



Inter-VLAN Routing

Kommunikation über ein VLAN hinaus

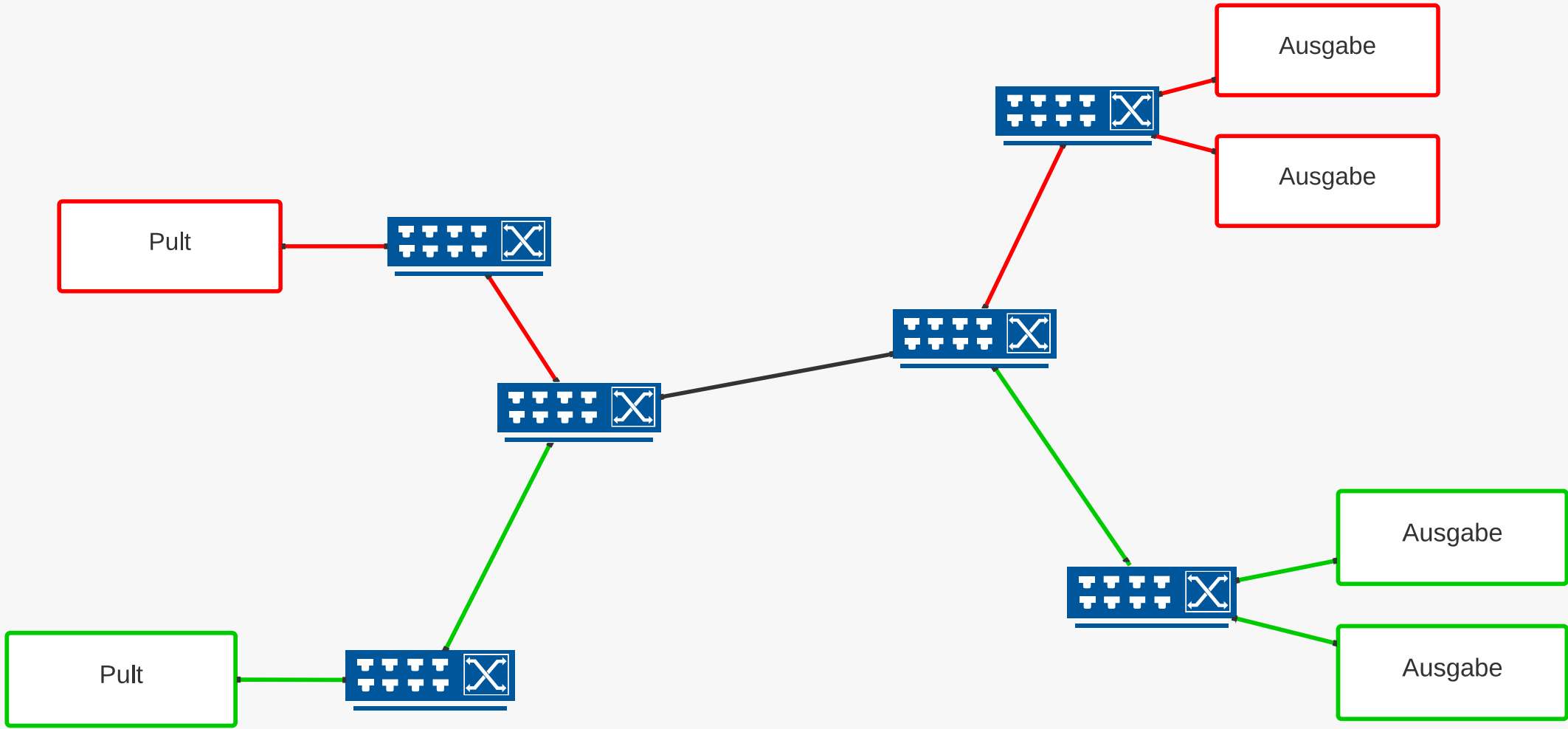


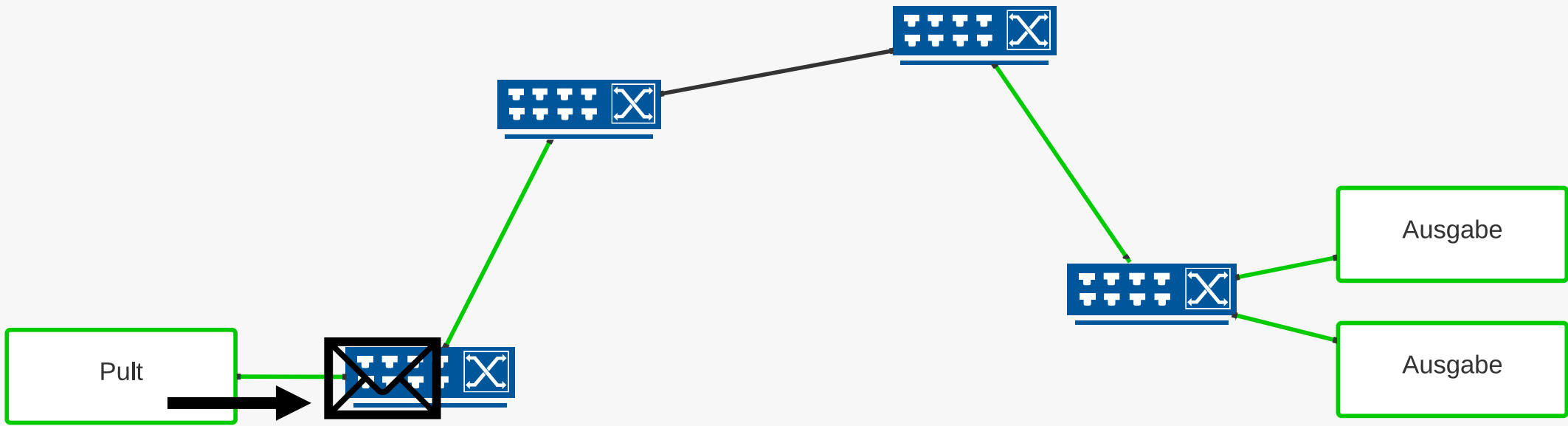
Leo Künne

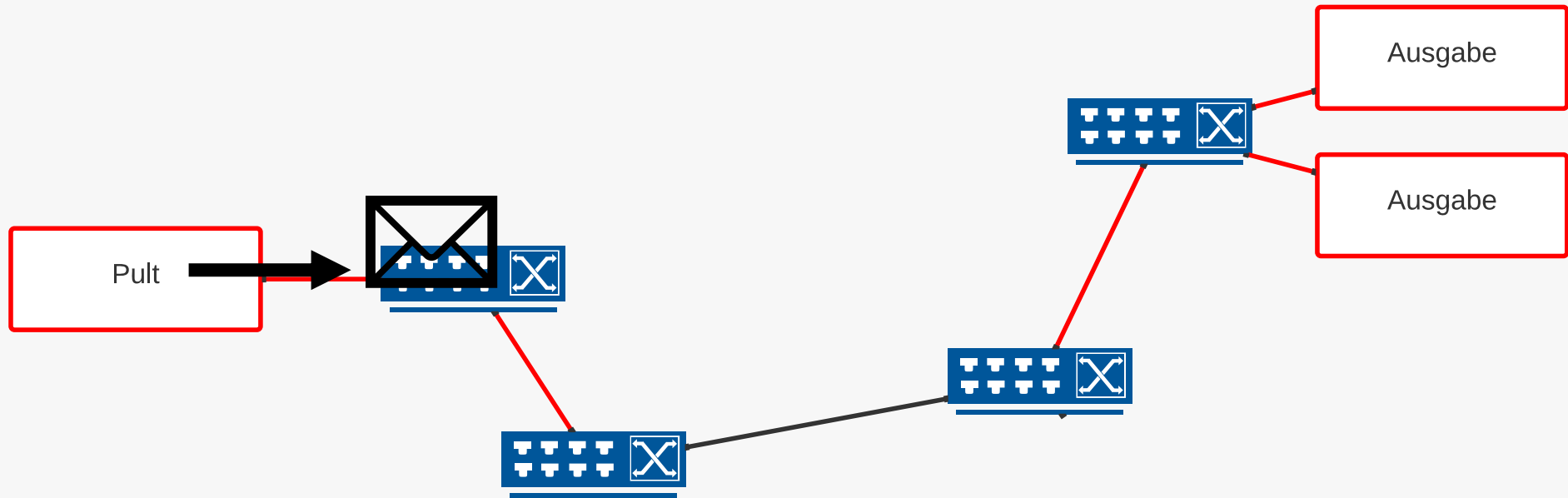
Geschäftsführer der CX-Networks GmbH

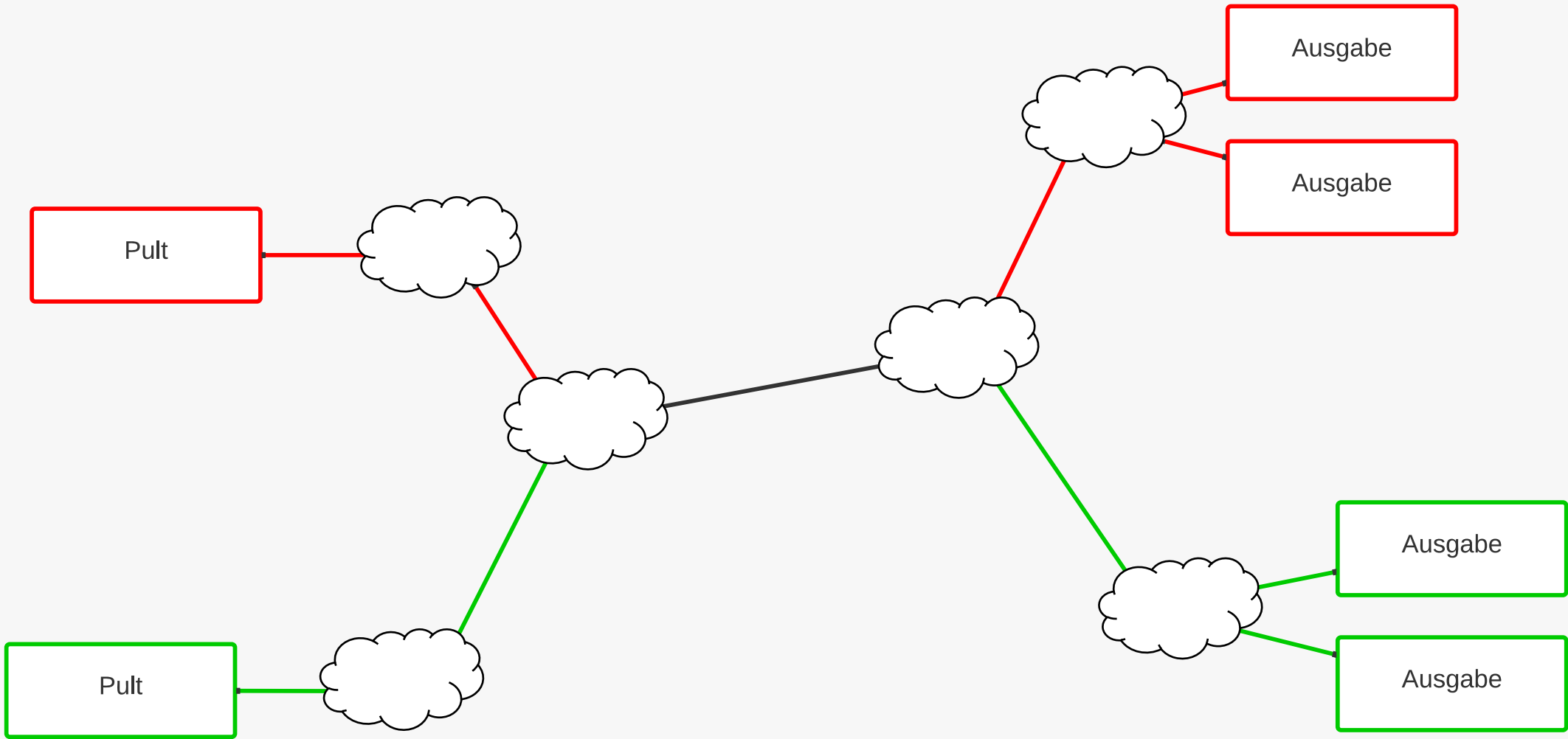
Seit 2015 in der Branche

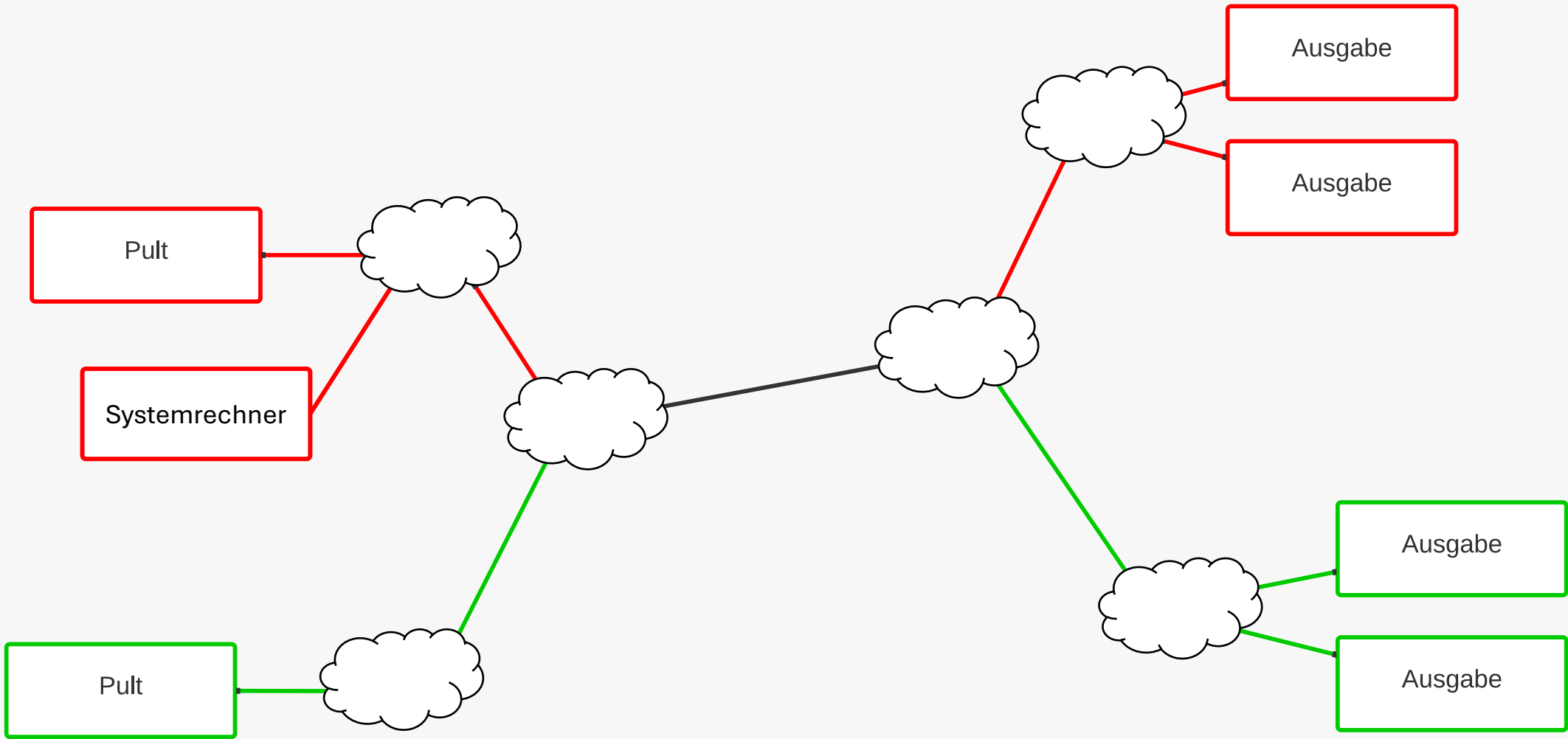




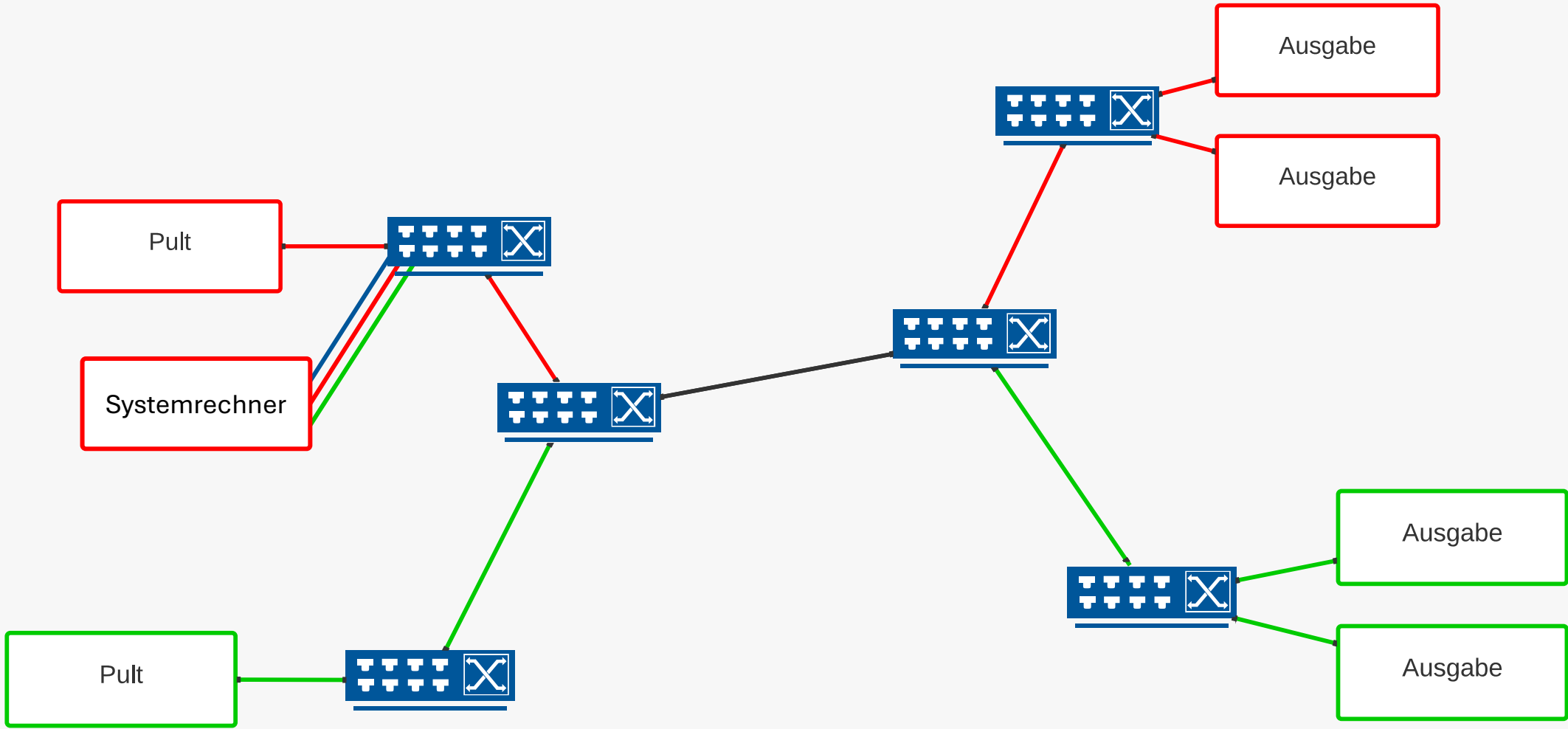




