

# Portlist & VoIP Whitepaper

Portlist

Firewall requirements

Network requirements

SIP and RTP specifications

Scope: Smart Business Connect, Managed Business Communication, InOneKMU (Softclient)

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## Content

1	General	4
1.1	About this Document	4
1.2	Terminology	4
2	Network, firewall and voice requirements and general infos	4
2.1	Firewall	4
2.2	Connectivity	4
2.3	QoS	4
2.4	MTU/MRU	5
2.5	Codec	5
2.6	P-Time	5
2.7	Video codec	5
2.8	IP addressing within the LAN	5
2.9	SIP-ALG detection	6
3	Smart Business Connect Trunk (Production)	7
3.1	General Info Port List	7
3.2	SIP-SIP/SIP-ISDN (Cisco eSBC) with Business Internet Service	7
3.3	SIP-SIP/SIP-ISDN (Cisco eSBC) with IP+	7
3.4	SIP-Direct (Mitel 400) with Business Internet Service	8
3.5	SIP-Direct (Mitel 400) with IP+	8
3.6	SIP Internet (Internet Trunk)	8
4	Smart Business Connect Hosted (Production)	9
4.1	SIP Phones	9
4.2	TAPI CTI (5.0.7.xxx or higher)	9
4.3	Mondago Go Integrator Cara	9
4.4	Enterprise Telephony App	10
4.5	Receptionist	10
5	MBC - Managed Business Communiaction (Production)	11
5.1	SIP Phones	11
5.2	TAPI CTI (5.0.7.xxx or higher)	11
5.3	Mondago Go Integrator Cara	11
5.4	Enterprise Telephony App	12
5.5	Receptionist	12
6	EC Voice Line (Production)	13
6.1	SIP Phones	13
7	Smart Business Connect Trunk (EAAP)	14
7.1	SIP-SIP/SIP-ISDN (Cisco eSBC) with Business Internet Service (EAAP)	14
7.2	SIP-SIP/SIP-ISDN (Cisco eSBC) with IP+ (EAAP)	14
7.3	SIP-Direct (Mitel 400) with Business Internet Service (EAAP)	15
7.4	SIP-Direct (Mitel 400) with IP+ (EAAP)	15
7.5	SIP Internet (Internet Trunk) (EAPP)	15
8	Smart Business Connect Hosted (EAAP)	16
8.1	SIP Phones (EAAP)	16

8.2	TAPI CTI (5.0.7.xxx or higher) (EAAP)	16
8.3	Mondago Go Integrator Cara (EAAP)	16
8.4	Enterprise Telephony App (EAAP)	17
8.5	Receptionist (EAAP)	17
8.6	inOne KMU office - Enterprise Telephony App	18
9	Various	19
9.1	Devices Hosted and MBC	19
9.2	Glossary	19
9.3	Changelog	19

# 1 General

## 1.1 About this Document

This document describes various aspects relating to network and voice in connection with a Smart Business Connect, Managed Business Communication and, in some cases, InOneKMU. The information contained in the document serves to increase and guarantee operational stability for the customer. It also contains further information on existing instructions such as SIP trunk instructions, training documents, etc.

The described and documented points can be extended, adapted, or deleted at any time. Please note the changelog of the document.

## 1.2 Terminology

This document uses the same key words as IETF drafts and RFC's when defining levels of requirements. In particular, the key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in BCP 14, RFC 2119 and indicate requirement levels for compliant SIP Signaling Interworking.

# 2 Network, firewall and voice requirements and general infos

## 2.1 Firewall

The following configurations **MUST** be set on the firewall. If you have any questions about the correct firewall settings, please contact your firewall manufacturer or supplier.

