OpenScape 4000 V10
OpenScape SBC V10

Konfigurationsanleitung der OS 4000 und des OS SBC fu r den M-net SIP-Trunk

Getestete Szenarien: OS 4000<->OS SBC<->M-net und OS 4000<->M-net
Provider-Anbindung: UDP/TCP/TLS
Provider-Registration: Dynamische Registrierung

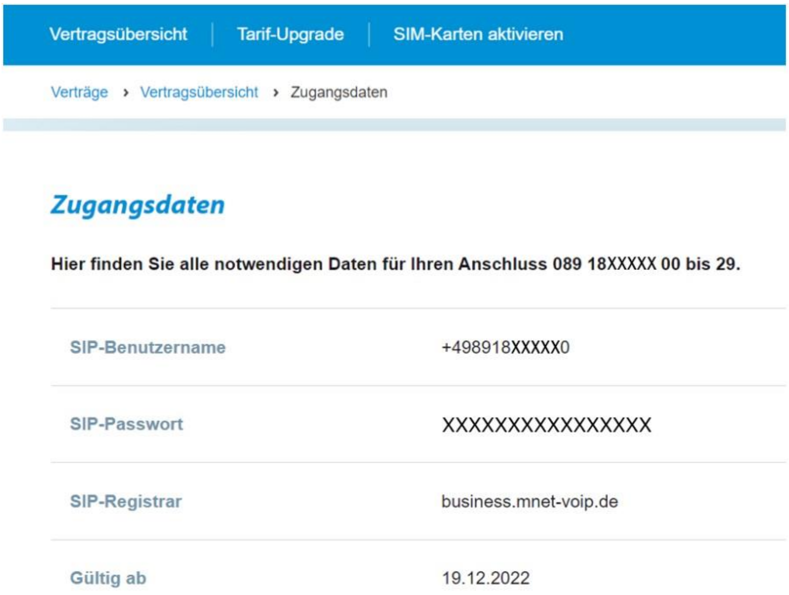
Inhaltsverzeichnis

Trunk-Zugangsdaten aus dem M-net Kundenportal

Konfigurationsdokument:

- M-net: Technische Grundlage für die Anschaltung SIP-Trunk

Die Zugangsdaten für das Einrichten des SIP-Trunks sind im M-net Kundenportal ersichtlich und sehen beispielhaft wie unten gezeigt aus:

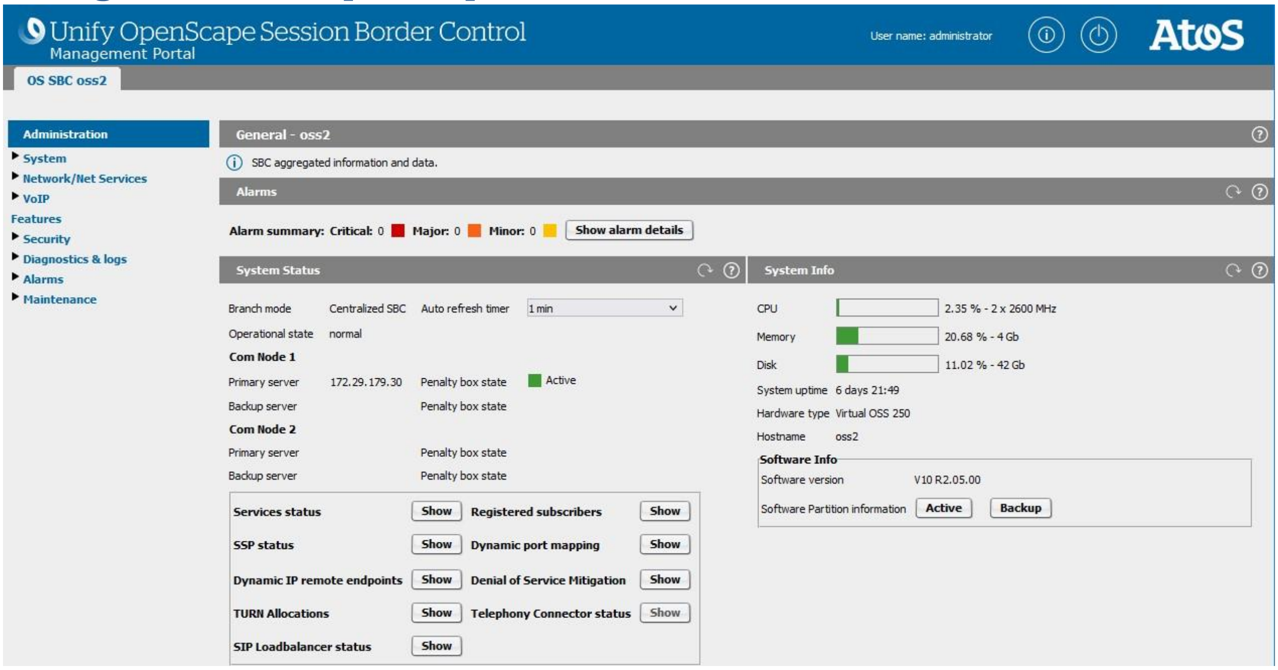


Konfiguration der OpenScape 4000

Bei der Anbindung von M-net über den OpenScape SBC wird in der OS 4000 das Default-Profil "NatTrkWithoutRegistration" ohne Anpassungen verwendet.

