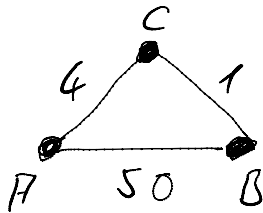


# Übung 7

Montag, 10. Januar 2011  
11:41

## Exercise 1



| $D^A$ | via |                 |
|-------|-----|-----------------|
|       | B   | C               |
| B     | 50  | 5               |
| C     | 54  | <del>4</del> 60 |

| $D^B$ | via |   |
|-------|-----|---|
|       | A   | C |
| A     | 50  | 5 |
| C     | 54  | 1 |

| $D^C$ | via             |   |
|-------|-----------------|---|
|       | A               | B |
| A     | <del>4</del> 60 | 6 |
| B     | 9               | 1 |

→ Count-to-infinity problem

| $D^B$ |    |          |
|-------|----|----------|
|       | A  | C        |
| A     | 50 | $\infty$ |

| $D^C$ |    |   |
|-------|----|---|
|       | A  | B |
| A     | 60 | 6 |

| $D^B$ |    |          |
|-------|----|----------|
|       | A  | C        |
| A     | 50 | $\infty$ |

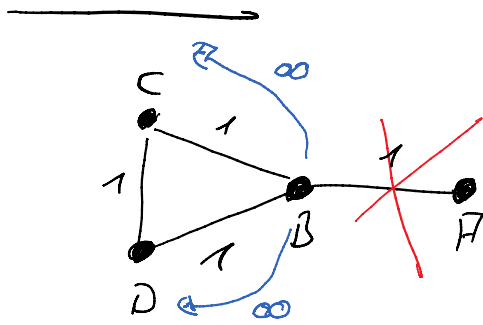
| $D^C$ |    |    |
|-------|----|----|
|       | A  | B  |
| A     | 60 | 51 |

| $D^B$ |    |    |
|-------|----|----|
|       | A  | C  |
| A     | 50 | 52 |

| $D^C$ |    |    |
|-------|----|----|
|       | A  | B  |
| A     | 60 | 51 |

## Exercise 2

C  $\nearrow \infty$



$$D^B \begin{array}{c|ccc} & A & C & D \end{array}$$

$$A \begin{array}{c|ccc} & \infty & 3 & 3 \end{array}$$

$$D^C \begin{array}{c|cc} & B & D \end{array}$$

$$A \begin{array}{c|cc} & 2 & 3 \end{array}$$

$$D^D \begin{array}{c|cc} & B & C \end{array}$$

$$A \begin{array}{c|cc} & 2 & 3 \end{array}$$

$$D^B \begin{array}{c|ccc} & A & C & D \end{array}$$

$$A \begin{array}{c|ccc} & \infty & 3 & 3 \end{array}$$

$$D^C \begin{array}{c|cc} & B & D \end{array}$$

$$A \begin{array}{c|cc} & \infty & 3 \end{array}$$

$$D^D \begin{array}{c|cc} & B & C \end{array}$$

$$A \begin{array}{c|cc} & \infty & 3 \end{array}$$

$$D^B \begin{array}{c|ccc} & A & C & D \end{array}$$

$$A \begin{array}{c|ccc} & \infty & 4 & 4 \end{array}$$

$$D^C \begin{array}{c|cc} & B & D \end{array}$$

$$A \begin{array}{c|cc} & \infty & \infty \end{array}$$

$$D^D \begin{array}{c|cc} & B & C \end{array}$$

$$A \begin{array}{c|cc} & \infty & \infty \end{array}$$

$$D^B \begin{array}{c|ccc} & A & C & D \end{array}$$

$$A \begin{array}{c|ccc} & \infty & \infty & \infty \end{array}$$

$$D^C \begin{array}{c|cc} & B & D \end{array}$$

$$A \begin{array}{c|cc} & 5 & \infty \end{array}$$

$$D^D \begin{array}{c|cc} & B & C \end{array}$$

$$A \begin{array}{c|cc} & 5 & \infty \end{array}$$

### Exercise 3

|             | OSPF (Link state)                           | RIP (Distance Vector)                   |
|-------------|---------------------------------------------|-----------------------------------------|
| Scalability | hierarchical routing<br>⇒ OK for large nets | No hierarchical routing<br>scales worse |
| Robustness  | adjusts faster                              | Count-to-infinity                       |
| Convergence | faster (hierarchical)                       | slower (NOT hierarchical)               |

|                 |                                            |                           |
|-----------------|--------------------------------------------|---------------------------|
| Convergence     | faster (hierarchical)                      | slower (NOT hierarchical) |
| Route Selection | load balancing when routes with same costs | always the same path      |
| loop Avoidance  | NO loops                                   | create loops              |