

VoIP QoS and Debug

Quirin Pasquay



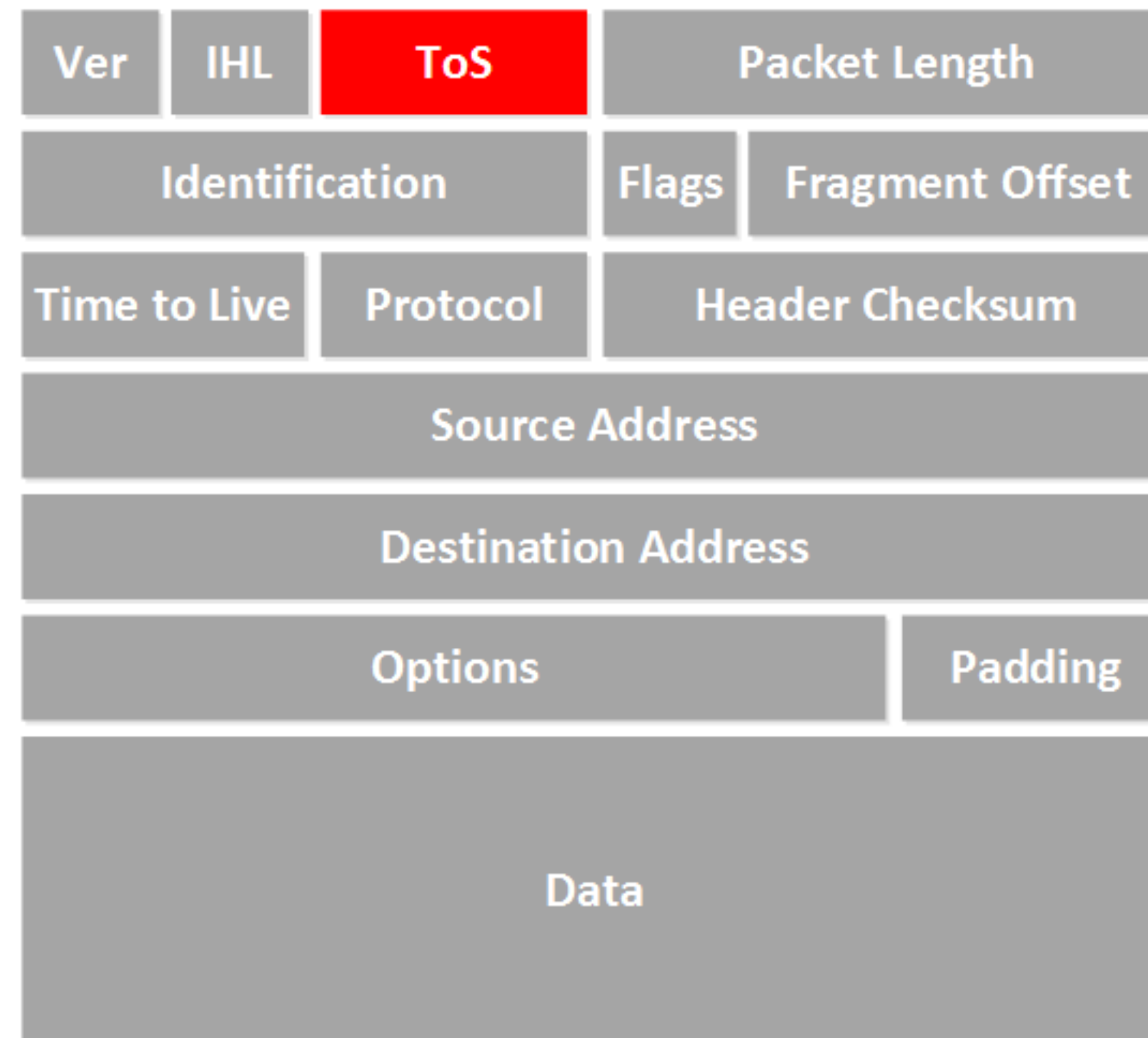
Quality of Service

Was ist das?



