Random(4000000,2)

# of cores	1	2	3	4	5	6	7	8
serial	1.60	—	—	—	—	—	—	—
serial_call	1.35 (1.19)	—	—	—	—	—	—	—
serial_call_cas	1.32 (1.21)	—	—	—	—	—	—	—
serial_call_membar	1.77 (0.904)	—	—	—	—	—	—	—
Cilk_cas	2.19 (0.731)	1.09 (1.47)	0.747 (2.14)	0.560 (2.86)	0.482 (3.32)	0.346 (4.62)	0.285 (5.61)	0.252 (6.35)
Cilk_membar	2.27 (0.705)	1.13 (1.42)	0.752 (2.13)	0.576 (2.78)	0.518 (3.09)	0.353 (4.53)	0.288 (5.56)	0.261 (6.13)
Cilk_R_cas	2.16 (0.741)	1.08 (1.48)	0.719 (2.23)	0.545 (2.94)	0.427 (3.75)	0.338 (4.73)	0.277 (5.78)	0.247 (6.48)
Cilk_R_membar	2.26 (0.708)	1.12 (1.43)	0.772 (2.07)	0.567 (2.82)	0.471 (3.40)	0.345 (4.64)	0.289 (5.54)	0.251 (6.37)
Tascell_CLSC_cas	1.86 (0.860)	1.61 (0.994)	0.898 (1.78)	0.791 (2.02)	0.442 (3.62)	0.366 (4.37)	0.310 (5.16)	0.300 (5.33)
Tascell_CLSC_membar	1.97 (0.812)	1.70 (0.941)	0.944 (1.69)	0.765 (2.09)	0.463 (3.46)	0.357 (4.48)	0.343 (4.66)	0.279 (5.73)
Tascell_LWSC_cas	1.43 (1.12)	1.25 (1.28)	0.698 (2.29)	0.566 (2.83)	0.368 (4.35)	0.267 (5.99)	0.248 (6.45)	0.226 (7.08)
Tascell_LWSC_membar	1.79 (0.894)	1.54 (1.04)	0.858 (1.86)	0.627 (2.55)	0.416 (3.85)	0.327 (4.89)	0.277 (5.78)	0.260 (6.15)
Tascell_XCCL_cas	1.42 (1.13)	1.23 (1.30)	0.685 (2.34)	0.555 (2.88)	0.375 (4.27)	0.278 (5.76)	0.240 (6.67)	0.208 (7.69)
Tascell_XCCL_membar	1.85 (0.865)	1.60 (1.00)	0.841 (1.90)	0.635 (2.52)	0.423 (3.78)	0.334 (4.79)	0.301 (5.32)	0.252 (6.35)
Tascell_XCCC_cas	1.43 (1.12)	1.24 (1.29)	0.691 (2.32)	0.580 (2.76)	0.344 (4.65)	0.282 (5.67)	0.236 (6.78)	0.221 (7.24)
Tascell_XCCC_membar	1.76 (0.909)	1.52 (1.05)	0.843 (1.90)	0.615 (2.60)	0.440 (3.64)	0.324 (4.94)	0.294 (5.44)	0.262 (6.11)
serial_call_800	1.51 (1.06)	—	—	—	—	—	—	—
serial_call_cas_800	1.49 (1.07)	—	—	—	—	—	—	—
serial_call_membar_800	1.92 (0.833)	—	—	—	—	—	—	—
Cilk_cas_800	2.56 (0.625)	1.14 (1.40)	0.741 (2.16)	0.551 (2.90)	0.571 (2.80)	0.422 (3.79)	0.289 (5.54)	0.255 (6.27)
Cilk_membar_800	2.74 (0.584)	1.19 (1.34)	0.764 (2.09)	0.588 (2.72)	0.444 (3.60)	0.367 (4.36)	0.302 (5.30)	0.258 (6.20)
Cilk_R_cas_800	2.41 (0.664)	1.11 (1.44)	0.811 (1.97)	0.551 (2.90)	0.446 (3.59)	0.335 (4.78)	0.282 (5.67)	0.253 (6.32)
Cilk_R_membar_800	2.65 (0.604)	1.17 (1.37)	0.780 (2.05)	0.578 (2.77)	0.471 (3.40)	0.367 (4.36)	0.305 (5.25)	0.260 (6.15)
