

3. Example Specifications

	Cheetah 15K.5	Barracuda
Capacity	300 GB	1 TB
RPM	15,000	7,200
Average Seek	4 ms	9 ms
Max Transfer	125 MB/s	105 MB/s
Platters	4	4
Cache	16 MB	16/32 MB
Connects via	SCSI	SATA

Figure 37.5: Disk Drive Specs: SCSI Versus SATA

Cheetah Average Timings for 4 KB read:

$$T_{\text{seek}} = 4 \text{ msec}$$

$$T_{\text{rotation}} = (\text{max rotation})/2 = (1/15000 \text{ min/Rot} * 60 \text{ sec/min} * 1000 \text{ msec/sec})/2 = 2 \text{ msec}$$

$$T_{\text{transfer}} = 1/125 \text{ sec/MB} * 1/1024 \text{ MB/KB} * 4 \text{ KB} * 1000000 \text{ usec/sec} = 31.25 \text{ usec}$$