

Configuration Guide



Thueringer Netkom

with

Unify OS SBC V11 & OS4000 V11

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History of Change

Version	Date	Description
1.0	November 8 th , 2024	Initial Creation

Trunk Configuration Data provided by Thueringer Netkom

The SIP trunk configuration data (IP addresses etc.) needed to setup the SIP trunk can be found in the ITSP interconnection documentation provided by Thueringer Netkom.

As an example:

- **Number ranges:** +49 3643 468394 3940 - 9
- **Username:** 004936434683940
- **Password:** <passphrase>
- **SIP-Registrar FQDNs / IP addresses:** sip2.thuringendsl.de
- **CLIP no Screening:** YES (needs to be booked / configured on customer request)

OpenScape 4000 Configuration

The OS4000 configuration is accomplished via both AMO (Administration and Maintenance Order) commands and web based GUI OS4000 management. The AMO commands are executed through ComWin application that interfaces to OS4000's database.

AMO Configuration for Thueringer Netkom Native SIP Trunk

In this subsection the typical AMO commands to create the native SIP trunk between OS SBC and OS4000 vHG boards will be described. Furthermore, there will be presented the AMOs for dialing out from OS4000 subscribers to PSTN (in international and national format) via the OS SBC connection to Thueringer Netkom.

Add function block for vHG board:

```
ADD-BFDAT:FCTBLK=6, FUNCTION=HG3550, BRDBCHL=BCHL120, ATTR=SOCO;
CHANGE-BFDAT:CONFIG=CONT, FCTBLK=6, FUNCTION=HG3550, LINECNT=4, UNITS=3;
CHANGE-BFDAT:CONFIG=OK, FCTBLK=6, ANSW=YES;
```

Add vHG board in the SWU:

```
ADD-BCSU:MTYPE=IPGW, LTG=1, LTU=99, SLOT=1, PARTNO="Q2330-X", FCTID=1, LWVAR="0", FCTBLK=6, BCHL3550=120, ALARMNO=0,
IPMODE=IPV4, DHCPV4=NO, DHCPV6=NO;
```

Configure vHG board data (device specific parameters e.g., board IP, default gateway, assign number of SIP channels etc.):

```
ADD-CGWB:LTU=99, SLOT=1, SMODE=NORMAL, IPADR=10.8.242.115, NETMASK=255.255.255.0;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=GLOBIF, PATTERN=213, VLAN=NO, VLANID=0, DEFRT=10.8.242.1, TRPRSIP=120,
TRPRSIPQ=0, TRPRH323=0, TPRH323A=0, TLSP=4061, DNSIPADR=10.8.242.242, DNSIPAD2=0.0.0.0, USEWANIF=NO, WPUBIP=0.0.0.0,
SIPTCPP=5060, SIPTLSP=5061;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=GLOBIF, ABOUT="Thueringer";
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=SERVIF, LOGINTRM="TRM", PASSW="HICOM";
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, UDPPRTLO=29100, UDPPRTHI=30099, TOSPL=184, TOSSIGNL=104, T38FAX=NO,
RFCFMOIP=YES, RFCDTMF=YES, REDRFCTN=NO, PRIO=PRIO1, CODEC=G711A, VAD=NO, RTP=20;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, PRIO=PRIO2, CODEC=G711U, VAD=NO, RTP=20;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, PRIO=PRIO3, CODEC=G722, VAD=NO, RTP=20;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, PRIO=PRIO4, CODEC=G729, VAD=NO, RTP=20;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, PRIO=PRIO5, CODEC=NONE, VAD=NO, RTP=20;
CHANGE-CGWB:MTYPE=CGW, LTU=99, SLOT=1, TYPE=ASC, PRIO=PRIO6, CODEC=NONE, VAD=NO, RTP=20;
```

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```
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=ASC,PRIO=PRIO7,CODEC=NONE,VAD=NO,RTP=30;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=ASC,PRIO=PRIO8,CODEC=NONE,VAD=NO,RTP=30;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=ASC,PRIO=PRIO9,CODEC=NONE,VAD=NO,RTP=30;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=MGNTDATA,UIMODE=CLASSIC;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=DMCDATA,DMCCONN=120,SMP=YES,SMP4OSV=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=WBMDATA,LOGINWBM="HP4K-DEVEL",ROLE=ENGR;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=WBMDATA,LOGINWBM="HP4K-SU",ROLE=SU;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=WBMDATA,LOGINWBM="HP4K-ADMIN",ROLE=ADMIN;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=WBMDATA,LOGINWBM="HP4K-READER",ROLE=READONLY;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=GWDATA,GWID1="PRIMARYRASMANAGERID";
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=SIPTRERH,GWAUTREQ=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=SIPTRSSA,SIPREG=NO,REGIP1=0.0.0.0,PORTTCP1=5060,PORTTLS1=5061,
REGTIME=300,REGIP2=0.0.0.0,PORTTCP2=5060,PORTTLS2=5061;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=DLSDATA,DLSIPADR=10.8.242.71,DLSPORT=18443,DLSACPAS=YES;
CHANGE-
CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=JB,AVGDLYV=40,MAXDLYV=120,MINDLYV=20,PACKLOSS=4,AVGDLYD=60,MAXDLYD=200,JBMO
DE=2;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=IPCONF,IPMODE=IPV4,DHCPV4=NO,DHCPV6=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=1,TYPE=MANLANIF,MIPADR=0.0.0.0,MNETMASK=0.0.0.0,MVLAN=NO,MVLANID=0,
MDEFRT=0.0.0.0;
```

Add Class Of Parameter (used to specify the line parameters for signaling control of the device handler):

```
ADD-COP:COPNO=1,PAR=ANS&L3AR&IMEX,TRK=TA,TOLL=TA;
CHANGE-COP:COPNO=1,COPTYPE=COPADD,DEV=INDEP,INFO="IP TR";
```

Add Class Of Trunk (used to specify the switching technology parameters):

```
ADD-COT:COTNO=1,PAR=RCL&IIDL&IVAC&INAU&ANS&CHRT&AEOD&CEBC&COTN&IEVT&IDIS&BSHT&BLOC&PROV&LWNC&INDG&NLCR&TSCS&
ICZL&ABNA&ABPD&WAAN&DFNN&IONS&NLRD&NOFT&AMFC&NPIS&NTON;
```

Add Class Of Service (used to specify the authorizations and features assigned to stations and trunks):

```
ADD-COSSU:NEWCOS=1,INFO="";
CHANGE-COSSU:TYPE=COS,COS=1,AVCE=TA&TNOTCR&CDRINT&COSXCD&MB&DATA&CFNR&VCE;
CHANGE-COSSU:TYPE=COS,COS=1,AVCE=RSVLN&DICT&SPKR&FWDNWK&TTT&MSN&CFB&MULTRA;
CHANGE-COSSU:TYPE=COS,COS=1,AVCE=FWDEXT&CCBS&CW&GRPCAL;
CHANGE-COSSU:TYPE=COS,COS=1,AFAX=TA&TNOTCR;
CHANGE-COSSU:TYPE=COS,COS=1,ADTE=TA&TNOTCR&CDRINT&BASIC&MSN&MULTRA;
```

Add Bundle (used to specify trunk group number identifier):

```
ADD-BUEND:TGRP=2,NAME="THUERINGER",NO=120,TRACENO=0,ACDTHRH=*,PRIONO=2,TDDRFLAG=OFF,GDTRRULE=0,
ACDPMGRP=0,CHARCON=NEUTRAL;
```

Add digital trunk circuits in the SWU (used for the external gateway for IP trunking configuration):

