

### Firewall considerations & GnuGK proxy setup

This section is for you whom experienced problems when connecting or only had one way calls and could not hear the other party or reverse.

If you are lucky this is not necessary for you to deal with, in some cases using a broadband router you need to manipulate with port forwarding or install a special gnugk proxy. Most modern routers can deal with h323 phones directly, please consult your manual of your router/firewall.

Proxies for our phone system:

- Windows Gnugk h323 proxy from <http://www.calltoall.fi/gnugk-2.0.4win.zip>
- Linux Gnugk h323 proxy from <http://www.calltoall.fi/gnugk-2.0.4lin.gz>

Those proxies need a file called gnugk.ini, the file follows the software above, usually it is not necessary to change anything.

**Your VoIP-phone settings should always point to your proxy IP as gatekeeper, if you need to use a proxy.**

The Gnugk must also sit on the same computer/firewall that is directly connected to Internet. This Computer/Firewall can be Windows based or Linux/FreeBSD/OpenBSD based system.

**GnuGK** also need a special configuration file to make gnugk run. Change the **bolded** to suit your network. More than one phone is also possible, although this file gnugk.ini only show settings for one phone with number/h323id: 0123284932

In our case below, we have an internal network behind NAT and firewalls which has IP number 192.168.0.0 netmask 255.255.255.0, your loopback network is all the times 172.0.0.0 with subnetmask /8.

The gatekeeper at the [endpoint] must point to your Gatekeeper\_1\_IP\_address as for the softphone and ATA186 explained above. Thus the proxy will forward all your VoIP phones call to this gatekeeper through the firewall.



#### Ingenjörfirman Stéen

**Administration**  
Lingonstigen 16  
571 37 Nässjö, Sweden  
Tel: 0380-558162  
Fax: 0380-558173  
VoIP: 1000

**Post & Bank**  
SEB SWIFT ESSESESS  
SEB 5504 10 010 22  
SEB Giro 5255-5042  
Post Giro 405 91 28-1  
Org: 651108-4391

**Internet & Data**  
<http://www.ing-steen.se>  
Email: [info@ing-steen.se](mailto:info@ing-steen.se)  
<ftp://ftp.ing-steen.se>

#### CallToAll Oy

**Administration**  
Otsotie 13, Pt 36, 00421 Helsinki  
01900 Nurmijärvi, Finland  
Tel: +358 9 2905 0088  
Fax: +358 9 8534 190  
VoIP: 1020

**Post & Bank**  
Nordea)  
SWIFT: NDEAFIHH  
Acct: 125730 520199  
Org: 18 530 77-1

**Internet & Data**  
<http://www.calltoall.fi>  
Email: [info@calltoall.fi](mailto:info@calltoall.fi)

**The firewall**

If you don't use a computer to direct connect to internet, and have a router/firewall to connect to internet with there can be two cases. Here you will need an expert to help you setup the firewall.

Case 1: The router/firewall has an option for h.323 VoIP

Then you use this settings, follow the instructions in your router/firewall manual.

Case 2: The router/firewall has no option for h.323 VoIP

Now it will be more tricky.

There are three solutions in those two cases.

- Use tunnel and IPSec VoIP to penetrate the firewall, this almost always work  
Howto setup this will come later on, it is relative easy, like the softphone.
- PortForwarding, manually or as macro in case 1
- Proxy and portforwarding

First you must have access to your router/firewall, if not, you have to do tunnel with IPSec Voip.

There are so many brands out there that we can only tell what ports need to be opened/forwarded in the firewall.

*\*= recommended by software developer all other from h323 forum*

We suggest that you begin open/forward the ports with (\*) first

IP telephone h323 & SIP

Radius client and server:

tcp/udp 1812 \* tcp/udp 1813 \*

Maby not necessary ports below

tcp/udp 1645 tcp/udp 1646 udp 1650 udp 1651

h323 protocol family

tcp/udp 1717 - 1722 \* tcp/udp 10000 - 17000 \*

Maybe not necessary ports below

tcp 1503 tcp 1502 tcp 1731 tcp 7000 tcp 5000 - 5003  
tcp/udp 20000 - 20999 tcp/udp 29999 - 30999



**The PROXY gnugk.ini file**

[Gatekeeper::Main]

Fourtytwo=42

TimeToLive=600

[RoutedMode]

GKRRouted=1

H245Routed=0

CallSignalPort=1721

SupportNATedEndpoints=1

[Proxy]

Enable=1

**InternalNetwork=192.168.1.0/24,172.16.0.0/24,192.168.0.0/255.255.255.0,127.0.0.0/8**

T120PortRange=40000-40999

RTPPortRange=50000-59999

ProxyForNAT=1

ProxyForSameNAT=0

[Endpoint]

**Gatekeeper=gkse1.calltoall.fi**

Type=Gateway

**H323ID=0123284932**

TimeToLive=900

RRQRetryInterval=10

ARQTimeout=2

[GkStatus::Auth]

rule=explicit

127.0.0.1=allow

Default=forbid

All **bold** marked parameters need to be configured to suit your local site.

**InternalNetwork**=<your local subnet IP address><number of bits in subnetmask>**Gatekeeper**=<our advised gatekeeper, look in contract>**H323ID**=<your h323ID or phonenumber>

look <http://www.gnugk.org> manual for more details.

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01900 Nurmijärvi, Finland  
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