

Configuration Guide

FASTWEB

Fastweb

with

Unify OS4000 V10

Status: Released

Release Date: 19.06.2024

© Copyright 2023, Mitel Networks Corporation. All Rights Reserved. The Mitel word and logo are trademarks of Mitel Networks Corporation. Any reference to third party trademarks is for reference only and Mitel makes no representation of ownership of these marks.

This document, or any part of it, may not be reproduced, copied, circulated and/or distributed nor quoted without prior written approval from Unify.

History of Change

Version	Date	Description	Author(s)
1.0	June 19 th , 2024	Initial Creation	

Fastweb SIP Trunk Data

The SIP trunk configuration data (IP addresses etc.) needed to setup the SIP trunk can be found in the Fastweb interconnection document provided by Fastweb.

As an example:

- **Number ranges:** +39 (023) 6592800-9
- **SIP-Registrar FQDNs / IP addresses:** 172.28.0.4 and 172.28.0.20
- **CLIP no Screening:** NO

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 Fastweb Native SIP Trunk

In this subsection the typical AMO commands to create the native SIP trunks 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 Fastweb.

As an example:

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=9,PARTNO="Q2330-X",FCTID=1,LWVAR="0",FCTBLK=6,BCHL3550=120,ALARMNO=0,
IPMODE=IPV4,DHCPV4=NO,DHCPV6=NO;
ADD-BCSU:MTYPE=IPGW,LTG=1,LTU=99,SLOT=10,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=9,SMODE=NORMAL,IPADR=10.8.242.119,NETMASK=255.255.255.0;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=GLOBIF,PATTERN=213,VLAN=NO,VLANID=0,DEFRT=10.8.242.1,TRPRSIP=120,
TRPRSIPQ=0,TRPRH323=0,TRPRH323A=0,TLSP=4061,DNSIPADR=10.8.251.103,DNSIPAD2=0.0.0.0,USEWANIF=NO,WPUBIP=0.0.0.0,
SIPTCPP=5060,SIPTLSP=5061;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=SERVIF,LOGINTRM="TRM",PASSW="HICOM";
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,UDPPRTLO=29100,UDPPRTHI=30099,TOSPL=184,TOSSIGNL=104,T38FAX=YES,
RFCFMOIP=NO,RFCDTMF=YES,REDRFCTN=YES,PRIO=PRIO1,CODEC=G711A,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO2,CODEC=G711U,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO3,CODEC=G722,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO4,CODEC=G729,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO5,CODEC=NONE,VAD=NO,RTP=20;
```

Fastweb Configuration Guide

Date: 2024-06-20
Partner: Fastweb

```
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO6,CODEC=NONE,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO7,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO8,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=ASC,PRIO=PRIO9,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=MGNTDATA,MGNTIP=10.8.242.100,MGNTPN=8000,BUSIP=10.8.242.100,
BUSPN=443,UIMODE=CLASSIC;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=DMCDATA,DMCCONN=20,SMP=YES,SMP4OSV=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=WBMDATA,LOGINWBM="HP4K-DEVEL",ROLE=ENGR;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=WBMDATA,LOGINWBM="HP4K-SU",ROLE=SU;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=WBMDATA,LOGINWBM="HP4K-ADMIN",ROLE=ADMIN;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=WBMDATA,LOGINWBM="HP4K-READER",ROLE=READONLY;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=GWDATA,GWID1="PRIMARYRASMANAGERID";
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=SIPTRERH,GWAUTREQ=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,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=9,TYPE=DLSDATA,DLSIPADR=10.6.25.5,DLSPORT=18443,DLSACPAS=YES;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=JB,AVGDLYV=40,MAXDLYV=120,MINDLYV=20,PACKLOSS=4,AVGDLYD=60,
MAXDLYD=200,JBMODE=2;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=IPCONF,IPMODE=IPV4,DHCPV4=NO,DHCPV6=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=9,TYPE=MANLANIF,MIPADR=0.0.0.0,MNETMASK=0.0.0.0,MVLAN=NO,MVLANID=0,
MDEFRT=0.0.0.0;
ADD-CGWB:LTU=99,SLOT=10,SMODE=NORMAL,IPADR=10.8.242.120,NETMASK=255.255.255.0;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=GLOBIF,PATTERN=213,VLAN=NO,VLANID=0,DEFRT=10.8.242.1,TRPRSIP=120,
TRPRSIPQ=0,TRPRH323=0,TPRH323A=0,TLSP=4061,DNSIPADR=10.8.251.103,DNSIPAD2=0.0.0.0,USEWANIF=NO,WPUBIP=0.0.0.0,
SIPTCPP=5060,SIPTLSP=5061;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=SERVIF,LOGINTRM="TRM",PASSW="HICOM";
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,UDPPRTLO=29100,UDPPRTHI=30099,TOSPL=184,TOSSIGNL=104,
T38FAX=YES,RFCFMOIP=NO,RFCDTMF=YES,REDRECTN=YES,PRIO=PRIO1,CODEC=G711A,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO2,CODEC=G711U,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO3,CODEC=G722,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO4,CODEC=G729,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO5,CODEC=OPUS,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO6,CODEC=NONE,VAD=YES,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO7,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO8,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=ASC,PRIO=PRIO9,CODEC=NONE,VAD=NO,RTP=20;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=MGNTDATA,MGNTIP=10.8.242.100,MGNTPN=8000,BUSIP=10.8.242.100,
BUSPN=443,UIMODE=CLASSIC;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=DMCDATA,DMCCONN=0,SMP=NO,SMP4OSV=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=WBMDATA,LOGINWBM="HP4K-DEVEL",ROLE=ENGR;
```