Quelle: wikipedia

Vorfahrtsregelung

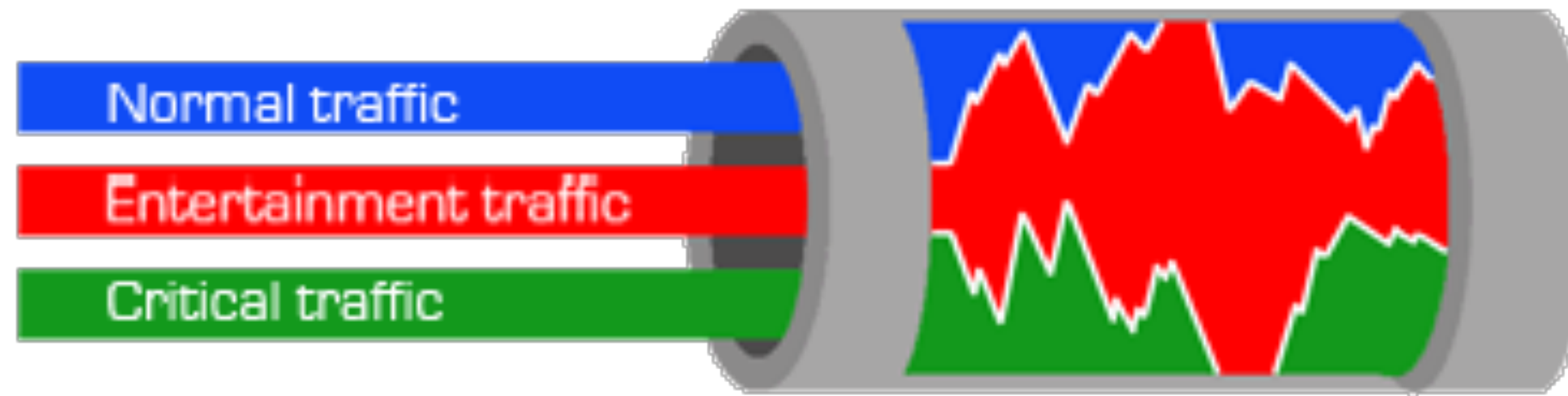


Quelle: networklessons.com

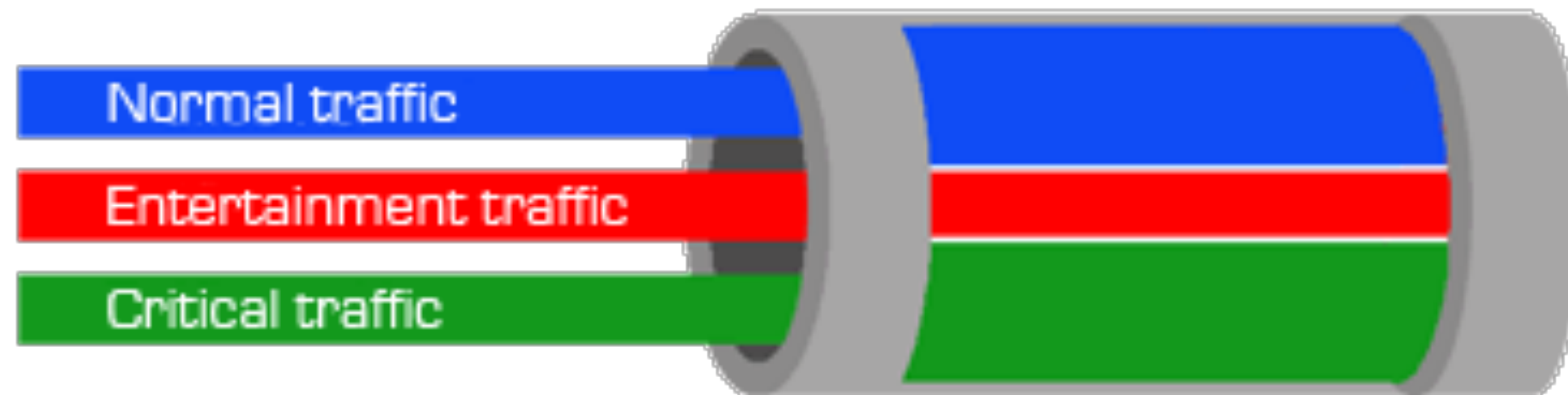
Markierung der Verkehrspriorität im IP-Header