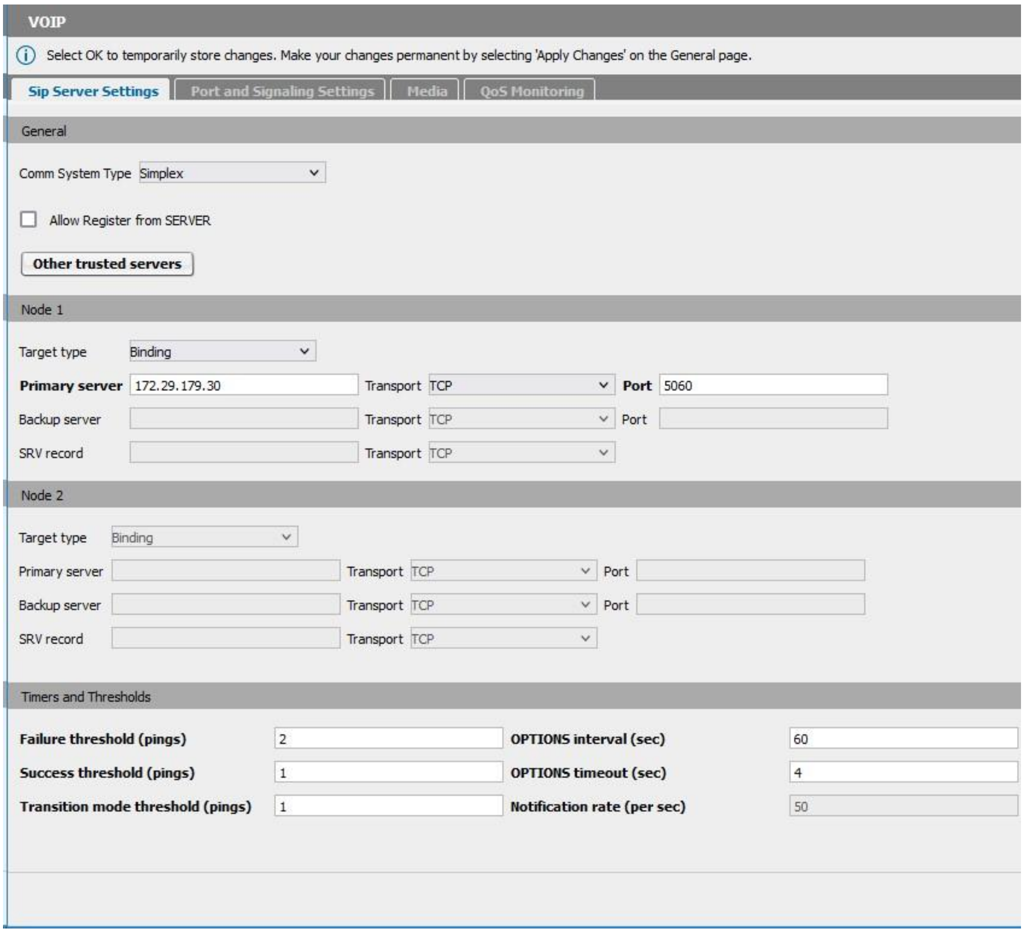
Bei der direkten Anbindung der OpenScape 4000 mit M-net wird das Profil M-net verwendet.