```
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=WBMADATA,LOGINWBM="HP4K-SU",ROLE=SU;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=WBMADATA,LOGINWBM="HP4K-ADMIN",ROLE=ADMIN;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=WBMADATA,LOGINWBM="HP4K-READER",ROLE=READONLY;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=GWDATA,GWID1="PRIMARYRASMANAGERID";
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=SIPTRERH,GWAUTREQ=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,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=10,TYPE=DLSDATA,DLSIPADR=10.6.25.5,DLSPORT=18443,DLSACPAS=YES;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=JB,AVGDLYV=40,MAXDLYV=120,MINDLYV=20,PACKLOSS=4,AVGDLYD=60,
MAXDLYD=200,JBMODE=2;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,TYPE=IPCONF,IPMODE=IPV4,DHCPV4=NO,DHCPV6=NO;
CHANGE-CGWB:MTYPE=CGW,LTU=99,SLOT=10,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&NLRC&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,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=119,NAME="FASTWEB1 SSP",NO=120,TRACENO=0,ACDTHRH=*,PRIONO=2,TDDRFLAG=OFF,GDTRRULE=0,
ACDPMGRP=0,CHARCON=NEUTRAL;
ADD-BUEND:TGRP=120,NAME="FASTWEB2 SSP",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=1-99-009-0,COTNO=1,COPNO=1,DPLN=0,ITR=0,COS=1,LCOSV=1,LCOSD=1,CCT="FASTWEB1 SSP",
DESTNO=0,PROTVAR=ECMAV2,SEGMENT=8,DEDSVC=NONE,TRTBL=GDTR,SIDANI=N,ATNTYP=CO,CBMATTR=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,NWUXTIM=10,SRGRP=5,CLASSMRK=EC&G711&G729AOPT,TCCID="",TGRP=119,SRCHMODE=DSC,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-TDCSU:OPT=NEW,PEN=1-99-010-0,COTNO=1,COPNO=1,DPLN=0,ITR=0,COS=1,LCOSV=1,LCOSD=1,CCT="FASTWEB2 SSP",
DESTNO=0,PROTVAR=ECMAV2,SEGMENT=8,DEDSVC=NONE,TRTBL=GDTR,SIDANI=N,ATNTYP=CO,CBMATTR=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, SRCGRP=5, CLASSMRK=EC&G711&G729AOPT, TCCID="", TGRP=120, SRCHMODE=DSC, 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=INTERNAT;

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

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

ADD-LODR:ODR=22, INFO="FASTWEB SSP1";

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

ADD-LODR:ODR=23, CMD=OUTPULSE, DGTS=39;

ADD-LODR:ODR=23, CMD=ECHO, FIELD=3;

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

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

ADD-LODR:ODR=22, INFO="FASTWEB SSP2";

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

ADD-RICT:MODE=LRTENEW, LRTE=22, LSVC=ALL, NAME="FASTWEB SSP1", TGRP=119&120, DNNO=1-1-122, ROUTOPT=NO, DTMFCNV=FIX, DTMFTEXT="", DTMFPULS=PP80, ROUTATT=NO, EMCYRTT=NO, INFO="", PDNNO=0, CHARCON=NEUTRAL, CONFTONE=NO, RERINGRP=NO, NOPRCFWD=NO, NITO=NO, CLNAME DL=NO, FWDSWTCH=NO, LINFEMER=NO, NOINTRTE=NO;

CHANGE-RICT:MODE=LRTE, LRTE=22, BUGS=LIN;

ADD-RICT:MODE=LRTENEW, LRTE=23, LSVC=ALL, NAME="FASTWEB SSP2", TGRP=119&120, DNNO=1-1-122, ROUTOPT=NO, DTMFCNV=FIX, DTMFTEXT="", DTMFPULS=PP80, ROUTATT=NO, EMCYRTT=NO, INFO="", PDNNO=0, CHARCON=NEUTRAL, CONFTONE=NO, RERINGRP=NO, NOPRCFWD=NO, NITO=NO, CLNAME DL=NO, FWDSWTCH=NO, LINFEMER=NO, NOINTRTE=NO;

CHANGE-RICT:MODE=LRTE, LRTE=23, BUGS=LIN;

For MWI:

ADD-RICT:MODE=PM, IDX=1, SAN=2809, 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=119, ODR=22, LAUTH=1, CARRIER=1, ZONE=EMPTY, LATTR=PUBNUM, VCCYC=4;

ADD-LDAT:LROUTE=22, LSVC=ALL, LVAL=1, TGRP=120, ODR=22, LAUTH=1, CARRIER=1, ZONE=EMPTY, LATTR=PUBNUM, VCCYC=4;

ADD-LDAT:LROUTE=23, LSVC=ALL, LVAL=1, TGRP=119, ODR=23, LAUTH=1, CARRIER=1, ZONE=EMPTY, LATTR=PUBNUM, VCCYC=4;

ADD-LDAT:LROUTE=22, LSVC=ALL, LVAL=1, TGRP=120, 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=LRCRPATT, 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=LRCRPATT, DIPLNUM=0, LDP="9"- "W"- "0"- "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 Fastweb Native SIP Trunk – Gateway Properties

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

OpenScope 4000
vHG 3500

Configuration Maintenance Logoff

Basic Settings
Security
Network & Routing
Voice Gateway

Basic Settings
System
Gateway
Quality of Service
Timezone Settings
Statistics
Call Statistics

Gateway Properties

General

Board Name:

Physical Node Number (4K): 1-30-300

PBC Number in Shelf: 9

Gateway Location: SG99

Contact Address:

About:

System Country Code: 49 (Germany)

Global Gateway of Type G.711: A-law

Supported IP Version: IPV4 only

Gateway IP Address: 10.8.242.119

Gateway Subnet Mask: 255.255.255.0

Public WAN IP Address:

Additional Features

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:

Apply Undo

Make sure that:

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

WBM Configuration for Fastweb Native SIP Trunk – Gateway Properties

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

OpenScope 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 Parameters

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: 10.8.242.119
SIP Server TCP/UDP Port Number: 5060
SIP Server TLS Port Number: 5061
Default Registration Period (sec): (used when no 'Expires' value received)
Range used for Randomized Registration (%): 0 means: don't use Randomization

SIP General

Deactivate Alert-Info usage:

RFC 3261 Timer Values

Transaction Timeout (msec): (Should only be changed for DNS failover scenarios)

SIP Transport Protocol

SIP via TCP: Yes
SIP via UDP:
SIP via TLS: Yes

OpenScope 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 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**

WBM Configuration for Fastweb 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:

OpenScope 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 checked="" type="checkbox"/>	20 msec
G.711 μ-law	not used	VAD: <input checked="" type="checkbox"/>	20 msec
G.729	Priority 2	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	not used	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: 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): 138UDPRedundancy

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

OpenScope 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

Low Delay:

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): 138UDPRedundancy

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: 98

Payload Type for RFC2198: 99 (= 'Payload Type for RFC2833' + 1)

Redundant Transmission of RFC2833 Tones according to RFC2198:

Payload Type for RFC4733 WideBand: 100 (= 'Payload Type for RFC2833' + 2)