Bandwidth Use without QoS control



Bandwidth Use with QoS control



Quelle: voip-info.org

Router priorisieren anhand der Markierungen den Datenverkehr

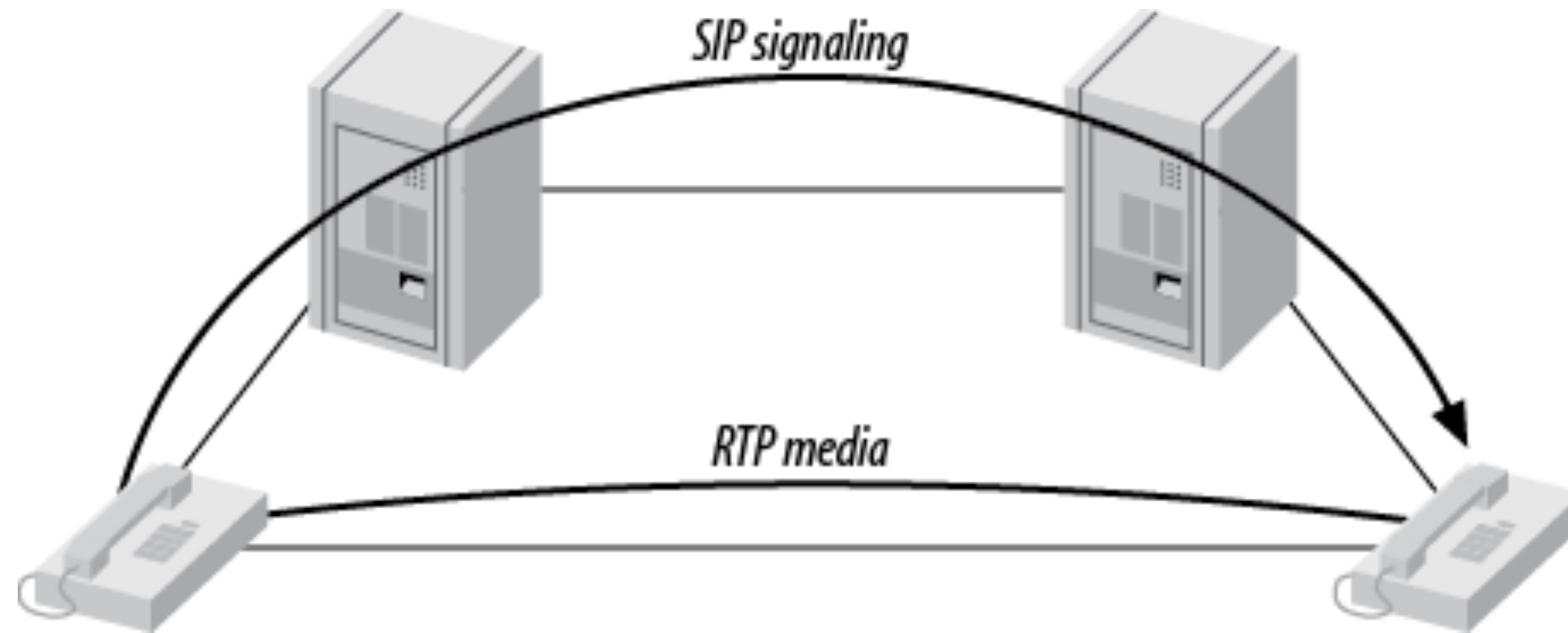


IP Prec	IP Prec Bin	DSCP Class	DSCP Bin	DSCP Hex	DCSP Dec
0	000	Best Effort	000000	0x00	0
1	001	CS 1	001000	0x08	8
		AF11-Low	001010	0x0A	10
		AF12-Medium	001100	0x0C	12
		AF13-High	001110	0x0E	14
2	010	CS 2	010000	0x10	16
		AF21-Low	010010	0x12	18
		AF22-Medium	010100	0x14	20
		AF23-High	010110	0x16	22
3	011	CS 3	011000	0x18	24
		AF31-Low	011010	0x1A	26
		AF32-Medium	011100	0x1C	28
		AF33-High	011110	0x1E	30
4	100	CS 4	100000	0x20	32
		AF41-Low	100010	0x22	34
		AF42-Medium	100100	0x24	36
		AF43-High	100110	0x26	38
5	101	CS 5	101000	0x28	40
		Expedited Fwdg	101110	0x2E	46