Tascell_CLSC_cas_800	1.96 (0.816)	1.00 (1.60)	0.642 (2.49)	0.541 (2.96)	0.405 (3.95)	0.348 (4.60)	0.285 (5.61)	0.255 (6.27)
Tascell_CLSC_membar_800	2.20 (0.727)	1.12 (1.43)	0.678 (2.36)	0.598 (2.68)	0.452 (3.54)	0.338 (4.73)	0.300 (5.33)	0.258 (6.20)
Tascell_LWSC_cas_800	1.60 (1.00)	0.826 (1.94)	0.494 (3.24)	0.400 (4.00)	0.315 (5.08)	0.273 (5.86)	0.225 (7.11)	0.206 (7.77)
Tascell_LWSC_membar_800	1.99 (0.804)	1.01 (1.58)	0.619 (2.58)	0.481 (3.33)	0.409 (3.91)	0.332 (4.82)	0.265 (6.04)	0.236 (6.78)
Tascell_XCCL_cas_800	1.57 (1.02)	0.808 (1.98)	0.487 (3.29)	0.478 (3.35)	0.370 (4.32)	0.353 (4.53)	0.318 (5.03)	0.307 (5.21)
Tascell_XCCL_membar_800	2.04 (0.784)	1.01 (1.58)	0.611 (2.62)	0.512 (3.12)	0.429 (3.73)	0.355 (4.51)	0.347 (4.61)	0.313 (5.11)
Tascell_XCCC_cas_800	1.69 (0.947)	0.876 (1.83)	0.497 (3.22)	0.438 (3.65)	0.322 (4.97)	0.252 (6.35)	0.220 (7.27)	0.212 (7.55)
Tascell_XCCC_membar_800	1.95 (0.821)	1.00 (1.60)	0.605 (2.64)	0.530 (3.02)	0.389 (4.11)	0.278 (5.76)	0.267 (5.99)	0.225 (7.11)

Hypercube(21)

# of cores	1	2	3	4	5	6	7	8
serial	0.967	—	—	—	—	—	—	—
serial_call	0.917 (1.05)	—	—	—	—	—	—	—
serial_call_cas	0.921 (1.05)	—	—	—	—	—	—	—
serial_call_membar	1.02 (0.948)	—	—	—	—	—	—	—
Cilk_cas	1.80 (0.537)	0.614 (1.57)	0.432 (2.24)	0.334 (2.90)	0.253 (3.82)	0.215 (4.50)	0.191 (5.06)	0.173 (5.59)
Cilk_membar	1.22 (0.793)	0.635 (1.52)	0.446 (2.17)	0.344 (2.81)	0.262 (3.69)	0.221 (4.38)	0.196 (4.93)	0.179 (5.40)
Cilk_R_cas	1.14 (0.848)	0.581 (1.66)	0.395 (2.45)	0.304 (3.18)	0.227 (4.26)	0.186 (5.20)	0.162 (5.97)	0.146 (6.62)
Cilk_R_membar	1.20 (0.806)	0.613 (1.58)	0.414 (2.34)	0.318 (3.04)	0.236 (4.10)	0.195 (4.96)	0.169 (5.72)	0.151 (6.40)
Tascell_CLSC_cas	1.12 (0.863)	0.576 (1.68)	0.416 (2.32)	0.321 (3.01)	0.232 (4.17)	0.195 (4.96)	0.168 (5.76)	0.151 (6.40)
Tascell_CLSC_membar	1.15 (0.841)	0.598 (1.62)	0.402 (2.41)	0.335 (2.89)	0.236 (4.10)	0.194 (4.98)	0.168 (5.76)	0.155 (6.24)
Tascell_LWSC_cas	0.984 (0.983)	0.505 (1.91)	0.411 (2.35)	0.284 (3.40)	0.206 (4.69)	0.169 (5.72)	0.154 (6.28)	0.138 (7.01)
Tascell_LWSC_membar	1.04 (0.930)	0.545 (1.77)	0.355 (2.72)	0.301 (3.21)	0.222 (4.36)	0.182 (5.31)	0.158 (6.12)	0.144 (6.72)