Apply Undo

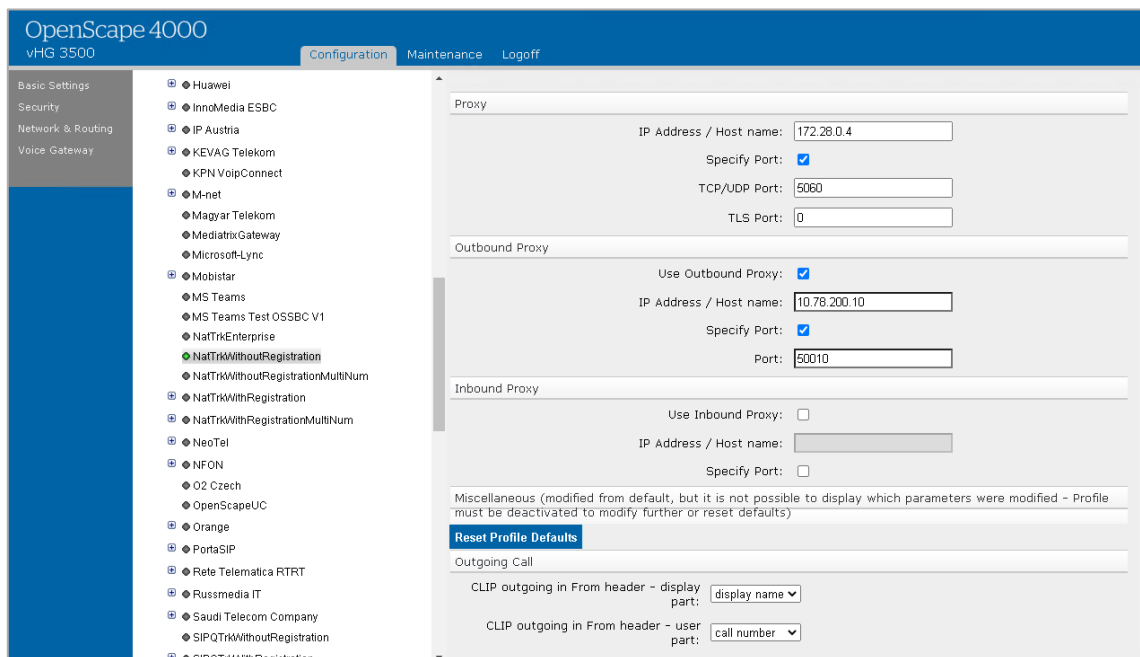
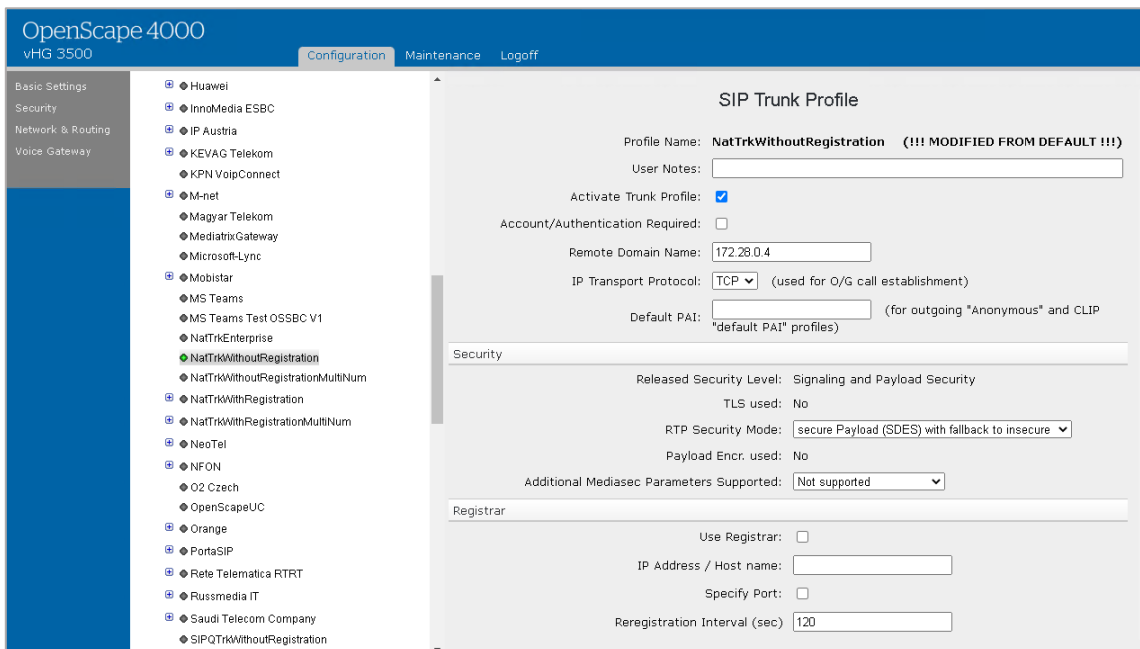
Note 1: The greyed out options can be changed via AMO CGWB

