China claims the world’s fastest supercomputer

Despite trade restrictions, China has reclaimed the title of the world’s fastest supercomputer for the first time since 2018. LineShine has pushed El Capitan out of number one on the TOP500 ranking. That’s despite strict limits on what high-powered computing components can be sold to China by US firms, which dominate the list, with America holding three of the top five spots. LineShine doesn’t even use any GPUs, which are typically the backbone of modern supercomputers.

While reaching the peak of the Top500 carries obvious bragging rights, it also serves as a message from the Chinese government to the US. The Trump administration has sought to limit China’s access to chips from firms like NVIDIA and placed steep tariffs on products going in and out of the country. China responded by building around more readily available and generalized CPUs. LineShine uses roughly 45,000 LX2 processors, each with 304 cores running at 1.55GHz, connected over a special high-speed, low-latency network called LingQi.

LineShine is the first supercomputer to cross the 2,000 exaflop barrier and is 20 percent faster than the number-two system, El Capitan, on the Top500 list. However, it also uses 42.2 megawatts, dramatically higher and less efficient than El Capitan’s 29.7 megawatts.

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