIO function passes control to internal VIO router function which, depends on registered functions replacement, routes call to Base Video Subsystem (BVSCALLS.DLL) or to registered Alternate Video Subsystem.

Such route in original OS/2 1.x serie. OS/2 1.2 includes additional functionality. Base Video Subsystem now uses Base Video Handlers ro access hardware. Also Global Video Sybssystem hook was added. Base Vide Handler is a sort of video hardware abstraction layer. Global Video Subsystem allow to add notification hooks after VioRoute call.

Application
<a href="#">VIOCALLS</a>
VIO router
Alternate Video Subsystem



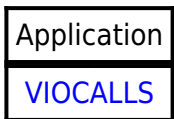
In late OS/2 versions (3.x?) actual code of Video subsystem and Base Video Subsystem was moved to DOSCALLS.DLL (see Fig). OS/2 Video Subsystem is 16-bit. Later three independent versions of 32-to-16 bit wrapper subsystems was developed (See Fig)



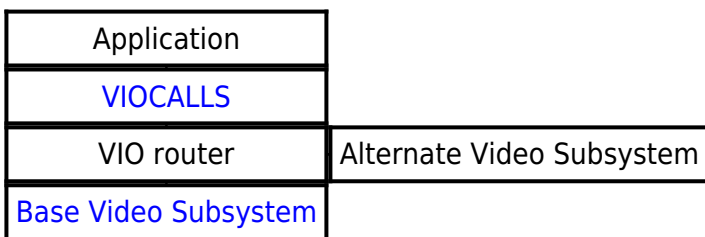
Under DOS original IBM Family API or JdeBP's Family API applications uses following call route



Under HX DOS Extender OS/2 Emulation Family API applications uses following route



Under DOS osFree Family API supports following route



osFree attempts to combine all approaches and provide following callflow

16/32-bit Application	32-bit Application		32-bit Application	32-bit Application
VIOCALLS			CON3216	OS2CHAR2
DOSCALLS	EMXWRAP			
	SUB32			
	VIO router			
	Alternate Video Subsystem			
	VIO router			
	Global Video Subsystem			
	Base Video Subsystem			
	DOSCALLS			
	Base Video Handlers			

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