

crypto\_hash  
 acehash256v1  
 implementations  
 amd64 Bobcat  
 amd64 K8  
 amd64 K10 65nm  
 amd64 K10 45nm  
 amd64 K10 32nm  
 amd64 Bulldozer  
 amd64 Piledriver  
 amd64 Zen  
 amd64 Zen 2  
 amd64 Zen 3  
 amd64 Knights Landing  
 amd64 Golden Cove  
 amd64 Cascade Lake  
 amd64 Tiger Lake  
 amd64 Skylake+512x2  
 amd64 Ice Lake  
 amd64 Comet Lake  
 amd64 Cannon Lake  
 amd64 Coffee Lake  
 amd64 Kaby Lake  
 amd64 Skylake  
 amd64 Broadwell+AES  
 amd64 Haswell+AES  
 amd64 Ivy Bridge+AES  
 amd64 Sandy Bridge+AES  
 amd64 Sandy Bridge  
 amd64 Westmere  
 amd64 Core 2 45nm  
 amd64 Core 2 65nm  
 amd64 Gracemont  
 amd64 Tremont  
 amd64 Goldmont Plus  
 amd64 Goldmont  
 amd64 Airmont  
 amd64 Silvermont  
 amd64 Bonnell  
 ppc32 G3  
 riscv64 U54  
 mipso32 Ocheon II  
 armeabi Armada  
 armeabi Cortex-A7  
 armeabi Cortex-A8  
 armeabi Cortex-A9+NEON  
 armeabi Cortex-A15  
 aarch64 X-Gene  
 aarch64 Cortex-A53  
 aarch64 Cortex-A53+crypto  
 aarch64 Cortex-A57+crypto  
 aarch64 Cortex-A72  
 aarch64 Cortex-A72+crypto  
 aarch64 ThunderX2  
 Time

