

Exercise No. 12  
**Algorithms and Methods for Distributed Storage**  
Winter 2008/2009

**Exercise 12** *Allocation*

Consider the following servers

- $s_1$  with size 500 GB and bandwidth 100 MB/s
- $s_2$  with size 100 GB and bandwidth 50 MB/s
- $s_3$  with size 1 GB and bandwidth 1000 MB/s

and the following documents

- $d_1$  with size 100 GB and popularity  $\frac{1}{111}$
- $d_2$  with size 5 GB and popularity  $\frac{100}{111}$
- $d_3$  with size 100 GB and popularity  $\frac{10}{111}$

Find the optimal allocation matrix  $A_{d,s}$  for

1. **AvSeqTime** and
2. **AvParTime**.