WHY IS THERE NO SIMPLE PCIE X1 RAID CONTROLLER ANYMORE?

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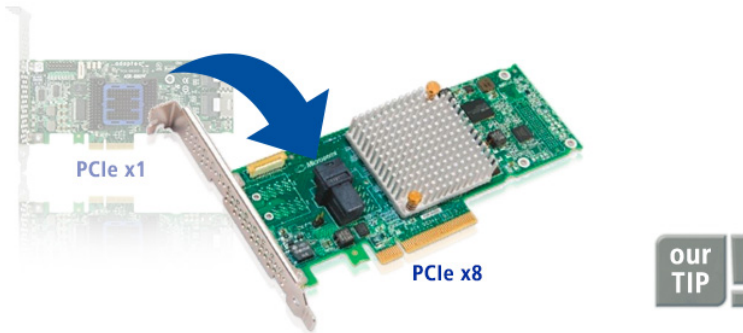
Two reasons for the change from PCIe x1 to PCIe x8

1. The market trend

After Intel had previously integrated entry-class RAID controllers in some of its chipsets (Q chipsets), RAID functionality (RAID 0/1/5/10/50) has now also been an integral part of most Intel CPUs for years. As a consequence, many manufacturers of simple and cost-effective RAID controllers have either completely disappeared from the market or have changed to other business areas. Today, the best-known RAID controller manufacturers focus on the middle-class and high-end market segment. They have completely given up the field of entry level controllers and have left it to Intel's integrated RAID controllers.

2. Der Technologiewandel

Data transfer from the board to the hard disk or SSD was formerly done at a moderate speed of 100-133 MB/s with parallel ATA. With SATA-III speeds of 600 MB/s and with SAS-III even 1200 MB/s are common today.
A 4-channel RAID controller for current SATA III hard disks requires a PCIe interface with a data rate of at least 4 x 600 MB/s = 2400 MB/s (simplified calculation). However, for cost reasons, no pure SATA RAID controllers are offered on the market, but always those that also support SAS III hard disks. The minimum data rate for the PCIe interface of such a controller is calculated as follows: 4 x 1200 MB/s = 4800 MB/s
For such transfer rates at least one PCIe x8 interface of generation 3.0 is required. Therefore, all modern RAID controllers today have a corresponding PCIe x8 interface.

ANY QUESTION?

Our experst will be happy to help you:

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