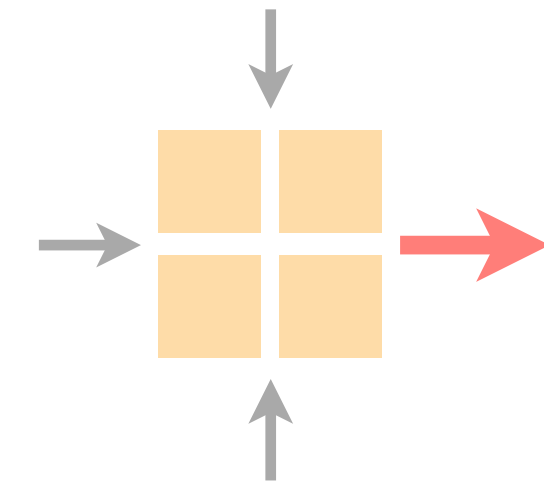


Communication Networks

Spring 2025



Slides adapted from Lukas Röllin



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10 Apr 2025

Communication Networks

Exercise 7

Routing Project

Introduction to this week's exercise

Time to solve the exercise

Routing Project

Deadline is on **April 29th**

Last in person Q&A session will be **April 17th**

Communication Networks

Exercise 7

Routing Project

Introduction to this week's exercise

Time to solve the exercise

Gao-Rexford policies

BGP is a “*follow the money*” protocol

		<i>send to</i>		
		customer	peer	provider
<i>from</i>	customer	✓	✓	✓
	peer	✓	-	-
	provider	✓	-	-

Gao-Rexford policies

We want to send as much traffic to/from customers as possible

		<i>send to</i>		
		customer	peer	provider
<i>from</i>	customer	✓	✓	✓
	peer	✓	-	-
	provider	✓	-	-

Gao-Rexford policies

We only want to use peers and providers if we get paid for it

		<i>send to</i>		
		customer	peer	provider
<i>from</i>	customer	✓	✓	✓
	peer	✓	-	-
	provider	✓	-	-

