# Grundlagen Informationsicherheit und Datensicherheit, Blatt 4

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## Problem 1: BGP

#### (a)

In our case: if paths have the same length, we will use the one with lower AS-number.

Tabelle 1: AS1		
AS	IP	via
1	1.2.3.0/24	
	17.9.8.0/25	_
2	5.2.0.0/16	AS2
3	92.18.2.0/24	AS3
4	18.2.1.0/26	AS2, AS4
5	80.90.42.0/24	AS2, AS4, AS5
6	15.23.2.0/24	AS3, AS6

Tabelle 2: AS2

AS	IP	via
1	$ \begin{array}{c} 1.2.3.0/24 \\ 17.9.8.0/25 \end{array} $	AS1
2	5.2.0.0/16	_
3	92.18.2.0/24	AS3
4	18.2.1.0/26	AS4
5	80.90.42.0/24	AS4, AS5
6	15.23.2.0/24	AS3, AS6

Tabelle 3: AS3

AS	IP	via
1	1.2.3.0/24 17.9.8.0/25	AS1
2	5.2.0.0/16	AS2
3	92.18.2.0/24	_
4	18.2.1.0/26	AS4
5	80.90.42.0/24	AS4, AS5
6	15.23.2.0/24	AS6

Tabelle 4: AS4

AS	IP	via
1	$   \begin{array}{c}     1.2.3.0/24 \\     17.9.8.0/25   \end{array} $	AS2, AS1
2	5.2.0.0/16	AS2
3	92.18.2.0/24	AS3
4	18.2.1.0/26	_
5	80.90.42.0/24	AS5
6	15.23.2.0/24	AS6

Tabelle 5: AS5 AS ΙP via 1.2.3.0/241 AS4, AS2, AS117.9.8.0/255.2.0.0/16 AS4, AS2 2 AS4, AS3 3 92.18.2.0/24 18.2.1.0/26 4 AS4

Tabelle 6: AS6

AS6

80.90.42.0/24

15.23.2.0/24

5

6

AS	IP	via
1	$ \begin{array}{c} 1.2.3.0/24 \\ 17.9.8.0/25 \end{array} $	AS3, AS1
2	5.2.0.0/16	AS3, AS2
3	92.18.2.0/24	AS3
4	18.2.1.0/26	AS4
5	80.90.42.0/24	AS5
6	15.23.2.0/24	-

(b)

Only showing the changed tables. Changes are <u>underlined</u>.

Tabelle 7: AS4'

AS	IP	via
1	$\frac{1.2.3.0/24}{17.9.8.0/25}$	AS2, AS1
2	5.2.0.0/16	AS2
3	92.18.2.0/24	AS3
4	18.2.1.0/26	_
5	80.90.42.0/24 1.2.3.0/24	AS5
6	15.23.2.0/24	AS6

Tabelle 8: AS5'

AS	IP	via
1	$\frac{1.2.3.0}{24}$	AS4, AS2, AS1
1	17.9.8.0/25	A04,A02,A01
2	5.2.0.0/16	AS4, AS2
3	92.18.2.0/24	AS4, AS3
4	18.2.1.0/26	AS4
	80.90.42.0/24	AS5
	1.2.3.0/24	ASS
6	15.23.2.0/24	AS6

Tabelle 9: AS6'

AS	IP	via
1	$\frac{1.2.3.0/24}{17.9.8.0/25}$	AS3, AS1
2	5.2.0.0/16	AS3, AS2
3	92.18.2.0/24	AS3
4	18.2.1.0/26	AS4
5	80.90.42.0/24 1.2.3.0/24	AS5
6	15.23.2.0/24	_

## Problem 2: Network Trace

(a)

a

(b)

a

# Problem 3: Probability of Successful DNS Spoofing

(a)

a

(b)

a