Tascell_XCCL_cas	0.979 (0.988)	0.510 (1.90)	0.378 (2.56)	0.291 (3.32)	0.210 (4.60)	0.170 (5.69)	0.150 (6.45)	0.138 (7.01)
Tascell_XCCL_membar	1.08 (0.895)	0.558 (1.73)	0.357 (2.71)	0.316 (3.06)	0.225 (4.30)	0.183 (5.28)	0.162 (5.97)	0.146 (6.62)
Tascell_XCCC_cas	1.03 (0.939)	0.531 (1.82)	0.386 (2.51)	0.298 (3.24)	0.216 (4.48)	0.180 (5.37)	0.157 (6.16)	0.143 (6.76)
Tascell_XCCC_membar	1.05 (0.921)	0.543 (1.78)	0.368 (2.63)	0.305 (3.17)	0.215 (4.50)	0.181 (5.34)	0.159 (6.08)	0.143 (6.76)
serial_call_800	0.932 (1.04)	—	—	—	—	—	—	—
serial_call_cas_800	0.934 (1.04)	—	—	—	—	—	—	—
serial_call_membar_800	1.16 (0.834)	—	—	—	—	—	—	—
Cilk_cas_800	1.17 (0.826)	0.611 (1.58)	0.430 (2.25)	0.334 (2.90)	0.254 (3.81)	0.216 (4.48)	0.192 (5.04)	0.178 (5.43)
Cilk_membar_800	1.20 (0.806)	0.632 (1.53)	0.444 (2.18)	0.342 (2.83)	0.262 (3.69)	0.223 (4.34)	0.198 (4.88)	0.183 (5.28)
Cilk_R_cas_800	1.14 (0.848)	0.580 (1.67)	0.397 (2.44)	0.305 (3.17)	0.227 (4.26)	0.189 (5.12)	0.165 (5.86)	0.149 (6.49)
Cilk_R_membar_800	1.20 (0.806)	0.616 (1.57)	0.416 (2.32)	0.318 (3.04)	0.238 (4.06)	0.197 (4.91)	0.171 (5.65)	0.153 (6.32)
Tascell_CLSC_cas_800	1.12 (0.863)	0.577 (1.68)	0.403 (2.40)	0.327 (2.96)	0.223 (4.34)	0.192 (5.04)	0.170 (5.69)	0.152 (6.36)
Tascell_CLSC_membar_800	1.15 (0.841)	0.594 (1.63)	0.413 (2.34)	0.332 (2.91)	0.238 (4.06)	0.198 (4.88)	0.173 (5.59)	0.153 (6.32)
Tascell_LWSC_cas_800	0.975 (0.992)	0.504 (1.92)	0.355 (2.72)	0.293 (3.30)	0.209 (4.63)	0.173 (5.59)	0.154 (6.28)	0.142 (6.81)
Tascell_LWSC_membar_800	1.05 (0.921)	0.539 (1.79)	0.374 (2.59)	0.308 (3.14)	0.220 (4.40)	0.183 (5.28)	0.162 (5.97)	0.148 (6.53)
Tascell_XCCL_cas_800	0.994 (0.973)	0.506 (1.91)	0.380 (2.54)	0.293 (3.30)	0.265 (3.65)	0.205 (4.72)	0.212 (4.56)	0.151 (6.40)
Tascell_XCCL_membar_800	1.09 (0.887)	0.557 (1.74)	0.396 (2.44)	0.319 (3.03)	0.284 (3.40)	0.234 (4.13)	0.218 (4.44)	0.222 (4.36)
Tascell_XCCC_cas_800	1.03 (0.939)	0.533 (1.81)	0.374 (2.59)	0.298 (3.24)	0.208 (4.65)	0.180 (5.37)	0.159 (6.08)	0.142 (6.81)
Tascell_XCCC_membar_800	1.06 (0.912)	0.544 (1.78)	0.375 (2.58)	0.306 (3.16)	0.216 (4.48)	0.181 (5.34)	0.164 (5.90)	0.146 (6.62)

2D-torus(2000)

# of cores	1	2	3	4	5	6	7	8
serial	0.284	—	—	—	—	—	—	—