- SIP-ALG or at least the SIP header transformation **MUST** be switched off.
- SIP-Media-Timeout / UDP-Timeout **MUST** be configured to over 180s.
- Firewall UTM functions (e.g. SSL/TLS inspection, DNS filter, etc.) **MUST** be switched off for Swisscom voice devices.
- It is not possible to load your own certificates onto Swisscom managed devices.
- Port forwarding from WAN to LAN **MUST NOT** be created. All connections are opened from the terminal device (LAN to WAN). The devices send SIP packets to the Swisscom-core at regular intervals. During this time, the ports remain open for requests from the core to the devices (WAN to LAN).
- If firewall settings are adjusted that are related to SIP while a device is trying to register, it **MAY** be necessary to terminate the SIP sessions on the firewall after the adjustment or, in doubt, to restart the firewall.
- Business Communication Services (SIP-trunk): For multi-WAN installations, where third-party providers are also connected to the firewall, it **MUST** be ensured that the voice traffic of the SIP trunk is always routed via Swisscom Business Internet Services/IP+ Internet Access.

## 2.2 Connectivity

The platform technologies covered in this document (Hosted, SIP-Trunk, Managed Business Communication) require different connection technologies (Business Internet Service, IP+, LAN-I) or in some cases can also be operated via a third-party provider. Please note that Swisscom can only guarantee support and service availability within the Swisscom network.

## 2.3 QoS

QoS (Quality of service) is necessary for SIP and RTP packets to be prioritized and processed correctly in the network. Swisscom devices/terminals supports QoS in line with the differentiated service concept and marks outgoing RTP and SIP packets with DSCP. An appropriate QoS concept **MUST** be implemented in the customer network.

Traffic Class	DSCP	DSCP Decimal	DSCP hex	Service
Real Time	EF	46	2E	Voice (RTP)
High Priority	AF41	34	18	Signaling (SIP)

## 2.4 MTU/MRU

Within the LAN

Ensure that an MTU/MRU (maximum transmission unit/maximum receive unit) of 1500 bytes or fragmentation is possible over the entire route where SIP packets are sent (Especially for remote workers and external sites that relate to VPN connections or via MPLS routes).

Towards WAN (with Smart Business Connct, Business Internet Service)

Centro Business supports an MTU/MRU of 1500 bytes for the connection types IP passthrough; DMZ; direct LAN. An MTU/MRU of 1500 bytes must therefore be configured on the WAN interface on the customer router/firewall.

An MTU/MRU of 1508 bytes is supported for the PPPoE passthrough connection type. However, this is not supported by every router/firewall and often requires additional configurations on the NIC on the router/firewall.

- If the customer router/firewall supports an MTU/MRU of 1508 bytes, an MTU/MRU of 1508 bytes must be configured on the NIC and an MTU/MRU of 1500 bytes on the PPPoE WAN interface.
- If the customer router/firewall does not support an MTU/MRU of 1508 bytes, an MTU/MRU of 1492 bytes must be configured on the PPPoE WAN interface (which is standard in most cases). As the MTU/MRU is negotiated dynamically with PPPoE, an MTU/MRU of 1492 bytes is set dynamically on the provider side.

## 2.5 Codec

G.711 A-law is the only codec that MUST be offered and supported.

Further Codecs (e.g G.711 U-law; G.722; G.729) MAY be offered in the SDP Offer but MAY NOT be accepted by the Partner Network or the interconnection.

To increase operational stability, we recommend prioritizing the G.722 and the G.711 A-law codec. G.722 is not always available and depends on the system/device.

This setting is already configured for SIP-ISDN, Hosted and Managed Business Communication devices. The setting SHOULD be configured for SIP-SIP and SIP-Direct Trunks.

## 2.6 P-Time

A p-time (packetisation time) of 20ms MUST be specified.

## 2.7 Video codec

Video codec MUST not be offered and MUST be deactivated.

## 2.8 IP addressing within the LAN

The voice devices SHOULD be assigned a private IP address in accordance with RFC1918 (10.0.0.0/8; 172.16.0.0/12; 192.168.0.0/16). IP addresses outside this range can have a negative impact on operational stability and support.

## 2.9 SIP-ALG detection

SIP-ALG often causes problems of various kinds with VoIP connections and MUST be switched off. A detection for SIP-ALG is available in the portal.