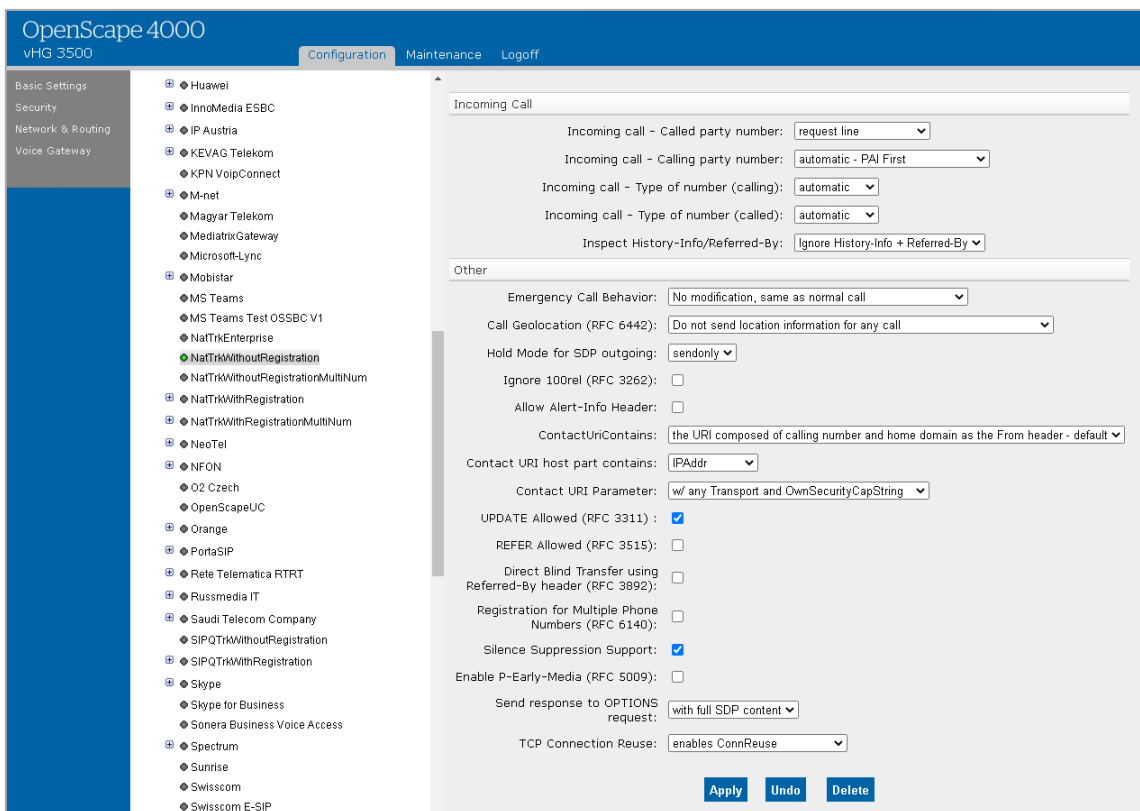
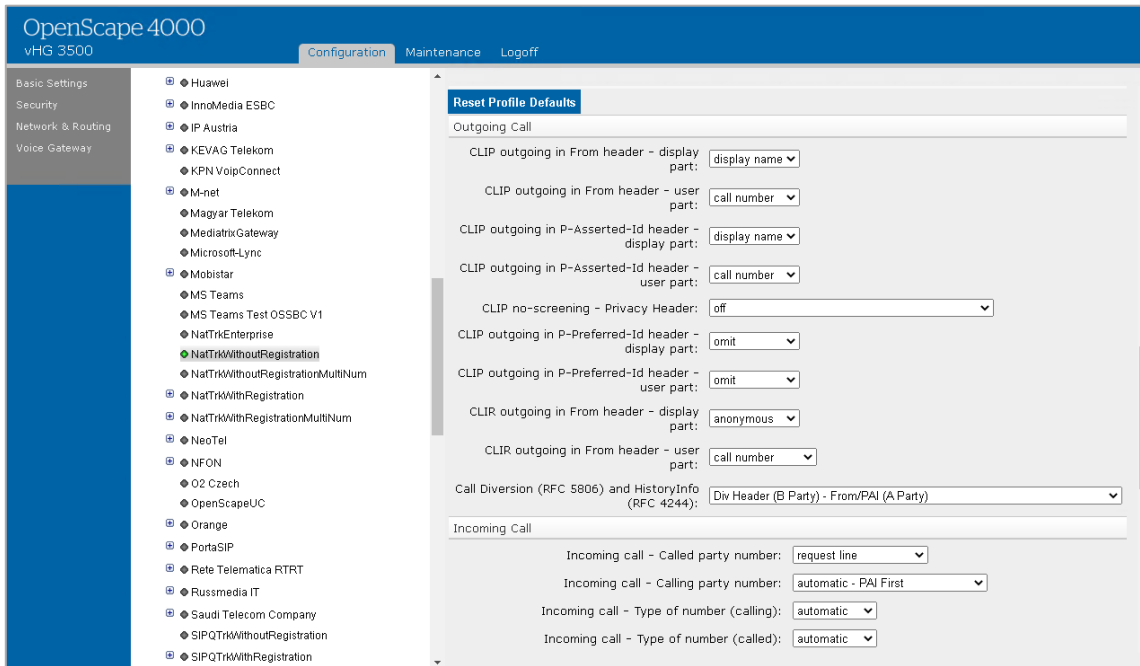
Note 2: The codec parameter Transmission of Fax/Modem Tones according to RFC2833 must be "unchecked"

WBM Configuration for Fastweb Native SIP Trunk - SIP Trunk Profiles

Amongst various profile templates, the offered **"NatTrkWithoutRegistration"** profile can be used for Fastweb SIP trunk configuration.

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





Enter the following:

- **Activate Trunk Profile:** YES
- **Remote Trunk Profile:** i.e. 172.28.0.4
- **IP Transport Protocol:** TCP ("UDP" or "TLS" are also possible)
- **Proxy – IP Address / Host name :** i.e. 172.28.0.4
- **Proxy – Specify Port:** Checked
- **Proxy – TCP/UDP Port:** 5060

- **Outbound Proxy – Use Outbound Proxy:** Checked
- **Outbound Proxy – IP Address / Host name :** 10.78.200.10 (OS SBC LAN IP address)
- **Outbound Proxy - Specify Port:** Checked
- **Outbound Proxy - Port:** i.e. 50010

Click on **[Apply]**.

Repeat the same procedure to create the "Native SIP Trunk" for the second vHG with **"Remote Trunk Profile & Proxy – IP Address / Host name"** value the **"172.28.0.20"** and **" Outbound Proxy - Port"** value the **"50020"**.

OpenScape SBC Configuration

This chapter describes the configuration of OpenScape SBC for interworking with Fastweb Voice network.