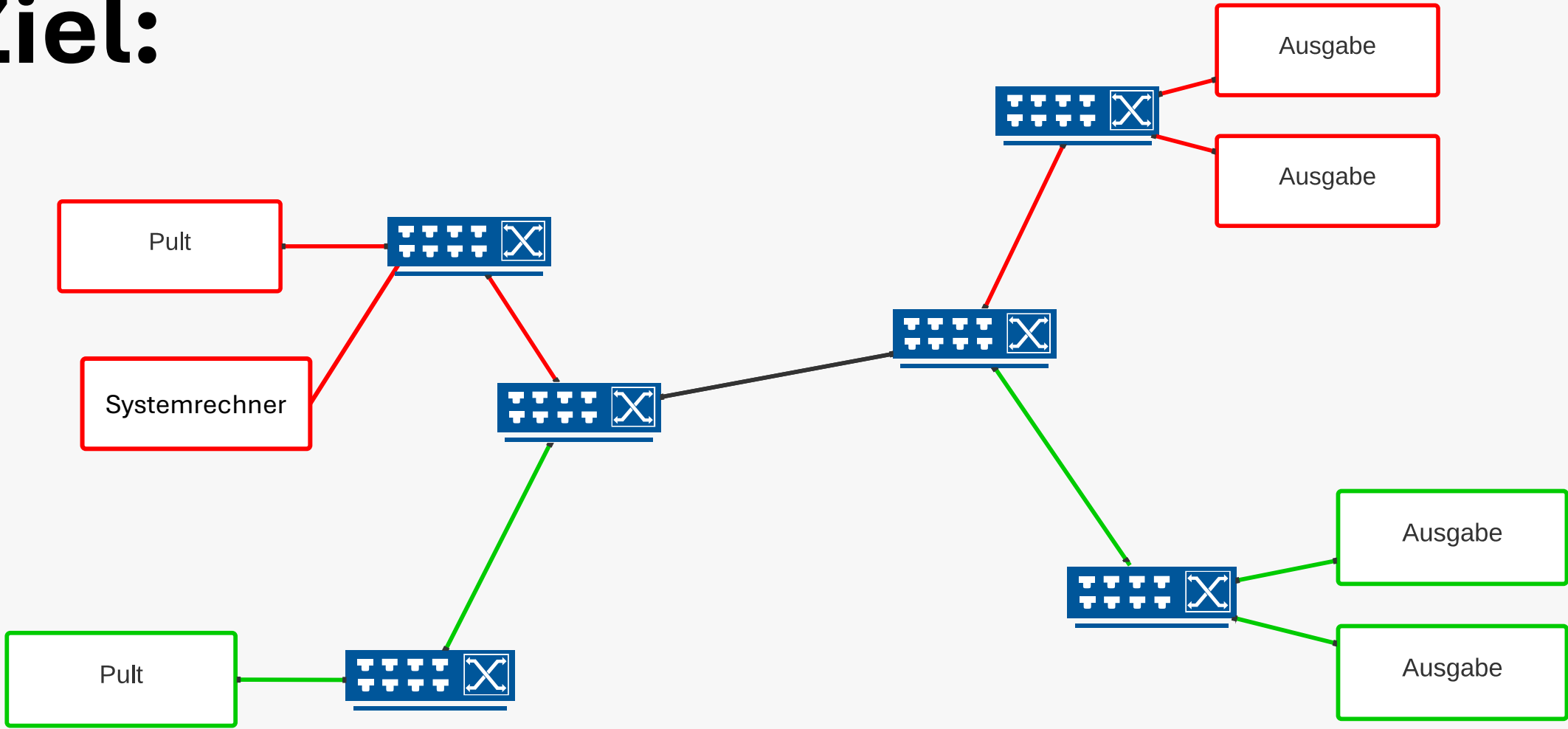






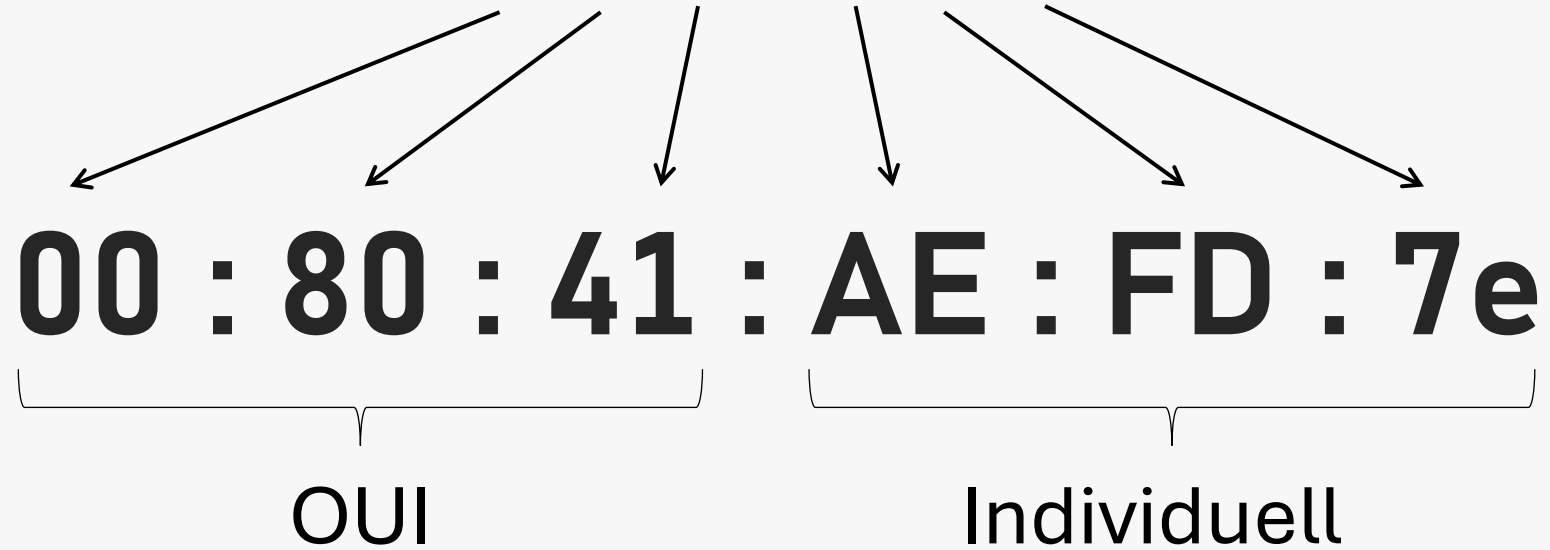


Ziel:



L2 Switching

HEX-Zahlen

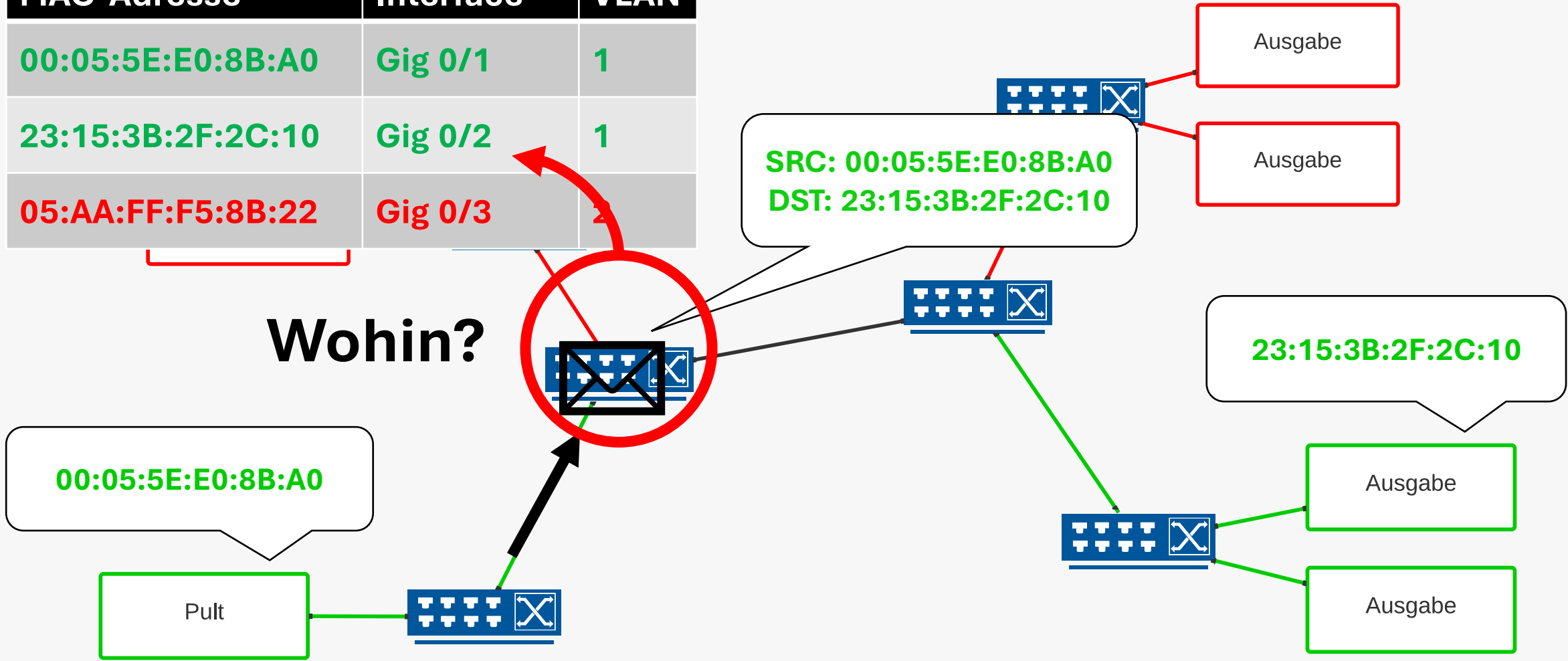


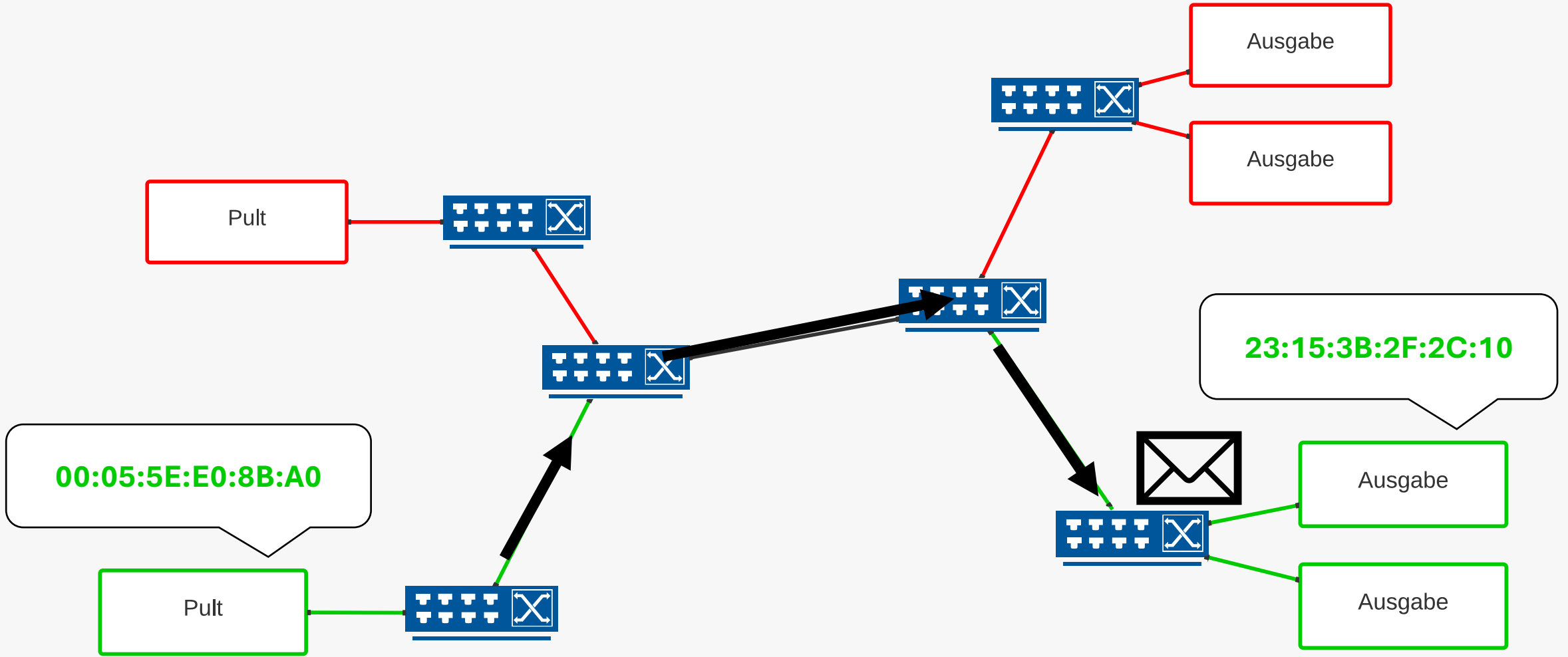
MAC/CAM-Table

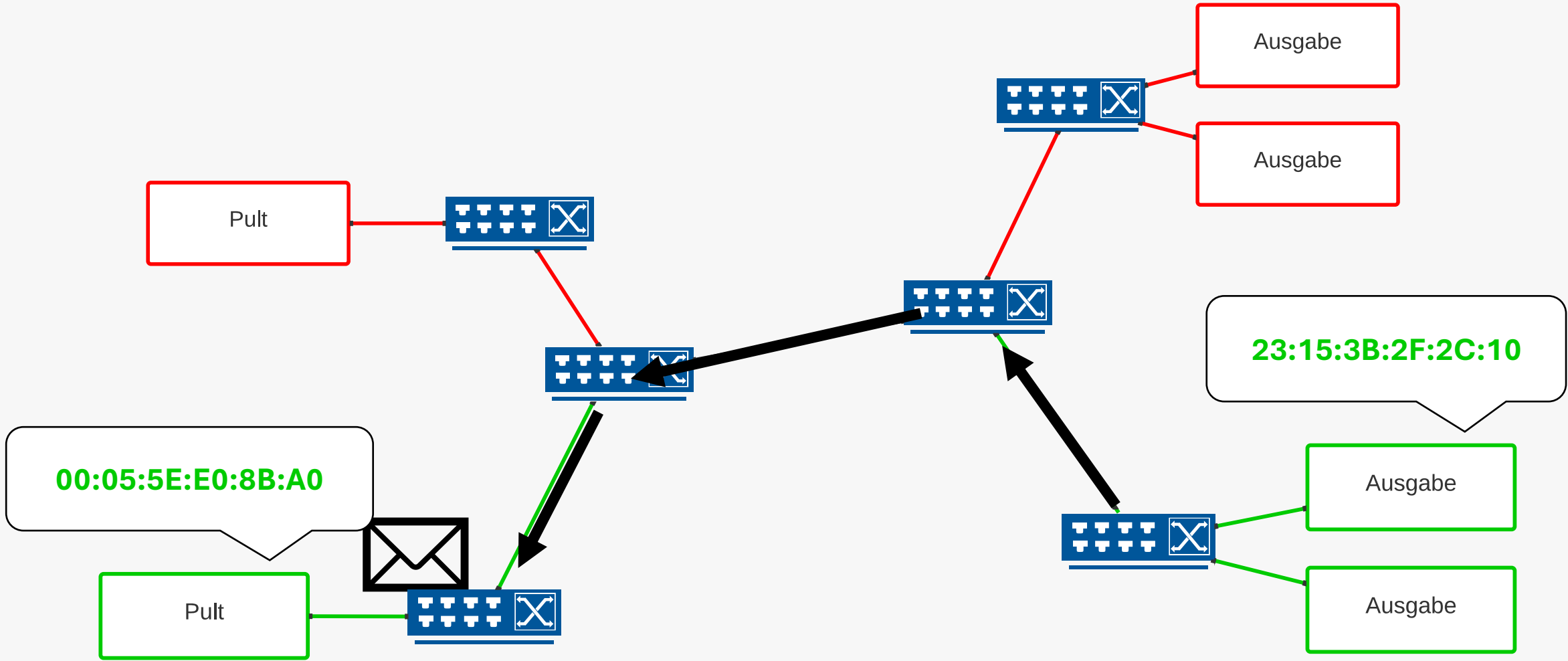
MAC-Adresse	Interface	VLAN
00:05:5E:E0:8B:A0	Gig 0/1	1
23:15:3B:2F:2C:10	Gig 0/2	1
05:AA:FF:F5:8B:22	Gig 0/3	2

