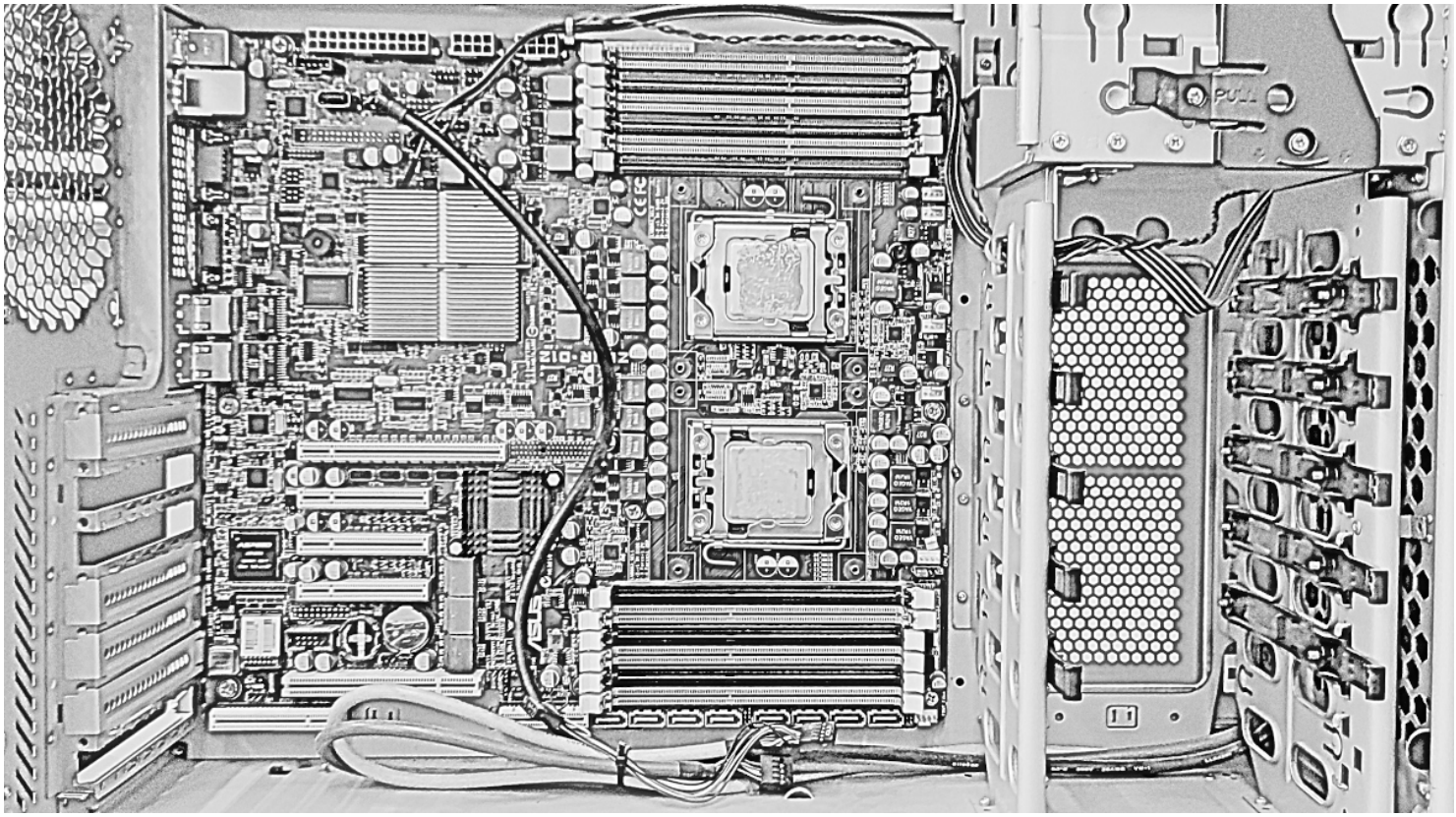

Hardware for CFD simulations

More information, comments and experiences about hardware configurations for CFD (and FEA) simulations can be found in this article: Hardware for CFD