Konfiguration des OpenScape SBC

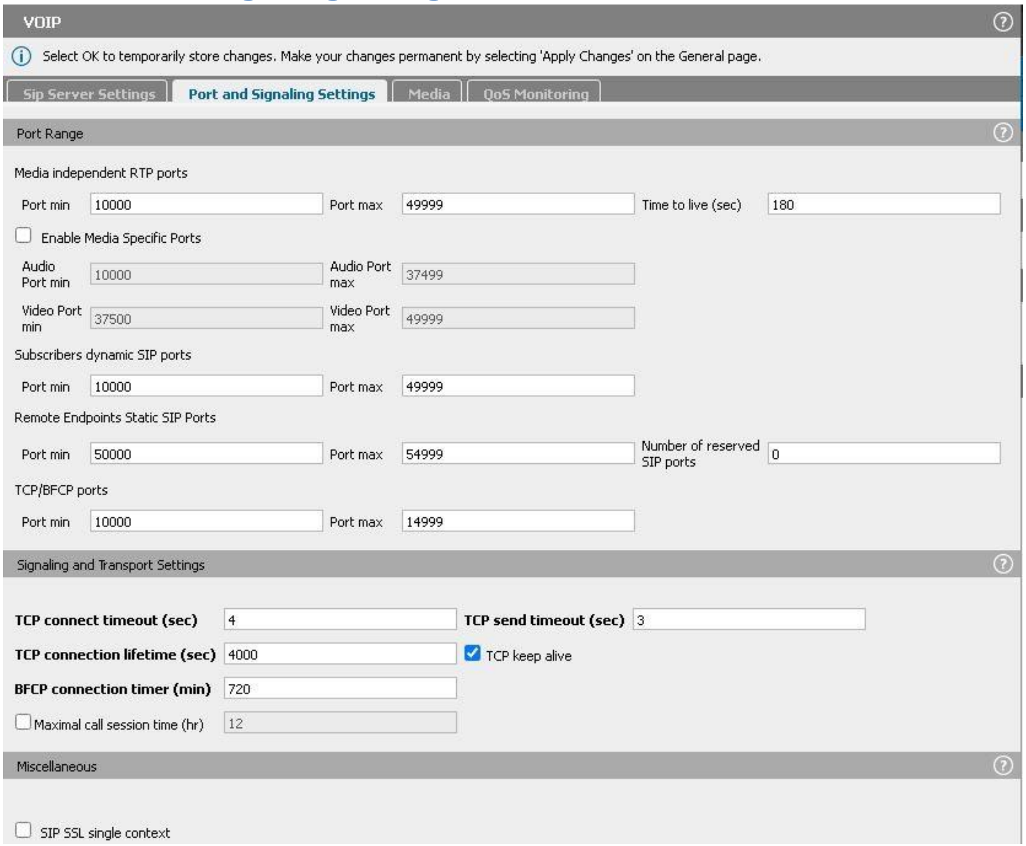


VOIP – Sip Server Settings Tab

- **Primary server:** OS 4000 SIP IP
- **Transport:** TCP
- **Port:** 5060

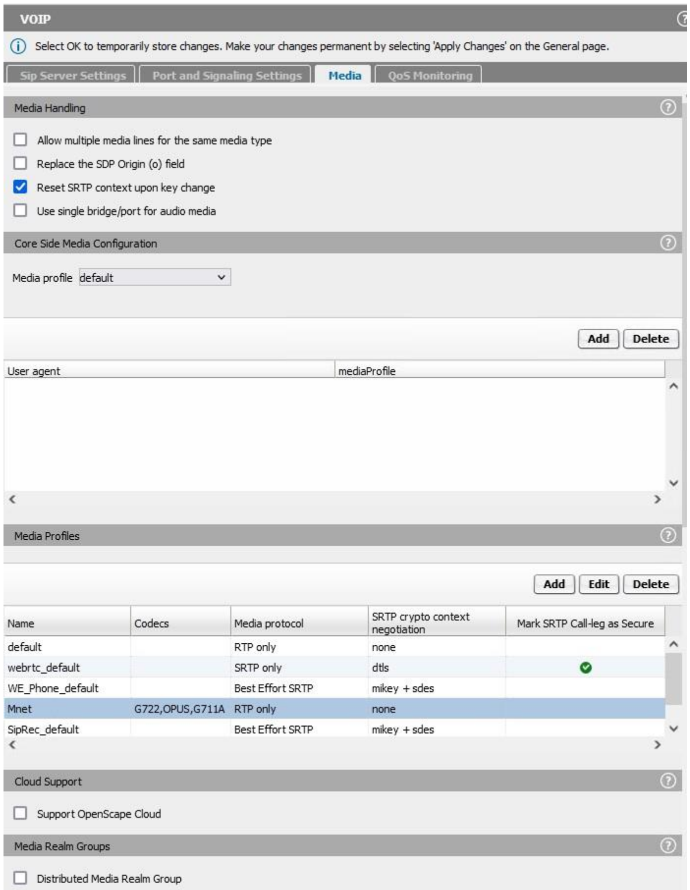


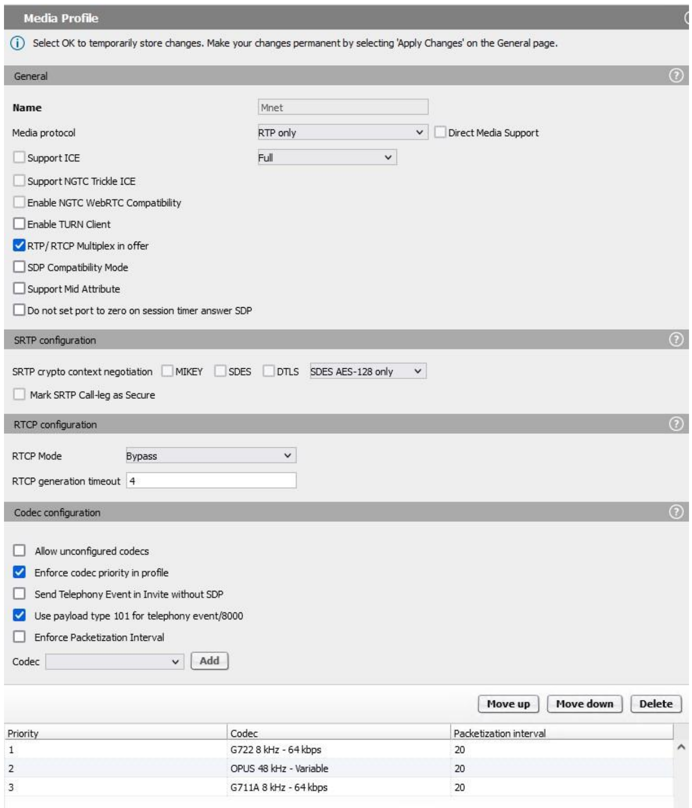
VOIP – Port and Signaling Settings Tab



VOIP – Media Profile Tab

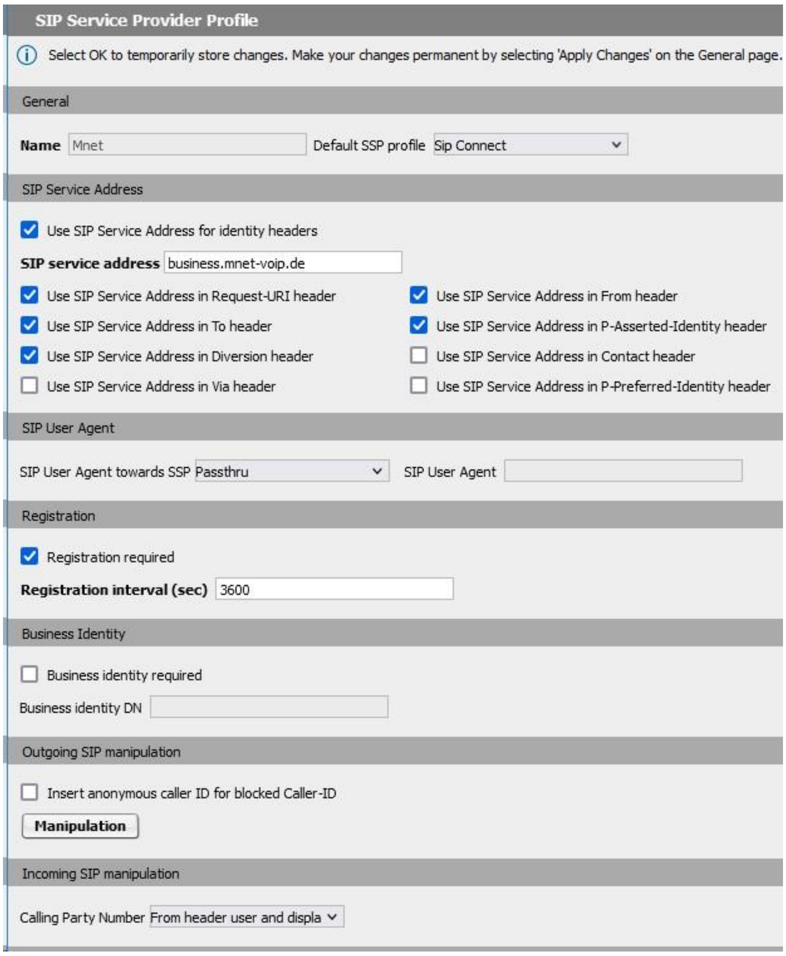
