

Table 11.2 Comparison of Disk Scheduling Algorithms

(a) FIFO (starting at track 100)		(b) SSTF (starting at track 100)		(c) SCAN (starting at track 100, in the direction of increasing track number)		(d) C-SCAN (starting at track 100, in the direction of increasing track number)	
Next track accessed	Number of tracks traversed	Next track accessed	Number of tracks traversed	Next track accessed	Number of tracks traversed	Next track accessed	Number of tracks traversed
55	45	90	10	150	50	150	50
58	3	58	32	160	10	160	10
39	19	55	3	184	24	184	24
18	21	39	16	90	94	18	166
90	72	38	1	58	32	38	20
160	70	18	20	55	3	39	1
150	10	150	132	39	16	55	16
38	112	160	10	38	1	58	3
184	146	184	24	18	20	90	32
Average seek length	55.3	Average seek length	27.5	Average seek length	27.8	Average seek length	35.8

Table 11.4 RAID Levels

Category	Level	Description	I/O Request Rate (Read/Write)	Data Transfer Rate (Read/Write)	Typical Application
Striping	0	Nonredundant	Large strips: Excellent	Small strips: Excellent	Applications requiring high performance for noncritical data
Mirroring	1	Mirrored	Good/Fair	Fair/Fair	System drives; critical files
Parallel access	2	Redundant via Hamming code	Poor	Excellent	
	3	Bit-interleaved parity	Poor	Excellent	Large I/O request size applications, such as imaging, CAD
Independent access	4	Block-interleaved parity	Excellent/Fair	Fair/Poor	
	5	Block-interleaved distributed parity	Excellent/Fair	Fair/Poor	High request rate, read-intensive, data lookup
	6	Block-interleaved dual distributed parity	Excellent/Poor	Fair/Poor	Applications requiring extremely high availability