Media (rtp): ef
Signalling (sip): cs3

pascom standard DSCP Werte



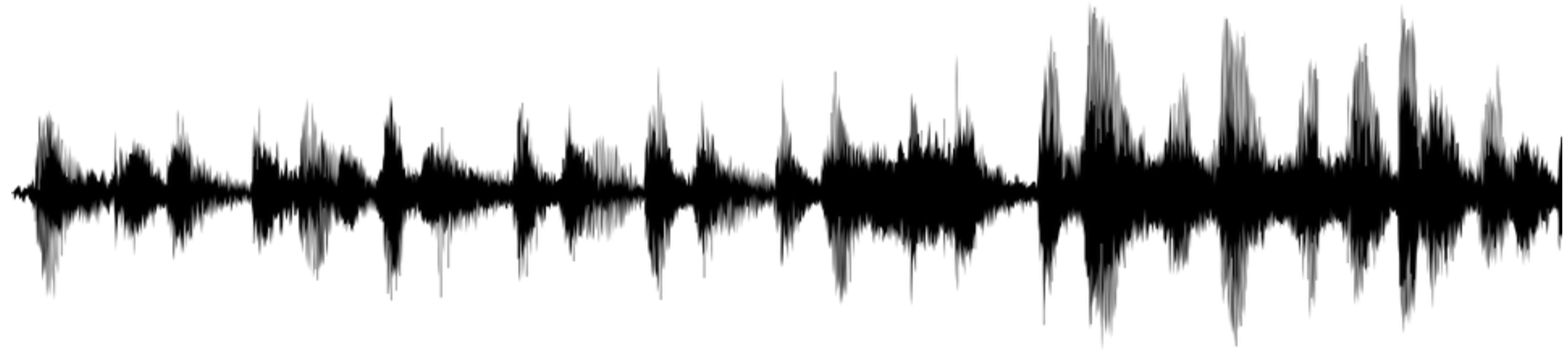
Quelle: asteriskdocs.org

Signalling und Media

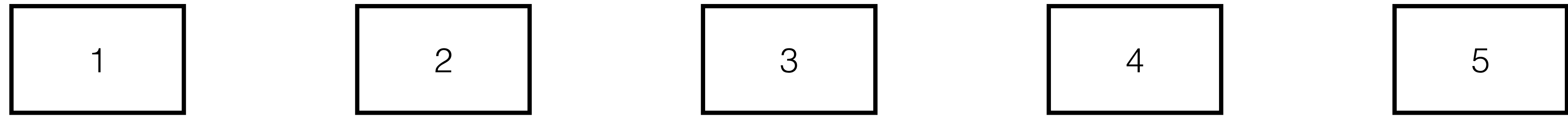


Super! Aller erledigt :)

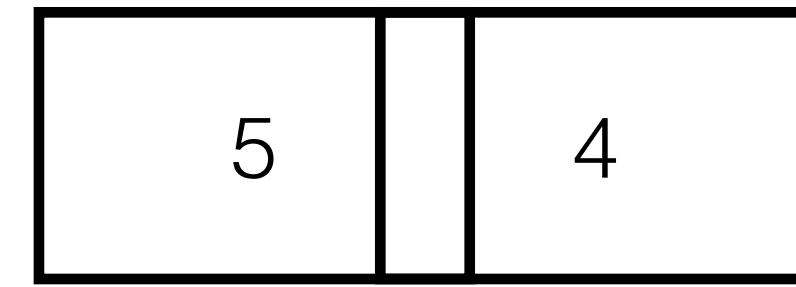
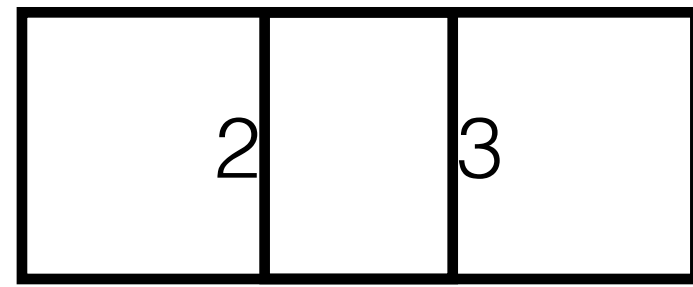
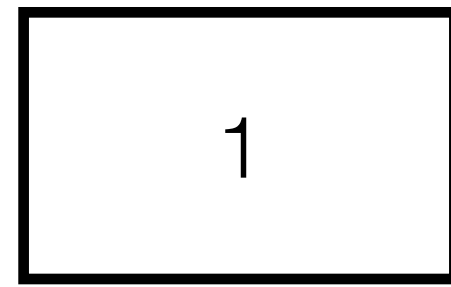
Gibt es bei der Qualität von Sprachübertragungen noch weitere Herausforderungen?