### General deployment

- Hosted: In operation
- Trunk: planned

### Portal Register status "LED"

- green = registered
- orange = registered with SIP-ALG
- red = not registered

### Known Issues

- Hosted Centro Business analog port: always displays SIP-ALG (fix planned Q2-2024).
- Hosted general: In rare cases, an internal registration is used instead of the device registration for SIP-ALG detection (fix planned Q2-2024).
- SIP-Direct option Teams (Heinz): always displays SIP-ALG (no fix planned, product phaseout)

### Notes

- If the IP addressing of the voice devices does not correspond to RFC1918, the SIP-ALG detector does not function correctly and SIP-ALG MUST be recognised manually using the information provided.

### 3 Smart Business Connect Trunk (Production)

#### 3.1 General Info Port List

- The "Src Port" column refers to the source ports used by the devices. Source ports are dependent on various factors (device type, firmware version, operating system version, application, etc.). To prevent a negative effect after an update/change, the entire usable source port range SHOULD be opened.
- The source IP-Address corresponds to the individual device configuration.
- The IP addresses can change. It is recommended to always use the FQDN instead of the IP address.

#### 3.2 SIP-SIP/SIP-ISDN (Cisco eSBC) with Business Internet Service

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	195.186.1.162 195.186.4.162	TCP/UDP 53	DNS resolution
HTTP	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	het-cds.swisscom.ch het-cds.swisscom.com	TCP 80	Firmware upgrade
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	smartreceiver.cisco.com	TCP 443	License Server
NTP	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	194.209.29.192/26	UDP 16384 - 65535	Voice transmission
SIP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	trunk.join.swisscom.ch strunk.join.swisscom.ch 194.209.29.192/26	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions
SYSLOG	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	213.200.236.120/32	UDP 514	Optional: This port is required for extended analyses in the event of interference.

#### 3.3 SIP-SIP/SIP-ISDN (Cisco eSBC) with IP+

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	193.5.23.1 193.247.204.1	TCP/UDP 53	DNS resolution
HTTP	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	het-cds.swisscom.ch het-cds.swisscom.com	TCP 80	Firmware upgrade
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	smartreceiver.cisco.com	TCP 443	License Server
NTP	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	UDP 16384 - 65535	Voice transmission
SIP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	ipptrunk.join.swisscom.ch 193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions
SYSLOG	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	213.200.236.120/32	UDP 514	Optional: This port is required for extended analyses in the event of interference.

### 3.4 SIP-Direct (Mitel 400) with Business Internet Service

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
RTP	Mitel 400	UDP 1024 - 65535	194.209.29.192/26	UDP 16384 - 65535	Voice transmission
SIP	Mitel 400	UDP 1024 - 65535	trunk.join.swisscom.ch strunk.join.swisscom.ch 194.209.29.192/26	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions
DNS	Mitel 400	TCP/UDP 1024 - 65535	195.186.1.162 195.186.4.162	TCP/UDP 53	DNS resolution

Please note! Additional ports may be required. This depends on the configuration of the Mitel 400 (e.g. NTP, DNS, RTP in case of "indirect switching", etc.). For more information, refer to the Mitel 400 port list.

### 3.5 SIP-Direct (Mitel 400) with IP+

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
RTP	Mitel 400	UDP 1024 - 65535	193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	UDP 16384 - 65535	Voice transmission
SIP	Mitel 400	UDP 1024 - 65535	ipptrunk.join.swisscom.ch 193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions
DNS	Mitel 400	TCP/UDP 1024 - 65535	193.5.23.1 193.247.204.1	TCP/UDP 53	DNS resolution

Please note! Additional ports may be required. This depends on the configuration of the Mitel 400 (e.g. NTP, DNS, RTP in case of "indirect switching", etc.). For more information, refer to the Mitel 400 port list.