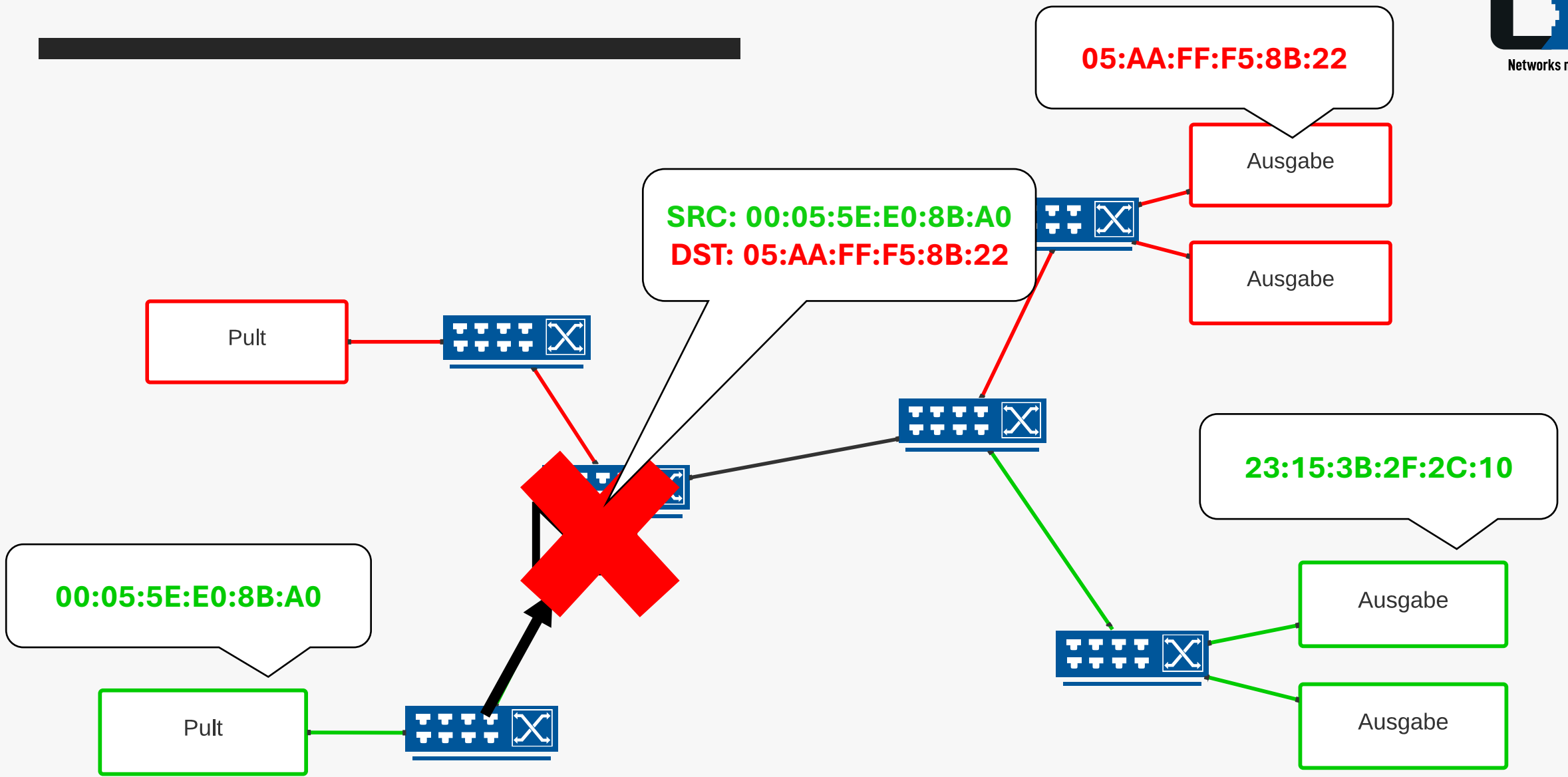
MAC-Adresse	Interface	VLAN
00:05:5E:E0:8B:A0	Gig 0/1	1
23:15:3B:2F:2C:10	Gig 0/2	1
05:AA:FF:F5:8B:22	Gig 0/3	2

Wohin?



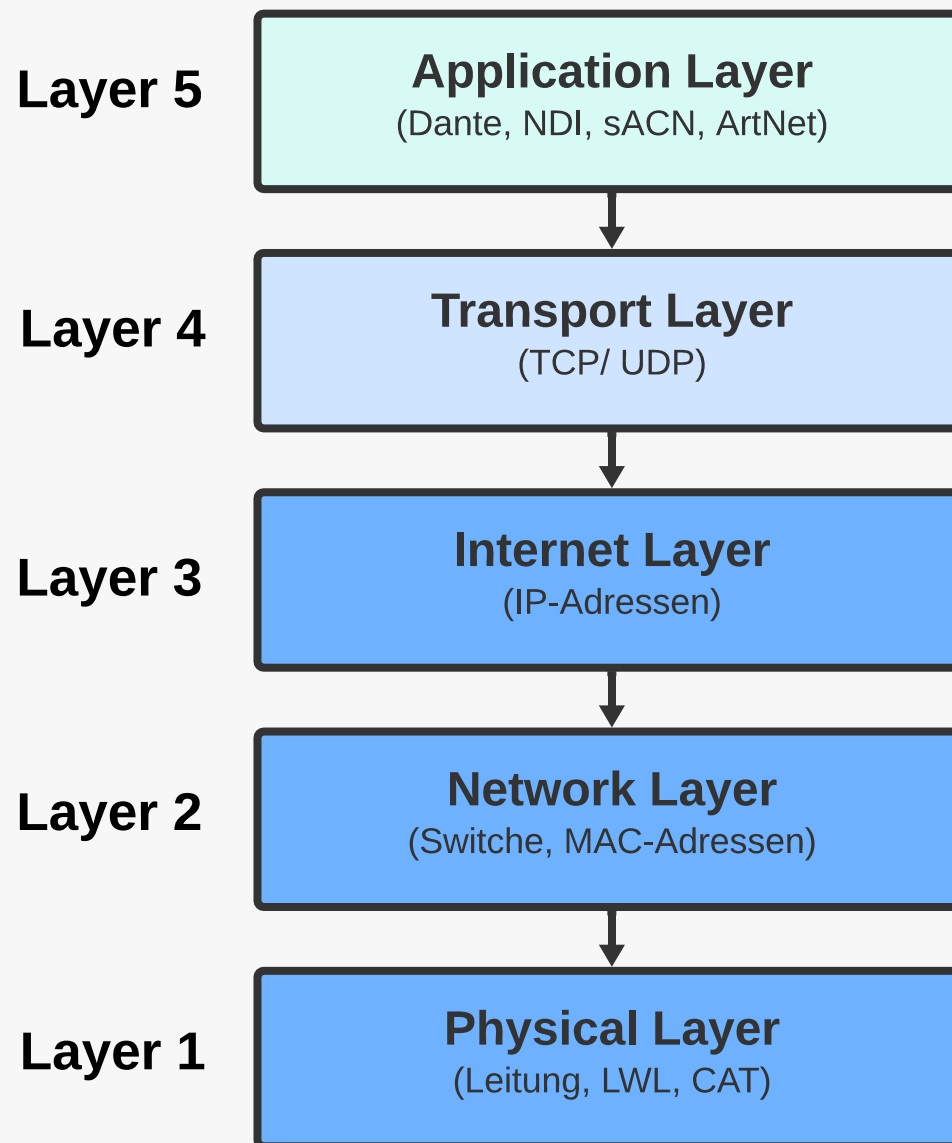


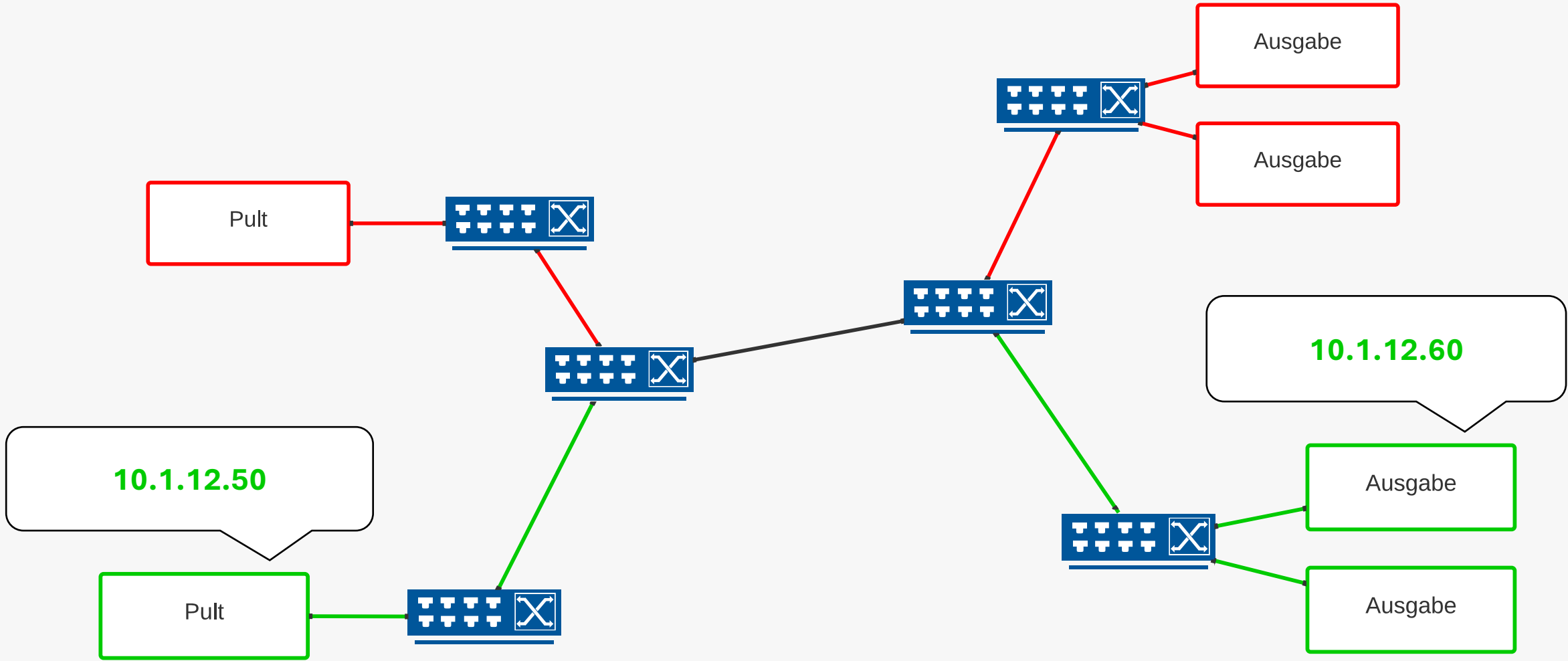


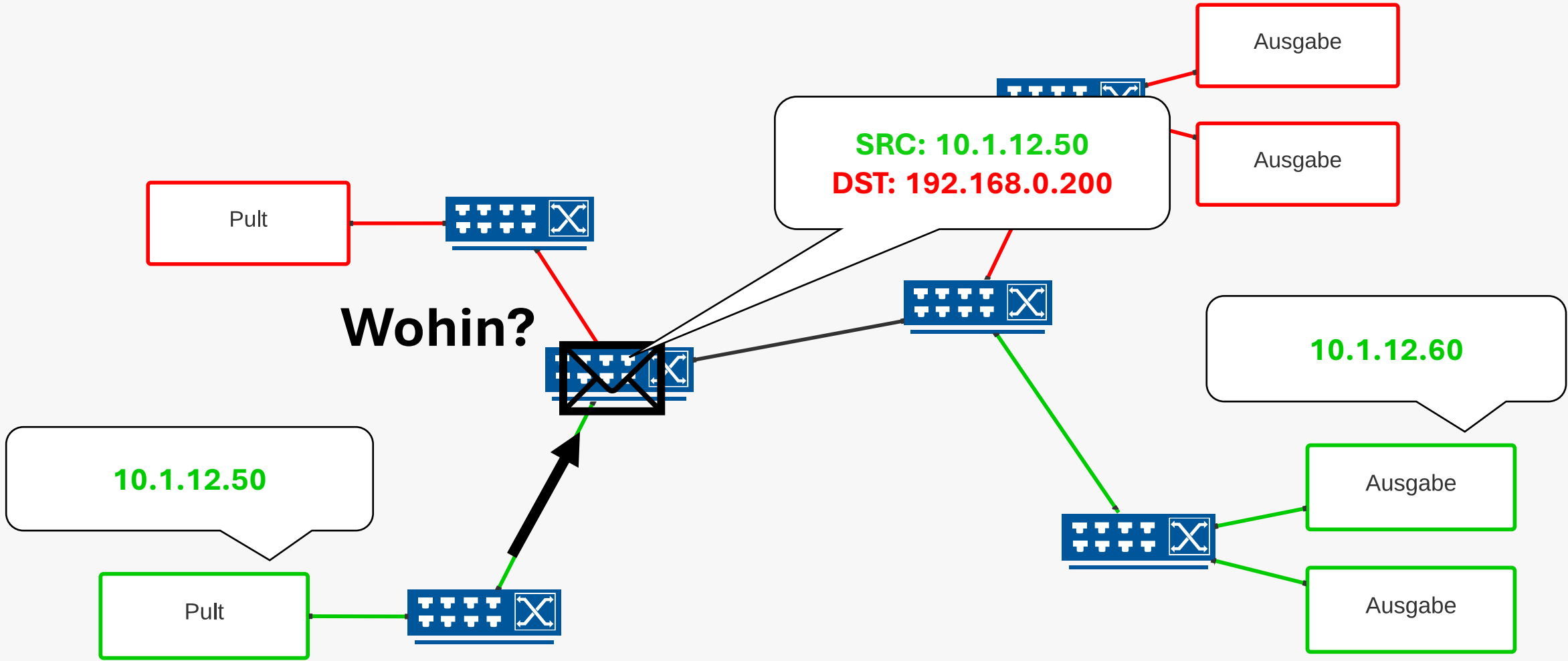


TCP/IP

Layer 3

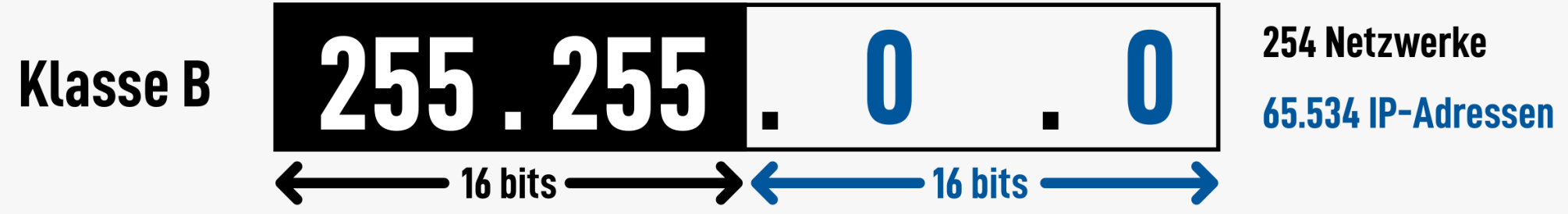
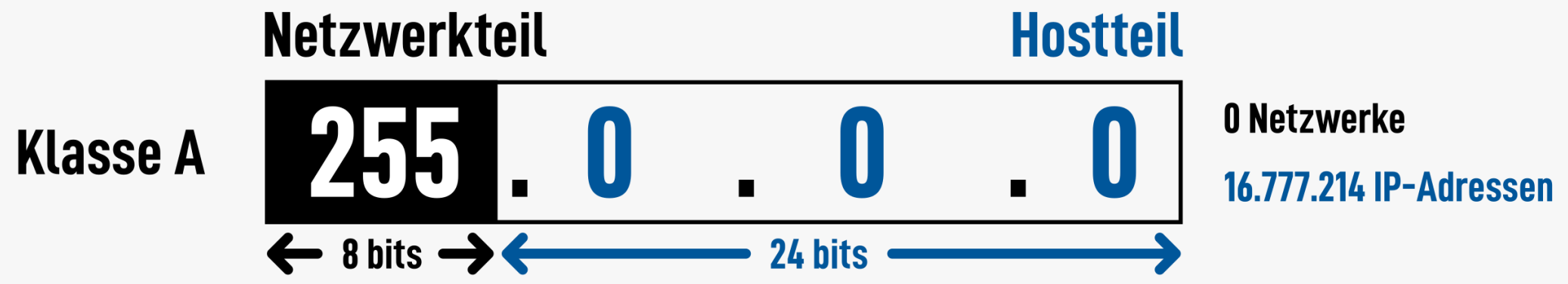






