

crypto_hash
flopsy
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
mips32 Octeon 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

32

512

8192

131072

2097152

T:ref

?ref

https://bench.cr.yp.to
20230702

bBobcat: 2 x 1650MHz; 2011 AMD G-T56n; amd64; Bobcat (600F10); supercop-20230630
m4e50: 2 x 1650MHz; 2011 AMD E-450; amd64; Bobcat (600F20); supercop-20200618
mac: 2 x 2000MHz; 2006 AMD Athlon 64 X2; amd64; K8 (40f2); supercop-20171015
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 (100fA0); supercop-20171218
sonnigstar: 4 x 3200MHz; 2009 AMD Phenom II X4 955; amd64; K10 45nm (100fA2); supercop-20170904
h3aw: 1 x 1700MHz; 2010 AMD Athlon II Neo K125; amd64; K10 45nm (100fB3); supercop-20171015
hydra7: 4 x 2600MHz; 2011 AMD A6-3650; amd64; K10 32nm (300F10); supercop-20230630
bobcat: 4 x 2900MHz; 2011 AMD A8-3850; amd64; K10 32nm (300F10); supercop-20230630
bobcat: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20171218
calvin: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20171218
hydra7: 4 x 3100MHz; 2011 AMD FX-8120; amd64; Bulldozer (600P12); supercop-20171218
hawer216: 4 x 4000MHz; 2012 AMD FX-8350; amd64; Bulldozer (600P20); supercop-20230630
hydra9: 2 x 3800MHz; 2012 AMD A10-580K; amd64; Piledriver (610F01); supercop-20171218
hptriaty: 2 x 2000MHz; 2012 AMD A10-4655M; amd64; Piledriver (610F01); supercop-20200618
zeus: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800H11); supercop-20170865
zeus: 8 x 3000MHz; 2017 AMD Ryzen 7 1700; amd64; Zen (800H11); supercop-20170865
rubus: 4 x 3100MHz; 2017 AMD Ryzen 3 1300; amd64; Zen (800H11); supercop-20211222
rubus: 4 x 3100MHz; 2017 AMD Ryzen 3 1300; amd64; Zen (800H11); supercop-20211222
deli: 2 x 2000MHz; 2019 AMD EPYC 7702; amd64; Zen 2 (830F10); supercop-20191017
zeno: 64 x 2250MHz; 2019 AMD EPYC 7742; amd64; Zen 2 (830F10); supercop-20230630
resair: 6 x 3000MHz; 2022 AMD Ryzen 5 4500U; amd64; Zen 2 (860H01); supercop-20230630
lactance: 4 x 2600MHz; 2021 AMD Ryzen 9 5900X; amd64; Zen 3 (C00F10); supercop-20230630
gwj346: 64 x 2000MHz; 2019 AMD EPYC 7702; amd64; Zen 2 (830F10); supercop-20191017
baseline: 6 x 4062MHz; 2021 AMD Ryzen 5 5600G; amd64; Zen 3 (A50F00); supercop-20211222
san: 16 x 3400MHz; 2020 AMD Ryzen 9 5900X; amd64; Zen 3 (C00F10); supercop-20230630
cezanne: 6 x 3900MHz; 2021 AMD Ryzen 5 PRO 5650G; amd64; Zen 3 (A50F00); supercop-20230630
gwj129: 68 x 1400MHz; 2016 Intel Xeon Phi 7250; amd64; Knights Landing (50671); supercop-20180818
gwj1154: 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
alder2:1f62690,5600000; 2 x 1600MHz; 2022 Intel Core i3-1215U performance cores; amd64; Golden Cove (906A4-40); supercop-20230630
avx512math: 18 x 3000MHz; 2019 Intel Core i9-10980XE; amd64; Cascade Lake (50657); supercop-20201126
pano4076: 20 x 2500MHz; 2019 Intel Xeon Gold 6248; amd64; Cascade Lake (50657); supercop-20191017
panthar: 4 x 2800MHz; 2020 Intel Core i7-1165G7; amd64; Tiger Lake (806c1); supercop-20230630
sanmy1024: 18 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806A4); supercop-20170865
sanmy1024: 18 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806A4); supercop-20170865
sanmy1024: 18 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806A4); supercop-20170865
sanmy1024: 18 x 2100MHz; 2017 Intel Xeon Gold 6150; amd64; Skylake+512x2 (806A4); supercop-20170865
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
cutis10: 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 (906a4); supercop-20230630
nitriax: 6 x 3200MHz; 2017 Intel Core i7-8700; amd64; Coffee Lake (906a4); supercop-20190910
kabya: 4 x 3000MHz; 2017 Intel Xeon E3-1220 v6; amd64; Kaby Lake (906e9); supercop-20230630
skoshare: 2 x 2400MHz; 2017 Intel Core i3-7100; amd64; Kaby Lake (906e9); supercop-20211222
istalauclit: 4 x 3100MHz; 2018 Intel Core i7-8809G; amd64; Kaby Lake (906e9); supercop-20191017
sanad: 2 x 3300MHz; 2015 Intel Pentium G4400; amd64; Skylake (506e3); supercop-20171218
