

Raid 0 - Disk und Offset berechnen

1

D0 D1 D2 D3

0	3	6	9
1	4	7	10
2	5	8	11
12	15	18	21
13	16	19	22
14	17	20	23

1. Disk: $\left\lfloor \frac{\text{Adresse}}{\text{chunksize}} \right\rfloor \bmod \text{Diskanzahl}$

$$\left\lfloor \frac{19}{3} \right\rfloor \bmod 4 = \underline{2}$$

2. Offset Disk: $\left\lfloor \frac{19}{3} \right\rfloor / 4 = \underline{1}$

3. Offset Chunk: $\text{Adresse} \bmod \text{chunksize}$

$$19 \bmod 3 = \underline{1}$$

	RAID-0	RAID-1	RAID-4	RAID-5
Capacity	N	N/2	N-1	N-1
Reliability	0	1 (for sure) N/2 (if lucky)	1	1
Throughput				
Sequential Read	$N \cdot S$	$\frac{1}{2}N \cdot S$	$(N-1) \cdot S$	$(N-1) \cdot S$
Sequential Write	$N \cdot S$	$\frac{1}{2}N \cdot S$	$(N-1) \cdot S$	$(N-1) \cdot S$
Random Read	$N \cdot R$	$N \cdot R$	$(N-1) \cdot R$	$N \cdot R$
Random Write	$N \cdot R$	$\frac{1}{2}N \cdot R$	$\frac{1}{2}R$	$\frac{1}{4}N \cdot R$
Latency				
Read	D	D	D	D
Write	D	D	2D	2D