Types of BGP messages

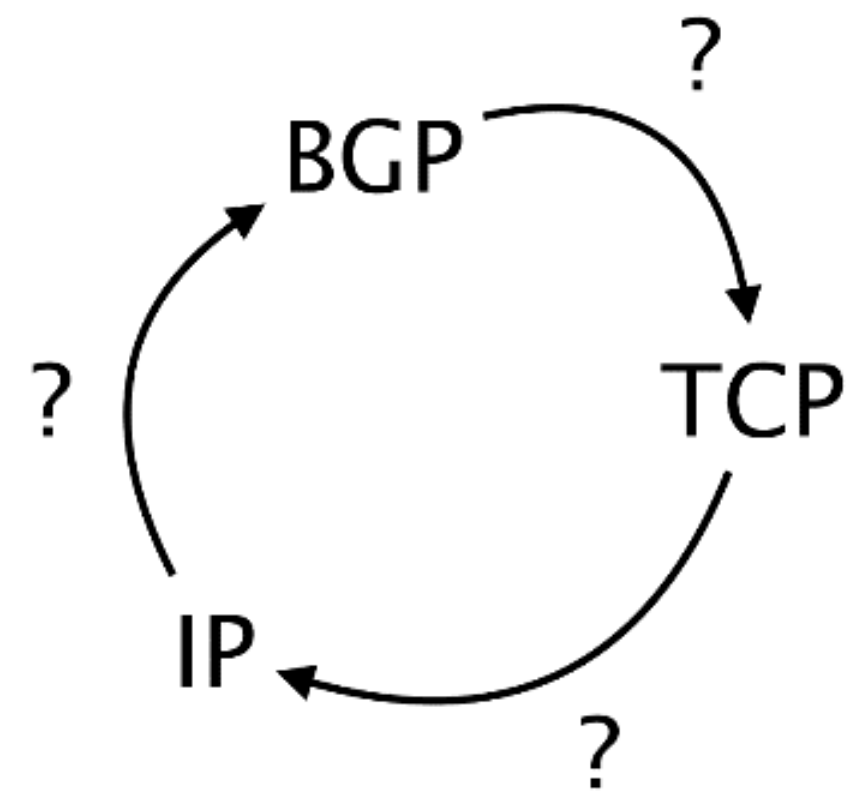
Updates and Withdraws

BGP Update : Parts of a previously advertised path have changed

BGP Withdraw : A previously advertised path is no longer available

Task 7.1

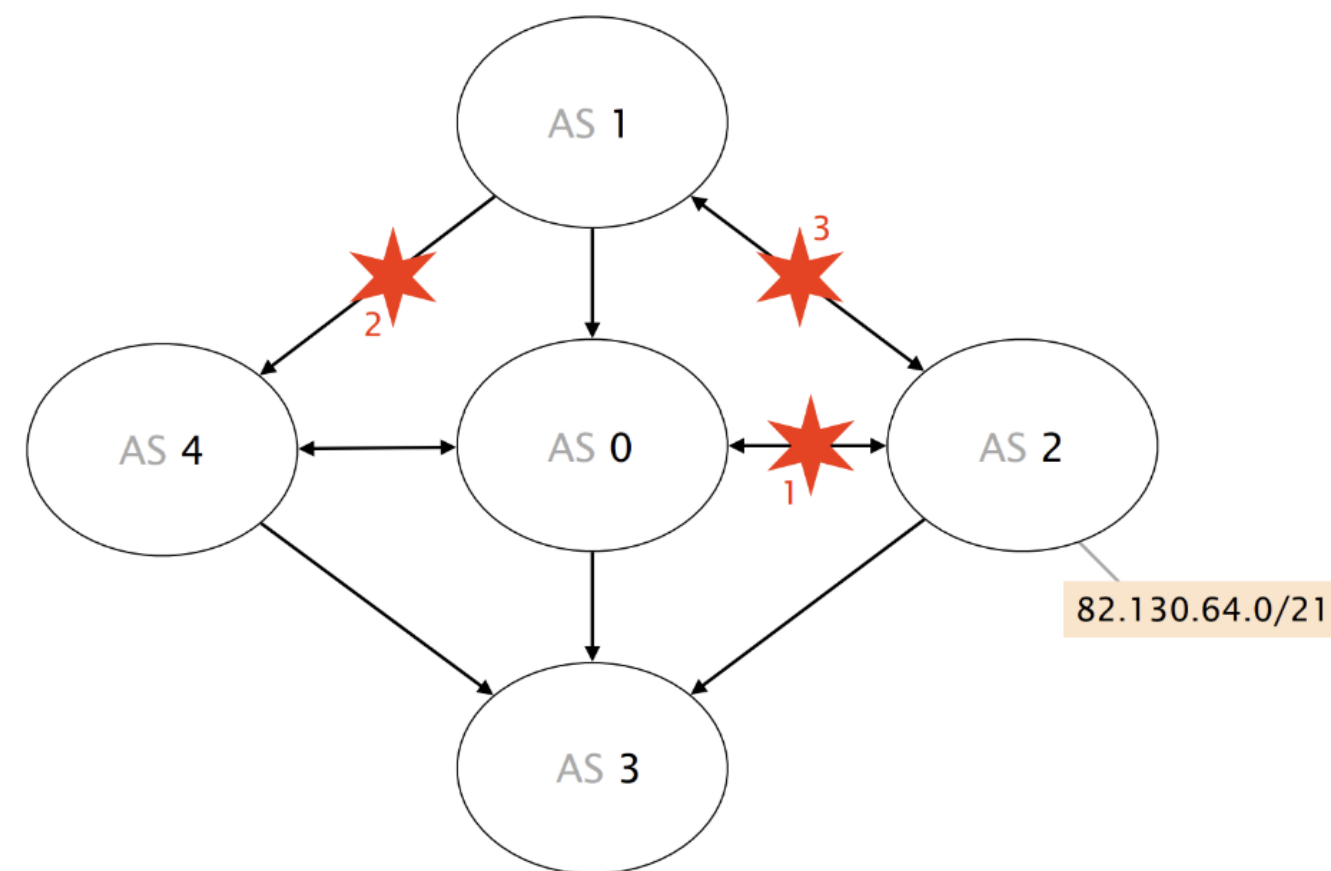
BGP



Short conceptual question about
