Installation instructions

Firewall and Network Infrastructure, Requirements

Video-Cloud-Gateway AVC1

The Video-Cloud-Gateway AVC1 uses the customer's network to connect a TC:Bus door inter-com to the Internet and therefore also to the KochCloud servers.

This differs to solutions that use the Video-SIP-Gateway AVS2100, as the **KochCloud installation** with AVC1 normally does **not require any port forwarding**.

With modems/routers that have a **standard NAT configuration** (e.g. Swisscom, UPC, home network set-ups), the **AVC1** can connect to services outside the network and keep the connection open via the built-in firewall, **without having to configure further network settings.**

However, restrictive firewall configurations in the business environment can block the connection set-up of the AVC1 to the outside.

The **AVC1** must be able to set up connections **to the outside** via the following ports:

TCP	443, 80, 8080	HTTPS	KochCloud configuration & update
TCP	5061	SIPS	KochCloud signalling
UDP	10000 – 20000	RTP	Audio/Video when talking
TCP/UDP	123	NTP	Communicating with the time server

The **AVC1** needs connections to the KochCloud servers in the DNS (domain name space) of `*.kochcloud.ch` and `kochcloud.ch` as well as to time servers in the DNS of `*.ntp.org` and `ntp.metas.ch`.

The **AVC1** establishes a secure and persistent connection to the KochCloud. This must not be interrupted by firewall DPI rules or other mechanisms.

If one or more of these ports are blocked, this could cause one of the following issues, **among others**:

HTTPS blocked	The AVC1 is displayed as permanently offline in the KochCloud and cannot be synchronised.
SIPS blocked	The AVC1 cannot send or receive intercom calls even when the external intercom unit is configured correctly. The status display for the "outdoor clients" in the KochCloud interface stays red and the AVC1 reports an error on the local web interface.
RTP blocked	When talking to an external intercom unit, there is no sound and/or video in one or both directions.
NTP blocked	The AVC1 is permanently displayed as offline in the KochCloud and cannot be synchronised.

The **MAC address** for a potential MAC filtering can be found on the web interface, packaging or underside of the AVC1 cover.

KochMobile App

The **KochMobile** app acts as a mobile client device for the KochCloud system.

The app works in a mobile network (3G, 4G, 5G) or in a generic home network (Swisscom, UPC, etc.) **without needing to further configure the network**.

However, restrictive firewall configurations e.g. in a business WiFi, can block some of the app's functions.

KochMobile must be able to set up connections **to the outside** via the following ports:

TCP	443, 80, 8080	HTTPS	KochCloud configuration & update
TCP	5061	SIPS	KochCloud signalling
UDP	10000 – 20000	RTP	Audio/Video when talking
TCP	5223, 2195 – 2197	APNS	Apple Push Notification Service https://support.apple.com/en-us/HT203609
TCP	5228 – 5230	FCM	Android Push Notifications https://firebase.google.com/docs/cloud-messaging/concept-options#messaging-ports-and-your-firewall

KochMobile needs connections to the KochCloud servers in the DNS (domain name space) of `*.kochcloud.ch` and `kochcloud.ch`

If one or more of these ports are blocked, this could cause one of the following issues, **among others**:

HTTPS blocked	KochMobile cannot download any data from the cloud. Contacts and functions are not displayed. Calls do not function properly.
SIPS blocked	KochMobile cannot send or receive any calls even though it is connected via HTTPS and the status display on the KochCloud web interface is green. This error relates to the device
RTP blocked	When talking with an external intercom unit, or other apps, there is no sound and/or video in one or both directions.
APNS blocked	iOS devices do not receive any calls. But it is possible to call yourself, provided the target device can be reached.
FCM blocked	Android devices do not receive any calls. But it is possible to call yourself, provided the target device can be reached.

Special scenarios

Concrete Name Areas
Since the KochCloud is a scalable system, it is strongly recommended to allow access via the wildcard domain *.kochcloud.ch or the root domain kochcloud.ch. This ensures that future services hosted on kochcloud.ch will also be accessible.

If the wildcard or root domain cannot be permitted, access to the specific name areas (domains) must be allowed individually:

```
kochcloud.ch
sip.kochcloud.ch
nexus.kochcloud.ch
device.kochcloud.ch
update.kochcloud.ch
static.kochcloud.ch
bones.kochcloud.ch
echo.bones.kochcloud.ch
```

When specific name areas are released, the firewall configuration must also be manually updated in the future if new services/subdomains are added.

Permanent MJPEG video
The video images of the analogue camera of the external intercom unit can be called up as an MJPEG video stream via the Video Cloud-Gateway AVC1. This stream is **always** protected by the API token visible in the AVC1 web interface.

Within the local network (AVC1 and mobile device in the same network),
the video stream can be displayed in the **KochMobile** app.
To do this, the value "AVC1/TC:Bus" must be set for the option "Video source at home" on the corresponding terminal in the KochCloud.

If the video stream should be permanently visible in a **browser** or **third-party device**, a **static IP address** must be assigned to the AVC1.

Outside the local network (AVC1 and mobile device **not** in the same network),
the video stream is only displayed in the **KochMobile** app during the call on the intercom.

If the video stream should be permanently available outside of the local network as well, the on-site network integrator must set up **port forwarding** in addition to a **static IP address** or **Dyn-DNS**.

The video image can be called up on the screen via the following paths:
http://GATEWAYIP:12000/video.mjpeg?api_token=APITOKEN

GATEWAYIP is replaced by and internal or external IP address.
APITOKEN is replaced by the API token from the web interface of the AVC1.

Service

You can find answers in our list of frequently asked questions www.kochag.ch
in german and french only

For direct support, please contact
our technical customer service team:

Phone   044 782 6000

René Koch AG
Seestrasse 241
8804 Au/Wädenswil
044 782 6000

info@kochag.ch
www.kochag.ch

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