Private Adressen

Klasse	RFC1918 Adressbereich
A	10.0.0.0 – 10.255.255.255
B	172.16.0.0 – 172.31.255.255
C	192.168.0.0 – 192.168.255.255



Standard in der VT-Branche

192 . 168 . 10 . 10

255 . 255 . 255 . 0

Bereich:

Start

192 . 168 . 10 . 0

Ende

192 . 168 . 10 . 255

192 . 168 . 30 . 200

255 . 255 . 0 . 0

Bereich:

Start

192 . 168 . 0 . 0

Ende

192 . 168 . 255 . 255

10 . 50 . 230 . 114
255 . 0 . 0 . 0

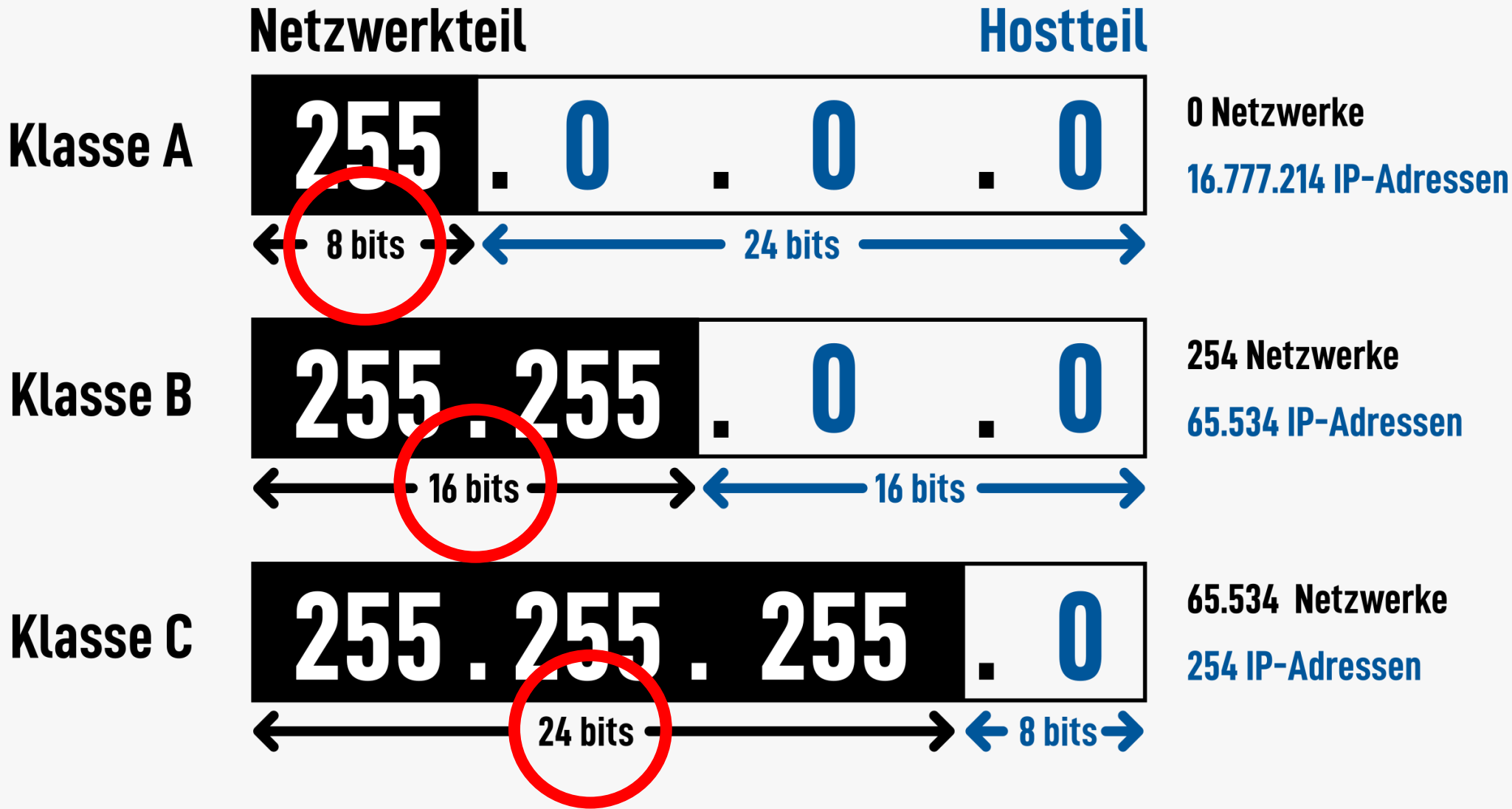
Bereich:

Start

10 . 0 . 0 . 0

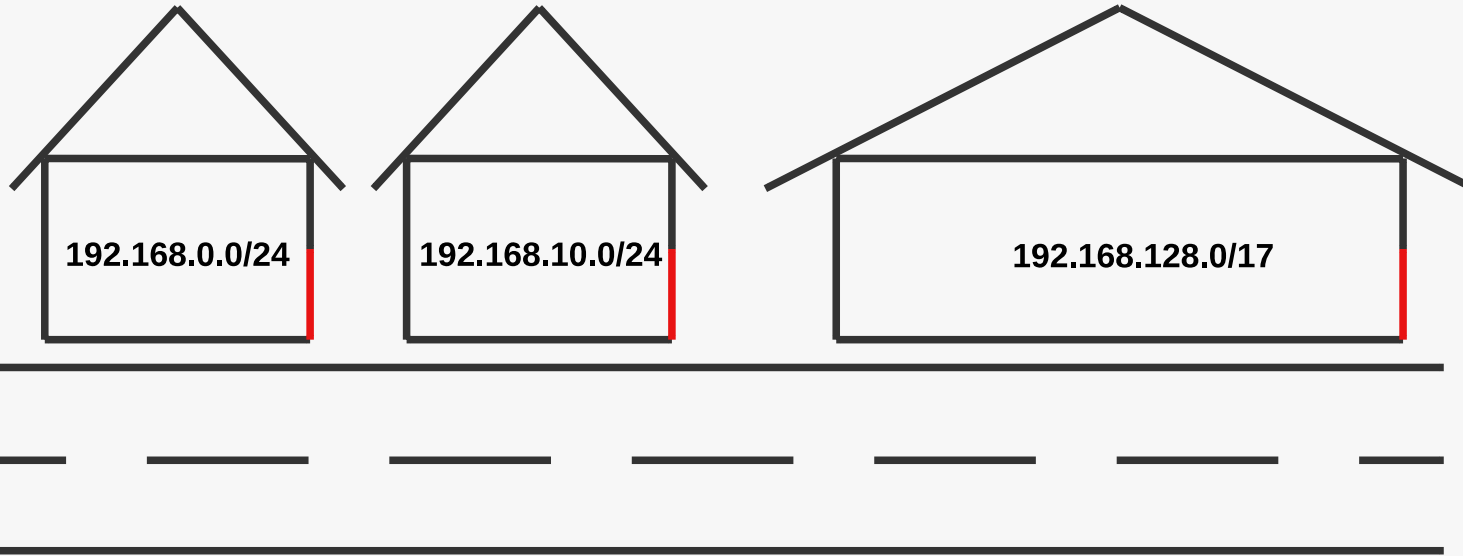
Ende

10 . 255 . 255 . 255



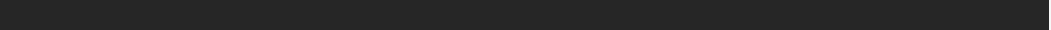


Class C
192.168.0.0 - 192.168.255.255



LAN

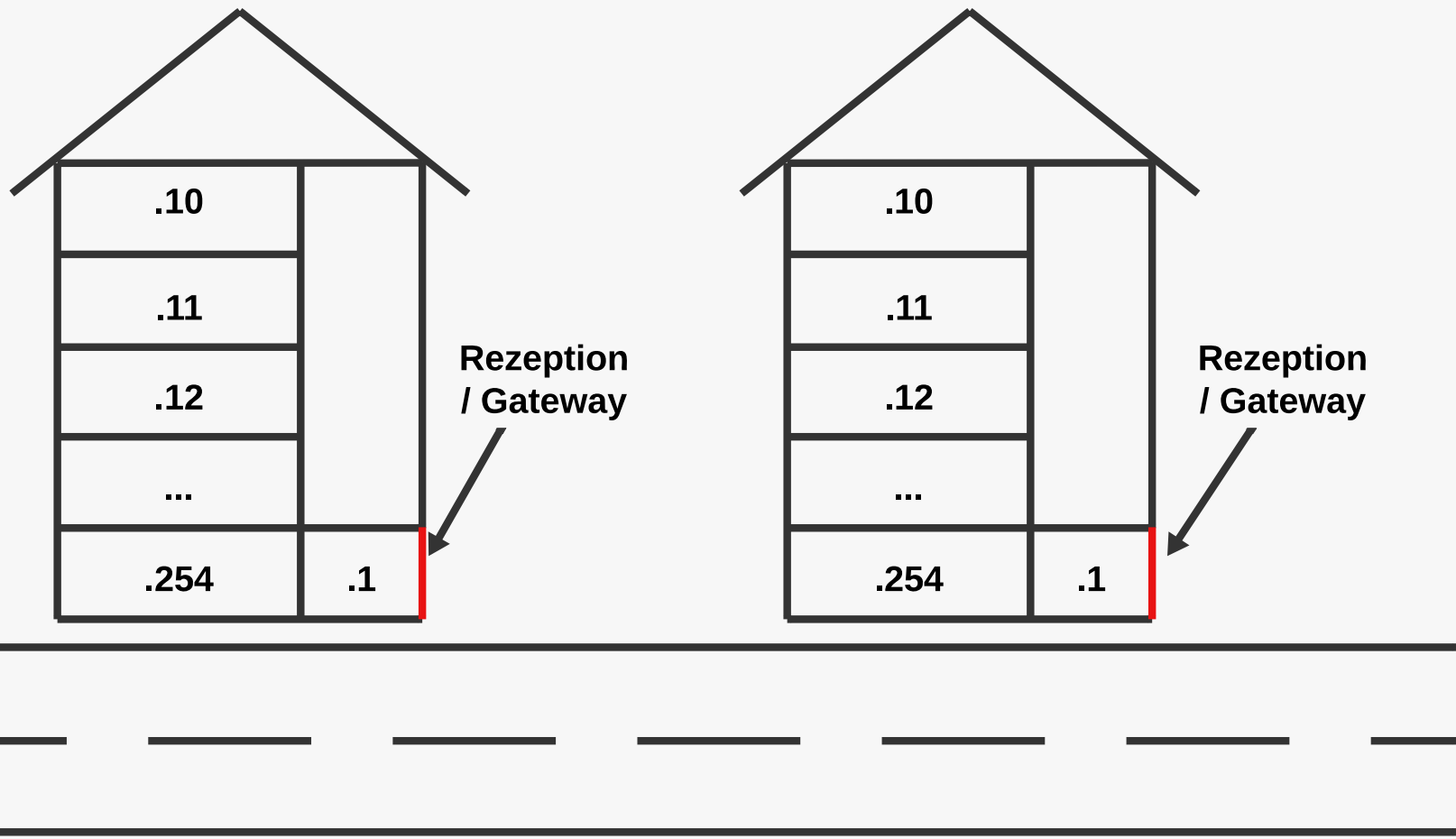
WAN

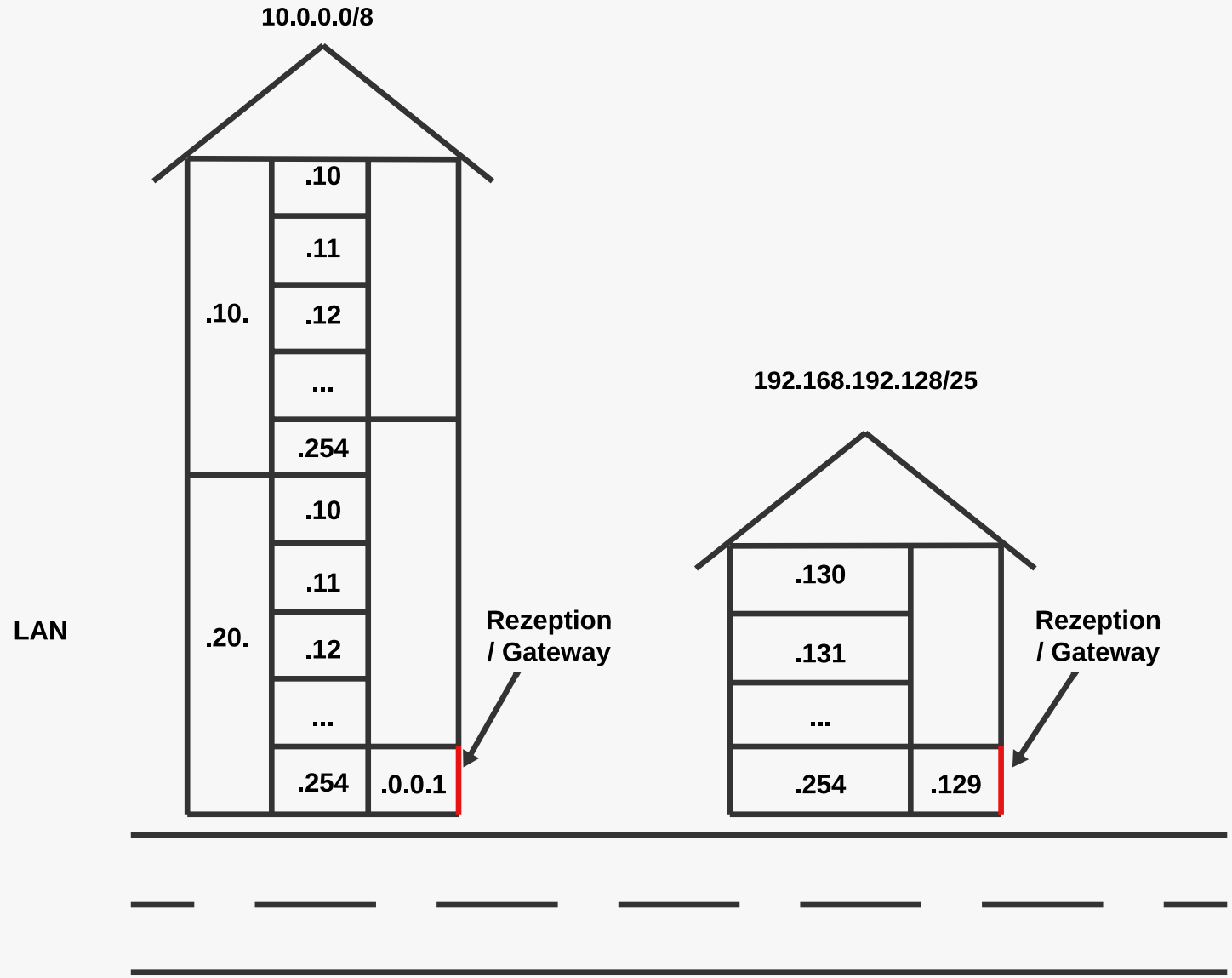


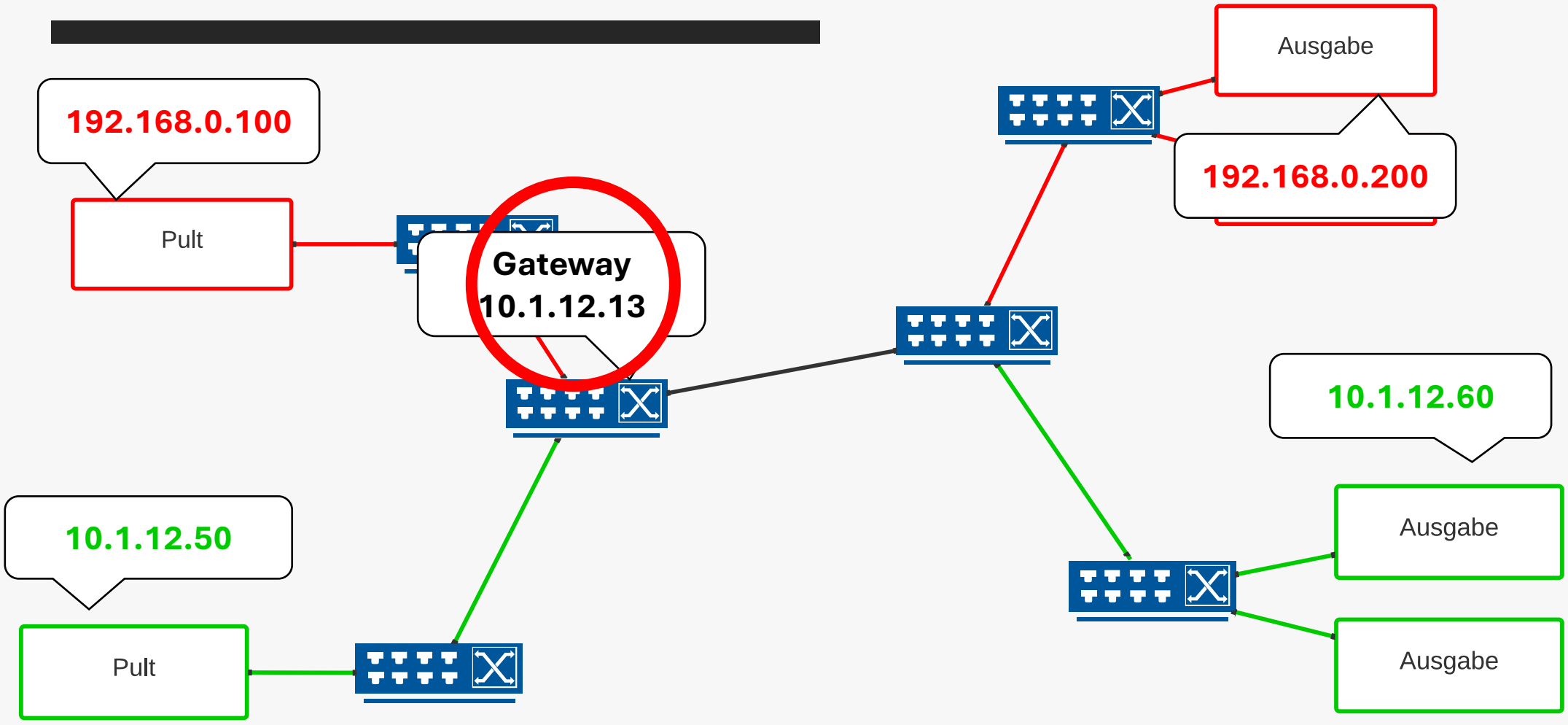
192.168.0.0/24

192.168.10.0/24

LAN

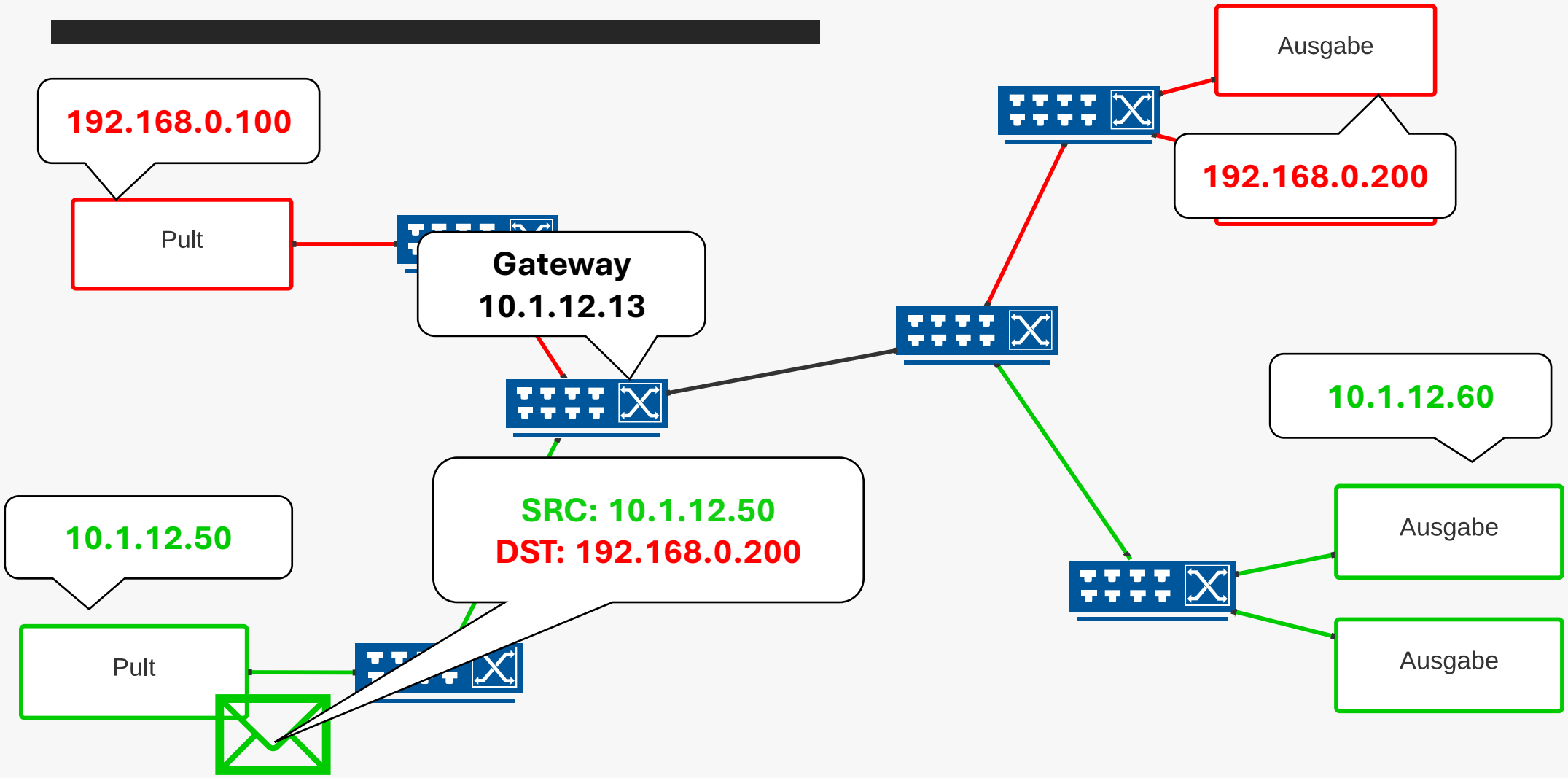


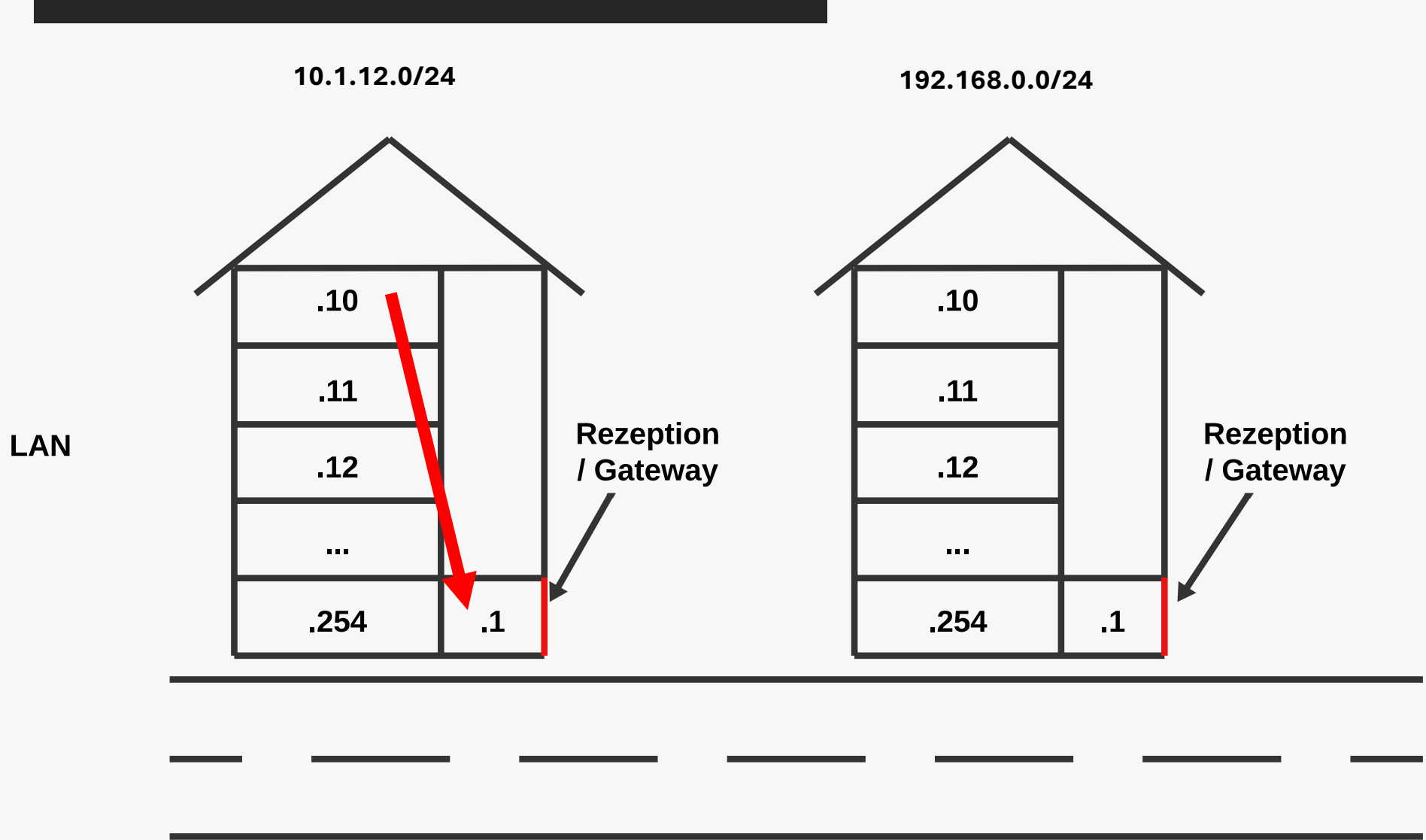