Laptop

AMD Ryzen 7 5800H, 16" IPS 2560 × 1600 165Hz, RAM 16GB DDR4, NVIDIA GeForce RTX 3070 8GB 140 W, SSD 1000GB

Full solution price level: *$2,000*

PC

SUPERMICRO Mid-Tower 4x SATA FIX (3,5"), Drive bay (2x 5,25", 1x 3,5"), 500W

ASRock Rack EPYCD8 1x SP3, 8x DDR4 ECCreg, 9x SATA, 2x M.2(22110,2280), 7x PCIe3, 2x LAN, IPMI

AMD CPU EPYC 7002 Series 16C/32T Model 7302P (3.0/3.3GHz Max Boost,128MB, 155W, SP3) Box
or: AMD CPU EPYC 7002 Series 24C/48T Model 7402P (2.8/3.35GHz Max Boost,128MB, 180W, SP3) Tray
or: AMD CPU EPYC 7002 Series 32C/64T Model 7502P (2.5/3.35GHz Max Boost,128MB, 180W, SP3) Box
or: AMD CPU EPYC 7002 Series 32C/64T Model 7532 (2.4/3.3GHz Max Boost,256MB, 200W, SP3) Tray
Supermicro H11 AMD EPYCTM 7000 4U Series Servers and Workstations active heatsink

Memory: 8xKingston DDR4 16GB DIMM 3200MHz CL21 ECC Reg DR x8 Micron E IDT
or: 8xKingston DDR4 32GB DIMM 3200MHz CL21 ECC Reg DR x8 Micron E Rambus

2xWestern Digital SN640 SSD 800GB U.2 NVMe PCIe Gen 3.1 x4, 3000/1000MB/s, 414k/108k IOPS, 2DWPD
2xCorsair SSD adapter 2.5" --> 3.5" for SSD in desktop
2xSupermicro 55cm OCuLink to U.2 PCIE SFF-8639 with Molex Power Cable

Graphic card: GeForce RTX 2060

Monitor: 2x32 inch, e.g. 32" Philips 328P6VUBREB

Full solution price level: *$4,000*

Cluster - Server

Server AMD server 1U, 2x SP4 (7002), 32-DIMM DDR4 ECC reg, 2x 1GbE RJ45, Remote Module, Redundant PWS
2xCPU AMD Epyc 7452 (32C, 2.35GHz)
16xRAM 16GB DDR4 ECC reg 3200
2xSSD 480GB SATA
HBA Infiniband EDR (100Gb/s) - Single port

Full solution price level: *$16,000*

Storage - Server

SUPERMICRO 2U chassis 8x 3,5" HS SAS3/SATA, 600W (80PLUS Platinum)
Jou Jye A24 - Active Cooler for 2U Server & up for AMD® Socket AM4
CPU AMD Ryzen 7 8C/16T 3700X (3.6GHz,36MB,65W,AM4) box
Heatsink 2U Active (pro AMD Ryzen)
4xDIMM DDR4 32GB 3200MHz CL16 KINGSTON HyperX FURY Black
8xHDD HGST (WD) Ultrastar 8TB SATA 8
MB ASRock Rack X570D4U-2L2T AM4, 4x DDR4 ECC, 8x SATA, 2x M.2(22110/22080), 3x PCIe (4.0), 2x 10Gb LAN, IPMI
Kingston SSD 500GB KC2500 PCIe NVMe Gen3x4 M.2 TLC (read/write: 3500/2500MB/s; 350/300K IOPS)

Full solution price level: *$4,000*

For CFD (and FEA) simulations, the CPU power is very important. You can check & compare the CPU performance on the benchmark website: CPU benchmark

Last update: April 20, 2021.

Feel free to ask us about the performance, our experiences, and advice.

Best Regards,

Team CFD SUPPORT

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info@cfdsupport.com +420 212 243 883 © CFD support, s.r.o., Sokolovská 270/201, 19000 Praha 9, Czech Republic