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.

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.

Peripheral Component Interconnect Express
PCIe = PCIe 4.0 lanes up to PCIe 5.0 lanes

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.

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.

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.

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.

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.