

63	31	15	8	7	0	
%rax	%eax	%ax	%ah	%al		Return value
%rbx	%ebx	%ax	%bh	%bl		Callee saved
%rcx	%ecx	%cx	%ch	%cl		4th argument
%rdx	%edx	%dx	%dh	%dl		3rd argument
%rsi	%esi	%si		%sil		2nd argument
%rdi	%edi	%di		%dil		1st argument
%rbp	%ebp	%bp		%bpl		Callee saved
%rsp	%esp	%sp		%spl		Stack pointer
%r8	%r8d	%r8w		%r8b		5th argument
%r9	%r9d	%r9w		%r9b		6th argument
%r10	%r10d	%r10w		%r10b		Callee saved
%r11	%r11d	%r11w		%r11b		Used for linking
%r12	%r12d	%r12w		%r12b		Unused for C
%r13	%r13d	%r13w		%r13b		Callee saved
%r14	%r14d	%r14w		%r14b		Callee saved
%r15	%r15d	%r15w		%r15b		Callee saved

Figure 2: **Integer registers.** The existing eight registers are extended to 64-bit versions, and eight new registers are added. Each register can be accessed as either 8 bits (byte), 16 bits (word), 32 bits (double word), or 64 bits (quad word).