2097152 4194304 8388608 16777216 33554432

T:ref

? :ref

https://bench.cr.y.p.to  
 20230702

hbbocat: 2 x 1650MHz; 2011 AMD G-T56n; amd64; Bobcat (600F10); supercop-20230630
m4e50: 2 x 1650MHz; 2011 AMD E-450; amd64; Bobcat (600F09); supercop-20200618
mac: 2 x 2000MHz; 2006 AMD Athlon 64 X2; amd64; K8 (40f02); supercop-201710105
gcc16: 8 x 2194MHz; 2008 AMD Opteron 8354; amd64; K10 65nm (100f23); supercop-20171218
hydra3: 6 x 3300MHz; 2010 AMD Phenom II X6 1100T; amd64; K10 45nm (100f04); supercop-20171218
sonnigstar: 4 x 3200MHz; 2009 AMD Phenom II X4 955; amd64; K10 45nm (100f42); supercop-20170904
h3aw: 1 x 1700MHz; 2010 AMD Athlon II Neo K125; amd64; K10 45nm (100f63); supercop-20171218
hydra4: 4 x 2600MHz; 2011 AMD A8-3850; amd64; K10 32nm (300F10); supercop-20230630
hydra5: 4 x 2900MHz; 2011 AMD A8-3850; amd64; K10 32nm (300F10); supercop-20230630
bobcat: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600F20); supercop-20171218
calista: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600F20); supercop-20171218
hydra4: 4 x 3100MHz; 2011 AMD FX-8120; amd64; Bulldozer (600F12); supercop-20171218
hawer216: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600F20); supercop-20230630
hydra9: 2 x 3800MHz; 2012 AMD A10-5800K; amd64; Piledriver (610F01); supercop-20171218
fpriority: 2 x 2000MHz; 2012 AMD A10-4655M; amd64; Piledriver (610F01); supercop-20200618
ryzen: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800F11); supercop-20170865
ryzen: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800F11); supercop-20230630
ryzen: 4 x 3100MHz; AV10; AMD Ryzen 5 1600; amd64; Zen (800F11); supercop-20230630
dali: 2 x 3100MHz; 2016 AMD Athlon Silver E780; amd64; Zen (800F11); supercop-20230630
ryzen: 64 x 2250MHz; 2019 AMD EPYC 7742; amd64; Zen 2 (830F10); supercop-20230630
ryzen: 6 x 3000MHz; 2022 AMD Ryzen 5 4500U; amd64; Zen 2 (860F01); supercop-20230630
lacienne: 4 x 2000MHz; 2021 AMD Ryzen 3 3300U; amd64; Zen 2 (830F11); supercop-20230630
gnj1346: 64 x 2000MHz; 2019 AMD EPYC 7702; amd64; Zen 2 (830F10); supercop-20191017
baseline: 6 x 4062MHz; 2021 AMD Ryzen 5 5500U; amd64; Zen 3 (a50F00); supercop-20211221
sanj: 16 x 3400MHz; 2020 AMD Ryzen 9 5900X; amd64; Zen 3 (a50F10); supercop-20220313
cezanne: 6 x 3900MHz; 2021 AMD Ryzen 5 PRO 5650G; amd64; Zen 3 (a50F00); supercop-20230630
gnj1291: 68 x 1400MHz; 2016 Intel Xeon Phi 7250; amd64; Knights Landing (50671); supercop-20180818
gnj1154: 64 x 1300MHz; 2016 Intel Xeon Phi 7210; amd64; Knights Landing (50671); supercop-20170228
alder: 4 x 3300MHz; 2022 Intel Core i3-12100; amd64; Golden Cove (90673-00); supercop-20230630
alder2:1f262960,5600000: 2 x 1600MHz; 2022 Intel Core i3-1215U performance cores; amd64; Golden Cove (906A4-40); supercop-20230630
avx512iaah: 18 x 3000MHz; 2019 Intel Core i9-10980XE; amd64; Cascade Lake (50657); supercop-20201126
pmo4076: 20 x 2500MHz; 2019 Intel Xeon Gold 6248; amd64; Cascade Lake (50657); supercop-20191017
panther: 4 x 2800MHz; 2020 Intel Core i7-1165G7; amd64; Tiger Lake (806c1); supercop-20230630
sandy1024: 18 x 2700MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806a4); supercop-20170804
pmo4076: 8 x 2500MHz; 2017 Intel Core i7-7700; amd64; Skylake+512x2 (806a4); supercop-20181121
pmo4076: 8 x 2500MHz; 2017 Intel Core i7-7700; amd64; Skylake+512x2 (806a4); supercop-20230630
gnj1238: 18 x 2400MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806a4); supercop-20191017
icelake2: 4 x 1000MHz; 2019 Intel Core i3-1035G1; amd64; Ice Lake (706e5); supercop-20221005
icelake: 4 x 1100MHz; 2020 Intel Core i5-1030NG7; amd64; Ice Lake (706e5); supercop-20200626
cubis10: 2 x 2100MHz; 2019 Intel Core i3-10110U; amd64; Comet Lake (806ec); supercop-20230630
cosat: 2 x 2100MHz; 2019 Intel Core i3-10110U; amd64; Comet Lake (806ec); supercop-20230630
cannon: 2 x 2200MHz; 2018 Intel Core i3-8121U; amd64; Cannon Lake (90663); supercop-20190910
r3000: 4 x 3300MHz; 2018 Intel Xeon E-2124; amd64; Coffee Lake (906a3); supercop-20230630
bitvisia: 6 x 3200MHz; 2017 Intel Core i7-8700; amd64; Coffee Lake (906a3); supercop-20190910
kizamba: 4 x 3000MHz; 2017 Intel Xeon E3-1220 v6; amd64; Kaby Lake (906e9); supercop-20230630
shearwater: 2 x 2400MHz; 2017 Intel Core i7-8160U; amd64; Kaby Lake (906e9); supercop-20211221
italacsi1: 4 x 3100MHz; 2018 Intel Core i7-8809G; amd64; Kaby Lake (906e9); supercop-20191017
saad: 2 x 3300MHz; 2015 Intel Pentium G4400; amd64; Skylake (506e3); supercop-20171218
saaba: 4 x 3000MHz; 2015 Intel Xeon E3-1220 v5; amd64; Skylake (506e3); supercop-20230630
gnj1441: 28 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20180818
Banj1271: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20170228
gnj1271: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20230630
bolan: 18 x 1700MHz; 2015 Intel Core i7-5001G; amd64; Broadwell+AES (506d4); supercop-20230630