```
ADD-TDCSU:OPT=NEW,PEN=1-99-001-0,COTNO=1,COPNO=1,DPLN=0,ITR=0,COS=1,LCOSV=1,LCOSD=1,CCT="THUERINGER",
DESTNO=0,PROTVAR=ECMAV2,SEGMENT=8,DEDSVC=NONE,TRTBL=GDTR,SIDANI=N,ATNTYP=CO,CBMATR=NONE,TCHARG=N,SUPPRESS=0,
ISDNIP=00,ISDNNP=0,TRACOUNT=30,SATCOUNT=MANY,ALARMNO=0,FIDX=1,CARRIER=1,ZONE=EMPTY,COTX=1,FWDX=5,CHIMAP=N,
UUSCCX=16,UUSCCY=8,FNIDX=0,NWMUXTIM=10,SRGRP=5,CLASSMRK=EC&G711&G729AOPT,TCCID="",TGRP=2,SRCHMODE=DSC,
```

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INS=Y, SECLEVEL=TRADITIO, HMUSIC=0, CALLTIM=60, WARNTIM=60, DEV=HG3550CO, BCHAN=1&&30, BCNEG=N, BCGR=1, LWPP=0, LWLT=0, LWPS=0, LWR1=0, LWR2=0, DMCALLWD=N, GWPROT=NONE;

Add LCR outdial rule (used to specify outdial rule number identifier):

ADD-LODR:ODR=22,CMD=NPI,NPI=ISDN,TON=UNKNOWN;

ADD-LODR:ODR=22,CMD=ECHO,FIELD=2;

ADD-LODR:ODR=22,CMD=END;

ADD-LODR:ODR=22,INFO="THUERINGER1";

ADD-LODR:ODR=23,CMD=NPI,NPI=ISDN,TON=UNKNOWN;

ADD-LODR:ODR=23,CMD=ECHO,FIELD=4;

ADD-LODR:ODR=23,CMD=END;

ADD-LODR:ODR=22,INFO="THUERINGER2";

Add SIP trunk destination (used for allocating SIP trunk access codes):

ADD-RICT:MODE=LRTENEW,LRTE=22,LSVC=ALL,NAME="THUERINGER1",TGRP=2,DNNO=1-1-122,ROUTOPT=NO,DTMFCNV=FIX,DTMFTEXT="",DTMFPULS=PP80,ROUTATT=NO,EMCYRTT=NO,INFO="",PDNNO=0,CHARCON=NEUTRAL,CONFONE=NO,REIN GRP=NO,NOPRCFWD=NO,NITO=NO,CLNAME DL=NO,FWDSWTCH=NO,LINFEMER=NO,NOINTRTE=NO;

ADD-RICT:MODE=LRTENEW,LRTE=23,LSVC=ALL,NAME="THUERINGER2",TGRP=2,DNNO=1-1-122,ROUTOPT=NO,DTMFCNV=FIX,DTMFTEXT="",DTMFPULS=PP80,ROUTATT=NO,EMCYRTT=NO,INFO="",PDNNO=0,CHARCON=NEUTRAL,CONFONE=NO,REIN GRP=NO,NOPRCFWD=NO,NITO=NO,CLNAME DL=NO,FWDSWTCH=NO,LINFEMER=NO,NOINTRTE=NO;

For MWI:

ADD-RICT:MODE=PM,IDX=1,SAN=3949,NAME="XPR",STYPE=XPRESION;

Add digits to dial plan (refers to the digit analysis results of a dialed digit sequence or dialed code):

ADD-WABE:CD=9,DAR=CO,CHECK=N;

Add Administration of LCR Routes (used to specify the accumulation of the trunk groups):

ADD-LDAT:LROUTE=22,LSVC=ALL,LVAL=1,TGRP=2,ODR=22,LAUTH=1,CARRIER=1,ZONE=EMPTY,LATTR=PUBNUM,VCCYC=4;

ADD-LDAT:LROUTE=23,LSVC=ALL,LVAL=1,TGRP=2,ODR=23,LAUTH=1,CARRIER=1,ZONE=EMPTY,LATTR=PUBNUM,VCCYC=4;

Add Administration of the LCR Dialing Plan (used to specify the LCR digit patterns - LDP):

ADD-LDPLN:LRCRCONF=LCRPATT,DIPLNUM=0,LDP="9"- "Z",DPLN=0&1&2&3&4&5&6&7&8&9&10&11&12&13&14&15, LROUTE=22,LAUTH=1,PINDP=N;

ADD-LDPLN:LRCRCONF=LCRPATT,DIPLNUM=0,LDP="9"- "W"- "04"- "Z",DPLN=0&1&2&3&4&5&6&7&8&9&10&11&12&13&14&15, LROUTE=23,LAUTH=1,PINDP=N;

WBM Configuration for Thuringer Netkom Native SIP Trunk – Gateway Properties

Navigate to HG WBM >> Configuration >> Basic Settings >> Gateway.

The screenshot shows the OpenScape 4000 vHG 3500 configuration interface. The left sidebar contains a navigation menu with categories: Basic Settings, Security, Network & Routing, and Voice Gateway. Under 'Voice Gateway', the 'Gateway' option is selected. The main content area is titled 'Gateway Properties' and is divided into two sections: 'General' and 'Additional Features'.

General Section:

- Board Name: SoftGate-SIP
- Physical Node Number (4K): 1-30-300
- PBC Number in Shelf: 1
- Gateway Location: SG99
- Contact Address: [Empty field]
- About: Thuringer
- System Country Code: 49 (Germany)
- Global Gateway of Type G.711: A-law
- Supported IP Version: IPV4 only
- Gateway IP Address: 10.8.242.115
- Gateway Subnet Mask: 255.255.255.0
- Public WAN IP Address: [Empty field]

Additional Features Section:

- Conference Improvement:
- Support Dispatch Application: only for Native SIP Trunking GW
- Allow SIP Register for Trunking: only for Native SIP Trunking with profile
- Enable SMP: value from AMO CGWB
- Maximum number of DMC connections: 120
- Use Early Media for Disconnect to SIP: only for Native SIP Trunking GW
- Enable SMP for OSV SIPQ trunk: value from AMO CGWB
- Signaling Protocol for IP Networking: SIP
- SIP Protocol Variant for IP Networking: Native SIP
- DisplayName Character Code Set: [Empty field]

At the bottom of the configuration area, there are 'Apply' and 'Undo' buttons. Below the configuration area is a status bar with a refresh icon, a green indicator light, and a table with the following data:

V11 R0	Thuringer	SoftGate-SIP	16.10.2024 13:10:49
1-99-1	pzksgw50.A9.311	SG99	28d 20h 45m

Make sure that:

- **Signaling Protocol for IP Networking:** SIP
- **SIP Protocol Variant for IP Networking:** Native SIP

WBM Configuration for Thuringer Netkom Native SIP Trunk – Gateway Properties

The vHG "SIP Parameters" used for the certification activities are shown under **HG WBM >> Configuration >> Voice Gateway >> SIP Parameters**.

The screenshot displays the OpenScope 4000 vHG 3500 configuration interface. The left sidebar shows a navigation tree with 'Voice Gateway' expanded, containing sub-items like 'SIP Parameters', 'Codec Parameters', and 'SIP Trunk Profile Parameter'. The main content area is titled 'SIP Parameters' and contains the following configuration details:

- SIP User Agent:** "SIP User Agent" settings ignored due to usage of SIP trunk profiles
- Use SIP Registrar:** No
- SIP Registrar IP Address:** 0.0.0.0
- SIP Registrar TLS Port Number:** 5061