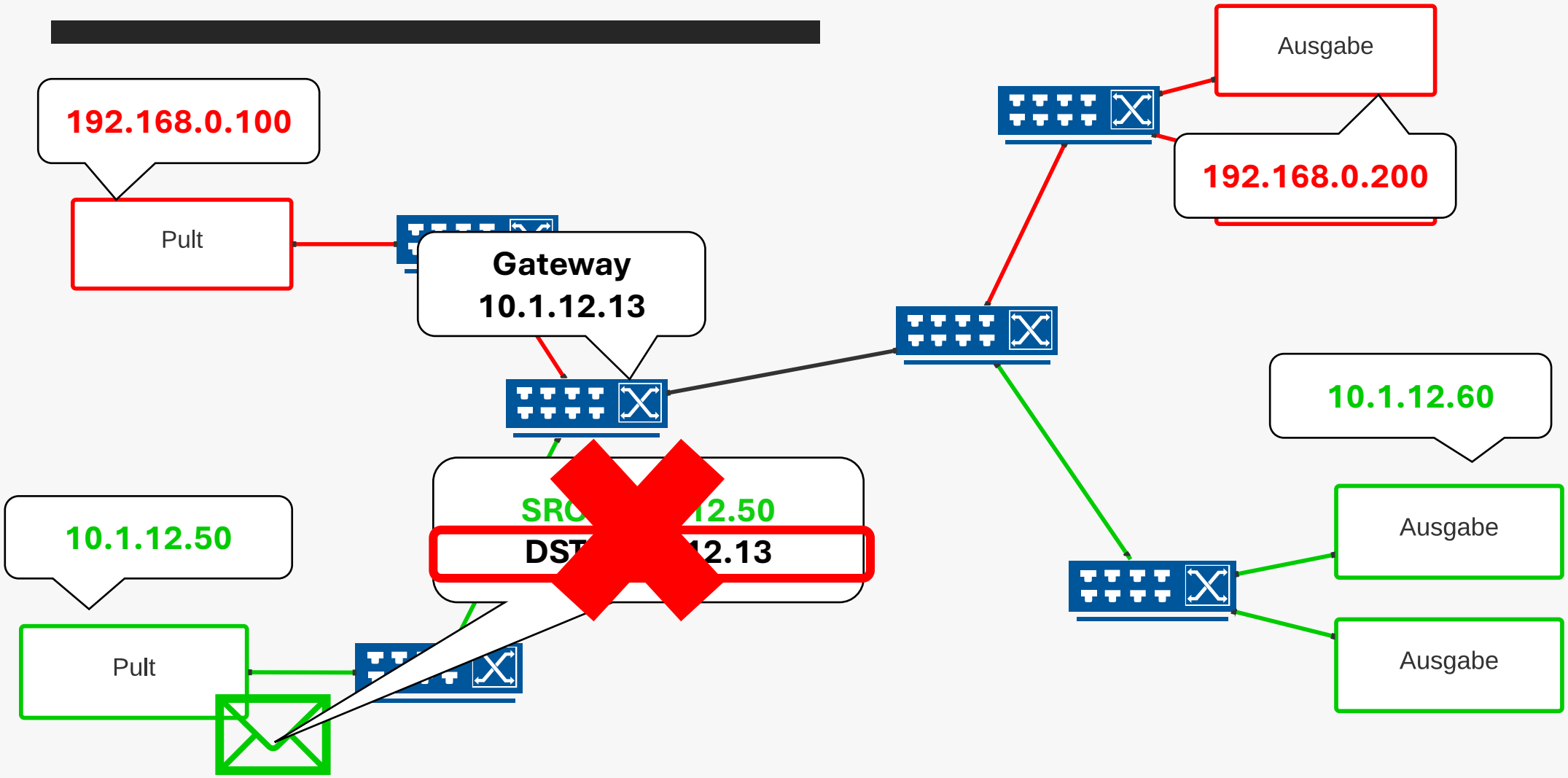


IP-Routing Table

IP-Netze	VLAN
10.1.12.0/24	VLAN 1
192.168.0.0/24	VLAN 2



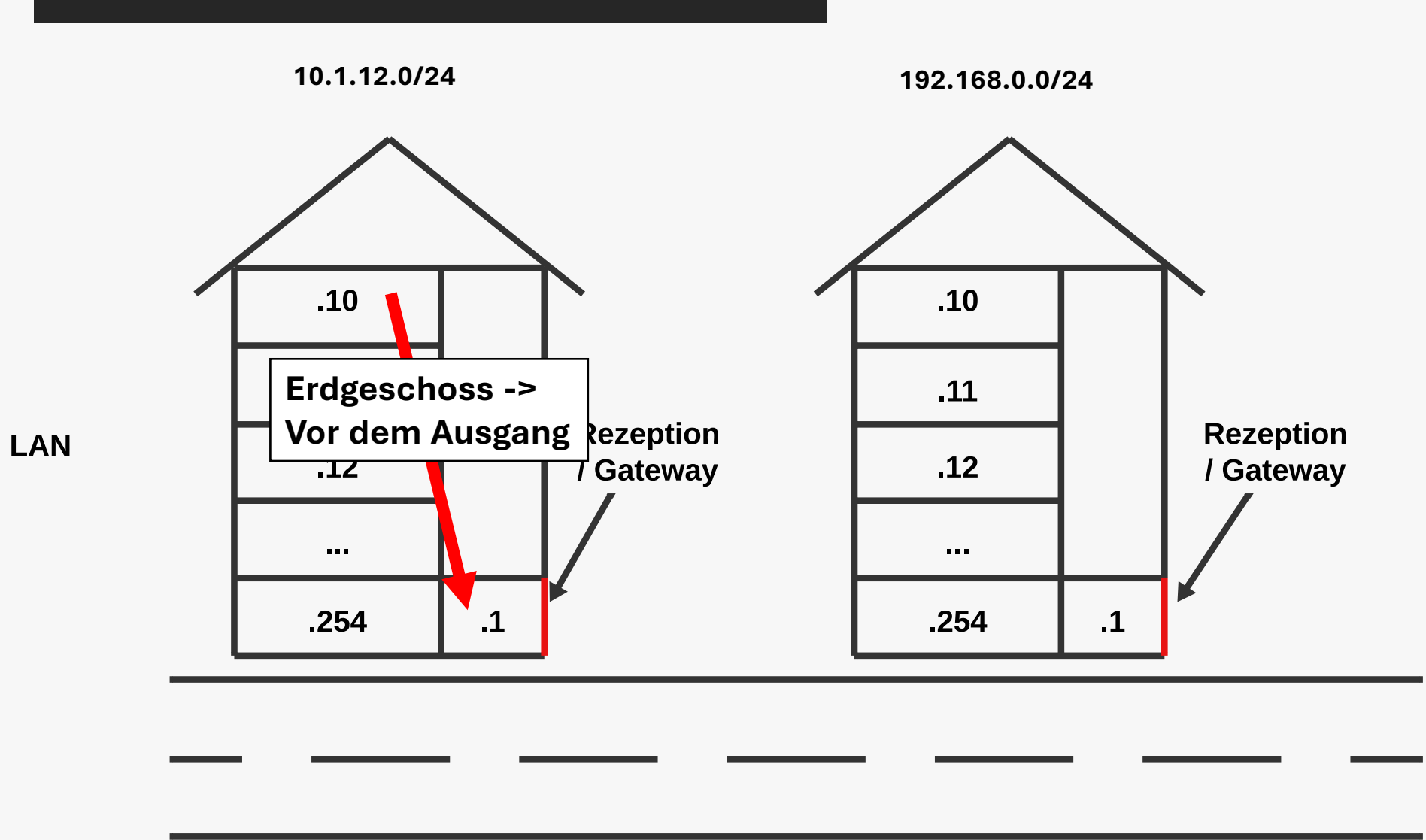


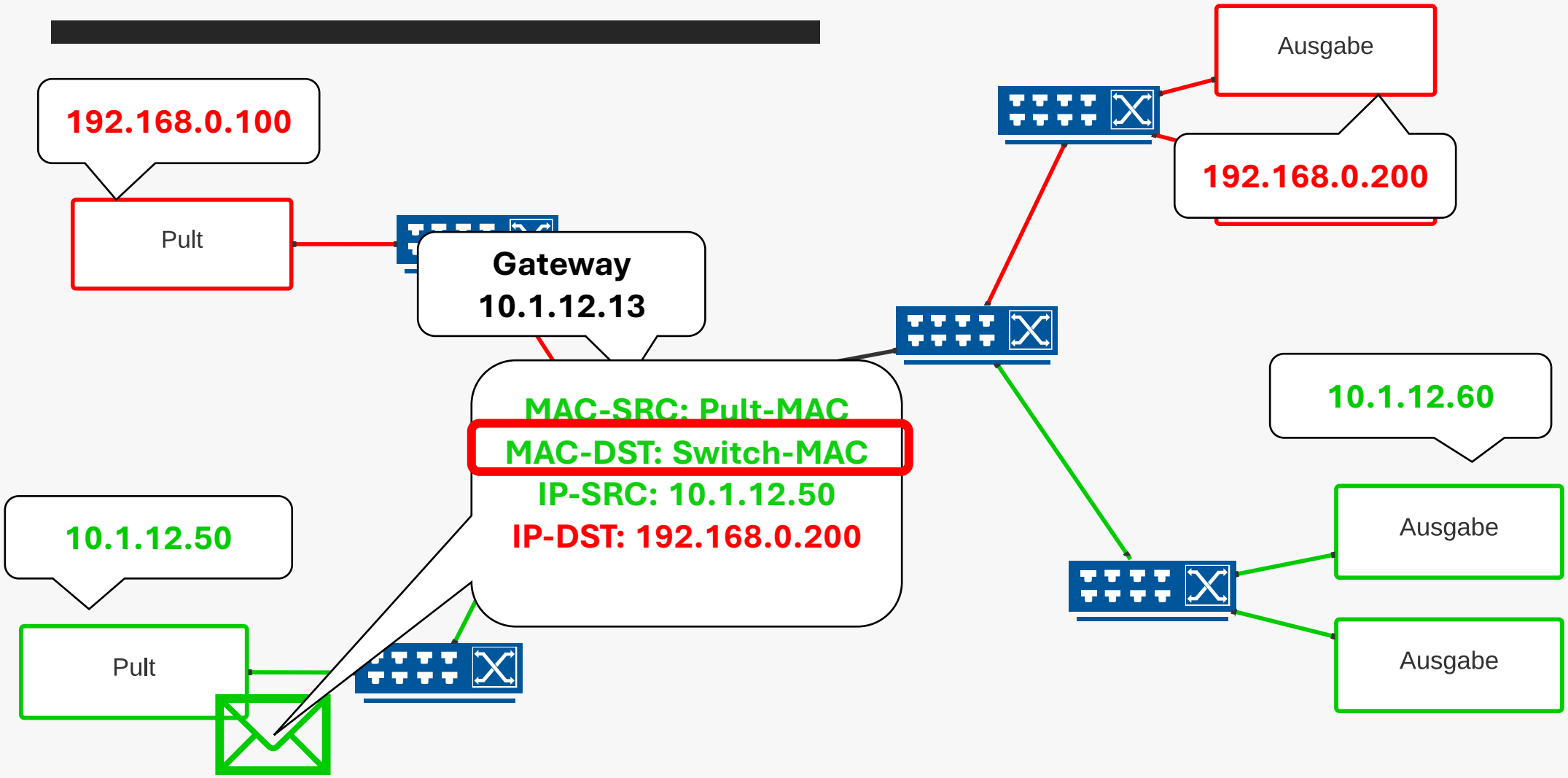


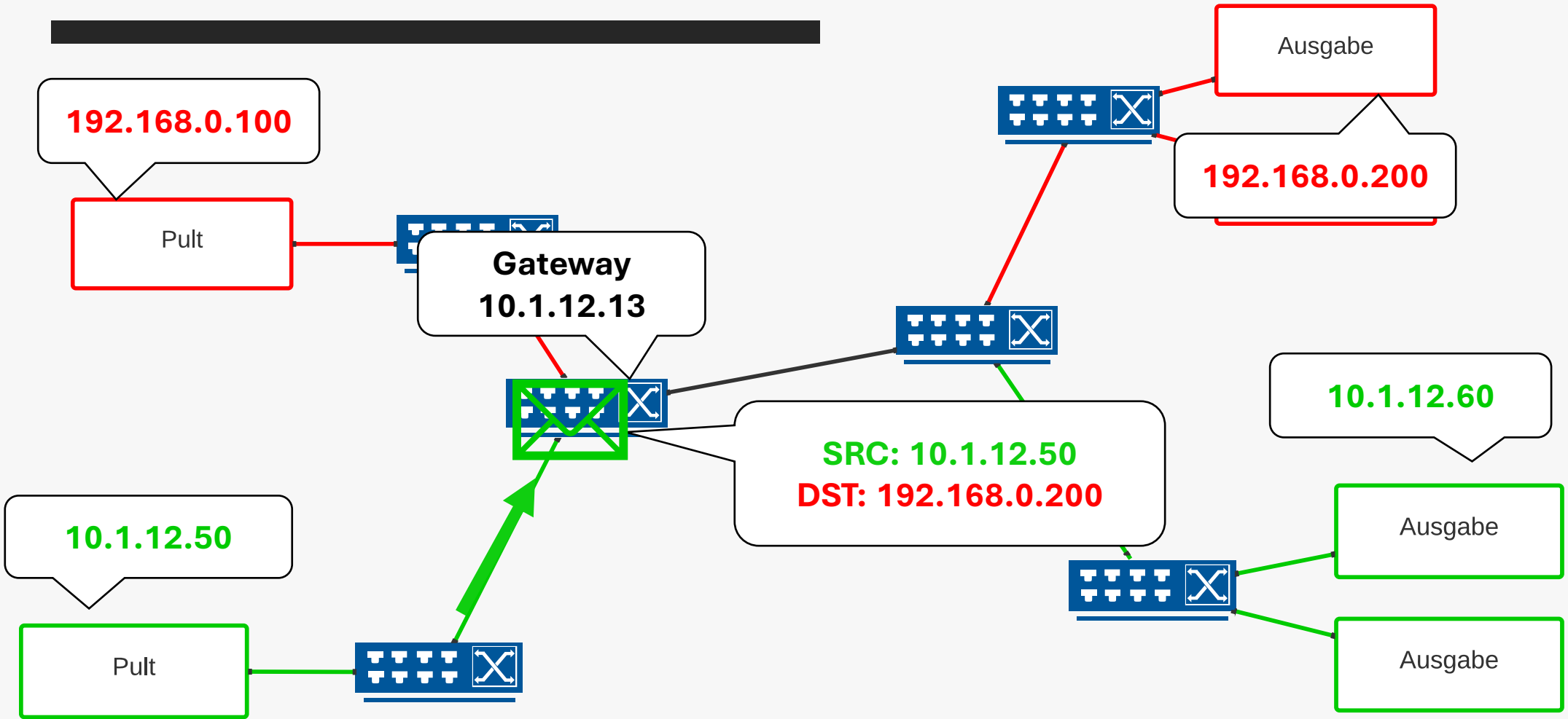
Wo soll das Paket nach dem Switch hin?

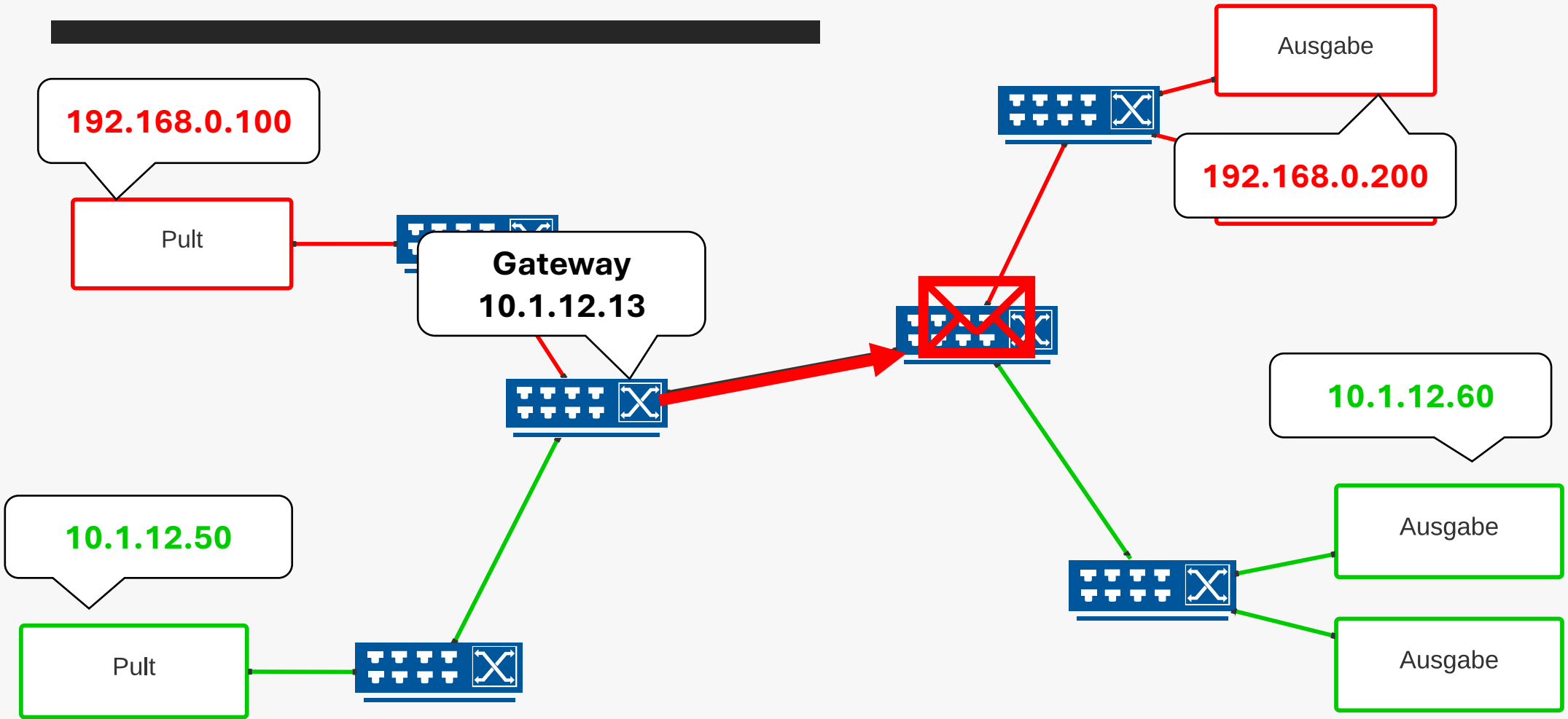
MAC-Address
= Hardware-Address
= Burned-In-Address

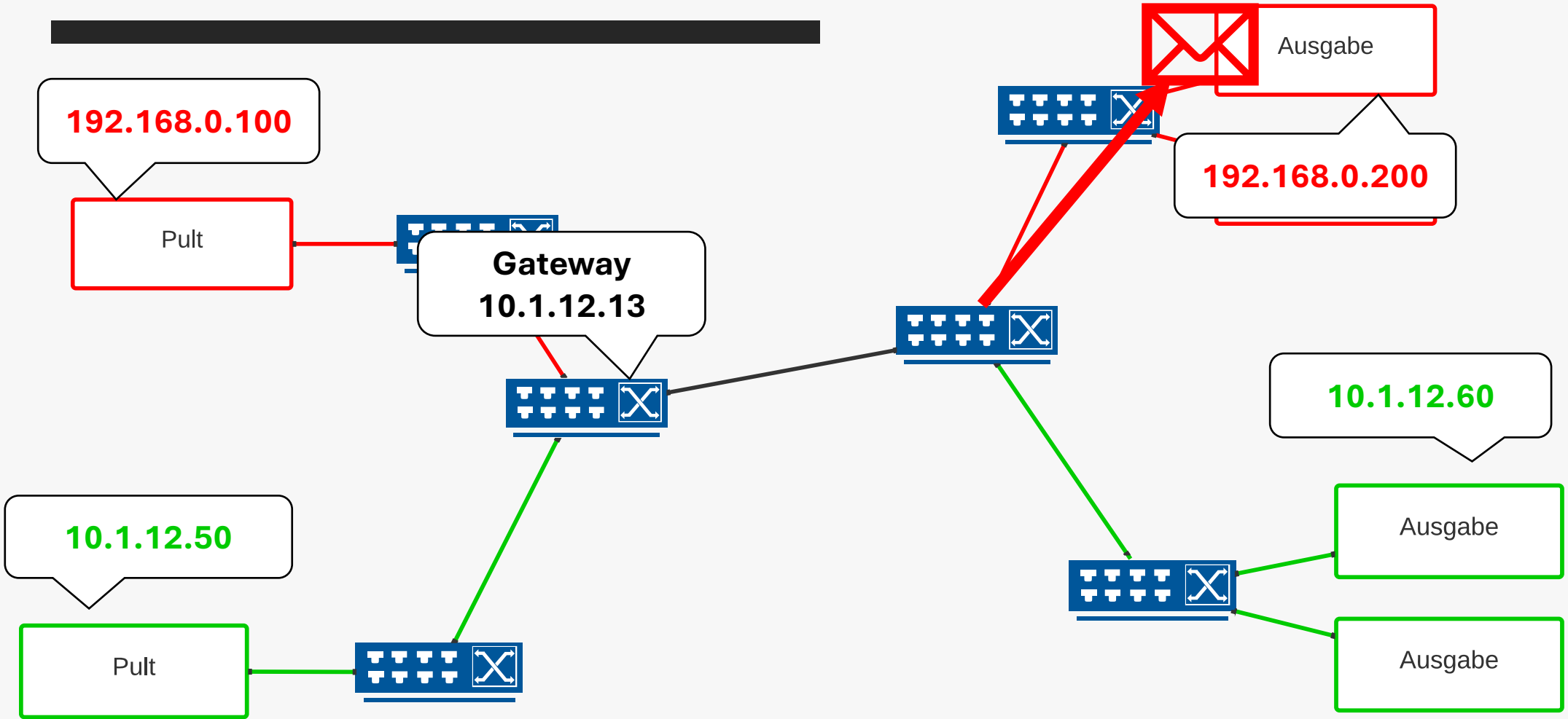
Die Beschreibung einer Wohnung in einem Haus