eBGP sessions

Task 7.2

BGP under failure

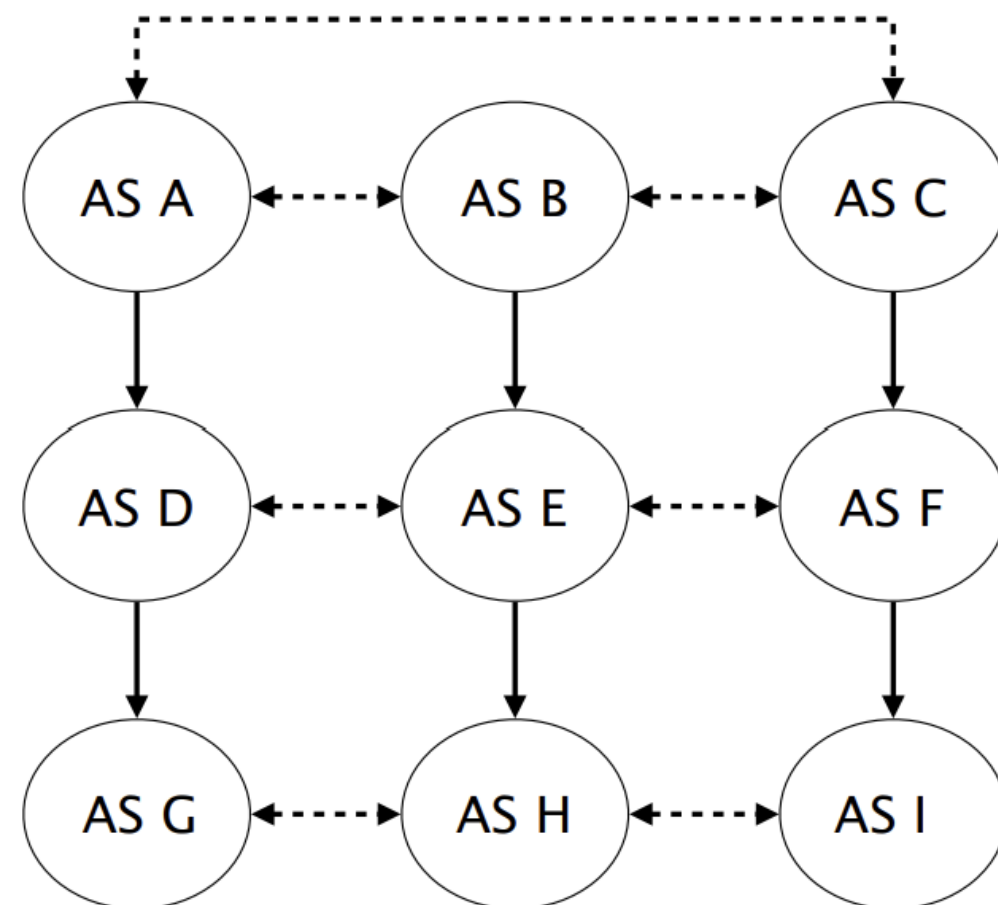


Make sure to think about the BGP policies

Routes only get shared according to business relationship

Task 7.3

BGP visibility

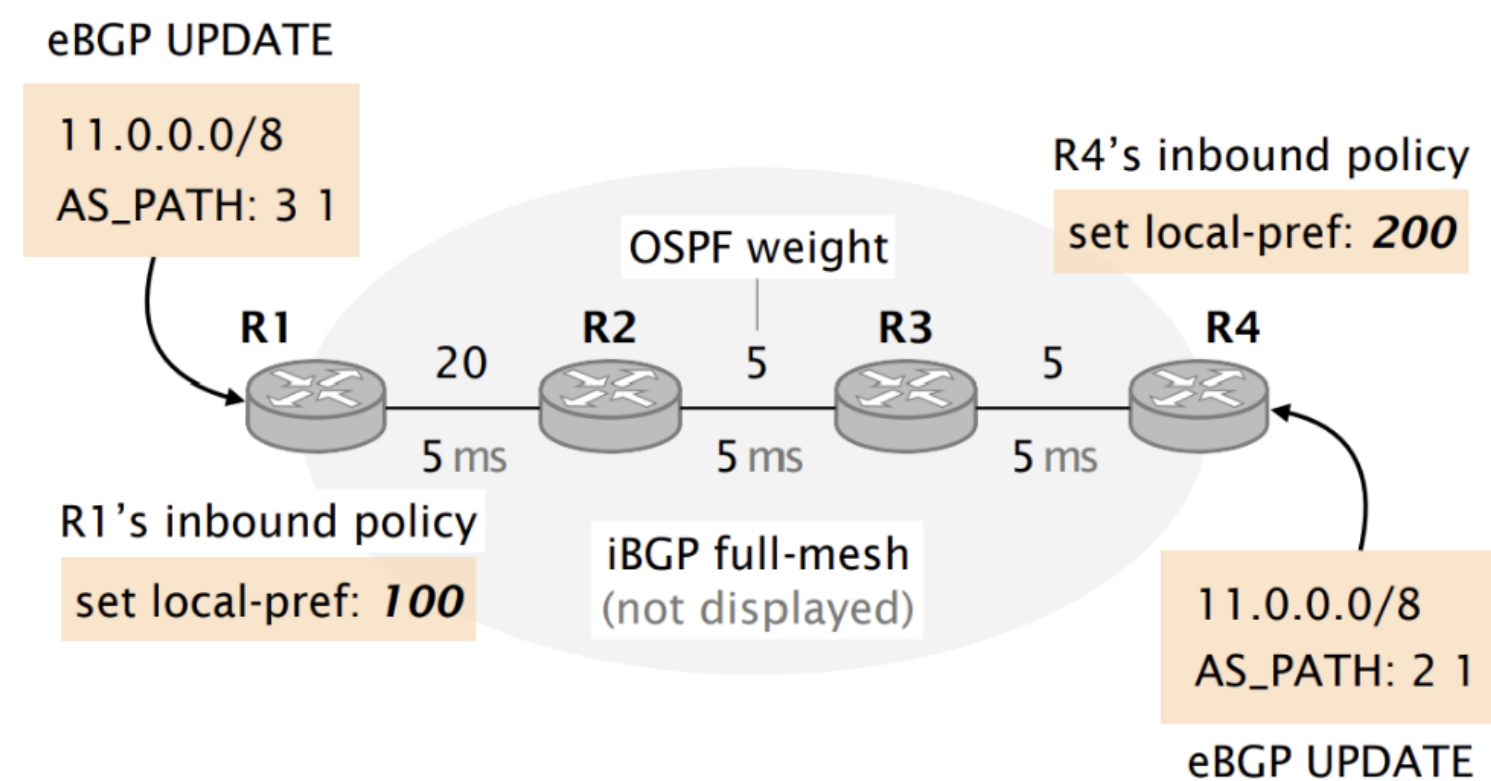


Again, think about the BGP policies

Routes only get shared according to
business relationship

Task 7.4

BGP route updates



What happens when BGP advertisements change

How does BGP decide tiebreakers?

Communication Networks

Exercise 7

Routing Project

Introduction to this week's exercise

Time to solve the exercise