- SIP Registrar TCP/UDP Port Number:** 5060
- Alternative SIP Registrar IP Address:** 0.0.0.0
- Alternative SIP Registrar TLS Port Number:** 5061
- Alternative SIP Registrar TCP/UDP Port Number:** 5060
- Period of Registration (sec):** 300
- SIP Server (Registrar / Redirect):**
 - SIP Server IP Address: 10.8.242.115
 - SIP Server TCP/UDP Port Number: 5060
 - SIP Server TLS Port Number: 5061
 - Default Registration Period (sec): 600 (used when no 'Expires' value received)
 - Range used for Randomized Registration (%): 25 (0 means: don't use Randomization)
- SIP General:**
 - Deactivate Alert-Info usage:
- RFC 3261 Timer Values:**
 - Transaction Timeout (msec): 32000 (Should only be changed for DNS failover scenarios)
- SIP Transport Protocol:**
 - SIP via TCP: Yes
 - SIP via UDP:
 - SIP via TLS: Yes

At the bottom of the interface, a status bar shows: V11 R0, Thuringer, SoftGate-SIP, 16.10.2024 13:17:28, 1-99-1, pzks gw50.A9.311, SG99, 28d 20h 51m.

OpenScape 4000
vHG 3500

Configuration Maintenance Logoff

Basic Settings
Security
Network & Routing
Voice Gateway

- Voice Gateway
 - H.323 Parameters
 - SIP Parameters
 - Codec Parameters
 - IP Networking Mode
 - SIP Trunk Profile Parameter
 - SIP Trunk Profiles
 - Hunt Group
 - Destination Codec Parameters
 - DARs for MLPP
 - Clients
 - CICA
 - ISDN Classmarks
 - Payload
 - Payload Parameters
 - Fax/Modem Tone Handling

SIP via UDP:

SIP via TLS: Yes

SIP Session Timer

RFC 4028 Support:

Session Expires (sec):

Minimal SE (sec):

DNS-SRV Records / SIP Flooding Defense

Blocking time for unreachable destination/flood defense (sec):

Trunking Parameters

SIP OPTIONS ping interval (sec, 0=deactivate):

Subscriber Parameters

SIP OPTIONS ping interval (Subscriber, sec, 0=deactivate):

SIP OPTIONS retry attempts (Subscriber):

SIP loop call

SIP loop call From number:

SIP loop call To number:

SIP loop call frequency (sec, 0=deactivate):

SIP loop call Out of service threshold:

Call Supervision

MakeCallReq Timeout (sec):

SIP Connect Timeout (sec):

Apply Undo

V11 R0	Thueringer	SoftGate-SIP	16.10.2024 13:18:07
1-99-1	pzksgw50.A9.311	SG99	28d 20h 52m

WBM Configuration for Thueringer Netkom Native SIP Trunk - Codec Parameters

Go to **HG WBM >> Configuration >> Voice Gateway >> Codec Parameters** to view the vHG "Codec Parameters" utilized for the current testing environment. As an example:

OpenScape 4000
vHG 3500

Configuration Maintenance Logoff

Basic Settings
Security
Network & Routing
Voice Gateway

- Voice Gateway
 - H.323 Parameters
 - SIP Parameters
 - Codec Parameters
 - IP Networking Mode
 - SIP Trunk Profile Parameter
 - SIP Trunk Profiles
 - Hunt Group
 - Destination Codec Parameters
 - DARs for MLPP
 - Clients
 - CICA
 - ISDN Classmarks
 - Payload
 - Payload Parameters
 - Fax/Modem Tone Handling

Codec Parameters

Codec	Priority	Voice Activity Detection	Frame Size
G.711 A-law	Priority 1	VAD: <input type="checkbox"/>	20 msec
G.711 μ-law	Priority 2	VAD: <input type="checkbox"/>	20 msec
G.729	Priority 4	VAD: <input type="checkbox"/>	20 msec
G.729A	not used	VAD: <input type="checkbox"/>	20 msec
G.729B	not used	VAD: <input checked="" type="checkbox"/>	20 msec
G.729AB	not used	VAD: <input checked="" type="checkbox"/>	20 msec
G.722	Priority 3	VAD: <input type="checkbox"/>	20 msec
Opus	not used	VAD: <input type="checkbox"/>	20 msec

Opus-Parameter

Use Inband Forward Error Correction (FEC):

Use Constant Bitrate:

Low Delay:

Payload Type for Opus:

Max. Playback Sample Rate (Hz):

Complexity:

T.38 Fax

T.38 Fax:

Max. UDP Datagram Size for T.38 Fax (bytes):

Error Correction Used for T.38 Fax (UDP):

Time Range for Immediate Switch to T.38 Fax (s): 0 means: No Immediate Switching

V11 R0
1-99-1

Thueringer
pzksqw50.A9.311

SoftGate-SIP
SG99

16.10.2024 13:27:43
28d 21h 1m

OpenScape 4000
vHG 3500

Configuration Maintenance Logoff

Basic Settings
Security
Network & Routing
Voice Gateway

- Voice Gateway
 - H.323 Parameters
 - SIP Parameters
 - Codec Parameters
 - IP Networking Mode
 - SIP Trunk Profile Parameter
 - SIP Trunk Profiles
 - Hunt Group
 - Destination Codec Parameters
 - DARs for MLPP
 - Clients
 - CICA
 - ISDN Classmarks
 - Payload
 - Payload Parameters
 - Fax/Modem Tone Handling

Payload Type for Opus: 124
Max. Playback Sample Rate (Hz): 16000
Complexity: 1

T.38 Fax
T.38 Fax:
Max. UDP Datagram Size for T.38 Fax (bytes): 375
Error Correction Used for T.38 Fax (UDP): t38UDPRedundancy
Time Range for Immediate Switch to T.38 Fax (s): 0 0 means: No Immediate Switching

Misc.
ClearMode (ClearChannelData): Frame Size: 20 msec

RFC2833
Transmission of Fax/Modem Tones according to RFC2833:
Transmission of DTMF Tones according to RFC2833:
Payload Type for ClearChannel: 96
Payload Type for RFC2833: 101
Payload Type for RFC2198: 102 (= 'Payload Type for RFC2833' + 1)
Redundant Transmission of RFC2833 Tones according to RFC2198:
Payload Type for RFC4733 WideBand: 103 (= 'Payload Type for RFC2833' + 2)

Apply Undo

V11 R0	Thueringer	SoftGate-SIP	16.10.2024 13:29:23
1-99-1	pzksgw50.A9.311	SG99	28d 21h 3m

Note 1: The greyed out options can be changed via AMO CGWB.

Note 2: The codec parameter "T.38 Fax" must be "unchecked".

