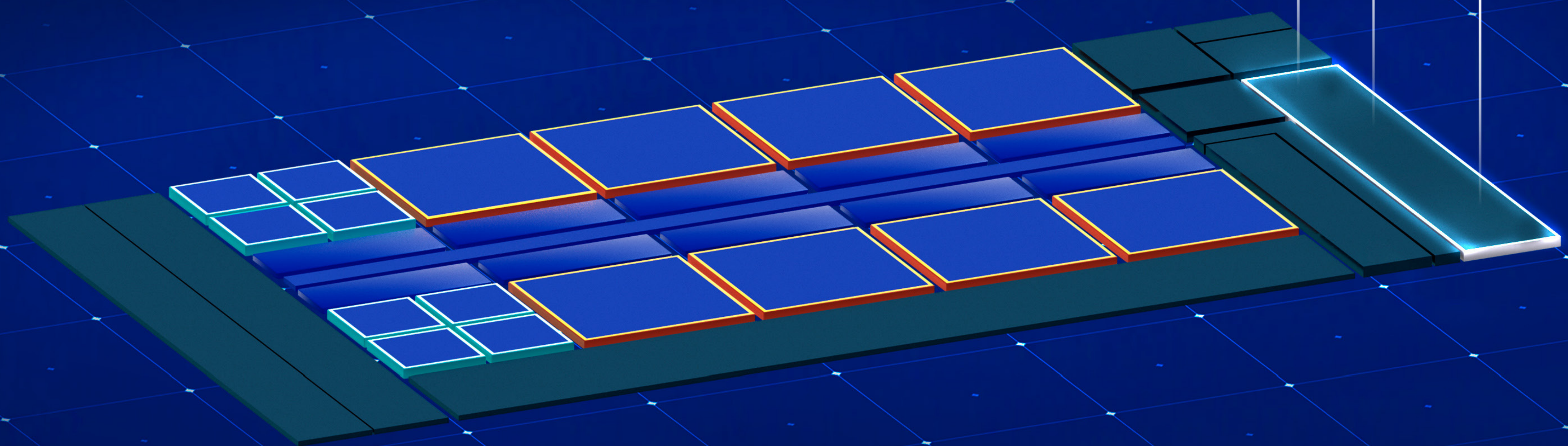


12th Gen Intel® Core™: PCI Express 5

Alder Lake leads the transition to the next generation with PCI Express 5.0. The versatile System-on-Chip architecture mixes multiple PCIe generations to meet the needs of next-gen graphics, high-end storage, ultra-fast networking, and more.

PCIe = Peripheral Component Interconnect Express



Double the bandwidth

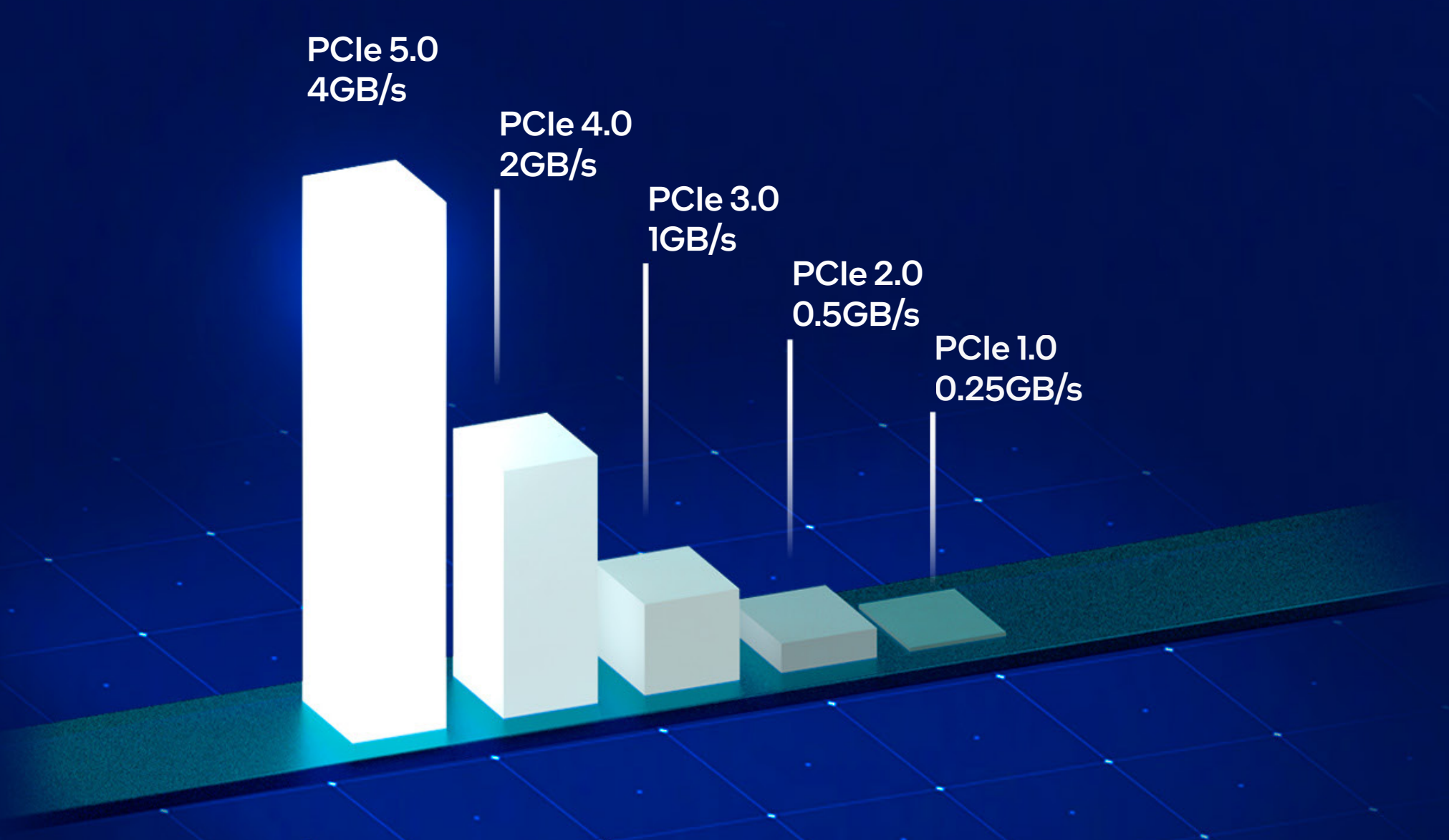
PCIe 5.0 primes Alder Lake for the next generation of GPUs. The new standard offers significantly more bandwidth than the previous generation by running individual lanes at twice the speed.

