

The purpose of this document is to specify the operation of VoIP (Voice over IP) services and to provide the necessary prerequisites for the use of our services on routers not managed by Smart Telecom.

On a **link provided by Smart Telecom**, VoIP flows do not pass through the mass of Internet flows. They are routed automatically, via our collection routers at the heart of the network, to our telephone servers. QoS (Quality of Service) rules are applied to the links to ensure regularity of operation.

On a **link NOT provided by Smart Telecom**, VoIP flows pass through the mass of Internet flows. Consequently, the VoIP Smart Telecom service, despite the configuration of routers and switches, can suffer from quality disturbances caused in part by the processing latencies of the flows.

To ensure the proper functioning of telephone stations (or licenses) on a **router NOT supplied by Smart Telecom**, you must administer your router as follows:

- Deactivate the SIP Application Layer Gateway, commonly known as **SIP ALG**.

The SIP ALG function is used to bypass the configuration of static NAT rules on a router. Its implementation varies from router manufacturer to manufacturer, which sometimes makes it difficult to identify.

In general, it is necessary to disable SIP ALG and configure port mapping one by one.

- On the **Firewall** or the firewall functions of the router used for VoIP services:

- Allow the following **ports**:
 - ♦ HTTP 80
 - ♦ HTTPS 443
 - ♦ XMPP 1081 et 52222
 - ♦ RTP 8500 to 8598 and 8600 to 8698 (TCP)
 - ♦ RTP 1024 to 65535 (UDP)
 - ♦ SIP 5060 to 5063 and 5070 to 5073 (UDP et TCP)
 - ♦ SOCKS 52644 to 52645
 - ♦ LDAP 389
 - ♦ NTP 123
- For the following **IP ranges**:
 - ♦ 217.195.31.128/26
 - ♦ 81.93.7.0/24
 - ♦ 178.255.160.0/24
 - ♦ 37.97.64.0/24
 - ♦ 37.97.65.0/24

In the case of a **shared link** (a single link that includes VOICE and DATA), it may be necessary to set up QoS rules in order to have support for "communication quality" type incidents. The average consumption of a phone equipment is 60kbps. It depends on the audio quality: normal (Codec G.729 = 45kbps), superior audio (codec G.711 = 110kbps) or high definition (Codec G.722 = 110kbps).

For any questions relating to the installation of our VoIP telephony services, we invite you to contact our technical service or send your requests to sav@smart-telecom.fr.