WBM Configuration for Thueringer Netkom Native SIP Trunk - SIP Trunk Profiles

Amongst various profile templates, the offered **"NatTrkWithRegistration"** profile can be used for Thueringer Netkom SIP trunk configuration.

Navigate to **HG WBM >> Configuration >> Voice Gateway >> SIP Trunk Profiles** webpage and select the **"NatTrkWithRegistration"** profile.

The screenshot displays the OpenScape 4000 VHG 3500 configuration interface. The left sidebar shows a tree view of configuration categories, with 'Voice Gateway' expanded to show various SIP Trunk Profiles. The 'NatTrkWithRegistration' profile is selected. The main content area shows the configuration details for this profile, including fields for Profile Name, User Notes, Account/Authentication Required, Remote Domain Name, IP Transport Protocol, Default PAI, Security settings (Released Security Level, TLS used, RTP Security Mode, Payload Encr. used, Additional Mediassec Parameters Supported), and Registrar settings (Use Registrar, IP Address / Host name, Specify Port, Port, Reregistration Interval).

Profile Name	Value
Profile Name	NatTrkWithRegistration
Account/Authentication Required	<input checked="" type="checkbox"/>
Remote Domain Name	sip2.thueringendsl.de
IP Transport Protocol	TCP (used for O/G call establishment)
Default PAI	"default PAI" profiles
Released Security Level	Signaling and Payload Security
TLS used	No
RTP Security Mode	secure Payload (MIKEY) with fallback to insecure
Payload Encr. used	No
Additional Mediassec Parameters Supported	Not supported
Use Registrar	<input checked="" type="checkbox"/>
IP Address / Host name	sip2.thueringendsl.de
Specify Port	<input checked="" type="checkbox"/>
Port	5060
Reregistration Interval (sec)	900

Device	Profile	IP Address	Port	Time
V11 R0	Thueringer	1-99-1	SG99	16.10.2024 14:01:26
		pzksqw50.A9.311		28d 21h 35m

OpenScape 4000
VHG 3500

Configuration Maintenance Logoff

Basic Settings Security Network & Routing Voice Gateway

- ◆ KPN VoipConnect
- ◆ M-net
- ◆ Magyar Telekom
- ◆ MediatixGateway
- ◆ Microsoft-Lync
- ◆ Mobistar
- ◆ MS Teams
- ◆ NatTrkEnterprise
- ◆ NatTrkWithoutRegistration
- ◆ NatTrkWithoutRegistrationMultiNum
- ◆ NatTrkWithRegistration
 - ◆ 004936434683940
- ◆ NatTrkWithRegistrationMultiNum
- ◆ NeoTel
- ◆ NFON
 - ◆ O2 Czech
 - ◆ OpenScapeUC
- ◆ Orange
- ◆ PortaSIP
- ◆ Rete Telematica RTRT
- ◆ Russmedia IT
- ◆ Saudi Telecom Company
- ◆ SIPQTrkWithoutRegistration
- ◆ SIPQTrkWithRegistration
- ◆ Skype
 - ◆ Skype for Business
 - ◆ Sonera Business Voice Access
- ◆ Spectrum
- ◆ Sunrise

Proxy

IP Address / Host name: sip2.thueringendsl.de

Specify Port:

TCP/UDP Port: 5060

TLS Port: 0

Outbound Proxy

Use Outbound Proxy:

IP Address / Host name: 10.8.242.72

Specify Port:

Port: 50010

Inbound Proxy

Use Inbound Proxy:

IP Address / Host name:

Specify Port:

Miscellaneous (Profile must be deactivated to modify)

Reset Profile Defaults

Outgoing Call

CLIP outgoing in From header - display part: display name

CLIP outgoing in From header - user part: call number

CLIP outgoing in P-Asserted-Id header - display part: display name

V11 R0 1-99-1 Thueringer pzksgw50.A9.311 SoftGate-SIP SG99 16.10.2024 14:02:08 28d 21h 36m

OpenScape 4000
VHG 3500

Configuration Maintenance Logoff

Basic Settings Security Network & Routing Voice Gateway

- ◆ KPN VoipConnect
- ◆ M-net
- ◆ Magyar Telekom
- ◆ MediatixGateway
- ◆ Microsoft-Lync
- ◆ Mobistar
- ◆ MS Teams
- ◆ NatTrkEnterprise
- ◆ NatTrkWithoutRegistration
- ◆ NatTrkWithoutRegistrationMultiNum
- ◆ NatTrkWithRegistration
 - ◆ 004936434683940
- ◆ NatTrkWithRegistrationMultiNum
- ◆ NeoTel
- ◆ NFON
 - ◆ O2 Czech
 - ◆ OpenScapeUC
- ◆ Orange
- ◆ PortaSIP
- ◆ Rete Telematica RTRT
- ◆ Russmedia IT
- ◆ Saudi Telecom Company
- ◆ SIPQTrkWithoutRegistration
- ◆ SIPQTrkWithRegistration
- ◆ Skype
 - ◆ Skype for Business
 - ◆ Sonera Business Voice Access

Outgoing Call

CLIP outgoing in From header - display part: display name

CLIP outgoing in From header - user part: call number

CLIP outgoing in P-Asserted-Id header - display part: display name

CLIP outgoing in P-Asserted-Id header - user part: call number

CLIP no-screening - Privacy Header: off

CLIP outgoing in P-Preferred-Id header - display part: omit

CLIP outgoing in P-Preferred-Id header - user part: omit

CLIR outgoing in From header - display part: anonymous

CLIR outgoing in From header - user part: call number

Call Diversion (RFC 5806) and HistoryInfo (RFC 4244): Div Header (B Party) - From/PAI (A Party)

Incoming Call

Incoming call - Called party number: request line

Incoming call - Calling party number: automatic - PAI First

Incoming call - Type of number (calling): automatic

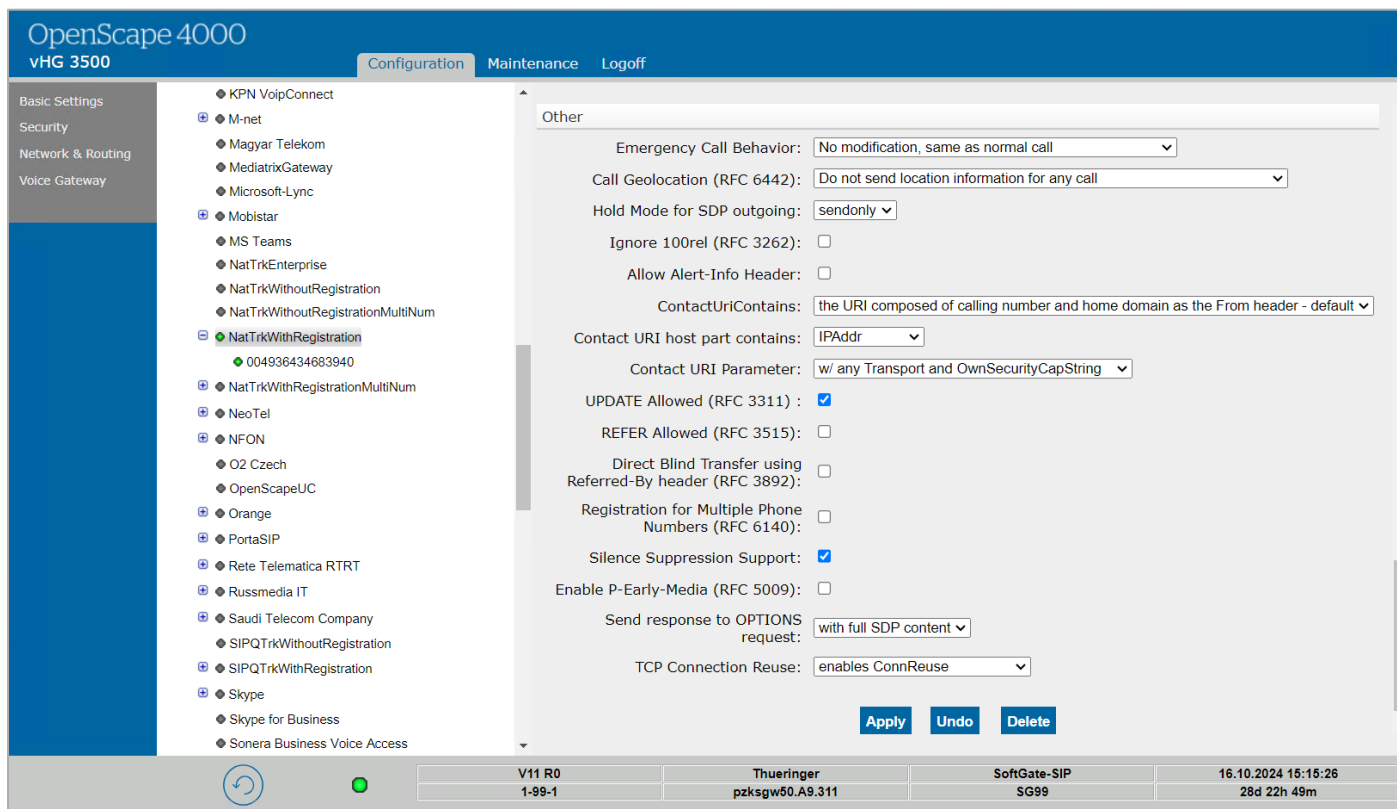
Incoming call - Type of number (called): automatic

Inspect History-Info/Referred-By: Ignore History-Info + Referred-By

V11 R0 1-99-1 Thueringer pzksgw50.A9.311 SoftGate-SIP SG99 16.10.2024 14:05:53 28d 21h 40m

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Partner: Thueringer Netkom



Enter the following:

- **Activate Trunk Profile:** Checked
- **Account/Authentication Required:** Checked
- **Remote Domain Name:** sip2.thuringensl.de