### 3.6 SIP Internet (Internet Trunk)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
RTP	Voice System (3cx, ect.)	UDP 1024 - 65535	194.209.27.132/32	UDP 36384 - 65535	Voice transmission
SIP (TLS)	Voice System (3cx, ect.)	UDP 1024 - 65535	strunkpub.join.swisscom.ch	TCP 5061	Signaling and controlling multimedia communication sessions
Optional SIP without TLS	Voice System (3cx, ect.)	UDP 1024 - 65535	trunkpub.join.swisscom.ch	UDP 5060	Signaling and controlling multimedia communication sessions

Please note! Additional ports may be required. This depends on the configuration of the Mitel 400 (e.g. NTP, DNS, RTP in case of "indirect switching", etc.). For more information, refer to the Mitel 400 port list.

## 4 Smart Business Connect Hosted (Production)

### 4.1 SIP Phones

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTP	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Yealink, Mitel, Panasonic	TCP 1024 - 65535	rca.aastra.com rps.yealink.com provisioning.e-connecting.net	TCP 1024 - 65535	Initial provisioning of the terminal device
HTTPS TR-069	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443 TCP 8443	Configuration synchronisation
NTP	Yealink, Mitel, Panasonic, Mediatrix	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	194.209.29.192/26	UDP 16384 - 65535	Voice transmission
SIP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	phone.join.swisscom.ch sphone.join.swisscom.ch 194.209.29.192/26	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

### 4.2 TAPI CTI (5.0.7.xxx or higher)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Estos ECSTA	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core

### 4.3 Mondago Go Integrator Cara

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Go Integrator Cara	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core
HTTPS	Go Integrator Cara	TCP 1024 - 65535	*.cti-host.com	TCP 443	Used at client start up form license check and application branding
HTTPS	Go Integrator Cara	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	LDAP connection for Swisscom Address book

#### 4.4 Enterprise Telephony App

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was4.join.swisscom.ch	TCP 443	Softclient functionality like login, push notification susbcription, support services (log upload, help desk assistant)
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	v-str-push-0101.join.swisscom.ch v-str-push-0102.join.swisscom.ch	TCP 443	PushNotification Websocket (WSS) for incoming calls on mobile devices
HTTPS/	Enterprise Telephony App	TCP 1024 - 65535	was1.join.swisscom.ch	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	xsiproxy-het-prod.scapp.swisscom.com	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
LDAPS	Enterprise Telephony App	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	To access Swisscom address book
RTP	Enterprise Telephony App	TCP/UDP 1024 - 65535	194.209.27.128/26 194.209.27.192/27	TCP/UDP 10000 - 65000	Voice transmission
SIP	Enterprise Telephony App	TCP/TLS 1024 - 65535	softphone.join.swisscom.ch ssoftphone.join.swisscom.ch 194.209.27.128/26 194.209.27.192/27	TCP/TLS 5075, 5076	Signaling and controlling multimedia communication sessions
STUN	Enterprise Telephony App	UDP 1024 - 65535	stun.join.swisscom.ch	UDP 3478	STUN - Simple Traversal of UDP through NAT

#### 4.5 Receptionist

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
BOSH	Receptionist	TCP 1024 - 65535	imp*.join.swisscom.ch	TCP 5281	Used for bidirectional streams over synchronous HTTPS connections
HTTPS	Receptionist	TCP 1024 - 65535	was2.join.swisscom.ch	TCP 443	Internet access from PC to Internet for the Receptionist application (data functions)

## 5 MBC - Managed Business Communication (Production)

### 5.1 SIP Phones

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTP	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Yealink, Mitel, Panasonic	TCP 1024 - 65535	rca.aastra.com rps.yealink.com provisioning.e-connecting.net	TCP 1024 - 65535	Initial provisioning of the terminal device
HTTPS TR-069	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	acs.join.swisscom.ch	TCP 443 TCP 8443	Configuration synchronisation
NTP	Yealink, Mitel, Panasonic, Mediatrix	TCP/UDP 1024 - 65535	bnwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	194.209.29.192/27	UDP 16384 - 65535	Voice transmission
SIP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	sip.join.swisscom.ch ssip.join.swisscom.ch 194.209.29.192/27	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

### 5.2 TAPI CTI (5.0.7.xxx or higher)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Estos ECSTA	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core