gnj1441: 28 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Haswell+AES (306e1); supercop-20190910
Haswell: 18 x 2400MHz; 2013 Intel Xeon E5-2697 v2; amd64; Haswell+AES (306e9); supercop-20191017
Haswell: 18 x 2400MHz; 2013 Intel Xeon E5-2697 v2; amd64; Haswell+AES (306e9); supercop-20230630
Haswell: 4 x 3100MHz; 2013 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e3); supercop-20230630
Haswell: 4 x 3100MHz; 2013 Intel Xeon E3-1275 V2; amd64; Haswell+AES (306e3); supercop-20230630
Haswell: 4 x 2500MHz; 2012 Intel Xeon E5-1265L V2; amd64; Ivy Bridge+AES (306a9); supercop-20210326
Haswell: 4 x 2500MHz; 2012 Intel Xeon E5-1265L V2; amd64; Ivy Bridge+AES (306a9); supercop-20230630
robia281: 8 x 2600MHz; 2012 Intel Xeon E5-4650L; amd64; Sandy Bridge+AES (206d7); supercop-20170228
hydra7: 4 x 3100MHz; 2011 Intel Xeon E3-1225; amd64; Sandy Bridge+AES (206a7); supercop-20230630
hfsandy: 2 x 2100MHz; 2011 Intel Core i3-2310M; amd64; Sandy Bridge (206a7); supercop-20221122
glyse: 2 x 3200MHz; 2010 Intel Core i5-650; amd64; Westmere (20652); supercop-201710105
voirdale: 2 x 3060MHz; 2009 Intel Core 2 Duo E7600; amd64; Core 2 45nm (1067a); supercop-20230630
katana: 2 x 2137MHz; 2006 Intel Core 2 Duo E6400; amd64; Core 2 65nm (60f); supercop-201710105
tsrsant: 2 x 2000MHz; 2007 Intel Core 2 Duo T7300; amd64; Core 2 65nm (60f); supercop-20230630
aurigau: 4 x 2404MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (60f); supercop-20230630
l'atour: 4 x 2394MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (60f); supercop-20201130
alder2:1f262960,3300000: 4 x 1600MHz; 2022 Intel Core i3-1215U efficiency cores; amd64; Gracemont (906A4-20); supercop-20230630
jasper2: 2 x 1100MHz; 2021 Intel Celeron N4500; amd64; Tremont (906c0); supercop-20230630
jasper3: 4 x 2000MHz; 2021 Intel Celeron N5105; amd64; Tremont (906c0); supercop-20230630
jasper: 4 x 1100MHz; 2021 Intel Pentium Silver N6000; amd64; Tremont (906c0); supercop-20230630
gemini: 2 x 1100MHz; 2019 Intel Celeron N4020; amd64; Goldmont Plus (706a8); supercop-20230630
wooden: 4 x 1500MHz; 2016 Intel Celeron J3455; amd64; Goldmont (506c9); supercop-20230630
soviM8h1: 16 x 2100MHz; 2017 Intel Atom C3955; amd64; Goldmont (506f1); supercop-20191017
mccmc: 4 x 1600MHz; 2015 Intel Pentium N3700; amd64; Airmont (406c3); supercop-20230630
cherry: 4 x 1440MHz; 2016 Intel Atom i5-Z8350; amd64; Silvermont (406a4); supercop-20230630
hbaton: 2 x 1866MHz; 2011 Intel Atom D2500; amd64; Bonnell (306f1); supercop-20230630
aintendovilliaungx: 1 x 729MHz; 2006 IBM PowerPC Broadway; ppc32; G3 (G3); supercop-20191221
hifiveunleashedriscv: 4 x 1400MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20191221
riscvunleashed000: 4 x 1000MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20210326
gcc23: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mipso32; Octeon II (cmnips64v2); supercop-20230630
hffaz7: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mipso32; Octeon II (cmnips64v2); supercop-20220213
teside: 1 x 1200MHz; 2010 Marvell Armada 310; armeabi; Armada (562f311); supercop-20170718
berry2: 4 x 900MHz; 2016 Broadcom BCM2836; armeabi; Cortex-A7 (410f075); supercop-20230630
black: 1 x 1000MHz; 2012 TI Sitara XAM3359AZCZ100; armeabi; Cortex-A8 (413fc082); supercop-20230630
novellai0: 4 x 1200MHz; 2011 Freescale i.MX6 Quad; armeabi; Cortex-A9+NEON (412fc09a); supercop-20200702
artix: 4 x 1200MHz; 2012 Samsung Exynos 44127; armeabi; Cortex-A9+NEON (413fc090); supercop-20191221
novellai0: 4 x 1200MHz; 2011 Freescale i.MX6 Quad; armeabi; Cortex-A9+NEON (412fc09a); supercop-20191221
jetsonati: 4 x 2065MHz; 2014 NVIDIA Tegra K1; armeabi; Cortex-A15 (413fc0f3); supercop-20170728
gcc16: 8 x 1600MHz; 2014 APM 88320B-X1; aarch64; X-Gene (500f000); supercop-20171218
pi3bplus: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f0934); supercop-20230630
pi3bplus: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f0934); supercop-20221122
leeds: 8 x 1600MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f0934); supercop-20170404
leeds: 8 x 1600MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f0934); supercop-20230630
geoglacraslav: 4 x 1500MHz; 2016 NXP iMX 8M; aarch64; Cortex-A53+crypto (410f0934); supercop-20191221
reegadelock000: 4 x 1812MHz; 2017 Rockchip RK3288; aarch64; Cortex-A53+crypto (410f0934); supercop-20230630
jetsonati: 4 x 1734MHz; 2015 NVIDIA Tegra X1; aarch64; Cortex-A57+crypto (418f071); supercop-20191017
warbear: 8 x 2000MHz; 2016 AMD Opteron A1100; aarch64; Cortex-A57+crypto (411f0672); supercop-20200626
pi4b: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f0803); supercop-20221122
rp10batus64: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f0803); supercop-20191221
a7: 2 x 2100MHz; 2015 Mediatek MT8173; aarch64; Cortex-A72+crypto (418f0800); supercop-20170904
pmo4145: 64 x 2500MHz; 2018 Cavium ThunderX2 CN9980; aarch64; ThunderX2 (431f0af1); supercop-20191017