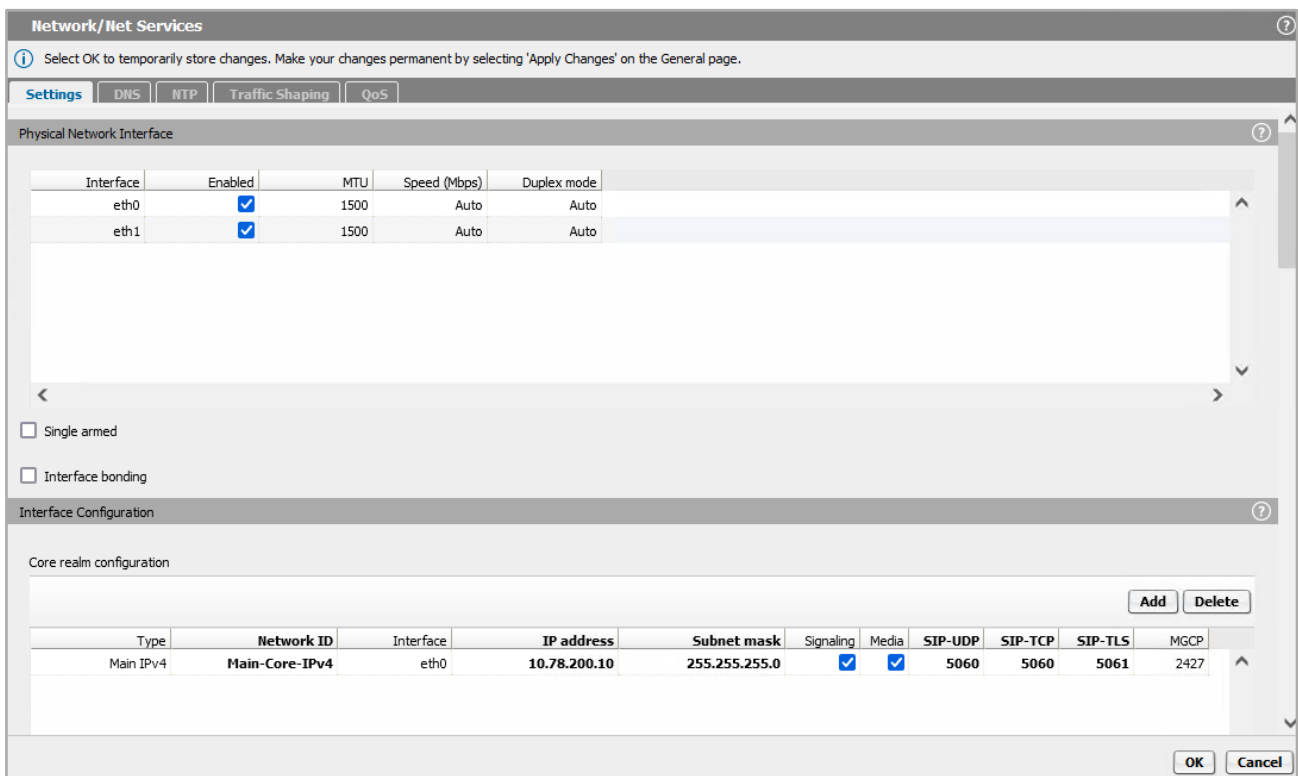
The OpenScape SBC will be configured with the connection to OS4000 and SSP (Fastweb) endpoints. Routine or non-project specific OS SBC configuration will be omitted.

Connect to OpenScape 4000 Server

1.1.1.1 Core Realm Interface

Use the TCP ("Proxy") port number OS4K WBM for the connection of OS SBC's eth0 (core) interface to OS4000.

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



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

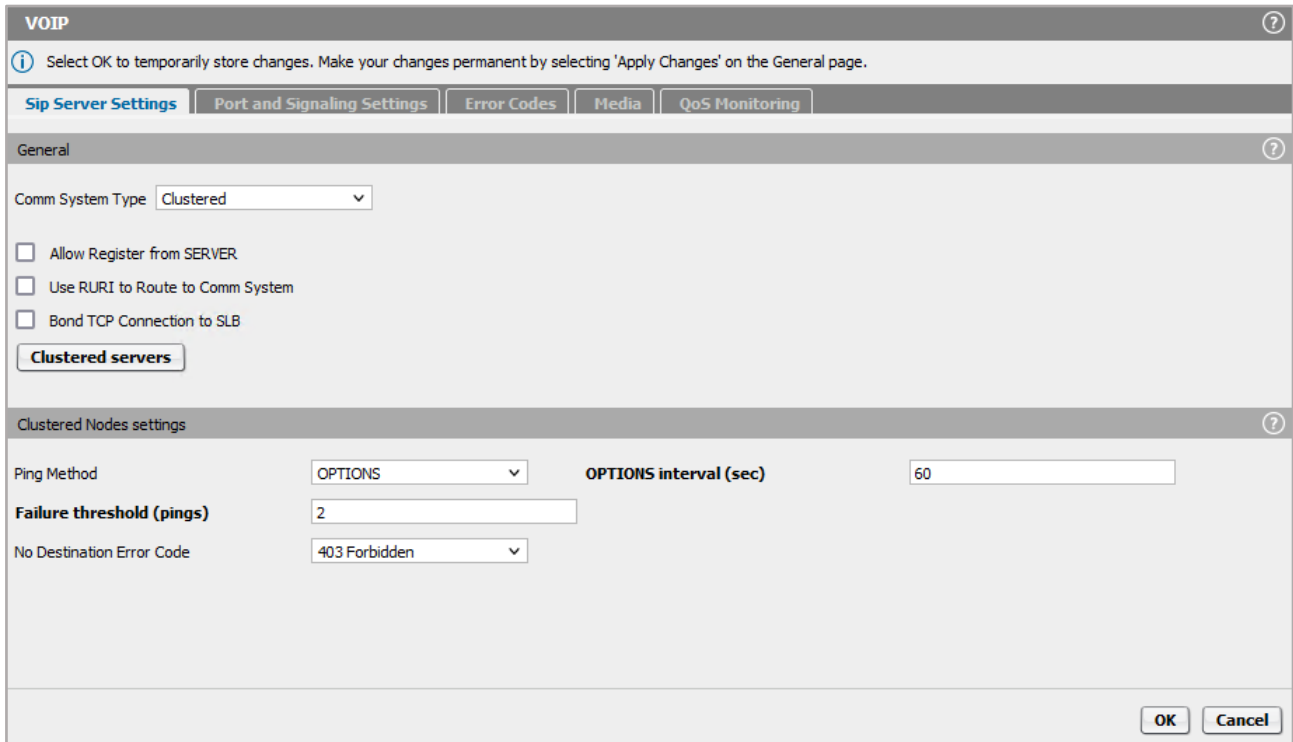
On **"Settings"** tab and in **"Core realm configuration"** area, make sure that for **"eth0"** interface, **"SIP-TCP"** has the value **"5060"**.

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.



VOIP

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

Sip Server Settings | Port and Signaling Settings | Error Codes | Media | QoS Monitoring

General

Comm System Type: **Clustered**

Allow Register from SERVER
 Use RURI to Route to Comm System
 Bond TCP Connection to SLB