- **IP Transport Protocol:** TCP ("UDP" or "TLS" are also possible)
- **Registrar – Use Registrar:** Checked
- **Registrar - IP Address / Host name :** sip2.thuringensl.de
- **Registrar - Specify Port:** Checked
- **Registrar – TCP/UDP Port:** 5060
- **Proxy – IP Address / Host name :** sip2.thuringensl.de
- **Proxy – Specify Port:** Activated
- **Proxy – TCP/UDP Port:** 5060
- **Outbound Proxy – Use Outbound Proxy:** Activated
- **Outbound Proxy – IP Address / Host name :** 10.8.242.72 (OS SBC Lan IP address)
- **Outbound Proxy - TCP/UDP Port:** Checked
- **Specify Port:** 50010

Click on **[Apply]**.

On "Account Name" page, enter the Thueringer SIP trunk registration data, as displayed in the picture below:

The screenshot shows the OpenScape 4000 configuration interface. The left sidebar contains a tree view of configuration categories, with 'NatTrkWithRegistration' selected and '004936434683940' highlighted. The main area shows the 'Account Name' configuration page with the following fields:

- Account Name: 004936434683940
- Authorization name: 004936434683940
- Provider Name: NatTrkWithRegistration
- New Password:
- Confirm Password:

Buttons for 'Apply', 'Undo', and 'Delete' are visible below the form.

V11 R0	Thueringer	SoftGate-SIP	16.10.2024 15:36:00
1-99-1	pzksgw50.A9.311	SG99	28d 23h 10m

Click on **[Apply]** after finished.

OpenScape SBC Configuration

The OpenScape SBC will be configured with the connection to OS4000 and SSP (Thuringer Netkom) endpoints. Routine or non-project specific OS SBC configuration will be omitted.

Connect to OpenScape 4000 Server

Core Realm Interface

Use the TCP ("**Outbound Proxy**") port number from [subsection 4.2.5](#) for the connection of OS SBC's eth0 (core) interface to OS4000.

Go to **OS SBC Management Portal >> Network/Net Services**.

The screenshot displays the 'Network/Net Services' configuration window. It includes a 'Physical Network Interface' section with a table of interfaces and an 'Interface Configuration' section with a 'Core realm configuration' table.

Interface	Enabled	MTU	Speed (Mbps)	Duplex mode
eth0	<input checked="" type="checkbox"/>	1500	Auto	Auto
eth1	<input checked="" type="checkbox"/>	1500	Auto	Auto

Type	Network ID	Interface	IP address	Subnet mask	Signaling	Media	SIP-UDP	SIP-TCP
Main IPv4	Main-Core-IPv4	eth0	10.8.242.72	255.255.255.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5060	5060

On "**Settings**" tab and in "**Core realm configuration**" area, configure OS SBC's LAN interface characteristics.

On "**Settings**" tab and in "**Core realm configuration**" area, make sure that for "**eth0**" interface, "**SIP-TCP**" has the value "**5060**".

Click on **[OK]**.

Click on **[Apply Changes]** on OS SBC main page.

SIP Server

The SIP connectivity to OS4000 is configured in **OS SBC Management Portal >> VOIP** window.

On "**Sip Server Settings**" tab, enter the following:

- **Comm System Type:** Simplex
- **Allow Register from SERVER:** Enabled
- **Target Type:** Binding
- **Primary Server:** 10.8.242.115 (OS4000 HG card IP address of the trunk)
- **Transport:** TCP
- **Port:** 5060 (listening port)

Click on **[OK]**.

Click on **[Apply Changes]** on OS SBC main page.

Certificates

In case TLS interconnection is required between OpenScape SBC and Thueringer Netkom Gateway, 3 OS SBC certificate files in pem format are required in OS SBC:

CA certificate (e.g., **serverCA.pem**)

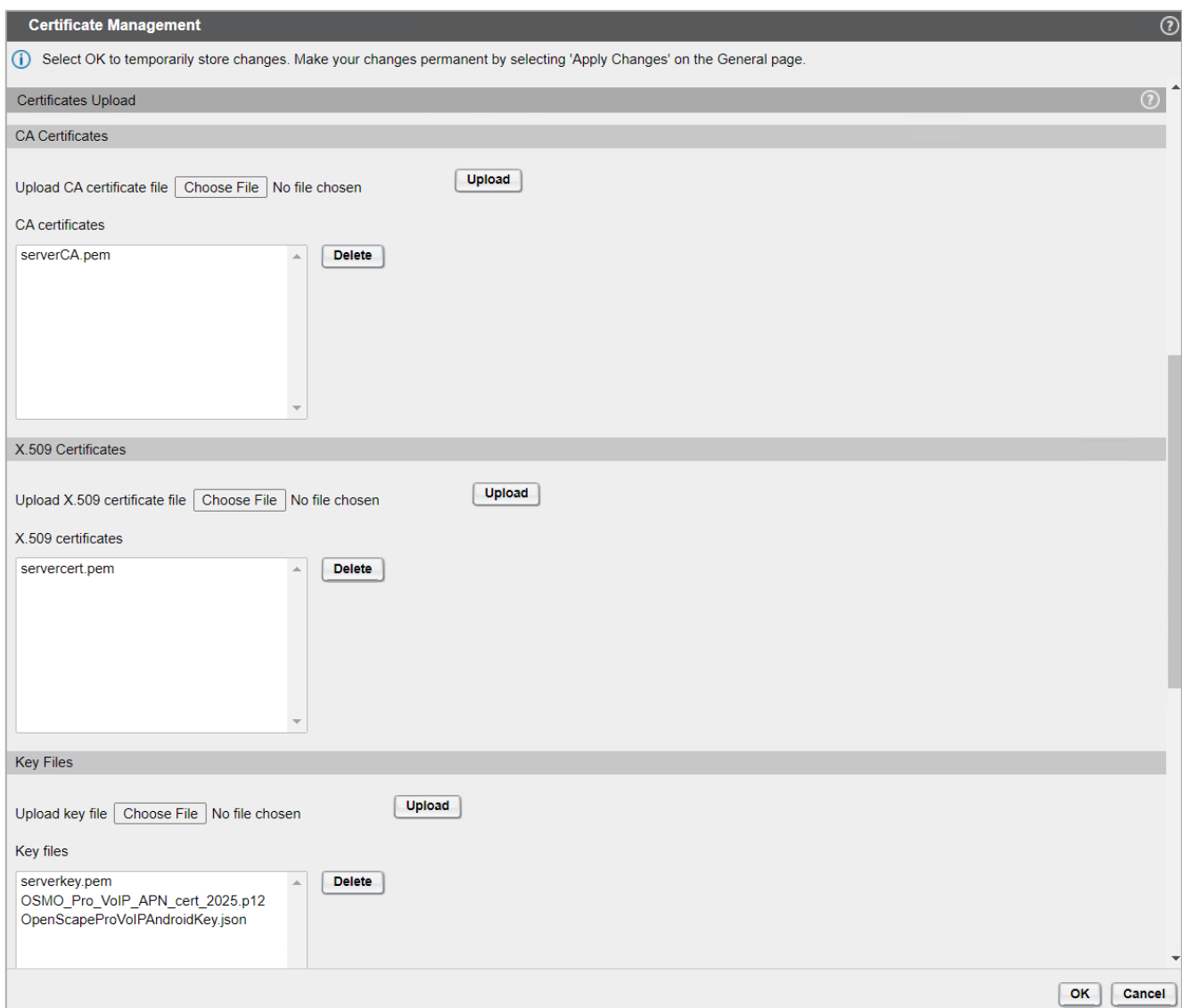
Server certificate for OS SBC (e.g., **servercert.pem**)

OS SBC server certificate private key used for the CSR to CA (e.g., **serverkey.pem**)

In current certification activities the default OS SBC certificates and private key were used. Custom certificate and private key files may be used after uploading these files to OS SBC. Additionally, for the TLS negotiation between OS SBC and Thueringer Netkom Gateway a certificate provided by Thueringer Netkom may also be included in OS SBC. In the present certification testing, no custom certificate from Thueringer Netkom is required.

Navigate to **OS SBC Management Portal >> Security >> General** and click on **"Certificate Management"** button.

In case custom OS SBC certificates are required, the corresponding files may be uploaded from **"CA Certificates"**, **"X.509 Certificates"** and **"Key Files"** areas correspondingly, as shown in figure below:



If there is a CA certificate provided by Thueringer Netkom, it must be, also, uploaded under **"CA certificates"**.

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On the same window, click on **[Add]** to create the certificate profile.

Certificate Profile ?

i Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

Certificate Profile configuration ?

Certificate profile name

Certificate service

Local client certificate file

Local server certificate file

Local CA file

Remote CA file

Local key file

EC param

Attach to Config file

Validation ?

Certificate Verification

Revocation status

Identity Check

Renegotiation ?

Enforce TLS session renegotiation

TLS session renegotiation interval (minutes)

TLS version ?

Minimum TLS version

