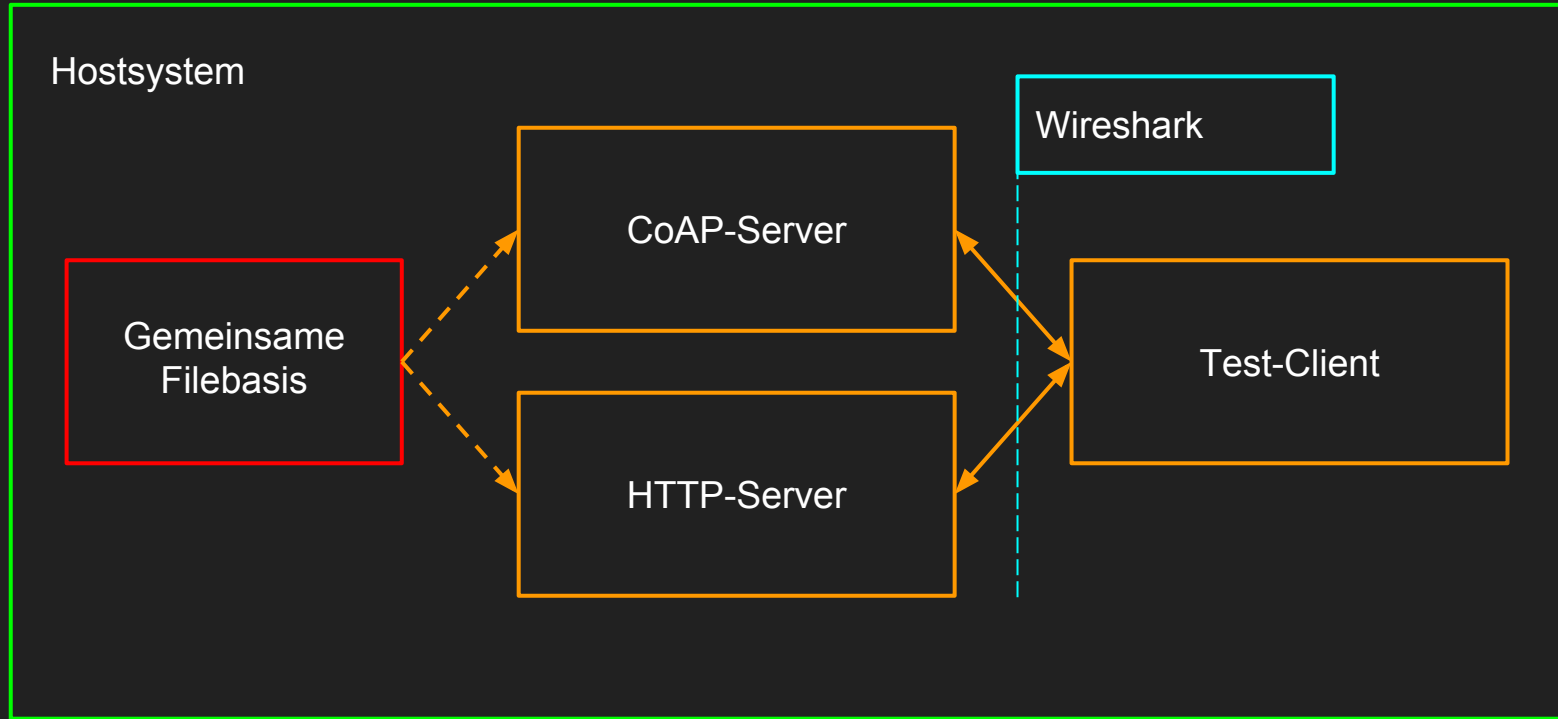


CoAP vs. HTTP

Infrastruktur



Demo

```

> Frame 2: 346 bytes on wire (2768 bits), 346 bytes captured (2768 bits) on interface 0
> Linux cooked capture
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> Transmission Control Protocol, Src Port: 80, Dst Port: 34914, Seq: 1, Ack: 157, Len: 278
> Hypertext Transfer Protocol
> Line-based text data: text/plain