sanab: 4 x 3000MHz; 2015 Intel Xeon E3-1220 v5; amd64; Skylake (506e3); supercop-20230630
gwj1441: 28 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20180818
Sanj177: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20170228
Sanj177: 18 x 2400MHz; 2016 Intel Xeon E5-2650 v4; amd64; Broadwell+AES (406f1); supercop-20170228
bolus: 8 x 1700MHz; 2015 Intel Core i7-5500T; amd64; Broadwell+AES (506d4); supercop-20230630
bolus: 8 x 1700MHz; 2015 Intel Core i7-5500T; amd64; Broadwell+AES (506d4); supercop-20230630
gwj1455: 20 x 2000MHz; 2014 Intel Xeon E5-2650 v3; amd64; Haswell+AES (306e4); supercop-20191017
Intel Xeon E5-2650 v3; amd64; Haswell+AES (306e4); supercop-20191017
Intel Xeon E5-2650 v3; amd64; Haswell+AES (306e4); supercop-20191017
Intel Xeon E5-2650 v3; amd64; Haswell+AES (306e4); supercop-20191017
sanmy613: 12 x 2700MHz; 2013 Intel Xeon E5-2697 v2; amd64; Ivy Bridge+AES (306e4); supercop-20180818
sanmy613: 12 x 2700MHz; 2013 Intel Xeon E5-2697 v2; amd64; Ivy Bridge+AES (306e4); supercop-20180818
hansivvy: 2 x 1800MHz; 2012 Intel Core i5-3427U; amd64; Ivy Bridge+AES (306e4); supercop-20230630
hydra8: 4 x 3500MHz; 2012 Intel Core i3-1775 V2; amd64; Ivy Bridge+AES (306e4); supercop-20230630
bedera: 4 x 2500MHz; 2012 Intel Xeon E3-1265L V2; amd64; Ivy Bridge+AES (306e4); supercop-20210326
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 (206d7); supercop-20230630
h6sandy: 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-20171015
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 (606); supercop-20171015
trident: 2 x 2000MHz; 2007 Intel Core 2 Duo T7300; amd64; Core 2 65nm (606); supercop-20230630
auriga: 4 x 2304MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (606); supercop-20230630
latour: 4 x 2394MHz; 2007 Intel Core 2 Quad Q6600; amd64; Core 2 65nm (606); supercop-20201130
alder2:1f62690,3300000; 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
mcsmc: 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
bbaton: 2 x 1866MHz; 2011 Intel Atom D2500; amd64; Bonnell (306f1); supercop-20230630
alntendocilluuzang: 1 x 729MHz; 2006 IBM PowerPC Broadway; ppc32; G3 (03); supercop-20191221
hifiveu54a8bdcirc: 4 x 1400MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20191221
riscv1a54a8b000: 4 x 1000MHz; 2017 SiFive Freedom U540; riscv64; U54 (sifive,u54-mc); supercop-20210326
gcc23: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mips32; Octeon II (cmnips64v2); supercop-20230630
hffz7: 2 x 2000MHz; 2011 Cavium Octeon II CN6120; mips32; 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
nblack: 1 x 1000MHz; 2012 TI Sitara XAM3359AZCZ100; armeabi; Cortex-A8 (413fc082); supercop-20230630
noevenblue: 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
noevenblue: 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
pi3aplu: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f034); supercop-20230630
pi3aplu: 4 x 1400MHz; 2018 Broadcom BCM2837B0; aarch64; Cortex-A53 (410f034); supercop-20221122
leeds: 4 x 1500MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f034); supercop-20170718
leeds: 4 x 1500MHz; 2015 ARMv8-A Cortex-A53; aarch64; Cortex-A53+crypto (410f034); supercop-20170718
gogiacraslav: 4 x 1500MHz; 2015 NXP i.MX 8M; aarch64; Cortex-A53+crypto (410f034); supercop-20191221
reegadesck830irc: 4 x 1812MHz; 2011 Rockchip RK3288; aarch64; Cortex-A53+crypto (410f034); supercop-20191221
jetsonati: 4 x 1734MHz; 2015 NVIDIA Tegra X1; aarch64; Cortex-A57+crypto (418f071); supercop-20191017
varbear: 8 x 2000MHz; 2016 AMD Opteron A1100; aarch64; Cortex-A57+crypto (418f072); supercop-20200626
pi4b: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f083); supercop-20221122
rpi4bun64: 4 x 1500MHz; 2019 Broadcom BCM2711; aarch64; Cortex-A72 (410f083); supercop-20191221
a7: 2 x 2100MHz; 2015 Mediatek MT8173; aarch64; Cortex-A72+crypto (418f080); supercop-20190904
jeon445: 64 x 2500MHz; 2018 Cavium ThunderX2 CN9980; aarch64; ThunderX2 (431f0af1); supercop-20191017