DTLS version ?

Minimum DTLS version

Cipher Suites ?

Perfect Forward Secrecy

Encryption

Mode of Operation

Enter the following:

- **Certificate profile name:** Thuringer_cert_profile (friendly name)
- **Certificate service:** SIP-TLS
- **Local server certificate file:** servercert.pem
- **Local CA file:** serverCA.pem
- **Local key file:** serverkey.pem
- **Minimum TLS version:** TLS V1.3

Click on **[OK]**.

Certificate Management

Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

System Certificate

System TLS Certificate: OSV Solution

HTTPS certificate profile: HTTPS System Default

Media DTLS certificate profile:

IOS Push certificate profile: IOS Push Default

Android Push certificate profile: Android Push Default

Service API certificate profile: Service API Default

Certificate Profiles

Add Edit Delete

Name	Certificate service	Client certificate file	Server certificate file	Local CA file	Remote CA file	Local Key file	Atta Cfg
OSV Solution	SIP-TLS		servercert.pem	serverCA.pem		serverkey.pem	
HTTPS System Default	HTTPS		server.crt			server.key	
IOS Push Default	IOS Push					OSMO_Pro_VoIP_APN_c	
Android Push Default	Android Push					OpenScapeProVolPAndrc	
Service API Default	Service API		server.crt			server.key	
Thuringer_cert_profile	SIP-TLS		servercert.pem	serverCA.pem		serverkey.pem	

Certificate Creation

Create New TLS Certificates

Name: CA file: Self signed Create

OK Cancel

Click on **[OK]** on **Certificate Management** window and then click on **[OK]** on **Security** window.

Click on **[Apply Changes]** on OS SBC main page.

Media

With the "**Media Profiles**" settings, various parameters regarding the SDP messages and audio (RTP) traffic may be configured for the OS SBC SIP endpoint to Thuringer Netkom and OS4000.

Thuringer Netkom Media Profile

Go to **OS SBC Management Portal >> VOIP >> Media.**

Media Profile ?

i Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

General ?

Name

Media protocol Direct Media Support

Support ICE

Support NGTC Trickle ICE

Enable NGTC WebRTC Compatibility

Enable TURN Client

RTP/RTCP Multiplex in offer

SDP Compatibility Mode

Support Mid Attribute

Do not set port to zero on session timer answer SDP

SRTP configuration ?

SRTP crypto context negotiation MIKEY SDES DTLS

Mark SRTP Call-leg as Secure

RTCP configuration ?

RTCP Mode

RTCP generation timeout

Codec configuration ?

Allow unconfigured codecs

Enforce codec priority in profile

Send Telephony Event in Invite without SDP

Use payload type 101 for telephony event/8000

Enforce Packetization Interval

Codec

Priority	Codec	Packetization interval

In "**Media Profiles**" area click on **[Add]** to create the media profile for OS SBC - SSP trunk by entering the following:

- **Name:** Thuringer (friendly name)
- **Media protocol:** RTP only
- **RTP/RTCP Multiplex in offer:** Checked
- **Allow unconfigured codecs:** Checked

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Click on **[OK]** to return to **"Media"** window.

Click on **[OK]** on **"VOIP"** window.

Click on **[Apply Changes]** on OS SBC main page.

OpenScape 4000 Media Profile

Go to **OS SBC Management Portal >> VOIP >> Media.**

Media Profile

Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

General

Name: OS4000

Media protocol: RTP only Direct Media Support

Support ICE: Full

Support NGTC Trickle ICE

Enable NGTC WebRTC Compatibility

Enable TURN Client

RTP/ RTCP Multiplex in offer

SDP Compatibility Mode

Support Mid Attribute

Do not set port to zero on session timer answer SDP

SRTP configuration

SRTP crypto context negotiation: MIKEY SDES DTLS SDES Both

Mark SRTP Call-leg as Secure

RTCP configuration

RTCP Mode: Bypass

RTCP generation timeout: 4

Codec configuration

Allow unconfigured codecs

Enforce codec priority in profile

Send Telephony Event in Invite without SDP

Use payload type 101 for telephony event/8000

Enforce Packetization Interval

Codec: G711A 8 kHz - 64 kbps **Add**

Move up Move down Delete

Priority	Codec	Packetization interval

OK Cancel

In **"Media Profiles"** area click on **[Add]** to create the media profile for OS SBC – OS4000 connection with the default settings:

- **Name:** OS4000 (friendly name)
- **Media protocol:** RTP only
- **RTP/RTCP Multiplex in offer:** Checked
- **Allow unconfigured codecs:** Checked

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Click on **[OK]** to return to **"Media"** window.

Click on **[OK]** on **"VOIP"** window.

Click on **[Apply Changes]** on OS SBC main page.

General Media Settings

After creating the media profiles, the general media settings used in current test environment are shown on **OS SBC Management Portal >> VOIP >> Media** window.