### 5.3 Mondago Go Integrator Cara

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Go Integrator Cara	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core
HTTPS	Go Integrator Cara	TCP 1024 - 65535	*.cti-host.com	TCP 443	Used at client start up form license check and application branding
HTTPS	Go Integrator Cara	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	LDAP connection for Swisscom Address book

## 5.4 Enterprise Telephony App

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was4.join.swisscom.ch	TCP 443	Softclient functionality like login, push notification susbcription, support services (log upload, help desk assistant)
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	v-str-push-0101.join.swisscom.ch v-str-push-0102.join.swisscom.ch	TCP 443	PushNotification Websocket (WSS) for incoming calls on mobile devices
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was1.join.swisscom.ch	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	xsiproxy-het-prod.scapp.swisscom.com	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
LDAPS	Enterprise Telephony App	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	To access Swisscom address book
RTP	Enterprise Telephony App	TCP/UDP 1024 - 65535	194.209.27.128/26 194.209.27.192/27	TCP/UDP 10000 - 65000	Voice transmission
SIP	Enterprise Telephony App	TCP/TLS 1024 - 65535	softphone.join.swisscom.ch ssoftphone.join.swisscom.ch 194.209.27.128/26 194.209.27.192/27	TCP/TLS 5075, 5076	Signaling and controlling multimedia communication sessions
STUN	Enterprise Telephony App	UDP 1024 - 65535	stun.join.swisscom.ch	UDP 3478	STUN - Simple Traversal of UDP through NAT

## 5.5 Receptionist

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
BOSH	Receptionist	TCP 1024 - 65535	imp*.join.swisscom.ch	TCP 5281	Used for bidirectional streams over synchronous HTTPS connections
HTTPS	Receptionist	TCP 1024 - 65535	was2.join.swisscom.ch	TCP 443	Internet access from PC to Internet for the Receptionist application (data functions)

## 6 EC Voice Line (Production)

### 6.1 SIP Phones

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTP	Yealink	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Yealink	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Yealink	TCP 1024 - 65535	rps.yealink.com	TCP 1024 - 65535	Initial provisioning of the terminal device
HTTPS TR-069	Yealink	TCP 1024 - 65535	ccs.join.swisscom.ch	TCP 443 TCP 8443	Configuration synchronisation
NTP	Yealink	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Yealink	UDP 1024 - 65535	194.209.29.192/26	UDP 16384 - 65535	Voice transmission
SIP	Yealink	UDP 1024 - 65535	phone.join.swisscom.ch sphone.join.swisscom.ch 194.209.29.192/26	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

## 7 Smart Business Connect Trunk (EAAP)

### 7.1 SIP-SIP/SIP-ISDN (Cisco eSBC) with Business Internet Service (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	195.186.1.162 195.186.4.162	TCP/UDP 53	DNS resolution
HTTP	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	smartreceiver.cisco.com	TCP 443	License Server
NTP	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	194.209.29.240/28	UDP 16384 - 65535	Voice transmission
SIP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	trunk.joineapp.swisscom.ch strunk.joineapp.swisscom.ch 194.209.29.240/28	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

### 7.2 SIP-SIP/SIP-ISDN (Cisco eSBC) with IP+ (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	193.5.23.1 193.247.204.1	TCP/UDP 53	DNS resolution
HTTP	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Cisco: 881, ISR4321, 1121	TCP 1024 - 65535	smartreceiver.cisco.com	TCP 443	License Server
NTP	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	194.209.29.240/28	UDP 16384 - 65535	Voice transmission
SIP	Cisco: 881, ISR4321, 1121	UDP 1024 - 65535	ipptrunk.joineapp.swisscom.ch ippstrunk.joineapp.swisscom.ch 193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

### 7.3 SIP-Direct (Mitel 400) with Business Internet Service (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	195.186.1.162 195.186.4.162	TCP/UDP 53	DNS resolution
RTP	Mitel 400	UDP 1024 - 65535	194.209.29.240/28	UDP 16384 - 65535	Voice transmission
SIP	Mitel 400	UDP 1024 - 65535	trunk.joineapp.swisscom.ch strunk.joineapp.swisscom.ch 194.209.29.240/28	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

Please note! Additional ports may be required. This depends on the configuration of the Mitel 400 (e.g. NTP, DNS, RTP in case of "indirect switching", etc.). For more information, refer to the Mitel 400 port list.

