PROTOCOL

to exercise

VoIP

Group / Class	Secretary	Signature
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VoIP

Used Programs

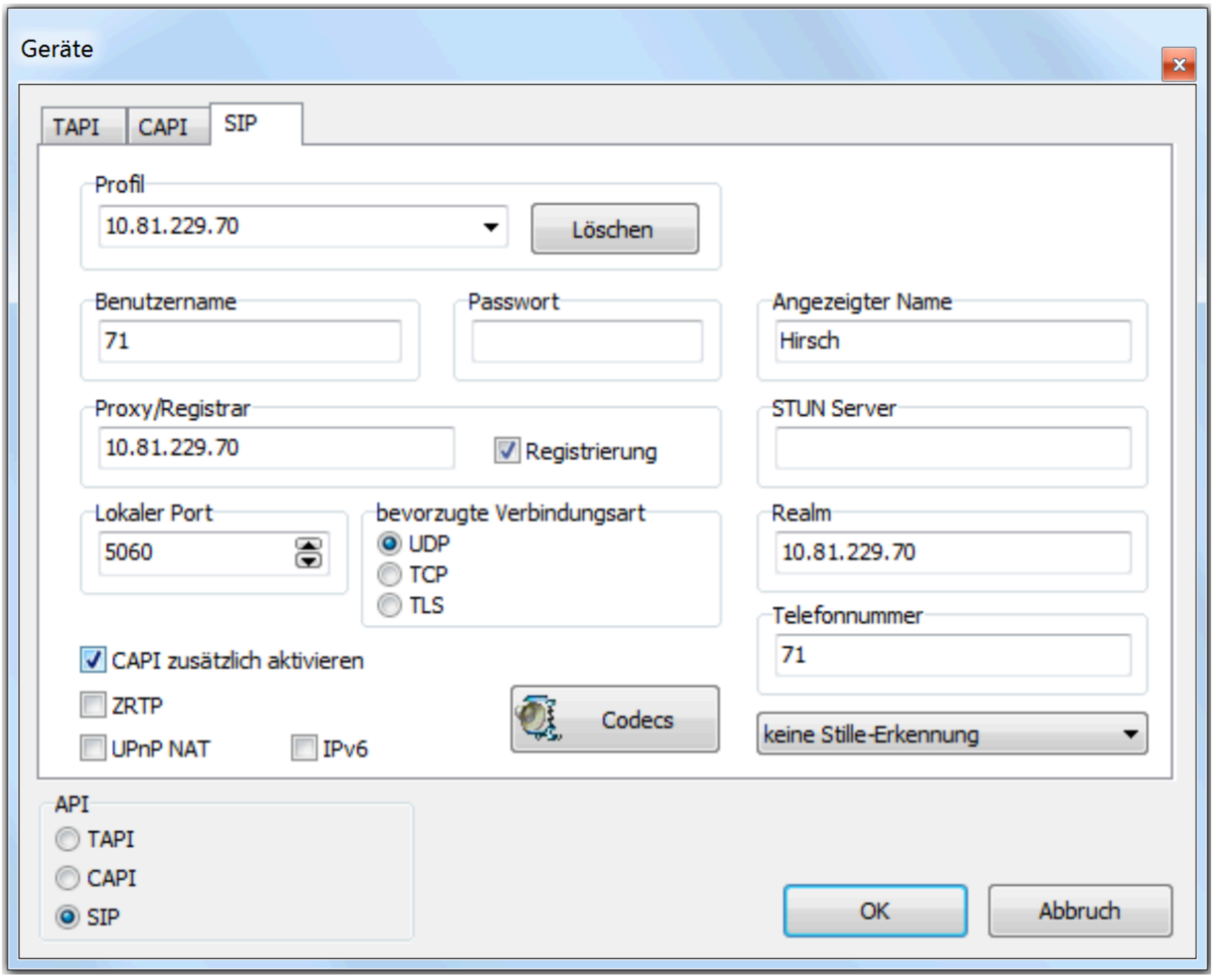
Nr.	Device	Manufacturer	Type	Version
1.	Phoner / Telephone (Mac)	-	Tool	

