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Native Command Queuing

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Taking Serial ATA to the Next Level With Native Command Queuing

Seagate Technology continues to innovate SATA drives with enhanced performance and storage management capabilities. Seagate is the first vendor to demonstrate NCQ drives. Native Command Queuing (NCQ) is a command protocol for SATA that makes it possible to have several outstanding commands within a drive at the same time.

In simple terms, NCQ functioning is somewhat similar to an elevator. The elevator travels sequentially from floor to floor and lets people on and off. It does not follow the sequence in which users push the floor request buttons, because that would mean an excessive mechanical load and much longer times for waiting or riding.

A SATA drive that supports NCQ has an internal queue in which commands can be dynamically rescheduled and reordered. NCQ includes a tracking mechanism for both outstanding and completed portions of the drive workload. In addition, NCQ can let the host issue additional commands to the drive while the drive looks for another command.