Clustered servers

Clustered Nodes settings

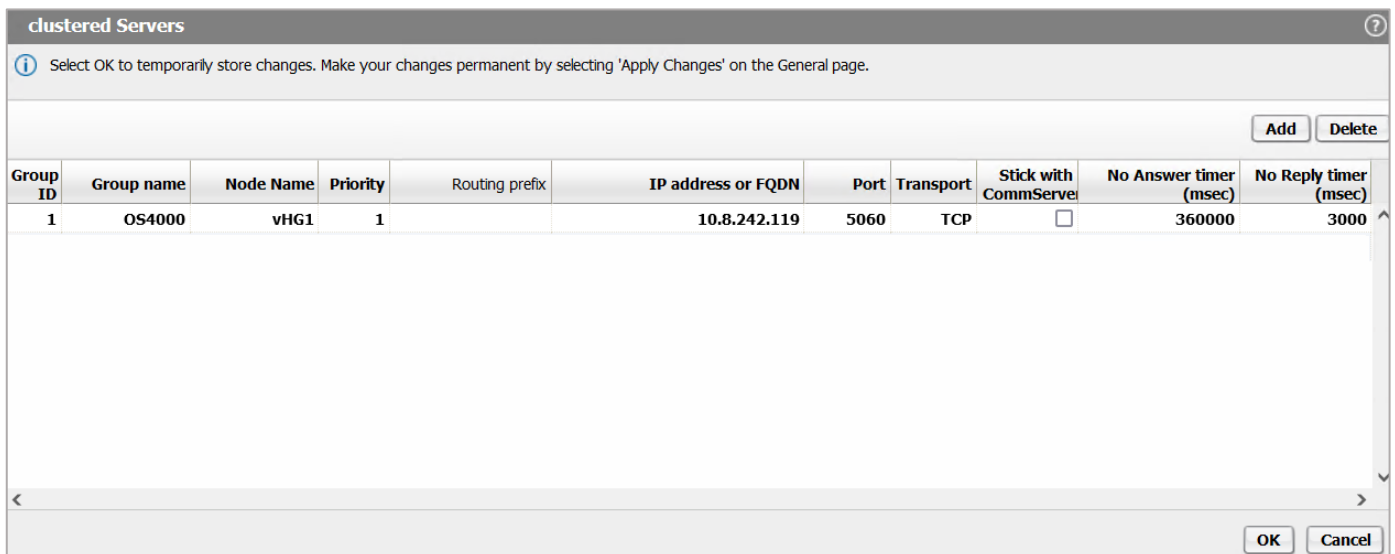
Ping Method: **OPTIONS** | **OPTIONS interval (sec)**: 60
Failure threshold (pings): 2
 No Destination Error Code: **403 Forbidden**

OK Cancel

On **"Sip Server Settings"** tab and in **"Comm System Type"** dropdown menu, select the value **"Clustered"**.

Click on **[Clustered servers]** and on pop up window click on **[Add]**.

Note: The **"Error Codes"** option (appears for the **"Clustered"** mode) must be enabled if we want the OS SBC to reroute the call to the other HG board after receiving an error code from OS4000.



clustered Servers

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

Add Delete

Group ID	Group name	Node Name	Priority	Routing prefix	IP address or FQDN	Port	Transport	Stick with CommServe	No Answer timer (msec)	No Reply timer (msec)
1	OS4000	vHG1	1		10.8.242.119	5060	TCP	<input type="checkbox"/>	360000	3000

OK Cancel

On **"clustered Servers"** window, enter the following:

- **Group ID:** **1**

- **Group name:** i.e OS4000 (friendly name)
- **Priority:** 1
- **IP address or FQDN:** i.e 10.8.242.119 (OS4000 HG card IP address of the trunk)
- **Port:** 5060 (listening port)
- **Transport:** TCP

Repeat for the second OS4000 vHG board with IP "10.8.242.120" with "Priority" set to "2".

Note: The "Transport" port is for the TCP connection and not the "Outbound Proxy Port" (same as the "Core Realm Port") in OS4000's SIP Trunk Profile.

The "Transport" and "Port" values must be aligned with OS4000 corresponding configuration.

Group ID	Group name	Node Name	Priority	Routing prefix	IP address or FQDN	Port	Transport	Stick with CommServer	No Answer timer (msec)	No Reply timer (msec)
1	OS4000	vHG1	1		10.8.242.119	5060	TCP	<input type="checkbox"/>	360000	3000
2	OS4000	vHG2	2		10.8.242.120	5060	TCP	<input type="checkbox"/>	360000	3000

Click on [OK] and then click again on [OK] on "VOIP" window.