1 Task

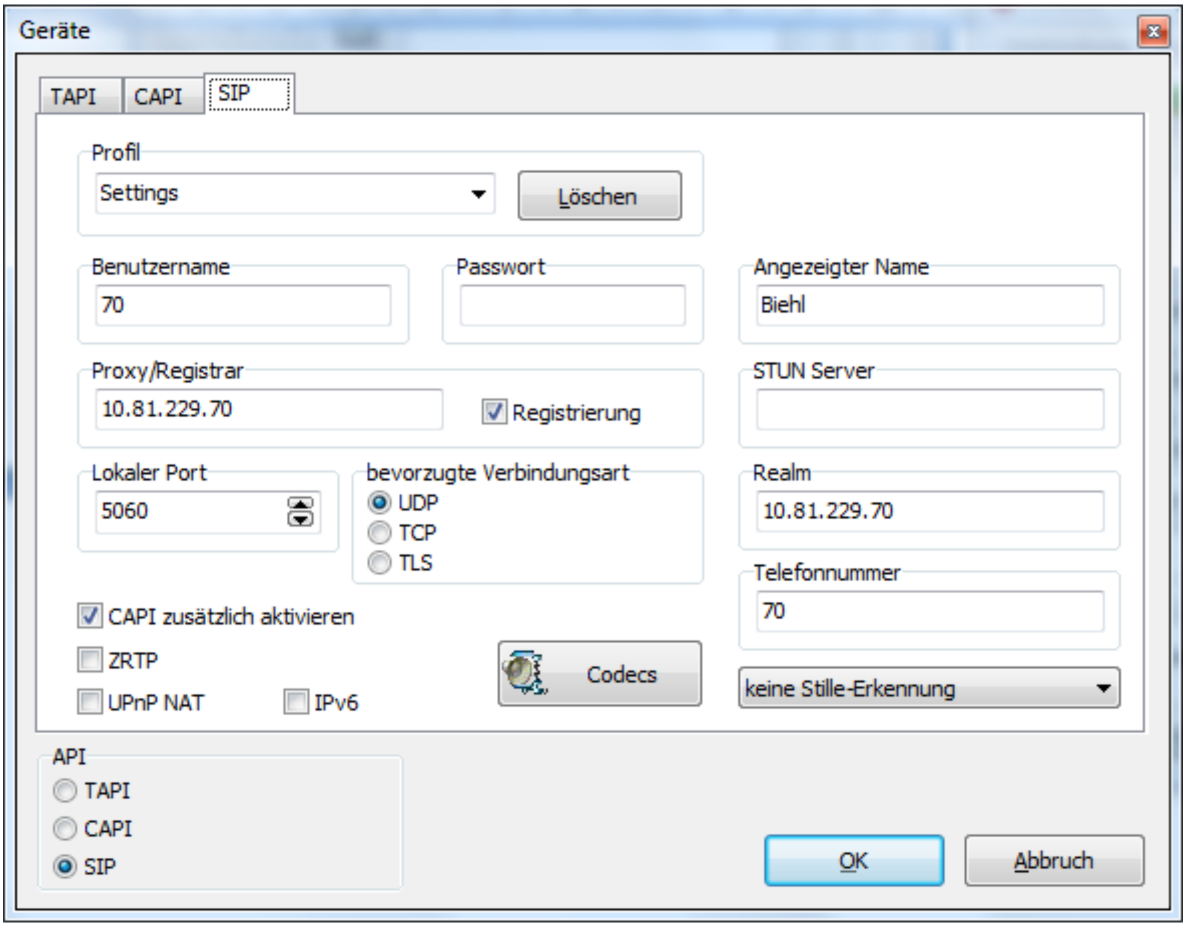
The task of this laboratory exercise was to build a connection with voice over IP. Wireshark was to be used to see what the program Phoner does in the background, while connecting

2 Setting up Phoner

Firstly, Phoner has to be set up right in order to be able to connect to the SIP-Proxy (Compact 5020). The IP of the Auerswald device is 10.81.229.70, so this IP has been set as the proxy/register. As the preferred kind of connection, UDP has been chosen. Because of the settings of the Compact 5020, a telephone number between 70 and 73 had to be chosen, for this exercise, 71 was the choice. For the Realm, the same IP as the one for proxy/register was the right one. The local Port was preconfigured as 5060.