2x
faster than
PCIe 4.0

64GB/s
for 16-lane
desktop slots

Backward compatible

The PCI Express standard is backward compatible with previous generations all the way back to PCIe 1.0. Alder Lake is prepared for the next generation while retaining compatibility with existing hardware.



Mixing multiple generations

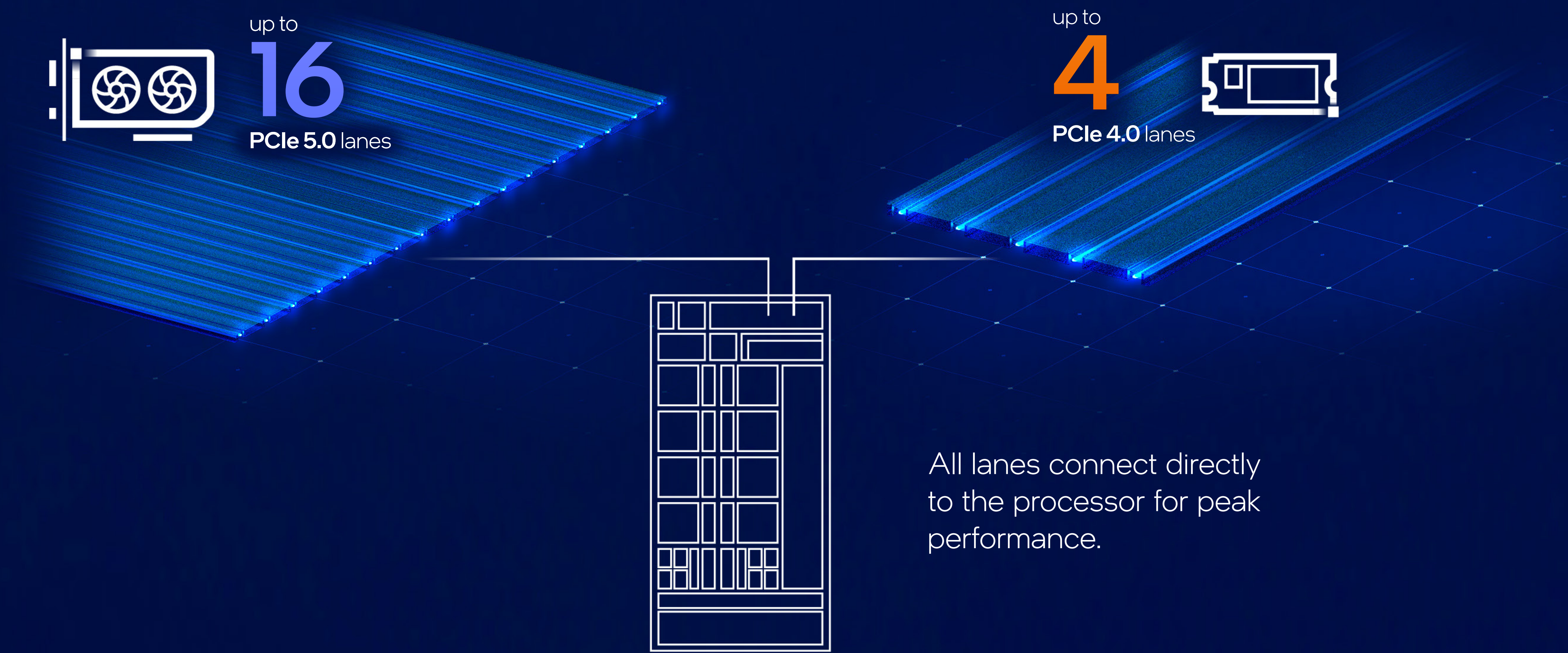
PC components have different bandwidth requirements. They don't all need the highest speeds, so Alder Lake supports multiple generations on the same SoC to enable a wide range of configurations and form factors.

More speed for graphics

With double the bandwidth of the previous generation, PCIe 5.0 is perfect for connecting high-performance graphics cards and storage.

Dedicated lanes for SSDs

Alder Lake desktop configurations also have separate PCIe 4.0 lanes for connecting a fast SSD directly to the processor.



Even more options with the PCH

Some configurations feature a Platform Controller Hub, or PCH, that adds more PCIe 4.0 lanes along with separate PCIe 3.0 connectivity. This gives the platform additional capacity for storage, networking, and other peripherals.