- **Access Media Protocol:** *RTP only* für UDP oder TCP,
  SRTP only für TLS
- **SRTP crypto context negotiation:** *SDES* für TLS
- **Codecs Access Side:** Zumindest G.722, OPUS und G.711A
- **Packetization Interval:** 20 ms

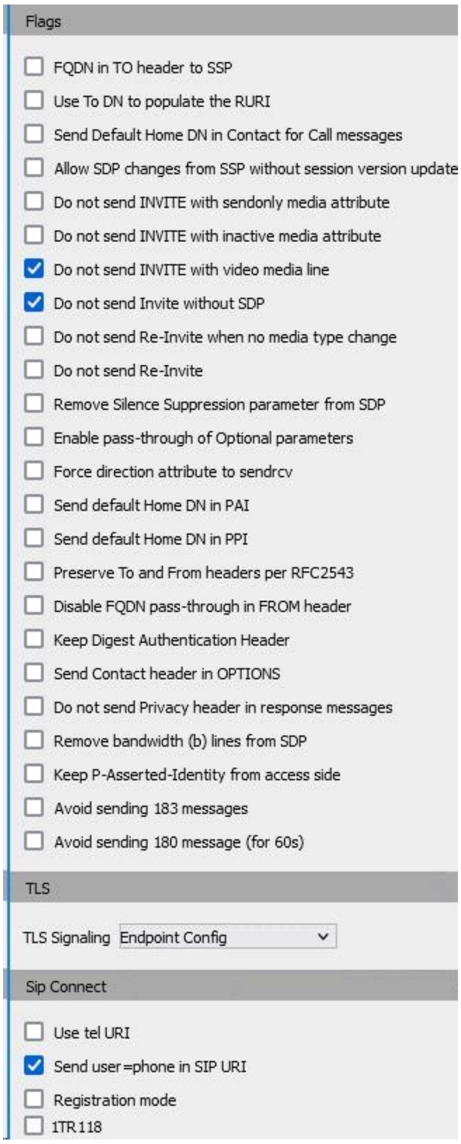




Features - SIP Service Provider Profile

- **Default SSP profile:** *Sip Connect*
- **SIP service address:** *business.mnet-voip.de*

