Communication Networks

Spring 2024

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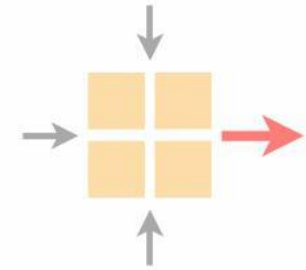https://comm-net.ethz.ch/
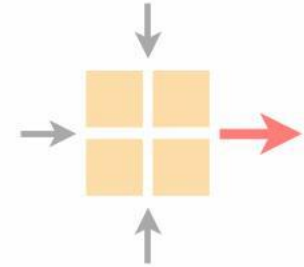
ETH Zürich

April 18, 2024

Communication Networks

Exercise 6

Important lecture topics

Introduction to this week's exercise

Time to solve the exercise

BGP policies

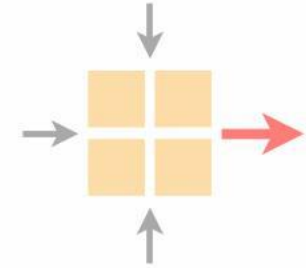|		*send to*	
	customer	peer	provider
customer	✓	✓	✓
from peer	✓	-	-
provider	✓	-	-

BGP messages

For this exercise we define two subgroups of BGP UPDATE messages

update: Used to inform that parts of a previously advertised
                 path have changed

withdraw: Used to inform that a previously advertised path is
                 no longer available
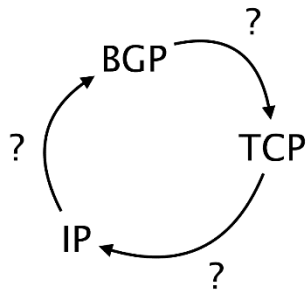
Communication Networks

Exercise 6

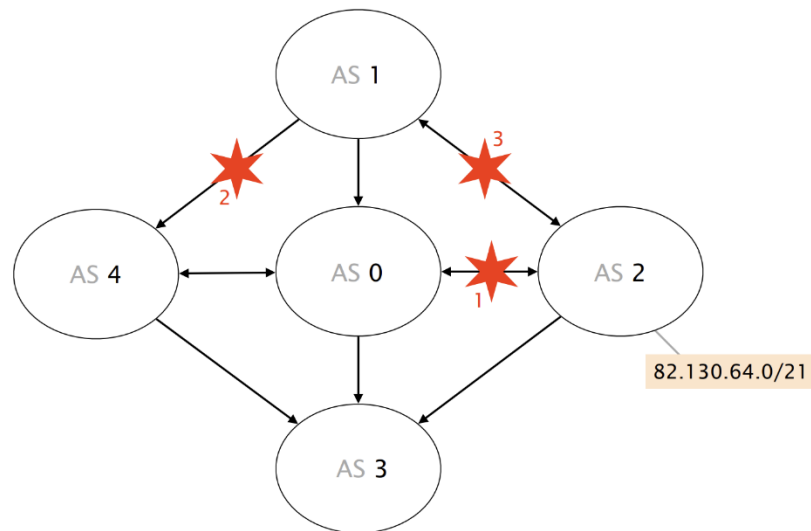Important lecture topics

Introduction to this week's exercise

Time to solve the exercise

Task 6.1 BGP

BGP
?
TCP
?
IP
?

Only a short conceptual question regarding eBGP sessions
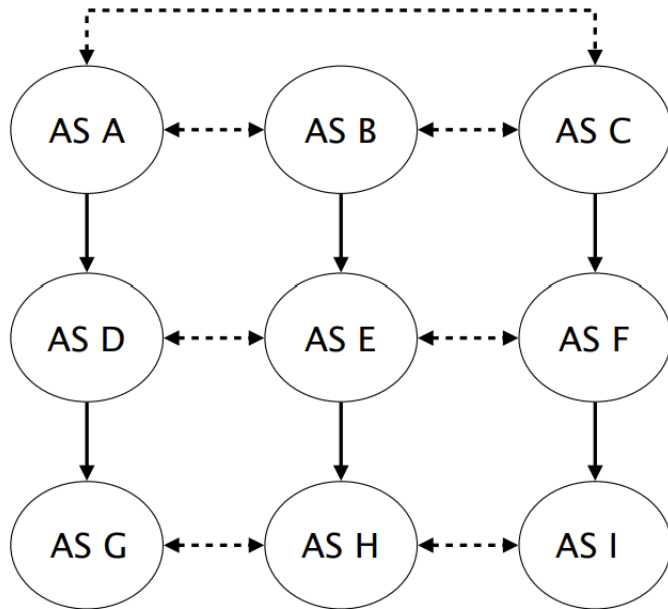
Task 6.2 BGP under failure

Make sure to think about the BGP policies

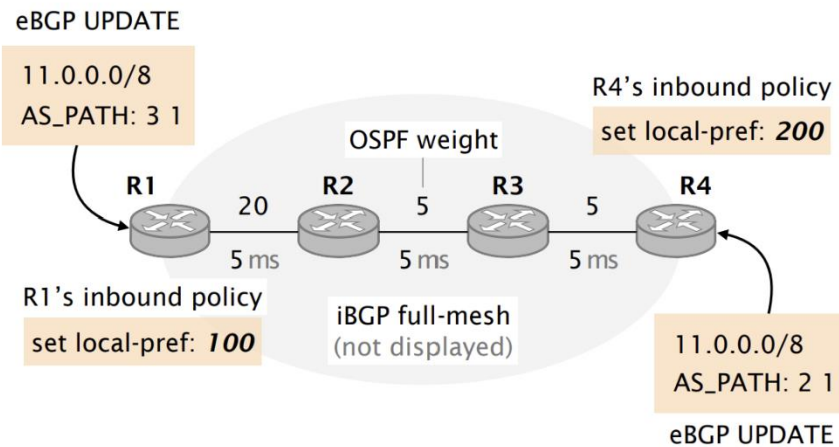Routes only get shared according to business relationship

Task 6.3 BGP visibility

Again, think about the BGP policies

Routes only get shared according to business relationship

Task 6.4 BGP route updates

eBGP UPDATE

11.0.0.0/8
AS_PATH: 3 1

R4's inbound policy
set local-pref: **200**

OSPF weight

R1   R2   R3   R4
        20   5   5
    5 ms   5 ms   5 ms

R1's inbound policy
set local-pref: **100**

iBGP full-mesh
(not displayed)

11.0.0.0/8
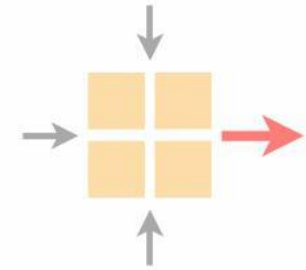AS_PATH: 2 1

eBGP UPDATE

What happens when BGP advertisements change

Look at how BGP decides which path to take if local-pref is equal

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