The screenshot shows the 'VOIP' configuration window with the 'Media' tab selected. At the top, there is a message: 'Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.' Below this are tabs for 'Sip Server Settings', 'Port and Signaling Settings', 'Media', and 'QoS Monitoring'. The 'Media Handling' section contains four checkboxes: 'Allow multiple media lines for the same media type' (unchecked), 'Replace the SDP Origin (o) field' (checked), 'Reset SRTP context upon key change' (checked), and 'Use single bridge/port for audio media' (unchecked). The 'Core Side Media Configuration' section has a 'Media profile' dropdown menu set to 'OS4000'. Below this is a table with columns 'User agent' and 'mediaProfile'. The 'Media Profiles' section contains a table with columns: 'Name', 'Codecs', 'Media protocol', 'SRTP crypto context negotiation', and 'Mark SRTP Call-leg as Secure'. The 'Cloud Support' section has a checked checkbox for 'Support OpenScape Cloud'. At the bottom right are 'OK' and 'Cancel' buttons.

Name	Codecs	Media protocol	SRTP crypto context negotiation	Mark SRTP Call-leg as Secure
webrtc_default		SRTP only	dtls	<input checked="" type="checkbox"/>
WE_Phone_default		Best Effort SRTP	mikey + sdes	<input type="checkbox"/>
Unify_Phone_default		SRTP only	dtls	<input type="checkbox"/>
OS4000	G711A,G711U,G722,G729	RTP only	none	<input type="checkbox"/>
Thuringer	G711A,G711U,G722,G729	RTP only	none	<input type="checkbox"/>

In **"Core Side Media Configuration"** area set **"OS4000"** from the **"Media profile"** dropdown list for the media profile used for the OS SBC – OS4000 SIP trunks.

Click on **[OK]**.

Click on **[Apply Changes]** on OS SBC main page.

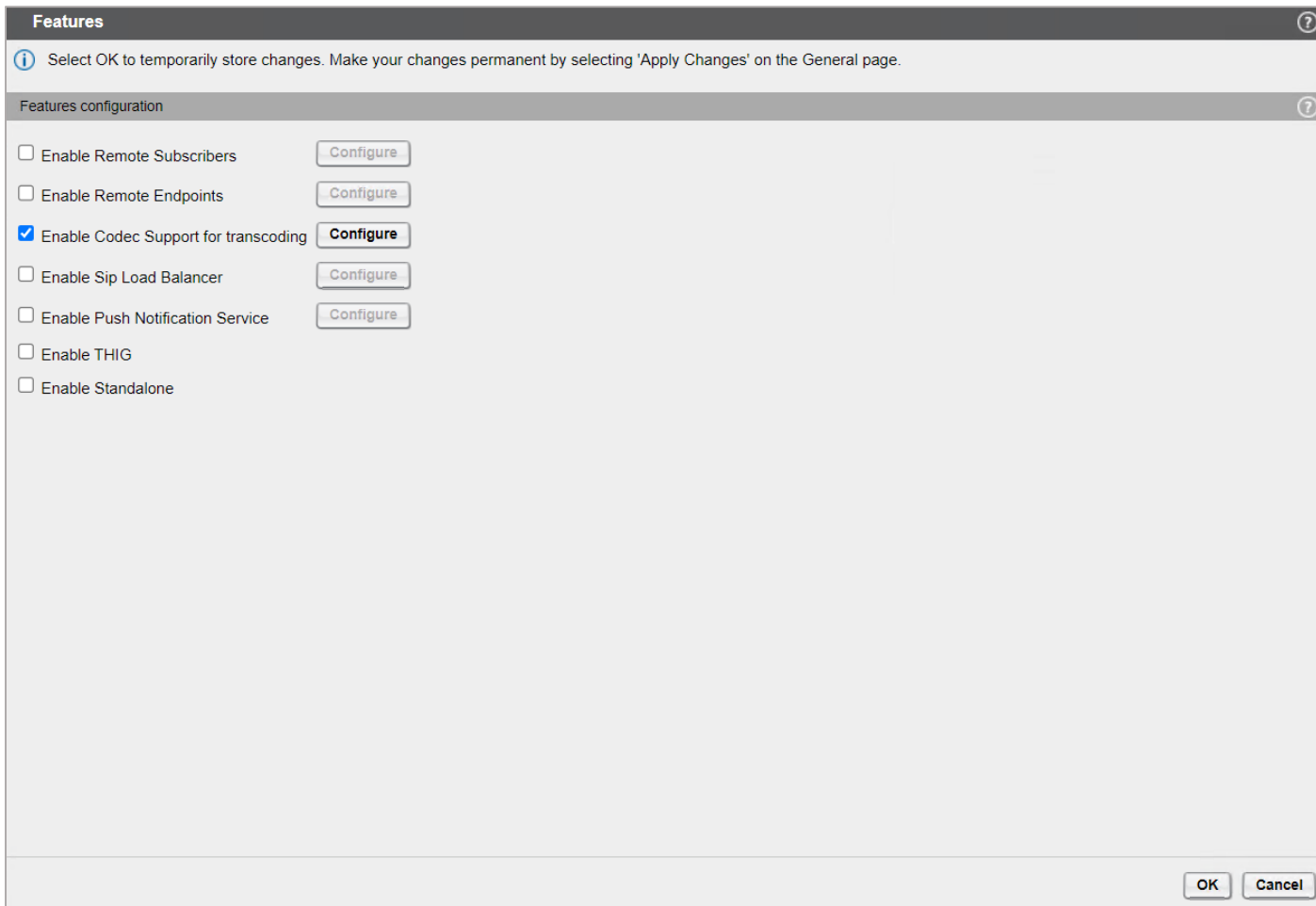
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Codec Manipulation Options

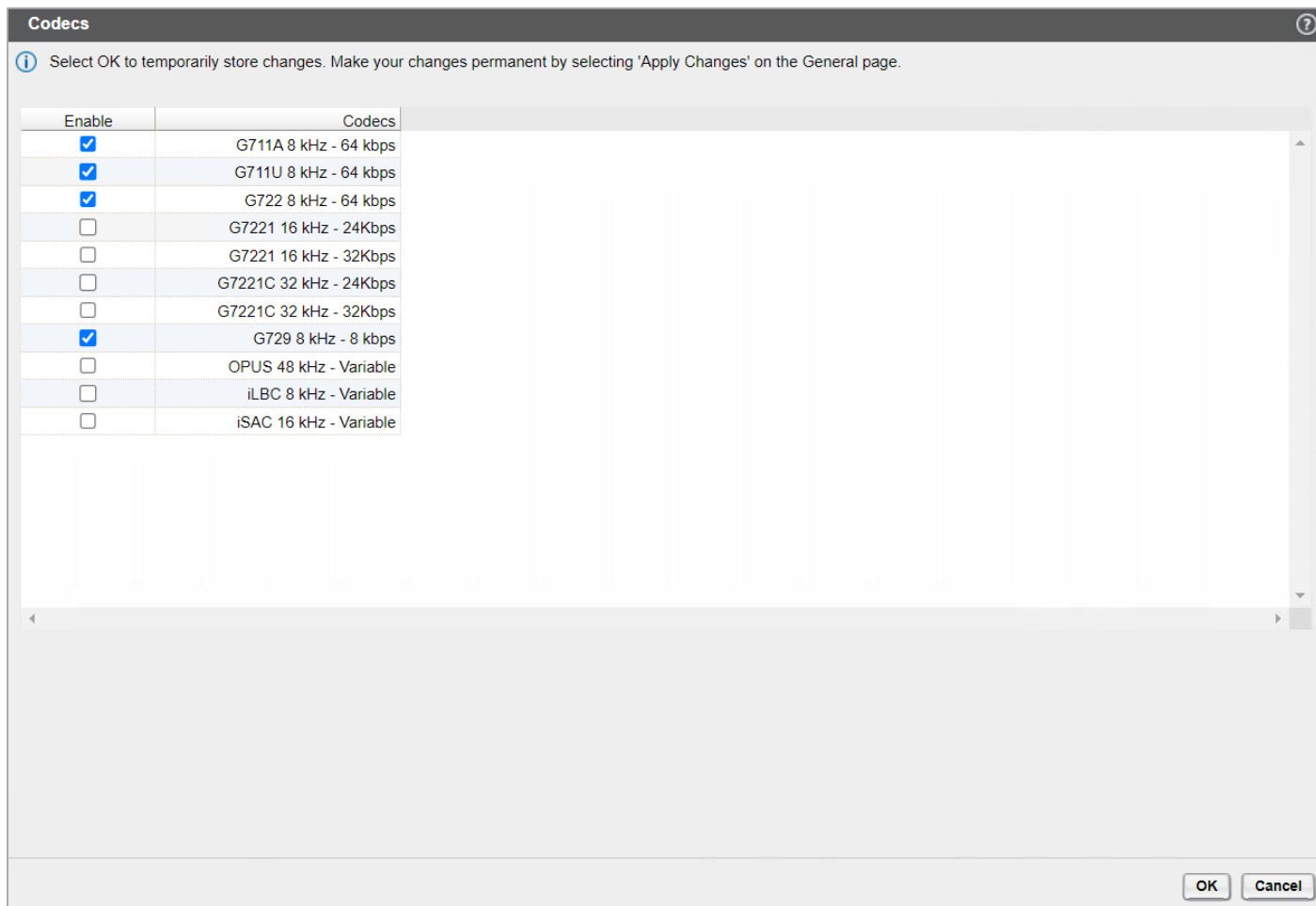
In case transcoding or certain codec prioritization for audio is required for the OS SBC – SSP or the OS SBC – PBX media profile for the corresponding SIP trunk, it is required to enable the codec configuration options first for the media profile setup.

To do so, access **OS SBC Management Portal >> Features** window and **"Check"** the **"Enable Codec Support for transcoding"** checkbox.



Click on **[Configure]**.

On "**Codecs**" window, select the codecs to be available for the media profiles (for e.g., transcoding, prioritization). As an example:



Click on **[OK]** and on the rest open windows.

Click on **[Apply Changes]** on OS SBC main page.

Remote Endpoints

In **Remote Endpoint** configuration the OS SBC with Thueringer Netkom voice network is setup.

Navigate to **OS SBC Management Portal >> Features** window and set **"Enable Remote Endpoints"** checkbox to **"Checked"**.

Features

Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

Features configuration

- Enable Remote Subscribers Configure
- Enable Remote Endpoints Configure
- Enable Codec Support for transcoding Configure
- Enable Sip Load Balancer Configure
- Enable Push Notification Service Configure
- Enable THIG
- Enable Standalone

OK Cancel

On **OS SBC Management Portal >> Features >> Enable Remote Endpoints** window, click on **[Configure]**.

On **"Remote Endpoints"** window click on **[Add]** in **"SIP Service Provider Profile"** area to add the endpoint profile for the OS SBC – Thuringer Netkom SBC SIP trunking.

SIP Service Provider Profile ?

i Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

General ?

Name **Default SSP profile**

Allow sending of insecure Referred-By header Send authentication number in Diversion header

Send P-Preferred-Identity rather than P-Asserted-Identity Send authentication number in P-Asserted-Identity header

Do not send Diversion header Send authentication number in From header

Send URI in telephone-subscriber format Include restricted numbers in From header

SIP Privacy ?

Privacy support

SIP Service Address ?

Use SIP Service Address for identity headers

SIP service address

Use SIP Service Address in Request-URI header Use SIP Service Address in From header

Use SIP Service Address in To header Use SIP Service Address in P-Asserted-Identity header

Use SIP Service Address in Diversion header Use SIP Service Address in Contact header

Use SIP Service Address in Via header Use SIP Service Address in P-Preferred-Identity header

SIP User Agent ?

SIP User Agent towards SSP SIP User Agent

Registration ?

Registration required

Registration interval (sec)

Business Identity ?

Business identity required

Business identity DN

Outgoing SIP manipulation ?

Insert anonymous caller ID for blocked Caller-ID

Manipulation

Incoming SIP manipulation ?

Calling Party Number

Flags ?

- FQDN in TO header to SSP
- Use To DN to populate the RURI
- Send Default Home DN in Contact for Call messages
- Allow SDP changes from SSP without session version update
- Do not send INVITE with sendonly media attribute
- Do not send INVITE with inactive media attribute
- Do not send ANSWER SDP with inactive media attribute
- Do not send INVITE with video media line
- Do not send Invite without SDP
- Renew core side crypto keys
- Do not send Re-Invite when no media type change
- Do not send Re-Invite
- Remove Silence Suppression parameter from SDP
- Enable pass-through of Optional parameters
- Force direction attribute to sendrcv
- Keep Digest Authentication Header
- Send default Home DN in PAI
- Send default Home DN in PPI
- Preserve To and From headers per RFC2543
- Disable FQDN pass-through in FROM header
- Send Contact header in OPTIONS
- Do not send Privacy header in response messages