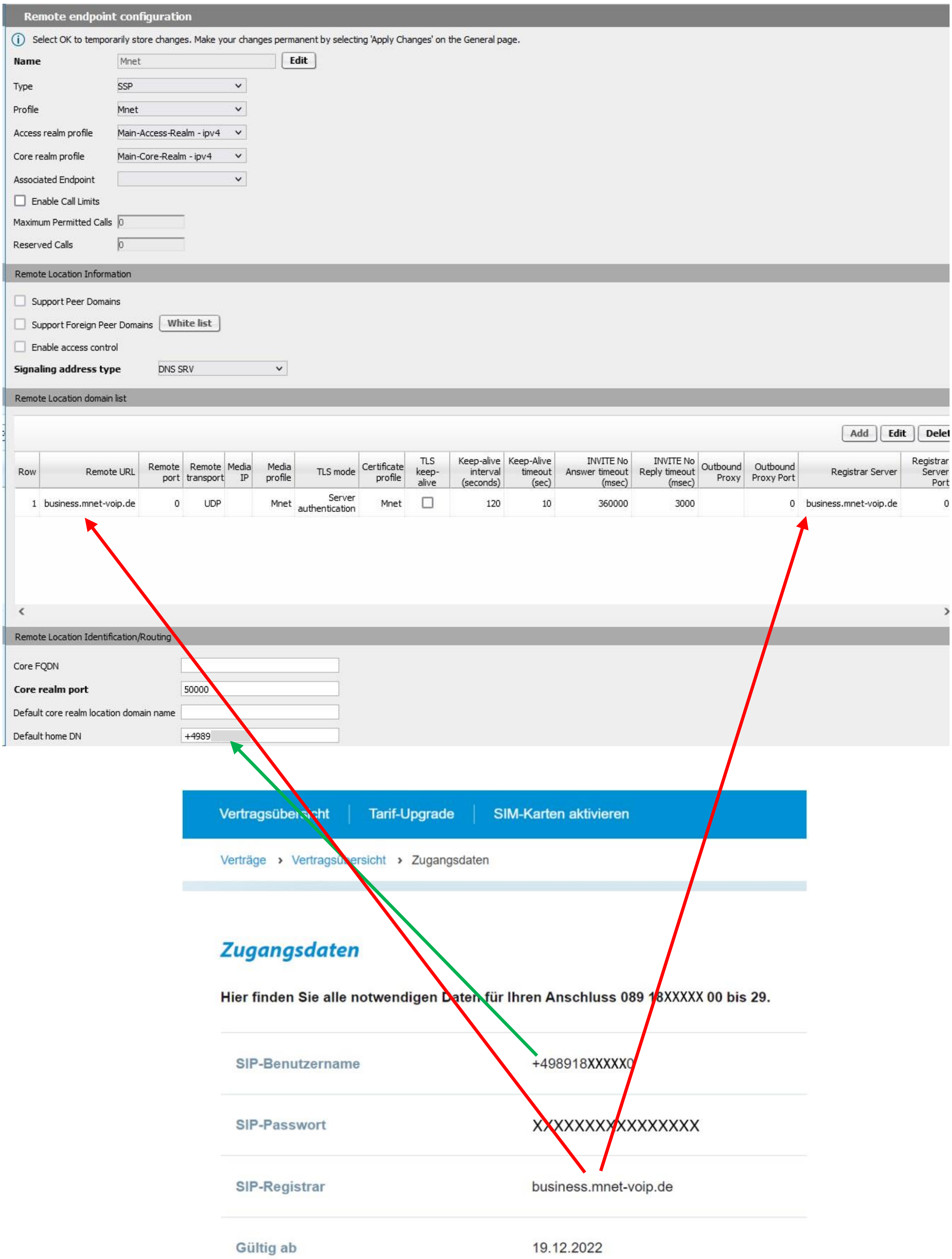




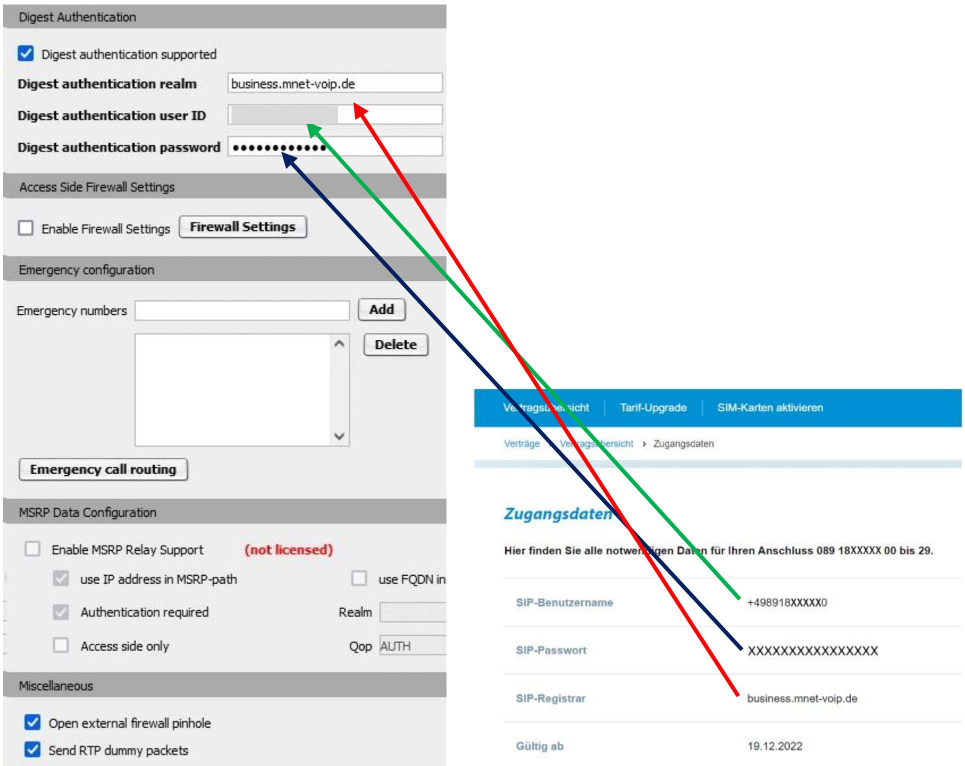
Features - Remote Endpoint Configuration

- **Name**: Das zuvor erstellte SIP Service Provider-Profil
- **Signaling address type**: DNS SRV
- **Remote URL und Registrar Server:** *business.mnet-voip.de*
- **Remote Port:** 0
- **Remote transport:** UDP, TLS oder TLS. M-net empfiehlt UDP
- **Media profile:** Das zuvor erstellte VoIP Media-Profil
- **Certificate profile:** Bei TLS das unter Certificate Management erstellte Profil

- **Registrar Server Port:** 0