```

```

0000 00 00 03 04 00 06 00 00 00 00 00 00 00 08 00 .....
0010 45 00 01 4a 23 b7 40 00 40 06 17 f5 7f 00 00 01 E..J#.@.@.....
0020 7f 00 00 01 00 50 88 62 5c d8 a3 6b 4e 9f f7 ef ....P.b \..kN...
0030 80 18 01 5e ff 3e 00 00 01 01 08 0a 00 8a 80 dd ...^>.....
0040 00 8a 80 dd 48 54 54 50 2f 31 2e 31 20 32 30 30 ....HTTP /1.1 200
0050 20 4f 4b 0d 0a 53 65 72 76 65 72 3a 20 6e 67 69 OK..Ser ver: ngi
0060 6e 78 2f 31 2e 31 30 2e 30 20 28 55 62 75 6e 74 nx/1.10. 0 (Ubund
0070 75 29 0d 0a 44 61 74 65 3a 20 54 68 75 2c 20 30 u)..Date : Thu, 0
0080 38 20 4a 75 6e 20 32 30 31 37 20 31 39 3a 32 31 8 Jun 20 17 19:21
0090 3a 30 34 20 47 4d 54 0d 0a 43 6f 6e 74 65 6e 74 :04 GMT. .Content
00a0 2d 54 79 70 65 3a 20 74 65 78 74 2f 70 6c 61 69 -Type: t ext/plai
00b0 6e 0d 0a 43 6f 6e 74 65 6e 74 2d 4c 65 6e 67 74 n..Conte nt-Lengt
00c0 68 3a 20 33 32 0d 0a 4c 61 73 74 2d 4d 6f 64 69 h: 32..L ast-Modi
00d0 66 69 65 64 3a 20 57 65 64 2c 20 30 37 20 4a 75 fied: We d, 07 Ju
00e0 6e 20 32 30 31 37 20 31 32 3a 34 31 3a 31 39 20 n 2017 1 2:41:19
00f0 47 4d 54 0d 0a 43 6f 6e 6e 65 63 74 69 6f 6e 3a GMT..Con nection:
0100 20 6b 65 65 70 2d 61 6c 69 76 65 0d 0a 45 54 61 keep-alive FT
0110 67 3a 20 22 35 39 33 37 66 34 36 66 2d 32 30 22
0120 0d 0a 41 63 63 65 70 74 2d 52 61 6e 67 65 73 3a
0130 20 62 79 74 65 73 0d 0a 0d 0a 30 31 32 33 34 35
0140 36 37 38 39 41 42 43 44 45 46 30 31 32 33 34 35
0150 36 37 38 39 41 42 43 44 45 46

```

```

> Frame 2: 90 bytes on wire (720 bits), 90 bytes captured (720 bits) on interface 0
> Linux cooked capture
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 5683, Dst Port: 56107
> Constrained Application Protocol, Acknowledgement, 2.05 Content, MID:39184

```

```

0000 00 00 03 04 00 06 00 00 00 00 00 00 00 08 00 .....
0010 45 00 00 4a 49 fd 40 00 40 11 f2 a3 7f 00 00 01 E..JI.@.@.....
0020 7f 00 00 01 16 33 db 2b 00 36 fe 49 68 45 99 10 ....3.+ .6.IhE..
0030 c8 cf 19 24 c3 be 3c 14 c0 ff 30 31 32 33 34 35 ...$.<. ..012345
0040 36 37 38 39 41 42 43 44 45 46 30 31 32 33 34 35 6789ABCD EF012345
0050 36 37 38 39 41 42 43 44 45 46 6789ABCD EF

```

Brutto- Netto Verhältnis

Requested Payload	CoAP				HTTP			
	Payload	Proto	UDP	Frame	Payload	Proto	TCP	Frame
32b	32	14	8	90	32,2	246	32	346
2kb	2*1024	2*19	2*8	2*1078	2048	249	32	2365
8kb	8*1024	8*19	8*8	8*1078	8192	250	32	8510
1mb	1024*1024	1024*19	1024*8	1024*1078	Streamed via TCP			

Brutto- Netto Verhältnis

Requested Payload	CoAP	HTTP
32b	36%	9%
2kb	95%	86%
8kb	95%	96%
1mb	95%	>96%

Antwortzeiten (ms)

Hostsystem	CoAP				HTTP			
	32b	2kb	8kb	1mb	32b	2kb	8kb	1mb
Laptop (i5 6300U)	1,06	1,42	4,32	541,58	5,2	4,08	3,84	52,52
Raspberry PI 3	1,24	1,76	5,98	691,38	7,1	2,1	2,2	96,4
Raspberry PI 1 (Modell B)	4,2	16,2	63,1	7983,2	14,4	10,8	11,6	742,9