### 7.4 SIP-Direct (Mitel 400) with IP+ (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
DNS	Cisco: 881, ISR4321, 1121	TCP/UDP 1024 - 65535	193.5.23.1 193.247.204.1	TCP/UDP 53	DNS resolution
RTP	Mitel 400	UDP 1024 - 65535	193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	UDP 16384 - 65535	Voice transmission
SIP	Mitel 400	UDP 1024 - 65535	trunk.joineapp.swisscom.ch strunk.joineapp.swisscom.ch 193.135.14.128/27 193.135.14.160/27 193.135.14.192/27	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

Please note! Additional ports may be required. This depends on the configuration of the Mitel 400 (e.g. NTP, DNS, RTP in case of "indirect switching", etc.). For more information, refer to the Mitel 400 port list.

### 7.5 SIP Internet (Internet Trunk) (EAPP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
RTP	Voice System (3cx, ect.)	UDP 1024 - 65535	194.209.27.148	UDP 36384 - 65535	Voice transmission
SIP (TLS)	Voice System (3cx, ect.)	UDP 1024 - 65535	strunkpub.joineapp.swisscom.ch	TCP 5061	Signaling and controlling multimedia communication sessions
Optional SIP without TLS	Voice System (3cx, ect.)	UDP 1024 - 65535	trunkpub.joineapp.swisscom.ch	UDP 5060	Signaling and controlling multimedia communication sessions

## 8 Smart Business Connect Hosted (EAAP)

### 8.1 SIP Phones (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTP	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	het-cds.swisscom.ch	TCP 80	Firmware upgrade
HTTPS	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	was3.joineapp.swisscom.ch	TCP 443	Configuration synchronisation
HTTPS	Yealink, Mitel, Panasonic	TCP 1024 - 65535	rca.aastra.com rps.yealink.com provisioning.e-connecting.net	TCP 1024 - 65535	Initial provisioning of the terminal device
HTTPS TR-069	Yealink, Mitel, Panasonic, Mediatrix	TCP 1024 - 65535	bcs.join.swisscom.ch	TCP 443 TCP 8443	Configuration synchronisation
NTP	Yealink, Mitel, Panasonic, Mediatrix	TCP/UDP 1024 - 65535	bwntp*.bluewin.ch ch.pool.ntp.org	TCP/UDP 123	Time synchronization
RTP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	194.209.29.240/28	UDP 16384 - 65535	Voice transmission
SIP	Yealink, Mitel, Panasonic, Mediatrix	UDP 1024 - 65535	phone.joineapp.swisscom.ch sphone.joineapp.swisscom.ch 194.209.29.240/28	TCP/UDP 5060, 5061	Signaling and controlling multimedia communication sessions

### 8.2 TAPI CTI (5.0.7.xxx or higher) (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Estos ECSTA	TCP 1024 - 65535	was3.joineapp.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core

### 8.3 Mondago Go Integrator Cara (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS/ OCI-P/C	Go Integrator Cara	TCP 1024 - 65535	was3.join.swisscom.ch	TCP 443, 8012	Service connection to Swisscom core
HTTPS	Go Integrator Cara	TCP 1024 - 65535	*.cti-host.com	TCP 443	Used at client start up form license check and application branding
HTTPS	Go Integrator Cara	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	LDAP connection for Swisscom Address book