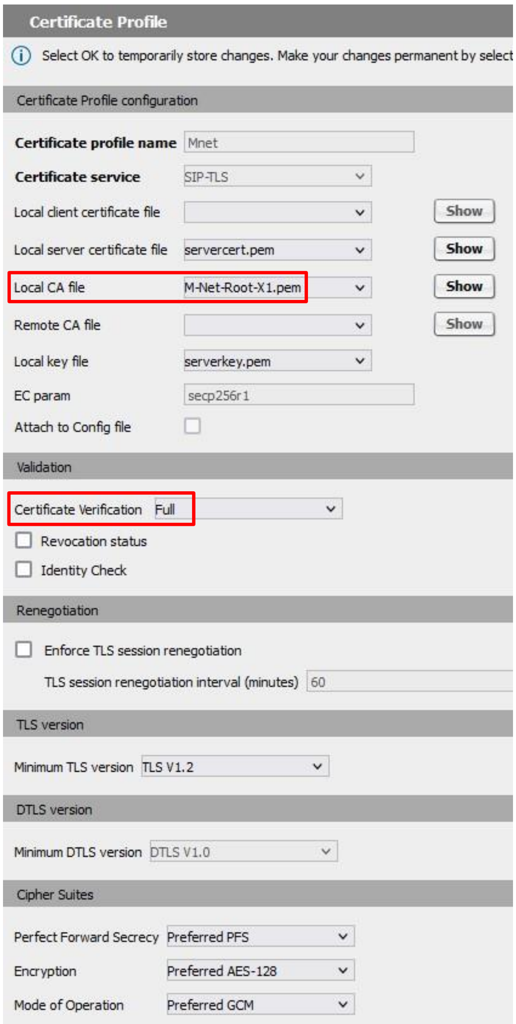


Features - Remote Endpoint Configuration(Fortsetzung)



Security - Certificate Profile

Bei der Anbindung an M-net über TLS muss das M-net Root-Zertifikat von URL https://m-net.de/fileadmin/2_Geschaeftskunden/GK.2_Telefonie/SIP_Trunk/M-net-Root-X1.zip heruntergeladen und als *Local CA file* im OS SBC installiert werden. Zusätzlich muss die Einstellung *Certificate Verification* auf *Full* gesetzt werden.



Hinweis:

T.38 FAX wurde im Rahmen der Zertifizierung nicht getestet.

