

# AA-64 architecture

## general purpose registers

8/16/32/64bit general purpose registers															
6 3				3 2	3 1				1 6	1 5		8	7		0
RAX or R0															
zero-extended						EAX or R0D									
preserved						preserved						AX or R0W			
												AH		AL or R0B	
RCX or R1															
zero-extended						ECX or R1D									
preserved						preserved						CX or R1W			
												CH		CL or R1B	
RDX or R2															
zero-extended						EDX or R2D									
preserved						preserved						DX or R2W			
												DH		DL or R2B	
RBX or R3															
zero-extended						EBX or R3D									
preserved						preserved						BX or R3W			
												BH		BL or R3B	
<u>RSP or R4</u>															
zero-extended						<u>ESP or R4D</u>									
preserved						preserved						<u>SP or R4W</u>			
						preserved						SPL or R4B			
RBP or R5															
zero-extended						EBP or R5D									
preserved						preserved						BP or R5W			
						preserved						BPL or R5B			

RSI or R6			
zero-extended	ESI or R6D		
preserved	preserved	SI or R6W	
	preserved		SIL or R6B
RDI or R7			
zero-extended	EDI or R7D		
preserved	preserved	DI or R7W	
	preserved		DIL or R7B

new 8/16/32/64bit general purpose registers																
6 3					3 2	3 1				1 6	1 5		8	7		0
R8																
zero-extended						R8D										
preserved									R8W							
preserved													R8B			
R9																
zero-extended						R9D										
preserved									R9W							
preserved													R9B			
R10																
zero-extended						R10D										
preserved									R10W							
preserved													R10B			
R11																
zero-extended						R11D										
preserved									R11W							
preserved													R11B			
R12																
zero-extended						R12D										
preserved									R12W							
preserved													R12B			
R13																
zero-extended						R13D										
preserved									R13W							
preserved													R13B			

R14			
zero-extended		R14D	
preserved			R14W
preserved			R14B
R15			
zero-extended		R15D	
preserved			R15W
preserved			R15B

16/32/64bit instruction pointer									
6 3		3 2	3 1		1 6	1 5		8 7	0
RIP									
reserved				EIP					
				reserved			IP		

