

Virtual Machine Control Structure

GUEST STATE AREA				
CRO	CR3			CR4
DR7				
RSP	RIP		RFLAGS	
CS	Selector	Base Address	Segment Limit	Access Right
SS	Selector	Base Address	Segment Limit	Access Right
DS	Selector	Base Address	Segment Limit	Access Right
ES	Selector	Base Address	Segment Limit	Access Right
FS	Selector	Base Address	Segment Limit	Access Right
GS	Selector	Base Address	Segment Limit	Access Right
LDTR	Selector	Base Address	Segment Limit	Access Right
TR	Selector	Base Address	Segment Limit	Access Right
GDTR	Selector	Base Address	Segment Limit	Access Right
IDTR	Selector	Base Address	Segment Limit	Access Right
IA32_DEBUGCTL	IA32_SYSENTER_CS	IA32_SYSENTER_ESP	IA32_SYSENTER_EIP	
IA32_PERF_GLOBAL_CTRL	IA32_PAT	IA32_EFER	IA32_BNDCFGS	
SMBASE				
Activity state	Interruptibility state			
Pending debug exceptions				
VMCS link pointer				
VMX-preemption timer value				
Page-directory-pointer-table entries	PDPTE0	PDPTE1	PDPTE2	PDPTE3
Guest interrupt status				
PML index				
HOST STATE AREA				
CRO	CR3			CR4
RSP		RIP		
CS	Selector			
SS	Selector			
DS	Selector			
ES	Selector			
FS	Selector	Base Address		
GS	Selector	Base Address		
TR	Selector	Base Address		
GDTR	Base Address			
IDTR	Base Address			
IA32_SYSENTER_CS	IA32_SYSENTER_ESP	IA32_SYSENTER_EIP		
IA32_PERF_GLOBAL_CTRL	IA32_PAT	IA32_EFER		

CONTROL FIELDS

Pin-Based VM-Execution Controls	External-interrupt exiting		NMI exiting		Virtual NMIs			
	Activate VMX-preemption timer			Process posted interrupts				
	Interrupt-window exiting			Use TSC offsetting				
Primary processor-based VM-execution controls	HLT exiting		INVLPG exiting		MWAIT exiting			
	RDTSC exiting		CR3-load exiting		CR3-store exiting			
	CR8-store exiting		Use TPR shadow		NMI-window exiting			
	Unconditional I/O exiting		Use I/O bitmaps		Monitor trap flag			
	MONITOR exiting		PAUSE exiting		Activate secondary controls			
Secondary processor-based VM-execution controls	Virtualize APIC accesses		Enable EPT		Descriptor-table exiting			
	Virtualize x2APIC mode		Enable VPID		WBINVD exiting			
	APIC-register virtualization		Virtual-interrupt delivery		PAUSE-loop exiting			
	RDRAND exiting		Enable INVPCID		Enable VM functions			
	Enable ENCLS exiting		RDSEED exiting		Enable PML			
	Conceal VMX non-root operation from Intel PT			Enable XSAVES/XRSTORS				
	Mode-based execute control for EPT			Use TSC scaling				
Exception Bitmap			I/O-Bitmap Addresses		TSC-offset			
Guest/Host Masks for CR0		Guest/Host Masks for CR4		Read Shadows for CR0		Read Shadows for CR4		
CR3-target value 0		CR3-target value 1		CR3-target value 2		CR3-target value 3		
CR3-target count		CR3-target count		CR3-target count		CR3-target count		
APIC Virtualization	APIC-access address			Virtual-APIC address			TPR threshold	
	EOI-exit bitmap 0		EOI-exit bitmap 1		EOI-exit bitmap 2		EOI-exit bitmap 3	
	Posted-interrupt notification vector				Posted-interrupt descriptor address			
Read bitmap for low MSRs		Read bitmap for high MSRs		Write bitmap for low MSRs		Write bitmap for low MSRs		
Executive-VMCS Pointer			Extended-Page-Table Pointer			Virtual-Processor Identifier		
PLE_Gap		PLE_Window		VM-function controls		VMREAD bitmap		
VMWRITE bitmap		ENCLS-exiting bitmap		PML address				
Virtualization-exception information address			EPTP index			XSS-exiting bitmap		
VM-EXIT CONTROL FIELDS								
VM-Exit Controls	Save debug controls			Host address space size			Load IA32_PERF_GLOBAL_CTRL	
	Acknowledge interrupt on exit		Save IA32_PAT		Load IA32_PAT		Save IA32_EFER	
	Load IA32_EFER		Save VMX-preemption timer value		Clear IA32_BNDCFGS		Conceal VM exits from Intel PT	
VM-Exit Controls for MSRs	VM-exit MSR-store count		VM-exit MSR-store address					
	VM-exit MSR-load count		VM-exit MSR-load address					
VM-EXIT INFORMATION FIELDS								
Basic VM-Exit Information	Exit reason				Exit qualification			
	Guest-linear address				Guest-physical address			
VM Exits Due to Vectored Events			VM-exit interruption information			VM-exit interruption error code		
VM Exits That Occur During Event Delivery			IDT-vectoring information			IDT-vectoring error code		
VM Exits Due to Instruction Execution			VM-exit instruction length			VM-exit instruction information		
			I/O RCX		I/O RSI		I/O RDI	
I/O RIP		VM-instruction error field						

- Natural-Width fields.
- 16-bits fields.
- 32-bits fields.
- 64-bits fields.