Now the same settings have to be set on a second device:



3 Connecting to device

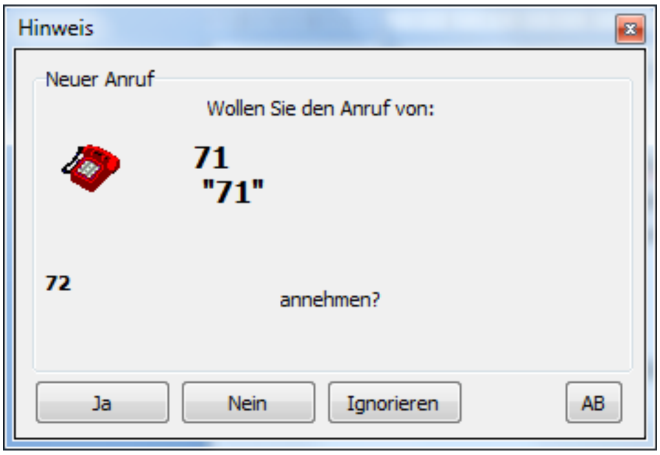
While trying to connect to another VOIP device, Phoner tries that by using following protocols

29	64.93983200(10.81.229.70	10.211.55.3	SIP	400 Status: 100 Trying |
30	65.39929500(10.81.229.70	10.211.55.3	SIP/SDP	968 Status: 183 Session Progress |
47	65.59371700(10.81.229.70	10.211.55.3	SIP	613 Status: 180 Ringing |

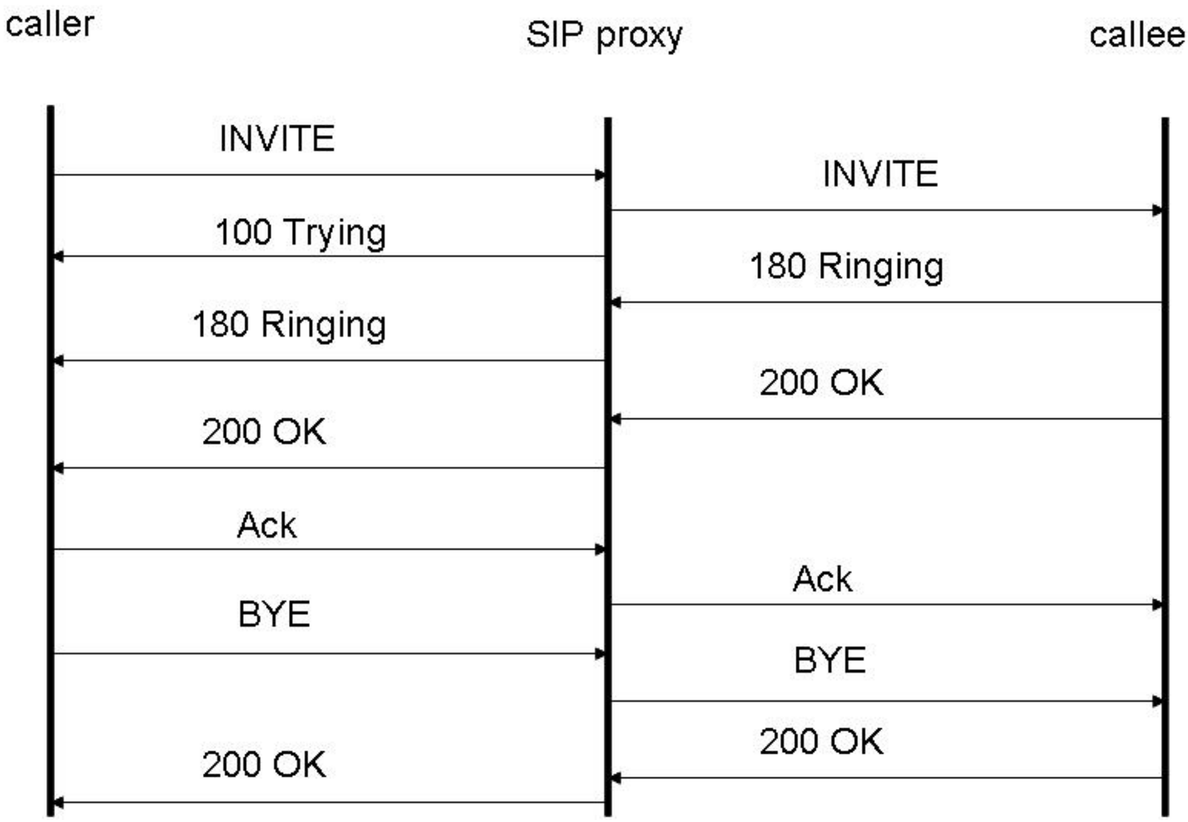
Wirshark showed, that the standard Protocol for VOIP, SIP was being used.