Anrufbeispiele

Registration des OpenScape SBC an M-net

```
  1 0.00  88.217.251.183 62.216.220.1   SIP      510 Request: REGISTER sip:business.mnet-voip.de;transport=udp  (1 binding) |
  2 0.01  62.216.220.1   88.217.251.183 SIP      497 Status: 401 Unauthorized |
  3 0.10  88.217.251.183 62.216.220.1   SIP      784 Request: REGISTER sip:business.mnet-voip.de;transport=udp  (1 binding) |
  4 0.10  62.216.220.1   88.217.251.183 SIP      461 Status: 200 OK (REGISTER)  (1 binding) |

Frame 3: 784 bytes on wire (6272 bits), 784 bytes captured (6272 bits)
Ethernet II, Src: 00:00:00_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00_00:00:00 (00:00:00:00:00:00)
Internet Protocol Version 4, Src: 88.217.251.183, Dst: 62.216.220.1
User Datagram Protocol, Src Port: 5060, Dst Port: 5060
Session Initiation Protocol (REGISTER)
 > Request-Line: REGISTER sip:business.mnet-voip.de;transport=udp SIP/2.0
 v Message Header
   > Via: SIP/2.0/UDP 88.217.251.183:5060;branch=z9hG4bK4d38.084ca31f6798b8f33f43ee9531a0482f.0;i=1
     Expires: 3600
     Call-ID: fc3e1f10
     [Generated Call-ID: fc3e1f10]
   > From: <sip:+498918     0@business.mnet-voip.de>;tag=d11dbc88
   > CSeq: 3579 REGISTER
     Max-Forwards: 70
   > To: <sip:+498918     0@business.mnet-voip.de>
     User-Agent: OpenScape Branch
   > Contact: <sip:+498918     0@88.217.251.183:5060;transport=udp>;expires=3600
     Content-Length: 0
   >  [truncated]Authorization: Digest username="+498918     0", realm="business.mnet-voip.de", nonce="14e5375e82a3", uri="sip:business.mnet-voip.de;transport=udp",
```

Eingehender Anruf über den OpenScape SBC

```
    1 0.00  62.216.220.1   88.217.251.183 SIP/SDP   845 Request: INVITE sip:+498918       0@88.217.251.183:5060;transport=udp
    2 0.01  88.217.251.183 62.216.220.1   SIP       442 Status: 100 Trying |

 Frame 1: 845 bytes on wire (6760 bits), 845 bytes captured (6760 bits)
 Ethernet II, Src: 00:00:00_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00_00:00:00 (00:00:00:00:00:00)
 Internet Protocol Version 4, Src: 62.216.220.1, Dst: 88.217.251.183
 User Datagram Protocol, Src Port: 5060, Dst Port: 5060
 Session Initiation Protocol (INVITE)
 > Request-Line: INVITE sip:+498918       0@88.217.251.183:5060;transport=udp SIP/2.0
 v Message Header
   > Via: SIP/2.0/UDP 62.216.220.1:5060;branch=z9hG4bK+f1db7e15430e2234668c7515546532221+sip+3+ad0e4ccf
   > From: <sip:+4989          3@business.mnet-voip.de>;tag=62.216.220.1+3+2d530548+5d790c14
   > To: <sip:+4989        0@business.mnet-voip.de>
   > CSeq: 133444356 INVITE
     Expires: 180
     Content-Length: 171
     Supported: resource-priority, histinfo
   > Contact: <sip:3876ad968164c43639fb2ea63b2e1ef4@62.216.220.1:5060>
     Content-Type: application/sdp
     Call-ID: 29a77e3a74d32e35016c5e68c3dbcfb3@62.216.220.1
     [Generated Call-ID: 29a77e3a74d32e35016c5e68c3dbcfb3@62.216.220.1]
     Max-Forwards: 56
     Accept: application/sdp, application/dtmf-relay
 v Message Body
   v Session Description Protocol
       Session Description Protocol Version (v): 0
     > Owner/Creator, Session Id (o): - 49883440453345 49883440453345 IN IP4 62.216.222.1
       Session Name (s): -
     > Connection Information (c): IN IP4 62.216.222.1
     > Time Description, active time (t): 0 0
     > Media Description, name and address (m): audio 54274 RTP/AVP 8 100
     > Media Attribute (a): rtpmap:100 telephone-event/8000
     > Media Attribute (a): ptime:20
       [Generated Call-ID: 29a77e3a74d32e35016c5e68c3dbcfb3@62.216.220.1]
```

