Grundlagen Informationsicherheit und Datensicherheit, Blatt 4

Lukas Baur, 3131138
Felix Bühler, 2973410
Marco Hildenbrand, 3137242

16. Dezember 2017

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	1.2.3.0/24 17.9.8.0/25	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	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	AS5
6	15.23.2.0/24	AS6

Tabelle 5: AS5

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

Tabelle 6: AS6

AS	IP	via
1	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	AS5
6	15.23.2.0/24	-

(b)

Only showing the changed tables. Changes are underlined.

Tabelle 7: AS4'

AS	IP	via
1	~~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	~~1.2.3.0/24~~ 17.9.8.0/25	AS4, AS2, AS1
2	5.2.0.0/16	AS4, AS2
3	92.18.2.0/24	AS4, 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	AS6

Tabelle 9: AS6'

AS	IP	via
1	~~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