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

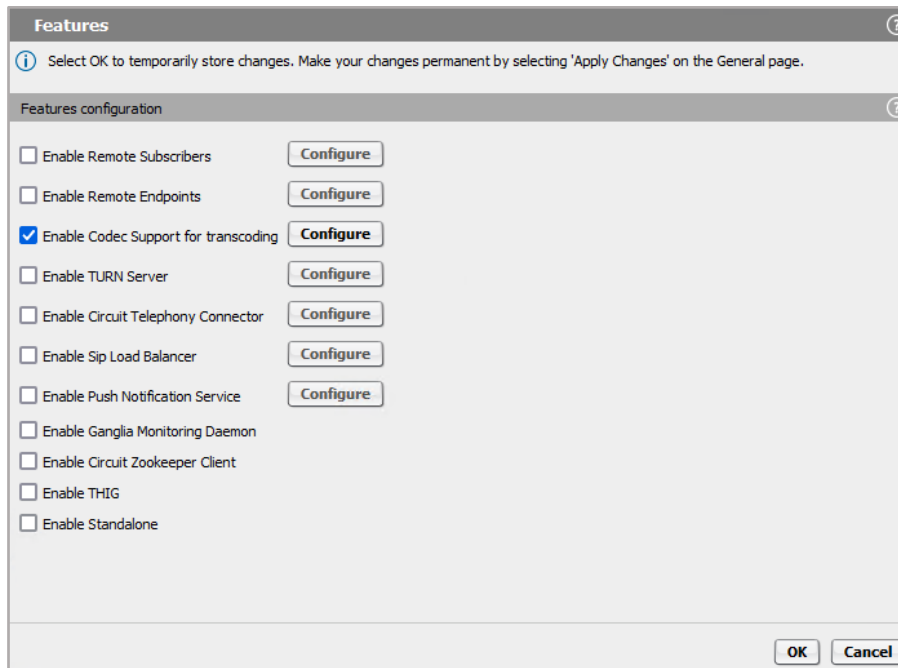
Media

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

Codec Manipulation Options

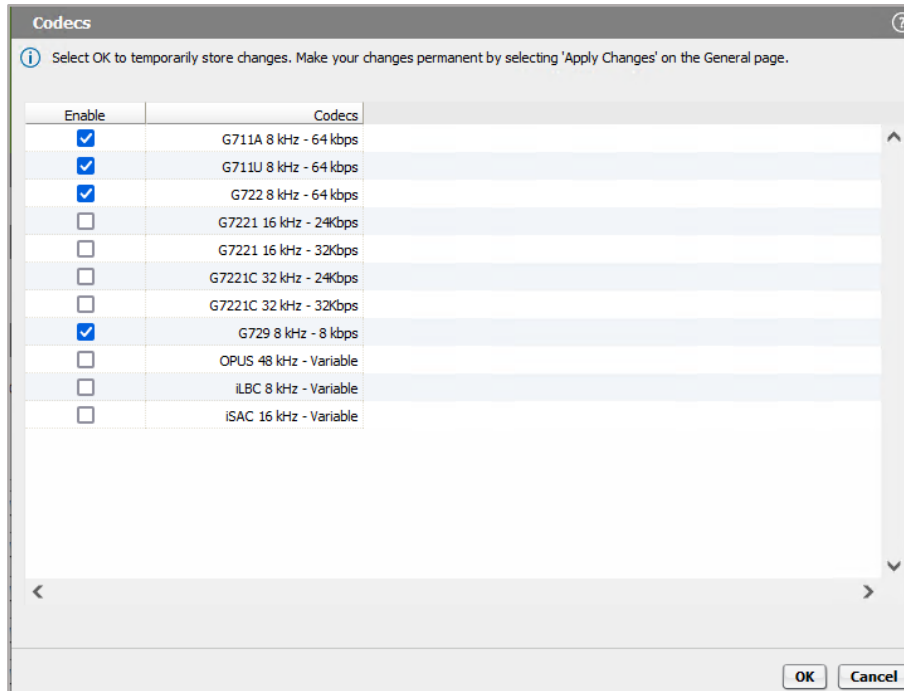
In case transcoding or certain codec prioritization for audio is required for the OS SBC – SSP or the OS SBC – PBX media profile for the corresponding SIP trunk, it is required to enable the codec configuration options first for the media profile setup.

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.

Fastweb Media Profile

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

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

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

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

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

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

Fastweb Configuration Guide

Date: 2024-06-20
Partner: Fastweb

OpenScope 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

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
1	G711A 8 kHz - 64 kbps	Auto
2	G711U 8 kHz - 64 kbps	Auto
3	G729 8 kHz - 8 kbps	Auto
4	G722 8 kHz - 64 kbps	Auto

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

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

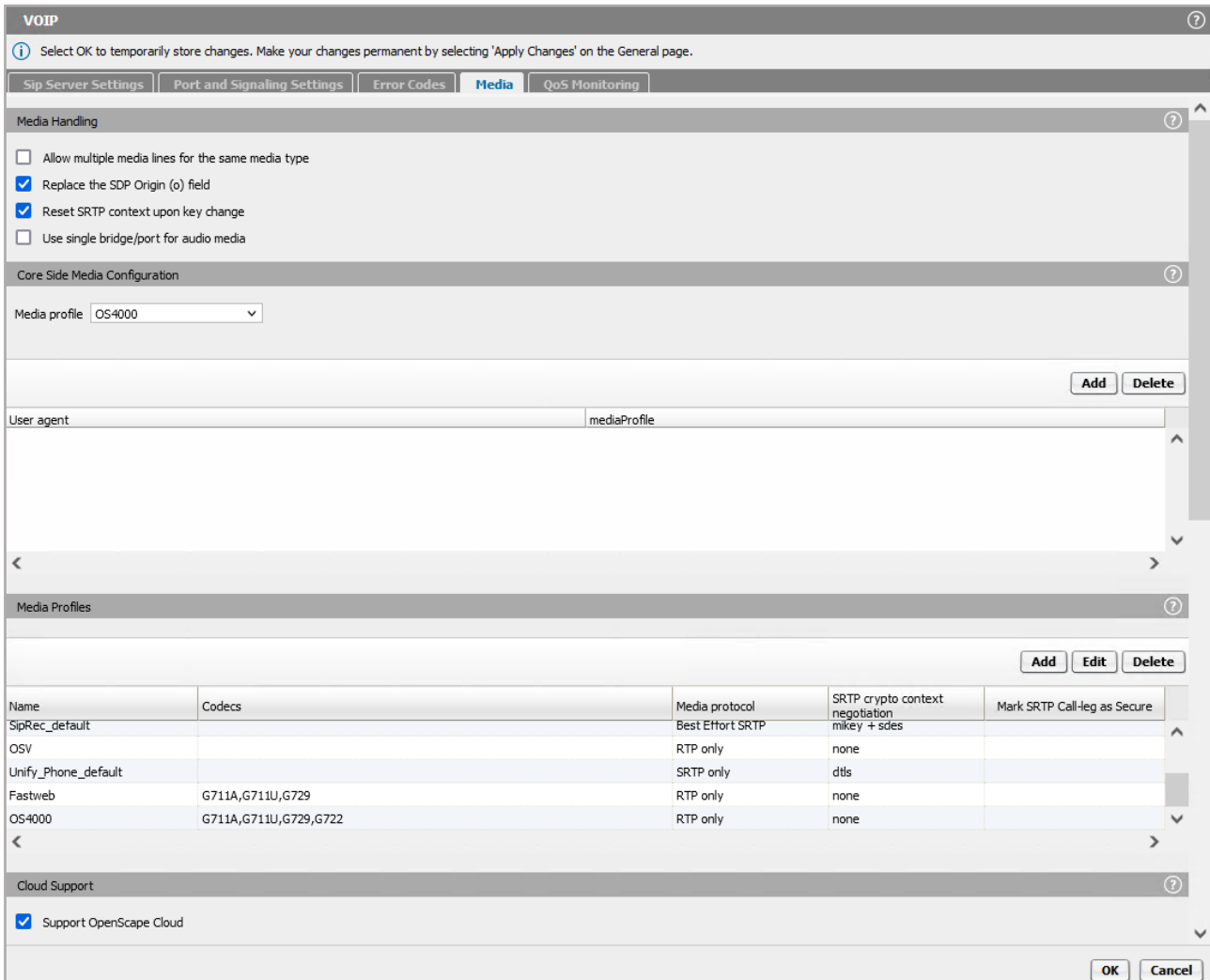
Click on **[OK]** to return to **"Media"** window.

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.



VOIP

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

Sip Server Settings | Port and Signaling Settings | Error Codes | **Media** | QoS Monitoring

Media Handling

- Allow multiple media lines for the same media type
- Replace the SDP Origin (o) field
- Reset SRTP context upon key change
- Use single bridge/port for audio media

Core Side Media Configuration

Media profile: OS4000

Add Delete

User agent: mediaProfile

Media Profiles

Add Edit Delete

Name	Codecs	Media protocol	SRTP crypto context negotiation	Mark SRTP Call-leg as Secure
SipRec_default		Best Effort SRTP	mikey + sdes	
OSV		RTP only	none	
Unify_Phone_default		SRTP only	dtls	
Fastweb	G711A,G711U,G729	RTP only	none	
OS4000	G711A,G711U,G729,G722	RTP only	none	

Cloud Support

- Support OpenScope Cloud

OK Cancel

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.