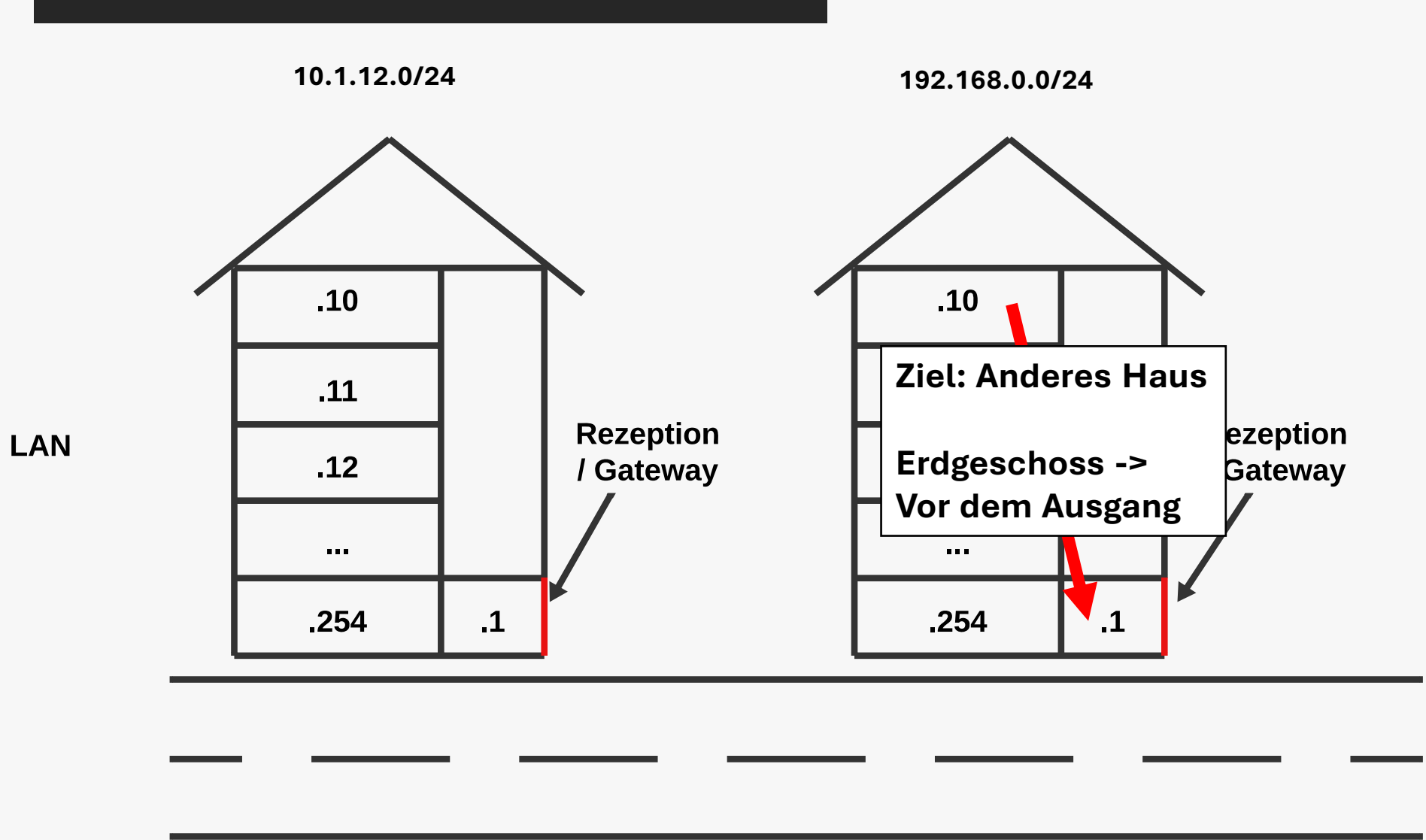


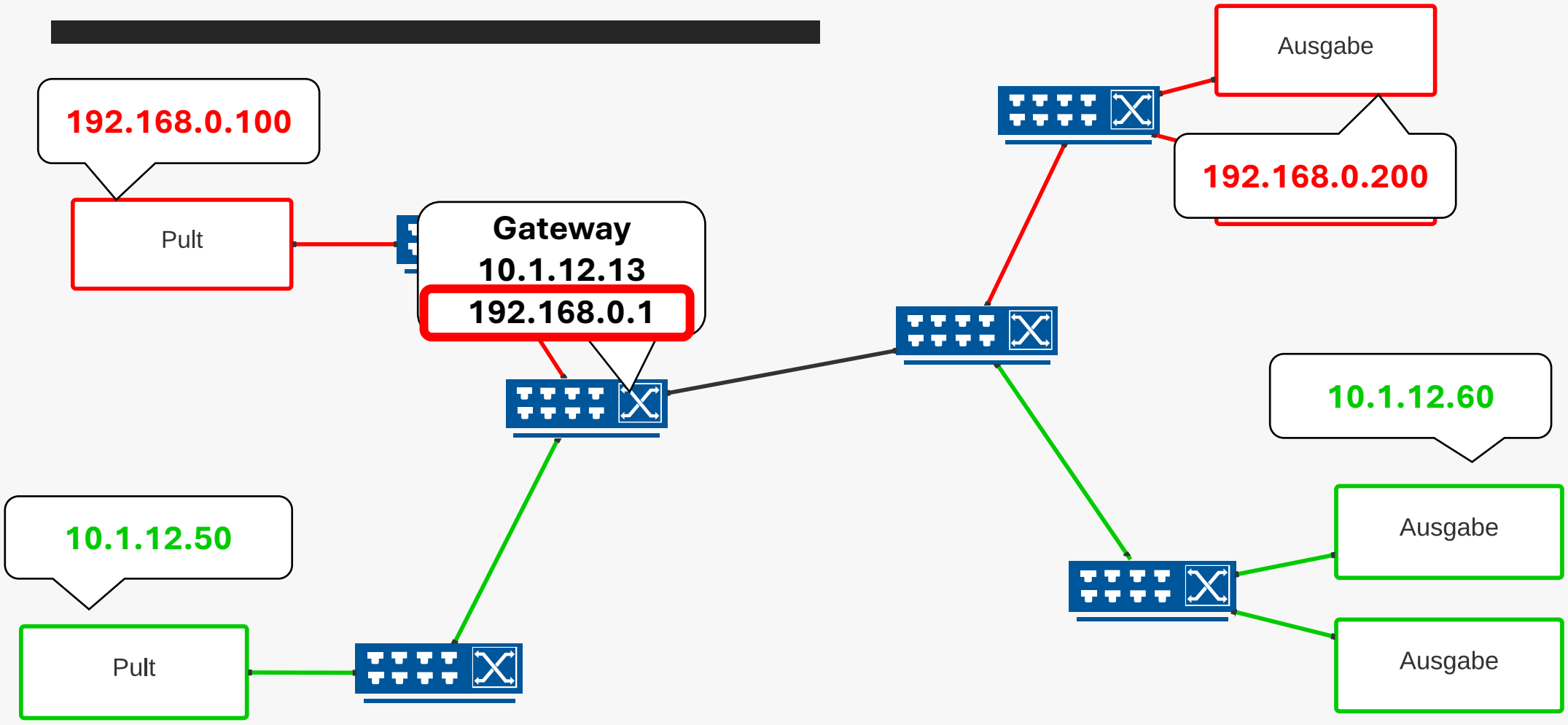


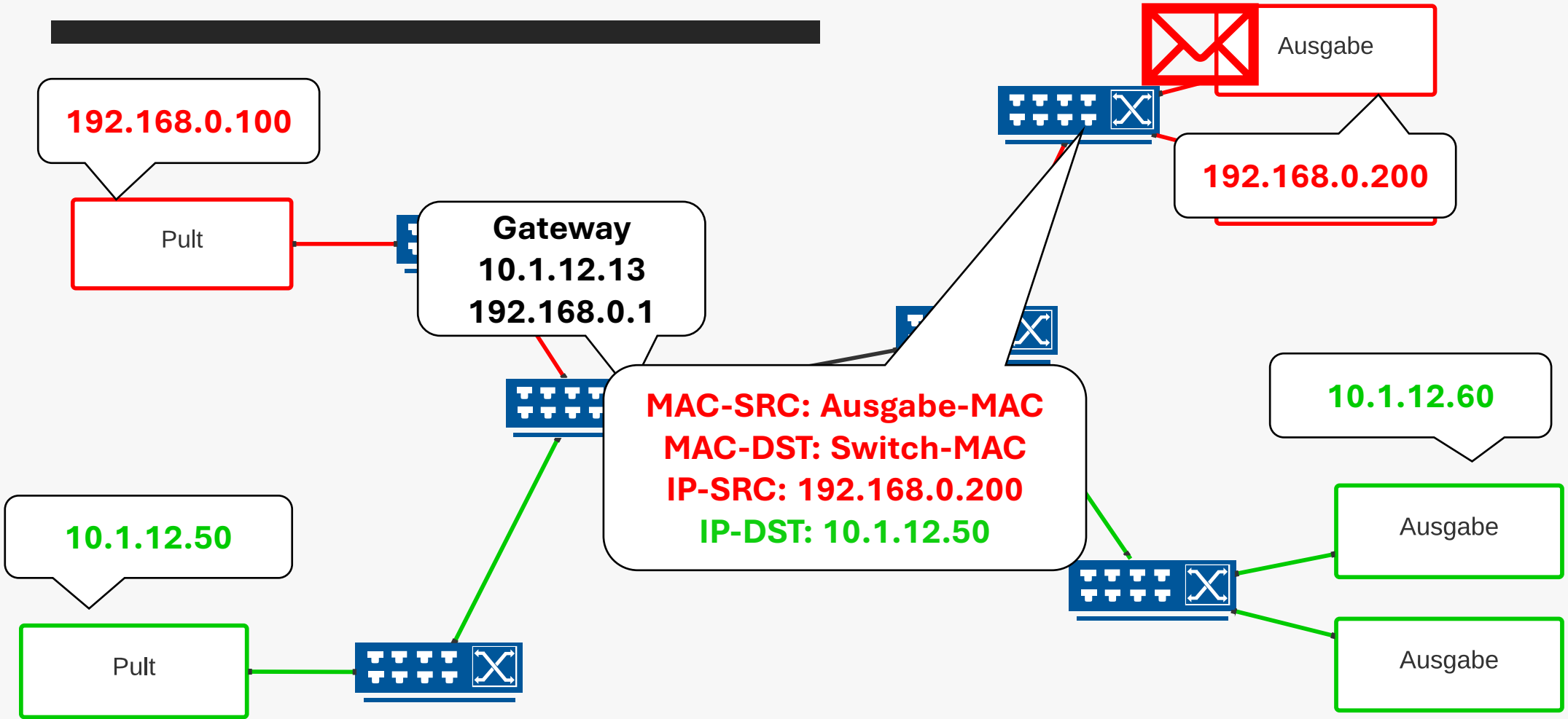


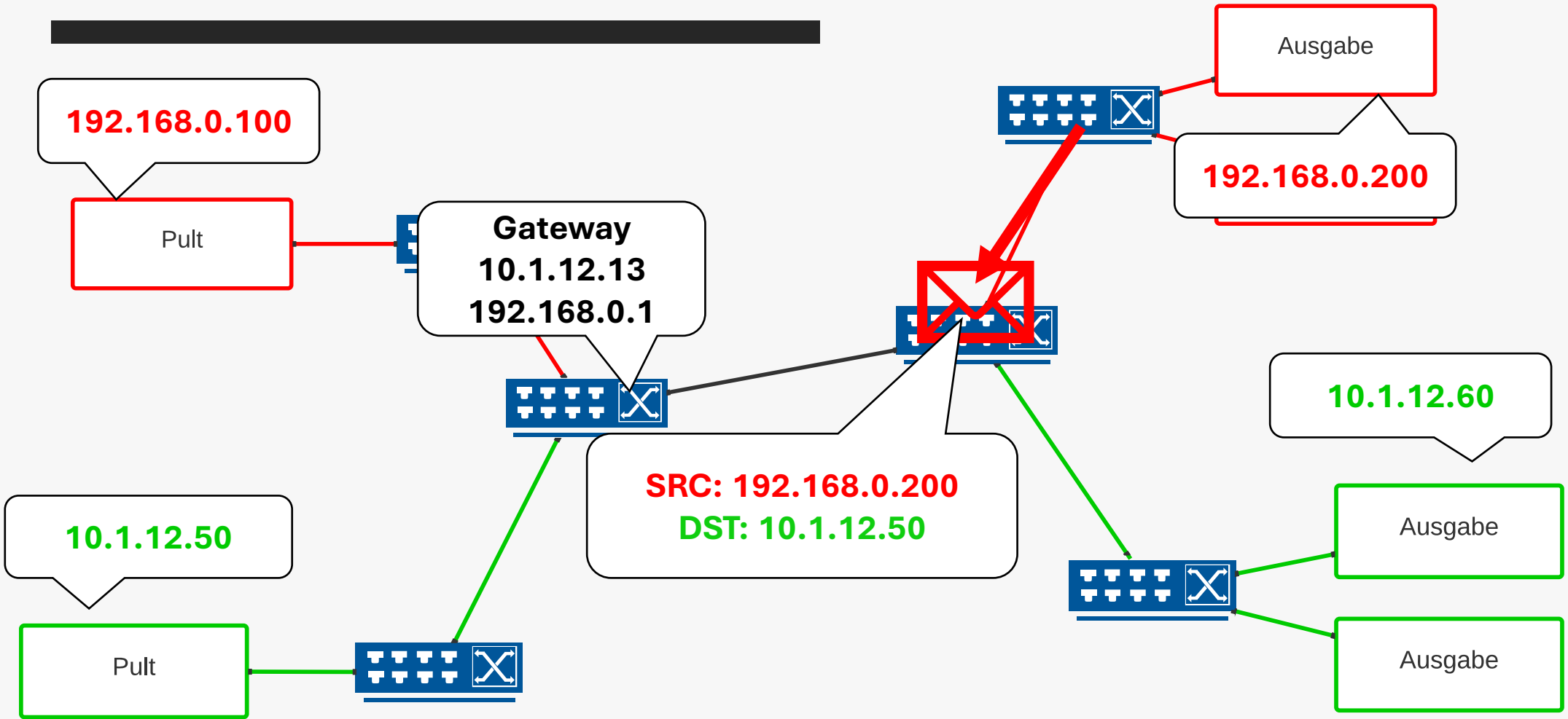


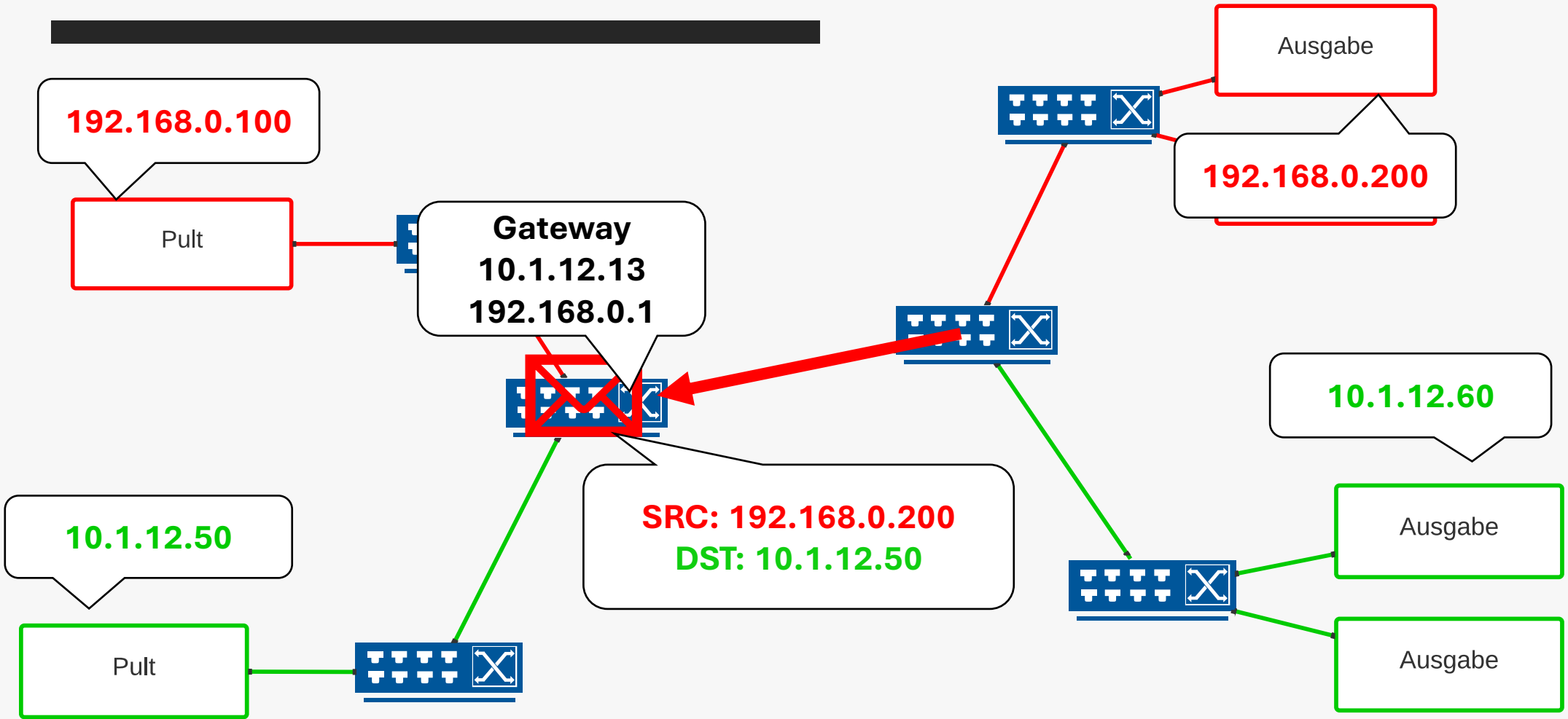


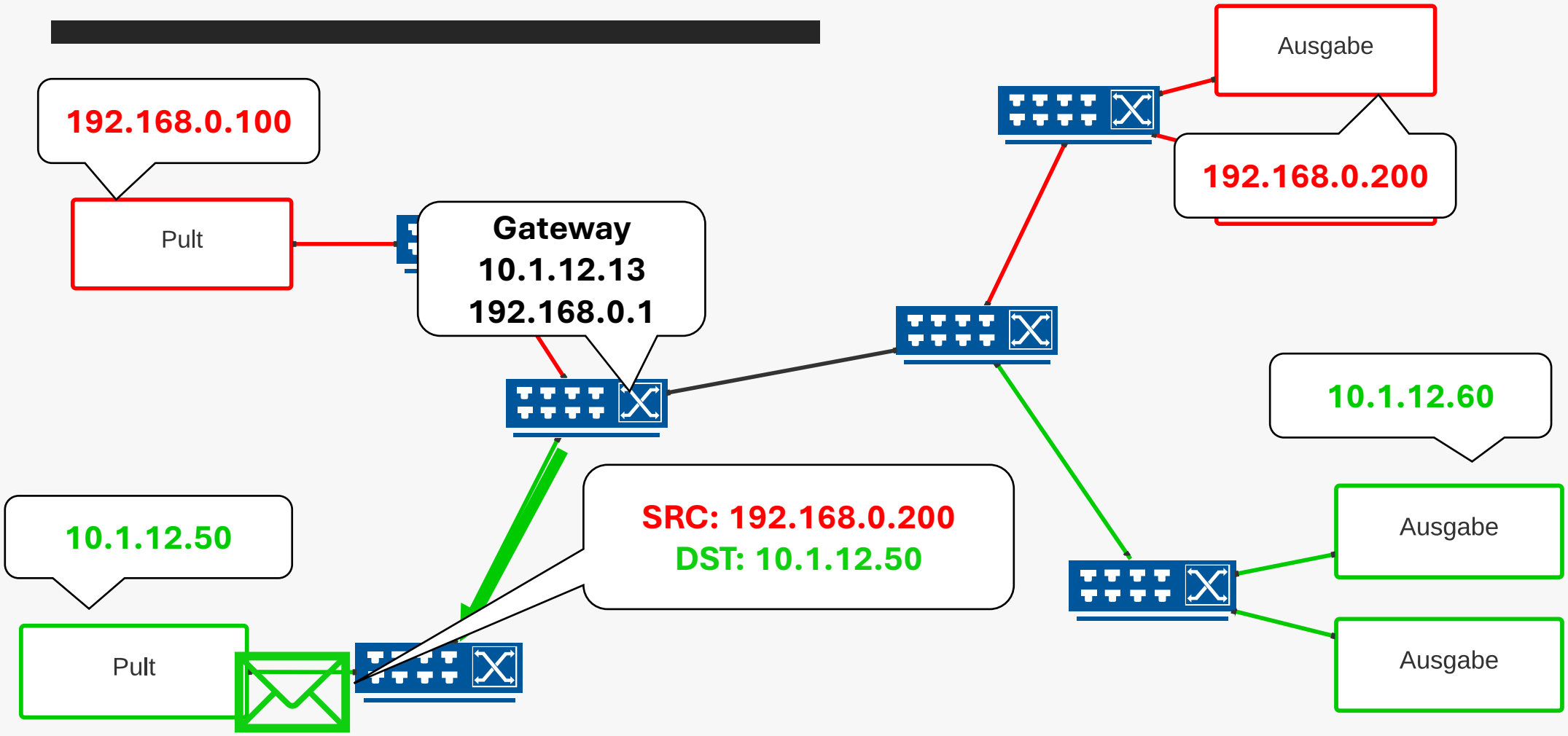


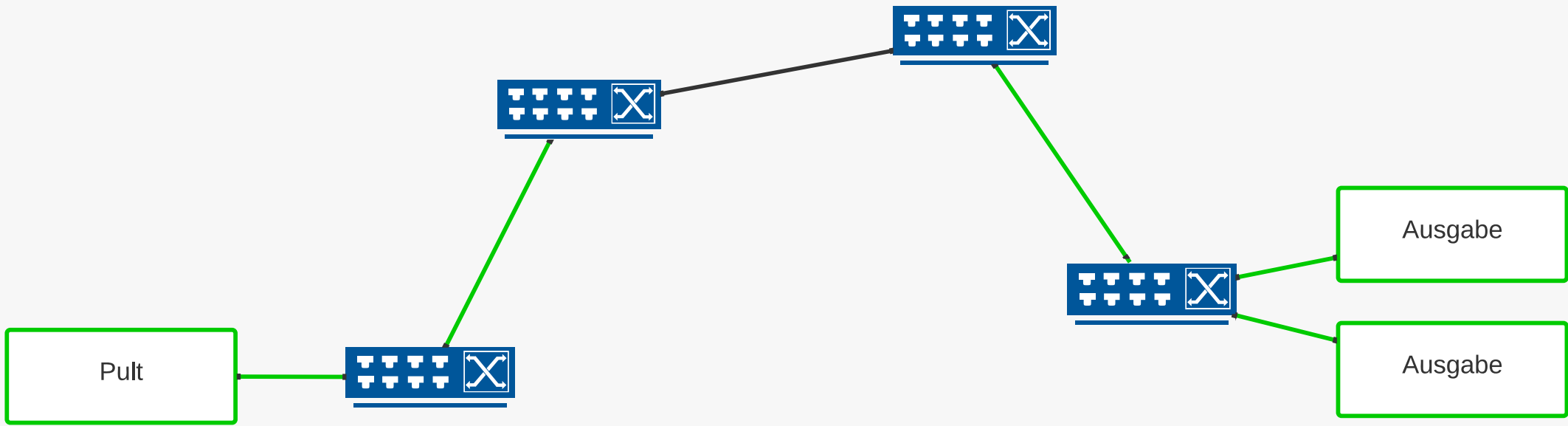


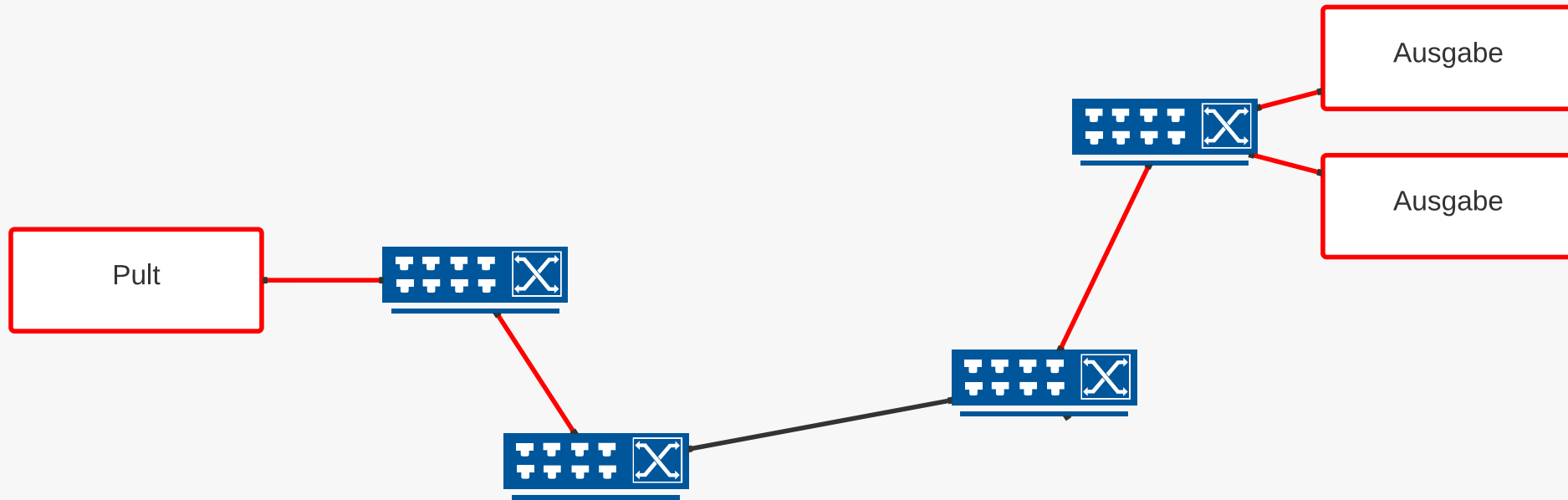