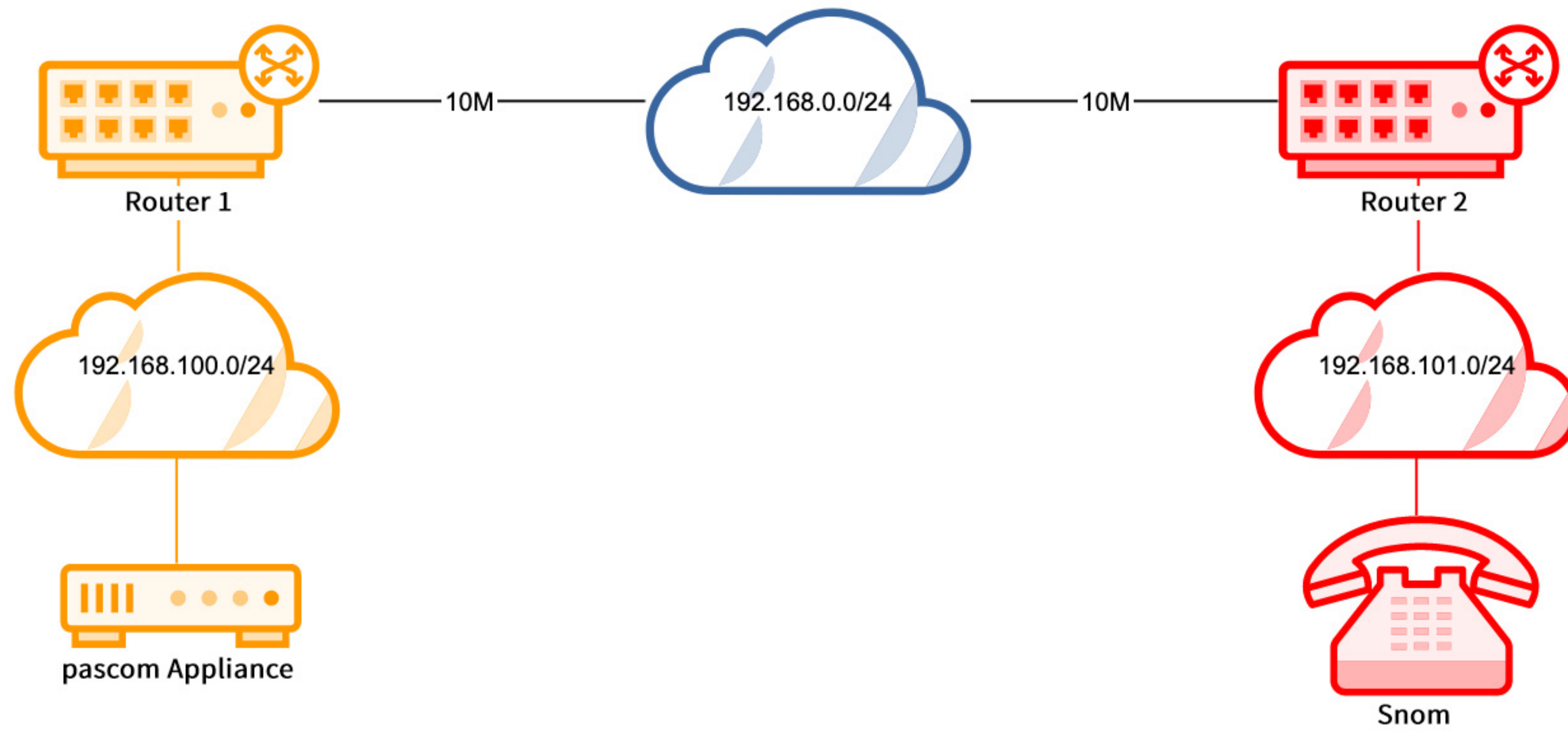
Media bedeutet Sprache in Echtzeit



Mediastream mit einem Paket alle 20ms



Jitter



Testaufbau

Livedemo