#### 8.4 Enterprise Telephony App (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was4.join.swisscom.ch	TCP 443	Softclient functionality like login, push notification susbcription, support services (log upload, help desk assistant)
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	v-str-push-0101.join.swisscom.ch v-str-push-0102.join.swisscom.ch	TCP 443	PushNotification Websocket (WSS) for incoming calls on mobile devices
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was1.joineapp.swisscom.ch	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	xsiproxy-eapp-prod.scapp.swisscom.com	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
LDAPS	Enterprise Telephony App	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	To access Swisscom address book
RTP	Enterprise Telephony App	TCP/UDP 1024 - 65535	194.209.27.224/27	TCP/UDP 10000 - 65000	Voice transmission
SIP	Enterprise Telephony App	TCP/TLS 1024 - 65535	softphone.joineapp.swisscom.ch ssoftphone.joineapp.swisscom.ch 194.209.27.224/27	TCP/TLS 5075, 5076	Signaling and controlling multimedia communication sessions
STUN	Enterprise Telephony App	UDP 1024 - 65535	stun.joineapp.swisscom.ch	UDP 3478	STUN - Simple Traversal of UDP through NAT

#### 8.5 Receptionist (EAAP)

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
BOSH	Receptionist	TCP 1024 - 65535	imp*.join.swisscom.ch	TCP 5281	Used for bidirectional streams over synchronous HTTPS connections
HTTPS	Receptionist	TCP 1024 - 65535	was2.join.swisscom.ch	TCP 443	Internet access from PC to Internet for the Receptionist application (data functions)

## 8.6 inOne KMU office - Enterprise Telephony App

Protocol	Src Client/Device	Src Port	Dst IP/FQDN	Dst Port	Description
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	was4.join.swisscom.ch	TCP 443	Softclient functionality like login, push notification susbcription, support services (log upload, help desk assistant)
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	v-str-push-0101.join.swisscom.ch v-str-push-0102.join.swisscom.ch	TCP 443	PushNotification Websocket (WSS) for incoming calls on mobile devices
HTTPS	Enterprise Telephony App	TCP 1024 - 65535	btbc.swisscom.ch	TCP 443	BroadWorks features like BroadWorks Directory, call log and configuration for call forwardings
LDAPS	Enterprise Telephony App	TCP 1024 - 65535	svc.gold.abba.swisscom.ch	TCP 636	To access Swisscom address book
RTP	Enterprise Telephony App	UDP 1024 - 65535	195.186.129.36/32 195.186.129.39/32 195.186.129.164/32 195.186.129.167/32 194.209.13.196/32 194.209.13.199/32 194.209.13.228/32 194.209.13.231/32	TCP /UDP 1024 - 65535	Voice transmission
SIP	Enterprise Telephony App	TCP/UDP 1024 - 65535	sc1.ims.swisscom.ch ssc1.ims.swisscom.ch 195.186.128.4/32 194.209.13.4/32	TCP/UDP 5075 - 5076	Signaling and controlling multimedia communication sessions

## 9 Various

### 9.1 Devices Hosted and MBC

Device
Media5 Mediatrix 2/16
Mitel 6730i/6731i/6739i/6753i/6755i/6757i
Mitel 6863i/6865i/6867i/6869i
Panasonic KX-TGP500/KX-TGP600
Panasonic KX-UJS124
Yealink CP860/CP920/W60B/W70B/W90
Yealink T42G/T46G/T48G/T42S/T46S/T48S
Yealink T53/T54W/T57W
Media5 Mediatrix 2/16

### 9.2 Glossary

Term	Explanation
EAPP	"Early Adopter Adoption Program" is a program designed to encourage or facilitate the adoption of new products or technologies by early adopters.

### 9.3 Changelog

Version	Date	Change
1.00	01.02.2024	Create new portlist
1.01	28.02.2024	Add chapter " IP addressing within the LAN"
1.02	05.04.2024	Add Ports "Go Integrator Cara"
1.03	09.04.2024	Change Ports "Go Integrator Cara"
1.04	02.08.2024	Add "SIP Internet"; Add "EC Voice Line"; Minor updates
1.05	28.10.2024	Add IP+Ports "SIP Internet EAPP"
1.06	10.02.2024	Change RTP Ports and dest. IP's for inOne KMU office - Enterprise Telephony App