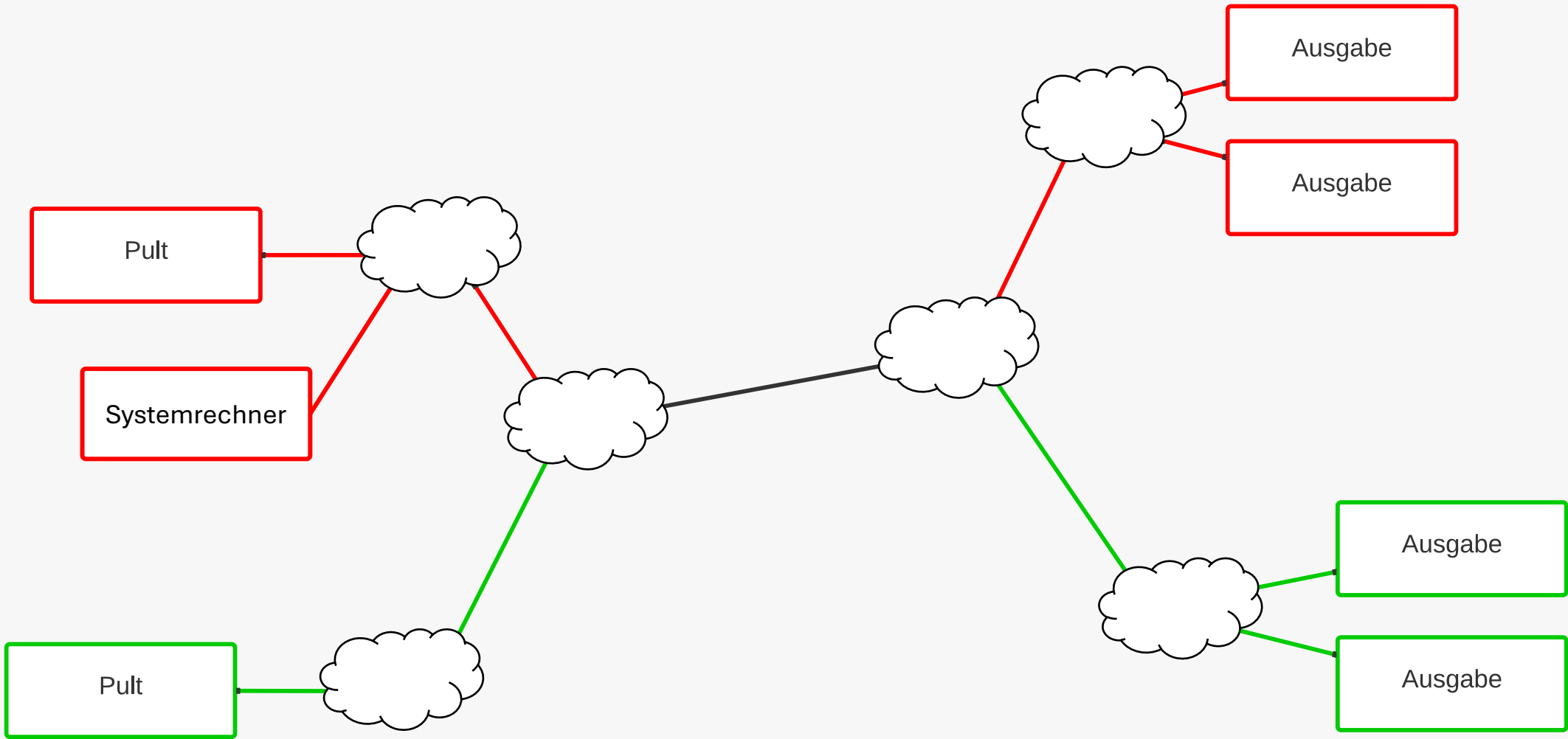


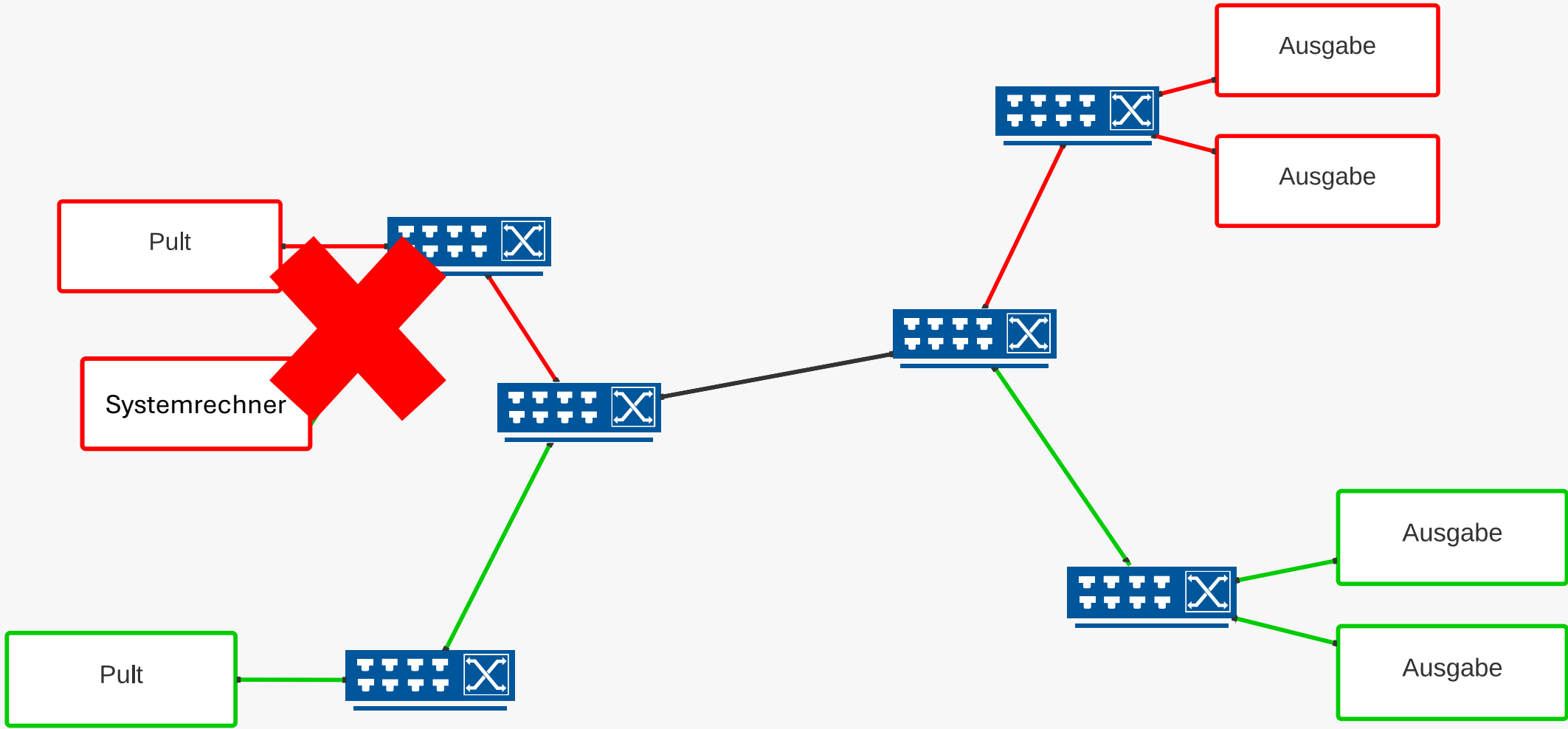


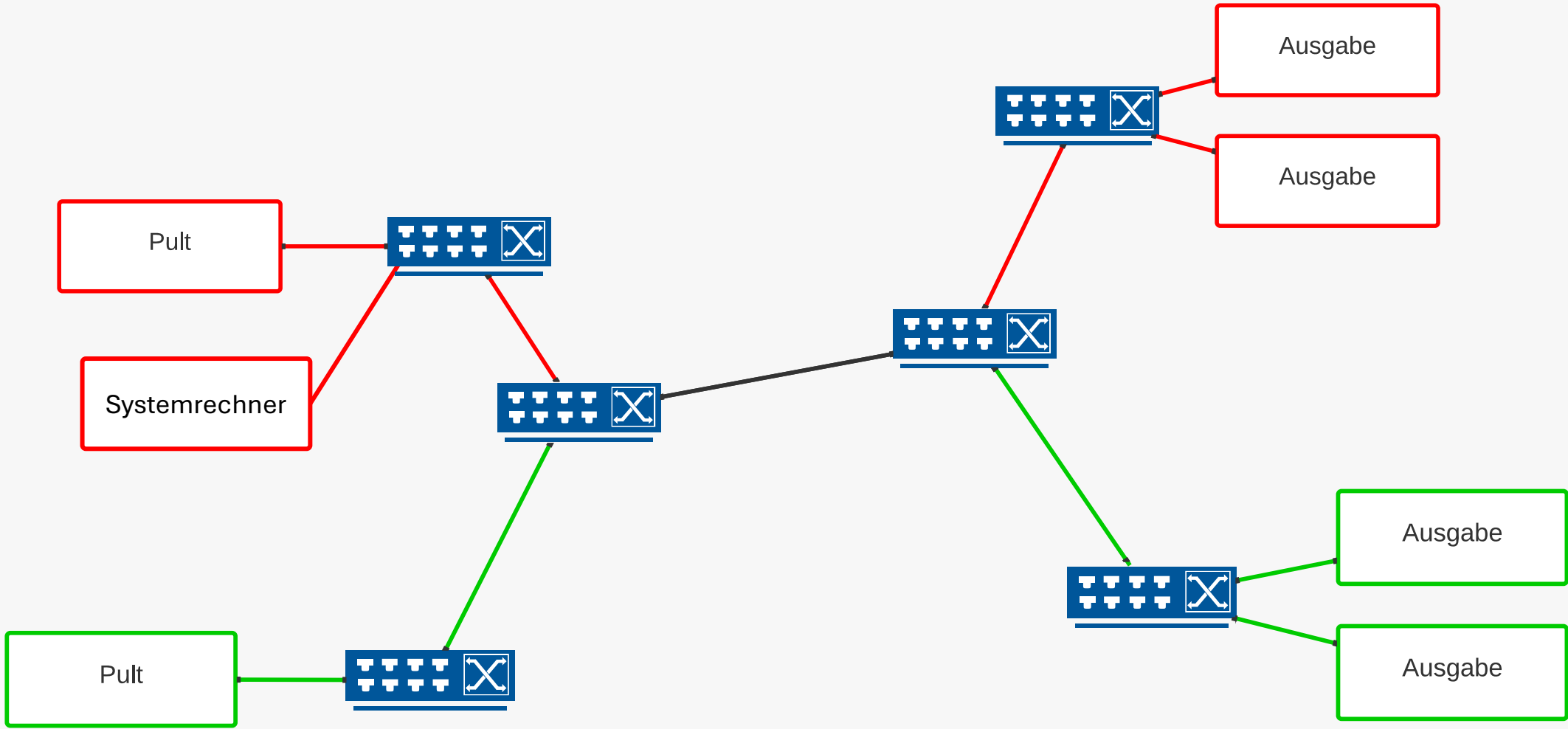












Take Home Messages

1

Wenn ich mehrere VLANs verwalten muss,
kann Inter-VLAN Routing helfen!

2

MAC-Adressen sind zum Senden von Paketen
Innerhalb eines VLANs!

3

Niemals die *.1 oder *.254 verwenden!