Verteilte Systeme I
Winter Term 2019/20

G2T1 – Assignment 1 (theoretical part)

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1 Transparency Levels

a)

b)

c)

d)

i.

ii.

2 System Models

a)

b)

i.

ii.

3 Three-Army-Problem

a)

b)

4 System Availability

a)

$$A_x = \frac{80t}{100t} = 80\%$$

$$A_y = \frac{60t}{100t} = 60\%$$

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b)

$$A_{A_x|A_y} = \frac{80t}{100t} = 80\%$$

c)

$P(A_i, A_j) =$ observing node A_i as up given that node A_j is up

$$P(A_x|A_y) = \frac{60t}{60t} = 100\% \rightarrow \text{not dependent}$$

$$P(A_y|A_x) = \frac{60t}{80t} = 75\% \rightarrow \text{is dependent}$$

d)

The availability depends on $A_x = 80\%$ which is equal to $A_{A_x|A_y}$.