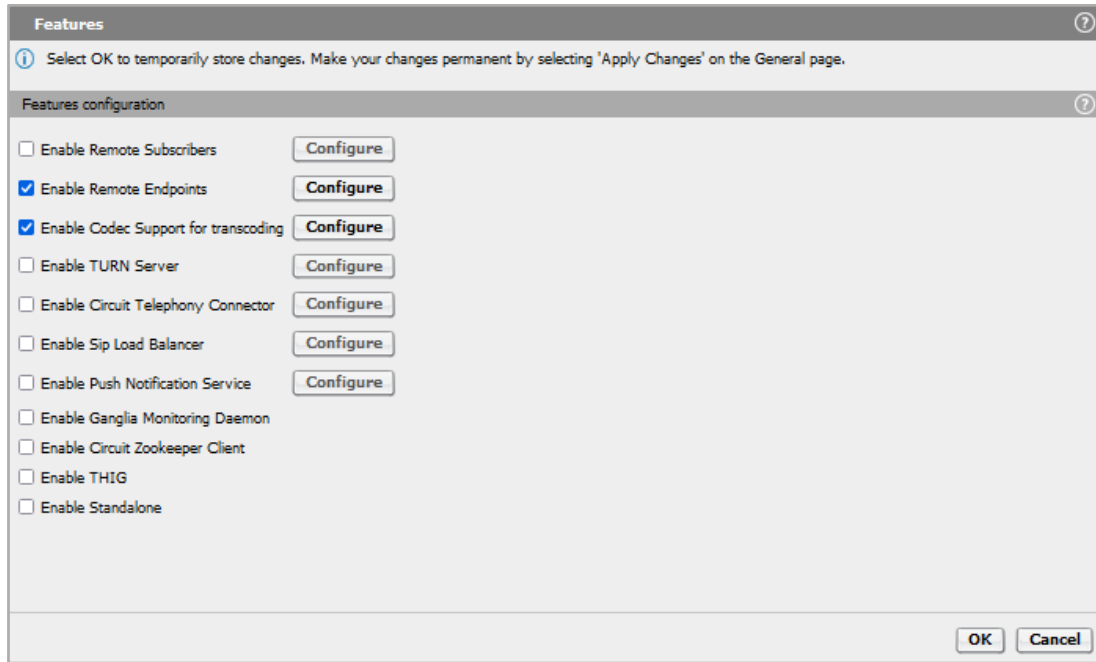
Click on **[OK]**.

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

Remote Endpoints

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

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



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 – Fastweb 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**

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

SIP Service Provider Profile ?

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

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 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
- 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
- Keep Digest Authentication 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)

TLS ?

TLS Signaling Pass-Thru

Sip Connect ?

- Use tel URI
- Send user=phone in SIP URI
- Registration mode
- 1TR118

OK
Cancel

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

- **Name:** Fastweb (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]**.

Remote endpoint configuration

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

Remote Endpoint Settings

Name: Fastweb_1
 Type: SSP
 Profile: Fastweb
 Access realm profile: Main-Access-Realm - ipv4
 Core realm profile: Main-Core-Realm - ipv4
 Associated Endpoint:
 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

Add Edit Delete

Row	Remote URL	Remote port	Remote transport	Media IP	Media profile	TLS mode	Certificate profile	TLS keep-

OK Cancel

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

- **Name:** Fastweb_1 (friendly name)
- **Type:** SSP
- **Profile:** Fastweb

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

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

General

Remote URL: 172.28.0.4 Shared domain

Remote port: 5060

Remote transport: UDP

Signaling

INVITE No Answer timeout (msec): 360000

INVITE No Reply timeout (msec): 3000

TLS

TLS mode: Server authentication

Certificate profile: OSV Solution

TLS keep-alive

Keep-alive interval (seconds): 120

Keep-Alive timeout (sec): 10

Media Configuration

Media profile: Fastweb

Media realm subnet IP address:

OK Cancel

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

- **Remote URL:** i.e. 172.28.0.4 (provided by Fastweb)
- **Remote port:** 5060
- **Remote transport:** UDP (TCP or TLS are also possible)
- **Media profile:** Fastweb

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

Remote endpoint configuration ?

① Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

Row	Remote URL	Remote port	Remote transport	Media IP	Media profile	TLS mode	Certificate profile	TLS keep-alive	Keep-alive interval (seconds)	Keep-Alive timeout (sec)
1	172.28.0.4	5060	UDP		Fastweb	Server authentication	OSV Solution	<input type="checkbox"/>	120	

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 **Add**

Delete

OK **Cancel**

Remote endpoint configuration ?

① Select OK to temporarily store changes. Make your changes permanent by selecting 'Apply Changes' on the General page.

Digest Authentication ?

Digest authentication supported

Digest authentication realm

Digest authentication user ID

Digest authentication password

Access Side Firewall Settings ?

Enable Firewall Settings **Firewall Settings**

Emergency configuration ?

Emergency numbers **Add**

Delete

Emergency call routing

MSRP Data Configuration ?

Enable MSRP Relay Support **(not licensed)**

use IP address in MSRP-path use FQDN in MSRP-path FQDN

Authentication required Realm Password **Show**

Access side only Qop | AUTH | v | Expire time/sec 300

Miscellaneous ?

Open external firewall pinhole

Send RTP dummy packets

OK **Cancel**

In "**Remote Location Identification/Routing**" area, enter the value "50010" for "**Core realm port**" (as configured vHG "**Outbound Proxy Port**").

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

Repeat the same procedure in **"Remote endpoint configuration"** window to add the second Fastweb remote endpoint **"Fastweb_2"** with IP address the **"172.28.0.20"** and **"Core realm port"** value the **"50020"**.

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

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

SIP Service Provider Profile

Hostname:
 Port:
 Remote directory:
 User name:
 Password:

Row	Name	Registration required	Registration interval (sec)
1	Fastweb	<input type="checkbox"/>	3600

Remote endpoint configuration

Row	Name	Access realm profile	Type	Profile / Circuit ID	Remote IP address / Logical-Endpoint-ID / Circuit URL	Remote port	Remote transport	Associated Endpoint	Linked Endpoint
1	Fastweb_1	Main-Access-Realm - ipv4	SSP	Fastweb	172.28.0.4	5060	UDP		
2	Fastweb_2	Main-Access-Realm - ipv4	SSP	Fastweb	172.28.0.20	5060	UDP		

Click on **[OK]** on all open windows.

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