serial_call	0.306 (0.928)	—	—	—	—	—	—	—
serial_call_cas	0.321 (0.885)	—	—	—	—	—	—	—
serial_call_membar	0.396 (0.717)	—	—	—	—	—	—	—
Cilk_cas	0.540 (0.526)	0.286 (0.993)	0.202 (1.41)	0.161 (1.76)	0.159 (1.79)	0.146 (1.95)	0.146 (1.95)	0.138 (2.06)
Cilk_membar	0.594 (0.478)	0.314 (0.904)	0.222 (1.28)	0.175 (1.62)	0.163 (1.74)	0.158 (1.80)	0.151 (1.88)	0.149 (1.91)
Cilk_R_cas	0.472 (0.602)	0.239 (1.19)	0.165 (1.72)	0.127 (2.24)	0.113 (2.51)	0.100 (2.84)	0.0885 (3.21)	0.0834 (3.41)
Cilk_R_membar	0.535 (0.531)	0.270 (1.05)	0.186 (1.53)	0.143 (1.99)	0.162 (1.75)	0.113 (2.51)	0.101 (2.81)	0.0913 (3.11)
Tascell_CLSC_cas	0.396 (0.717)	0.202 (1.41)	0.160 (1.77)	0.127 (2.24)	0.106 (2.68)	0.0919 (3.09)	0.0816 (3.48)	0.0730 (3.89)
Tascell_CLSC_membar	0.455 (0.624)	0.236 (1.20)	0.185 (1.54)	0.147 (1.93)	0.122 (2.33)	0.104 (2.73)	0.0922 (3.08)	0.0815 (3.48)
Tascell_LWSC_cas	0.352 (0.807)	0.183 (1.55)	0.146 (1.95)	0.116 (2.45)	0.0969 (2.93)	0.0843 (3.37)	0.0741 (3.83)	0.0682 (4.16)
Tascell_LWSC_membar	0.417 (0.681)	0.214 (1.33)	0.171 (1.66)	0.136 (2.09)	0.112 (2.54)	0.0960 (2.96)	0.0853 (3.33)	0.0773 (3.67)
Tascell_XCCL_cas	0.336 (0.845)	0.175 (1.62)	0.141 (2.01)	0.117 (2.43)	0.102 (2.78)	0.0923 (3.08)	0.0821 (3.46)	0.0772 (3.68)
Tascell_XCCL_membar	0.414 (0.686)	0.216 (1.31)	0.173 (1.64)	0.143 (1.99)	0.120 (2.37)	0.107 (2.65)	0.0964 (2.95)	0.0884 (3.21)
Tascell_XCCC_cas	0.352 (0.807)	0.182 (1.56)	0.146 (1.95)	0.115 (2.47)	0.0955 (2.97)	0.0827 (3.43)	0.0738 (3.85)	0.0664 (4.28)
Tascell_XCCC_membar	0.408 (0.696)	0.212 (1.34)	0.168 (1.69)	0.132 (2.15)	0.108 (2.63)	0.0950 (2.99)	0.0838 (3.39)	0.0760 (3.74)
serial_call_800	0.347 (0.818)	—	—	—	—	—	—	—
serial_call_cas_800	0.361 (0.787)	—	—	—	—	—	—	—
serial_call_membar_800	0.438 (0.648)	—	—	—	—	—	—	—
Cilk_cas_800	0.591 (0.481)	0.327 (0.869)	0.235 (1.21)	0.202 (1.41)	0.228 (1.25)	0.239 (1.19)	0.249 (1.14)	0.244 (1.16)
Cilk_membar_800	0.651 (0.436)	0.353 (0.805)	0.260 (1.09)	0.216 (1.31)	0.233 (1.22)	0.246 (1.15)	0.247 (1.15)	0.246 (1.15)
Cilk_R_cas_800	0.524 (0.542)	0.277 (1.03)	0.196 (1.45)	0.161 (1.76)	0.171 (1.66)	0.169 (1.68)	0.172 (1.65)	0.172 (1.65)
Cilk_R_membar_800	0.588 (0.483)	0.310 (0.916)	0.219 (1.30)	0.178 (1.60)	0.176 (1.61)	0.175 (1.62)	0.175 (1.62)	0.176 (1.61)