- Remove bandwidth (b) lines from SDP
- Keep P-Asserted-Identity from access side
- Avoid sending 183 messages
- Avoid sending 180 message (for 60s)
- Remove SDP from received 180
- Remove SDP from received 183
- Send supported P-Early-Media header in initial INVITE

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SIP Service Provider Profile

Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

- Remove Silence Suppression parameter from SDP
- Enable pass-through of Optional parameters
- Force direction attribute to sendrcv
- Keep Digest Authentication Header
- Send default Home DN in PAI
- Send default Home DN in PPI
- Preserve To and From headers per RFC2543
- Disable FQDN pass-through in FROM header
- Send Contact header in OPTIONS
- Do not send Privacy header in response messages
- Remove bandwidth (b) lines from SDP
- Keep P-Asserted-Identity from access side
- Avoid sending 183 messages
- Avoid sending 180 message (for 60s)
- Remove SDP from received 180
- Remove SDP from received 183
- Send supported P-Early-Media header in initial INVITE

TLS

TLS Signaling Endpoint Config

Sip Connect

- Use tel URI
- Send user=phone in SIP URI
- Registration mode

Emergency Call Configuration

- Enable PSAP capabilities
 - Geolocation forward
 - Map ELIN to PAI header
 - Enable callback based on ELIN - Callback binding timeout (minutes)

On "SIP Service Provider" window, enter the following:

- **Name:** Thuringer (friendly name)
- **Default SSP Profile:** blank (in case the provider doesn't exist in the dropdown selection list, the field should remain blank and the user must manually configure the required flags for the SSP in use)

Click on [OK] to return to "Remote Endpoints" window.

In **"Remote endpoint configuration"** area, click on **[Add]**.

The screenshot shows the 'Remote endpoint configuration' window with the following sections and values:

- Remote Endpoint Settings:**
 - Name: Thuringer
 - Type: SSP
 - Profile: Thuringer
 - Access realm profile: Main-Access-Realm - ipv
 - Core realm profile: Main-Core-Realm - ipv4
 - Associated Endpoint: (empty)
 - Enable Call Limits
 - Maximum Permitted Calls: 0
 - Reserved Calls: 0
- Remote Location Information:**
 - Support Peer Domains
 - Support Foreign Peer Domains (White list)
 - Enable access control
 - Signaling address type: IP address or FQDN
- Remote Location domain list:**
 - Buttons: Add, Edit, Delete
 - Table headers: Row, Remote URL, Remote port, Remote transport, Media IP, Media profile, TLS mode, Certificate profile

On **"Remote endpoint configuration"** window, enter the following in the **"Remote Endpoint Settings"** area:

- **Name:** Thuringer (friendly name)
- **Type:** SSP
- **Profile:** Thuringer Netkom

Continue to **"Remote Location Information"** area:

- **Signaling address type:** IP address or FQDN

Click on **[Add]** in **"Remote Location domain list"** area.

Remote Location Domain ?

i Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

General ?

Remote URL Shared domain

Remote port

Remote transport

Signaling ?

INVITE No Answer timeout (msec)

INVITE No Reply timeout (msec)

TLS ?

TLS mode

Certificate profile

TLS keep-alive

Keep-alive interval (seconds)

Keep-Alive timeout (sec)

Media Configuration ?

Media profile

Media realm subnet IP address

Outbound Proxy Configuration ?

Outbound Proxy

Outbound Proxy Port

Registrar Server Configuration ?

Registrar Server

Registrar Server Port

On "**Remote Location Domain**" window, enter the following:

- **Remote URL:** sip2.thuringendsl.de
- **Remote port:** 5060
- **Remote transport:** TCP (UDP or TLS are also possible)
- **TLS mode:** Server authentication (when TLS is used)
- **Certificate profile:** Thuringer_cert_profile (when TLS is used)
- **Media profile:** Thuringer

Click on **[OK]** to return to "**Remote endpoint configuration**" window.

Remote endpoint configuration ?

? Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

Remote Location domain list ?

Row	Remote URL	Remote port	Remote transport	Media IP	Media profile	TLS mode	Certificate profile	TLS keep-alive	
1	sip2.thuringensl.de	5060	TCP		Thuringer	Server authentication	Thuringer_cert_profile	<input type="checkbox"/>	

Remote Location Identification/Routing ?

Core FQDN

Core realm port

Default core realm location domain name

Default home DN

Enable routing based on domain

FQDN

Incoming Routing prefix

In **"Remote Location Identification/Routing"** area, enter the following:

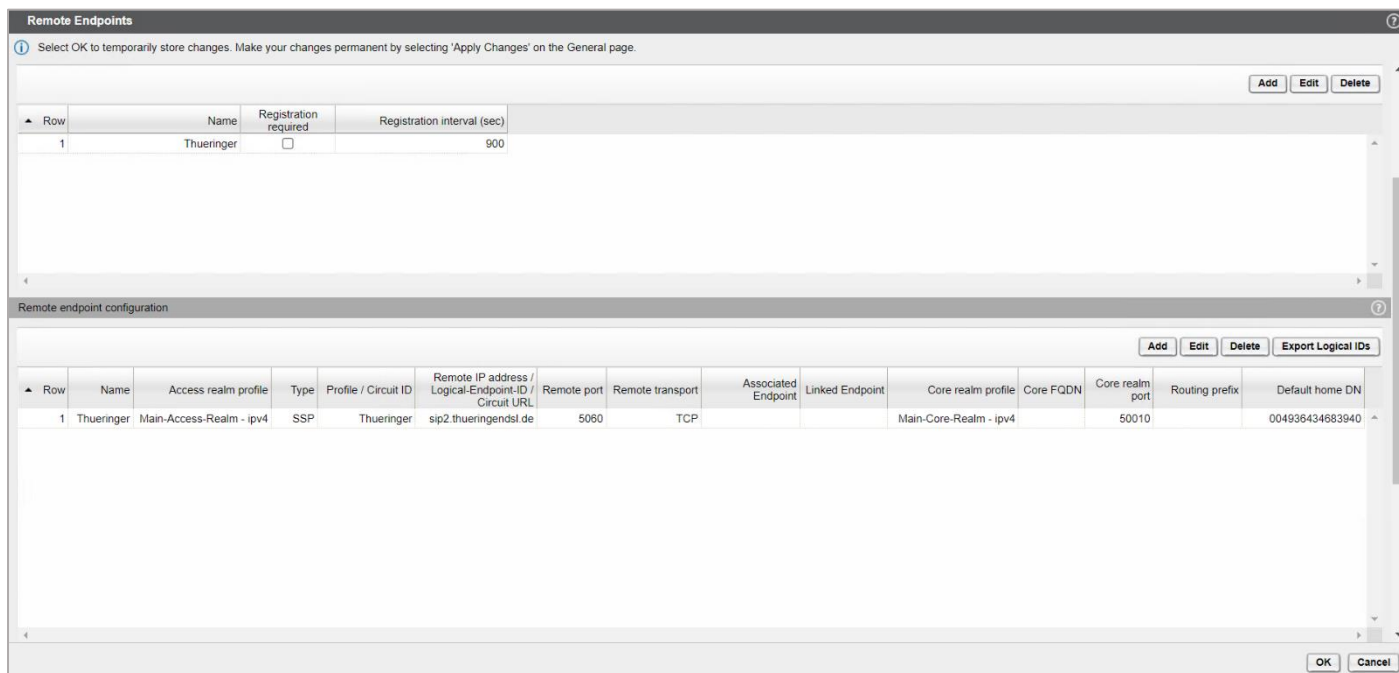
- **Core realm port:** 50010 (as configured in OS4000 **"Outbound Proxy Port"** configuration)
- **Default home DN:** 004936434683940

In **"Digest Authentication"** area, enable **"Digest authentication supported"** and fill in with the values below:

- **Digest authentication realm:** sip2.thueringendsl.de
- **Digest authentication user ID:** 004936434683940
- **Digest authentication password:** <passphrase>

Click on **[OK]** to return to **"Remote Endpoints"** window.

The "Remote Endpoints" window should look like the picture below:



Click on [OK] on all open windows.

Click on [Apply Changes] on OS SBC main page.