4 Calling

If somebody calls you, a small message shows up at the screen. The name and the number are shown.



The call is always in the same format. The following diagram shows the process not only during also before and after the call. The structure is the same as in this case.



To prove that the construction correspondents the truth some screenshots from wireshark have been made.

Wireshark reports all packages which are sent.

<u>Call try</u>

273151	2972.67318	10.85.248.118	10.85.249.99	SIP	433	Status: 100 Trying |
273152	2972.68537	10.85.248.118	10.85.249.99	SIP	503	Status: 180 Ringing |
273164	2974.83275	10.85.248.118	10.85.249.99	SIP/SDF	1043	Status: 200 OK |

Shortly after the call is trying it goes on ringing

<u>Ringing</u>

273171	2974.85174	10.85.248.118	10.85.249.99	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x624860D0, Seq=25758, Time=160, Mark
273172	2974.86978	10.85.249.99	10.85.248.118	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x3C564132, Seq=25196, Time=2480
273174	2974.87156	10.85.248.118	10.85.249.99	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x624860D0, Seq=25759, Time=320
273175	2974.89043	10.85.249.99	10.85.248.118	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x3C564132, Seq=25197, Time=2640
273176	2974.89158	10.85.248.118	10.85.249.99	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x624860D0, Seq=25760, Time=480

During the Ringing you can see some Packages with the timelap

<u>Calldenied</u>

290722	3011.32863	10.85.249.99	10.85.250.62	SIP	433	Status: 100 Trying |
290725	3011.33751	10.85.249.99	10.85.250.62	SIP	503	Status: 180 Ringing |
290842	3012.32109	10.85.250.62	10.85.249.99	SIP	466	Request: CANCEL sip:70@10.81.229.70 |

After the ringing the call was cancelled

<u>Getting a call</u>

307404	3392.84694	10.85.250.62	10.85.249.99	SIP/SDF	1098	Request: INVITE sip:70@10.81.229.70 |
307405	3392.84866	10.85.249.99	10.85.250.62	SIP	433	Status: 100 Trying |
307406	3392.85955	10.85.249.99	10.85.250.62	SIP	503	Status: 180 Ringing |
307437	3396.05904	10.85.249.99	10.85.250.62	SIP/SDF	1039	Status: 200 OK |
307439	3396.06521	10.85.250.62	10.85.249.99	RTCP	98	Sender Report Source description
307440	3396.06538	10.85.250.62	10.85.249.99	RTP	214	PT=ITU-T G.711 PCMA, SSRC=0x43D6C6BC, Seq=40808, Time=3370, Mark
307441	3396.06817	10.85.249.99	10.85.250.62	RTCP	98	Sender Report Source description

If you get a call the beginning looks the same but as soon as you accept it the packages change a little bit.

<u>During a call</u>

294015	3074.18712	10.85.250.63	10.85.249.99	UDP	1274	Source port: ws-discovery Destination port: 58752
294089	3074.28646	10.81.230.21	10.85.249.99	UDP	1270	Source port: ws-discovery Destination port: 58752
294138	3074.30404	10.85.251.62	10.85.249.99	UDP	1267	Source port: ws-discovery Destination port: 58752

The normal packages over the right port can be seen.

<u>Close the call</u>

307757	3398.80278	10.85.249.99	10.85.250.62	SIP	462	Request: BYE sip:73@10.85.250.62:5060 |
307758	3398.80461	10.85.250.62	10.85.249.99	SIP	428	Status: 200 OK |
307761	3399.11443	10.85.250.62	10.85.249.99	RTCP	122	Sender Report Source description

The call is going to be interrupted and then it ends