Tascell_CLSC_cas_800	0.445 (0.638)	0.234 (1.21)	0.181 (1.57)	0.151 (1.88)	0.108 (2.63)	0.0916 (3.10)	0.0837 (3.39)	0.0726 (3.91)
Tascell_CLSC_membar_800	0.507 (0.560)	0.266 (1.07)	0.203 (1.40)	0.165 (1.72)	0.125 (2.27)	0.108 (2.63)	0.0978 (2.90)	0.0926 (3.07)
Tascell_LWSC_cas_800	0.399 (0.712)	0.219 (1.30)	0.163 (1.74)	0.159 (1.79)	0.123 (2.31)	0.0955 (2.97)	0.0877 (3.24)	0.0793 (3.58)
Tascell_LWSC_membar_800	0.463 (0.613)	0.244 (1.16)	0.200 (1.42)	0.190 (1.49)	0.133 (2.14)	0.121 (2.35)	0.0999 (2.84)	0.103 (2.76)
Tascell_XCCL_cas_800	0.378 (0.751)	0.232 (1.22)	4.44 (0.064)	3.89 (0.073)	2.93 (0.097)	2.30 (0.123)	2.38 (0.119)	2.99 (0.095)
Tascell_XCCL_membar_800	0.464 (0.612)	0.281 (1.01)	6.38 (0.045)	6.19 (0.046)	3.93 (0.072)	2.16 (0.131)	3.84 (0.074)	3.03 (0.094)
Tascell_XCCC_cas_800	0.389 (0.730)	0.205 (1.39)	0.159 (1.79)	0.134 (2.12)	0.0970 (2.93)	0.0843 (3.37)	0.0760 (3.74)	0.0651 (4.36)
Tascell_XCCC_membar_800	0.447 (0.635)	0.236 (1.20)	0.187 (1.52)	0.146 (1.95)	0.113 (2.51)	0.0975 (2.91)	0.0837 (3.39)	0.0772 (3.68)

Bintree(24)

# of cores	1	2	3	4	5	6	7	8
serial	0.387	—	—	—	—	—	—	—
serial_call	0.507 (0.763)	—	—	—	—	—	—	—
serial_call_cas	0.585 (0.662)	—	—	—	—	—	—	—
serial_call_membar	0.842 (0.460)	—	—	—	—	—	—	—
Cilk_cas	0.933 (0.415)	0.475 (0.815)	0.314 (1.23)	0.236 (1.64)	0.184 (2.10)	0.152 (2.55)	0.129 (3.00)	0.113 (3.42)
Cilk_membar	1.12 (0.346)	0.576 (0.672)	0.376 (1.03)	0.282 (1.37)	0.225 (1.72)	0.182 (2.13)	0.155 (2.50)	0.135 (2.87)
Cilk_R_cas	0.969 (0.399)	0.483 (0.801)	0.327 (1.18)	0.242 (1.60)	0.190 (2.04)	0.156 (2.48)	0.135 (2.87)	0.117 (3.31)
Cilk_R_membar	1.15 (0.337)	0.581 (0.666)	0.395 (0.980)	0.292 (1.33)	0.228 (1.70)	0.188 (2.06)	0.160 (2.42)	0.140 (2.76)
Tascell_CLSC_cas	0.797 (0.486)	0.403 (0.960)	0.302 (1.28)	0.251 (1.54)	0.197 (1.96)	0.185 (2.09)	0.149 (2.60)	0.118 (3.28)
Tascell_CLSC_membar	0.994 (0.389)	0.501 (0.772)	0.376 (1.03)	0.376 (1.03)	0.237 (1.63)	0.208 (1.86)	0.173 (2.24)	0.157 (2.46)
Tascell_LWSC_cas	0.679 (0.570)	0.344 (1.13)	0.258 (1.50)	0.258 (1.50)	0.188 (2.06)	0.138 (2.80)	0.123 (3.15)	0.120 (3.23)
Tascell_LWSC_membar	0.872 (0.444)	0.440 (0.880)	0.330 (1.17)	0.307 (1.26)	0.214 (1.81)	0.177 (2.19)	0.153 (2.53)	0.138 (2.80)