Ausgehender Anruf über den OpenScape SBC

```
   8 0.028118    88.217.251.183    62.216.220.1     SIP/SDP    1500 Request: INVITE sip:+4989        3@business.mnet-voip.de;transport=udp;user=phone
   9 0.030115    62.216.220.1      88.217.251.183   SIP         470 Status: 100 Trying |

Frame 8: 1500 bytes on wire (12000 bits), 1500 bytes captured (12000 bits)
Ethernet II, Src: 00:00:00_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00_00:00:00 (00:00:00:00:00:00)
Internet Protocol Version 4, Src: 88.217.251.183, Dst: 62.216.220.1
User Datagram Protocol, Src Port: 5060, Dst Port: 5060
Session Initiation Protocol (INVITE)
 > Request-Line: INVITE sip:+4989        3@business.mnet-voip.de;transport=udp;user=phone SIP/2.0
 v Message Header
    > Via: SIP/2.0/UDP 88.217.251.183:5060;branch=z9hG4bK1e81.fbe6eced8b3fba468403723bcbfb5181.0;i=2678
      Max-Forwards: 69
    > Contact: <sip:+4989        0@88.217.251.183:5060;transport=udp;user=phone>
    > To: <sip:+4989        3@business.mnet-voip.de:5060;transport=udp;user=phone>
    > From: "                        1"<sip:+4989        0@88.217.251.183;transport=udp;user=phone>;tag=1073f0e543
      Call-ID: bda74442c26840d4
      [Generated Call-ID: bda74442c26840d4]
    > CSeq: 604321986 INVITE
      Session-Expires: 1800
      Min-SE: 90
      Allow: INVITE, ACK, OPTIONS, BYE, CANCEL, REGISTER, INFO, PRACK, UPDATE
      Content-Type: application/sdp
      Supported: 100rel, timer
      User-Agent: OpenScape 4000 -  SoftGate
    > P-Asserted-Identity: "                        1" <sip:+4989        0@88.217.251.183;user=phone>
      Content-Length: 570
    > X-Siemens-OSS: OpenScape SBC V10 R2.05.00-2
 v Message Body
    v Session Description Protocol
         Session Description Protocol Version (v): 0
       > Owner/Creator, Session Id (o): MxSIP 131122 769120805 IN IP4 172.29.179.30
         Session Name (s): SIP Call
       > Connection Information (c): IN IP4 88.217.251.183
       > Time Description, active time (t): 0 0
       > Media Description, name and address (m): audio 12318 RTP/AVP 8 18 9 124 99 100 101
       > Media Attribute (a): rtpmap:8 PCMA/8000
       > Media Attribute (a): rtpmap:18 G729/8000
       > Media Attribute (a): fmtp:18 annexb=no
       > Media Attribute (a): rtpmap:9 G722/8000
       > Media Attribute (a): rtpmap:124 opus/48000/2
       > Media Attribute (a): fmtp:124 maxaveragebitrate=48000;maxplaybackrate=16000;stereo=0;cbr=0;useinbandfec=1;usedtx=0;sprop-maxcapturerate=4800
       > Media Attribute (a): rtpmap:99 red/8000
       > Media Attribute (a): fmtp:99 98
       > Media Attribute (a): rtpmap:100 telephone-event/48000
       > Media Attribute (a): fmtp:100 0-15
       > Media Attribute (a): rtpmap:101 telephone-event/8000
       > Media Attribute (a): silenceSupp:off - - - -
         Media Attribute (a): sendrecv
         Media Attribute (a): rtcp-mux
         [Generated Call-ID: bda74442c26840d4]
```

Notruf

```
   10 10.279157 88.217.251.183 62.216.220.1   SIP/SDP  1276 Request: INVITE sip:112@business.mnet-voip.de;transport=udp
 Internet Protocol Version 4, Src: 88.217.251.183, Dst: 62.216.220.1
 User Datagram Protocol, Src Port: 5060, Dst Port: 5060
 Session Initiation Protocol (INVITE)
 > Request-Line: INVITE sip:112@business.mnet-voip.de;transport=udp SIP/2.0
 v Message Header
   > Via: SIP/2.0/UDP 88.217.251.183:5060;branch=z9hG4bKdbe6.de7e04285805ecb11277a71da48d1df3.0;i=1499
     Max-Forwards: 69
   > Contact: <sip:+498918      1@88.217.251.183:5060;transport=udp;user=phone>
   > To: <sip:112@business.mnet-voip.de;transport=udp>
   > From: "                       2"<sip:+498918      1@business.mnet-voip.de;transport=udp;user=phone>;tag=5bf5942b2c
     Call-ID: 132b64d4b7cea625
     [Generated Call-ID: 132b64d4b7cea625]
   > CSeq: 1949655109 INVITE
     Session-Expires: 1800
     Min-SE: 90
     Allow: INVITE, ACK, OPTIONS, BYE, CANCEL, REGISTER, INFO, PRACK, UPDATE
     Content-Type: application/sdp
     Supported: 100rel, timer
     User-Agent: OpenScape 4000 -  SoftGate
   > P-Asserted-Identity: "                       2" <sip:+498918      1@business.mnet-voip.de;user=phone>
     Content-Length: 380
   > X-Siemens-OSS: OpenScape SBC V10 R2.05.00-2
 v Message Body
   v Session Description Protocol
       Session Description Protocol Version (v): 0
     > Owner/Creator, Session Id (o): MxSIP 131338 464961134 IN IP4 172.29.179.30
       Session Name (s): SIP Call
     > Connection Information (c): IN IP4 88.217.251.183
     > Time Description, active time (t): 0 0
     > Media Description, name and address (m): audio 38622 RTP/AVP 8 96 9 100 101
     > Media Attribute (a): rtpmap:8 PCMA/8000
     > Media Attribute (a): rtpmap:96 OPUS/48000/2
     > Media Attribute (a): fmtp:96 bitrate=32000
     > Media Attribute (a): rtpmap:9 G722/8000
     > Media Attribute (a): rtpmap:100 telephone-event/48000
     > Media Attribute (a): fmtp:100 0-15
     > Media Attribute (a): rtpmap:101 telephone-event/8000
     > Media Attribute (a): silenceSupp:off - - - -
       Media Attribute (a): sendrecv
       Media Attribute (a): rtcp-mux
     > Media Attribute (a): ptime:20
       [Generated Call-ID: 132b64d4b7cea625]
```