Table 1: The Multi-die Architecture has enabled significant improvements for each processor generation since the beginning

	AMD EPYC 7001	AMD EPYC 7002	AMD EPYC 7003	AMD EPYC 9004
	'NAPLES'	'ROME'	'MILAN'	'GENOA'
Core Architecture	'Zen'	'Zen 2'	'Zen 3'	ʻZen 4'
Cores	8 to 32	8 to 64	8 to 64	16 to 96
IPC Improvement Over	N/A	24% (ROM-236)	19%(MLN-003)	14%(EPYC-038)
Prior Generation				
Max L3 ache	Up to 64MB	Up to 256MB	Up to 256MB (Note*)	Up to 384MB
PCle Lanes	Up to 128 Gen3	Up to 128 Gen3	Up to 128 Gen4	Up to 128 Gen5
				8 bonus lanes Gen3
CPU Process Technology	14nm	7nm	7nm	5nm
I/O die Process Technology	N/A	14nm	14nm	6nm
Power(Configurable TDP[cTDP])	120W-200W	120W-280W	155W-280W	200W-400W
Max Memory Capacity	2TB DDR3-2400/2666	4TB DDR4-3200	4TB DDR4-3200	6TB DDR5-4800

(Note*): Up to 768MB for processors with AMD 3D V-Cache™ technology.

ROM-236: Based on AMD internal testing, average per thread performance improvement at ISO-frequency on a 32-core, 64-thread, 2nd generation AMD EPYC™ platform as compared to 32-core 64-thread 1st generation AMD EPYC™ platform measured on a selected

set of workloads including sub-components of SPEC CPU® 2017 int and representative server workloads.

MLN-003: Based on AMD internal testing as of 02/1/2021, average performance improvement at ISO-frequency on an AMD EPYC[™] 72F3 (8C/8T, 3.7GHz), per-core, single thread, using a select set of workloads including SPECrate®2017 int base,SPECrate®2017 fp base, and representative server workloads.

EPYC-038: Based on AMD internal testing as of 09/19/2022, geomean performance improvement at the same fixed-frequency on a 4th Gen AMD EPYC™ 9554 CPU compared to a 3rd Gen AMD EPYC™ 7763 CPU using a select set of workloads (33) including est. SPECrate®2017 int base, est. SPECrate®2017 fp base, and representative server workloads.

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