Tascell_XCCL_cas	0.602 (0.643)	0.304 (1.27)	0.302 (1.28)	0.155 (2.50)	0.169 (2.29)	0.133 (2.91)	0.107 (3.62)	0.0970 (3.99)
Tascell_XCCL_membar	0.857 (0.452)	0.424 (0.913)	0.421 (0.919)	0.215 (1.80)	0.184 (2.10)	0.175 (2.21)	0.151 (2.56)	0.143 (2.71)
Tascell_XCCC_cas	0.630 (0.614)	0.318 (1.22)	0.243 (1.59)	0.203 (1.91)	0.158 (2.45)	0.117 (3.31)	0.119 (3.25)	0.0906 (4.27)
Tascell_XCCC_membar	0.857 (0.452)	0.418 (0.926)	0.243 (1.59)	0.262 (1.48)	0.193 (2.01)	0.183 (2.11)	0.146 (2.65)	0.126 (3.07)
serial_call_800	0.507 (0.763)	—	—	—	—	—	—	—
serial_call_cas_800	0.597 (0.648)	—	—	—	—	—	—	—
serial_call_membar_800	0.842 (0.460)	—	—	—	—	—	—	—
Cilk_cas_800	0.931 (0.416)	0.477 (0.811)	0.314 (1.23)	0.236 (1.64)	0.184 (2.10)	0.152 (2.55)	0.129 (3.00)	0.113 (3.42)
Cilk_membar_800	1.12 (0.346)	0.577 (0.671)	0.376 (1.03)	0.282 (1.37)	0.227 (1.70)	0.182 (2.13)	0.154 (2.51)	0.136 (2.85)
Cilk_R_cas_800	0.970 (0.399)	0.483 (0.801)	0.331 (1.17)	0.241 (1.61)	0.189 (2.05)	0.157 (2.46)	0.133 (2.91)	0.117 (3.31)
Cilk_R_membar_800	1.16 (0.334)	0.579 (0.668)	0.401 (0.965)	0.293 (1.32)	0.228 (1.70)	0.197 (1.96)	0.161 (2.40)	0.141 (2.74)
Tascell_CLSC_cas_800	0.795 (0.487)	0.402 (0.963)	0.399 (0.970)	0.202 (1.92)	0.199 (1.94)	0.169 (2.29)	0.157 (2.46)	0.120 (3.23)
Tascell_CLSC_membar_800	0.992 (0.390)	0.505 (0.766)	0.497 (0.779)	0.346 (1.12)	0.244 (1.59)	0.209 (1.85)	0.186 (2.08)	0.160 (2.42)
Tascell_LWSC_cas_800	0.680 (0.569)	0.347 (1.12)	0.258 (1.50)	0.237 (1.63)	0.157 (2.46)	0.139 (2.78)	0.116 (3.34)	0.111 (3.49)
Tascell_LWSC_membar_800	0.871 (0.444)	0.443 (0.874)	0.330 (1.17)	0.221 (1.75)	0.218 (1.78)	0.193 (2.01)	0.152 (2.55)	0.142 (2.73)
Tascell_XCCL_cas_800	0.601 (0.644)	0.306 (1.26)	0.302 (1.28)	0.210 (1.84)	0.146 (2.65)	0.123 (3.15)	0.109 (3.55)	0.0981 (3.94)
Tascell_XCCL_membar_800	0.841 (0.460)	0.428 (0.904)	0.318 (1.22)	0.317 (1.22)	0.199 (1.94)	0.182 (2.13)	0.143 (2.71)	0.138 (2.80)
Tascell_XCCC_cas_800	0.631 (0.613)	0.319 (1.21)	0.316 (1.22)	0.238 (1.63)	0.179 (2.16)	0.131 (2.95)	0.114 (3.39)	0.102 (3.79)
Tascell_XCCC_membar_800	0.829 (0.467)	0.418 (0.926)	0.314 (1.23)	0.262 (1.48)	0.198 (1.95)	0.170 (2.28)	0.142 (2.73)	0.140 (2.76)