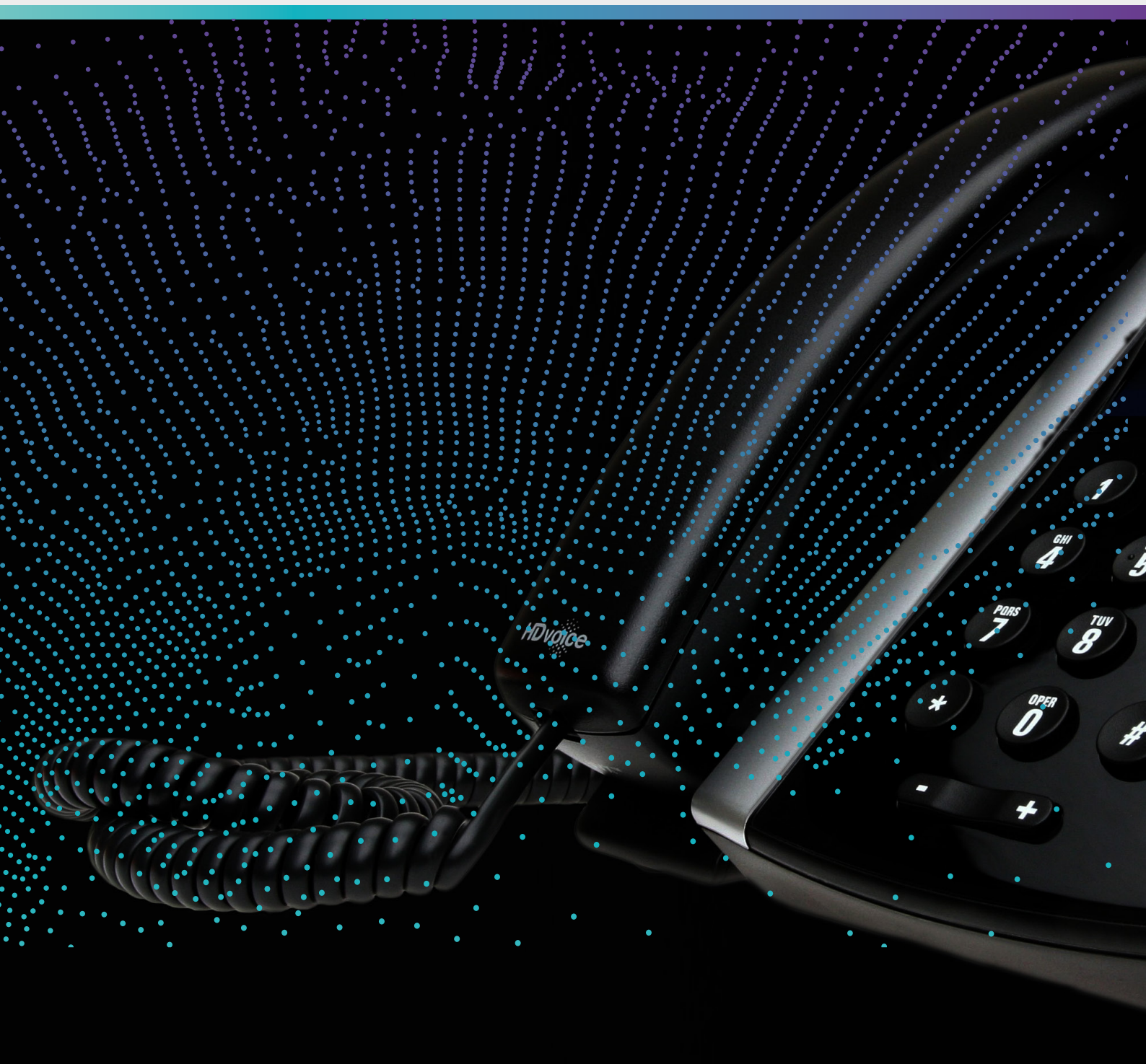


VOICE
MOBILE
DATA
IT



Focus On-Prem Network Configuration Guidelines

V1.0



The Complete Business Solution

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1.0 Introduction

While Focus Group always prefer to install our own dedicated on-net bandwidth and LAN for our VOIP products we recognise that some customers have existing data services they make like to use. The purpose of this document is to define the network requirements for Focus On-Prem equipment to be used over a public internet connection.

If a customer wishes to utilise another data provider or ISP, they need to ensure that the access can meet the following requirements and functionality. Failure to meet the access requirements below will result in quality and setup/support issues.

2.0 Public Access via Internet

2.1 Access Control

Customers must ensure that the following IP addresses and ports (both directions) are available and not blocked by firewalls. If these ports are not opened (i.e. a customer or network-based firewall is blocking them), or IP addresses allowed, calls will not function correctly.

Focus recommends that only trusted IPs are allowed to send and receive traffic via the customer-specific Gamma SBC endpoint where appropriate.

Domain Name	Ports	Forward to	Function
*Gamma SBC Endpoint	UDP: 5060	UCP Module	UCP Signalling
*Gamma SBC Endpoint	UDP 7000-7015, 7100-7115, 7300-7315, 10000-10223, 10000-10239	UCP Module	UCP Audio Ports
*Gamma SBC Endpoint	UDP 6000-6031, 8000-8031, 9000-9031	VOIM8 Module	VOIM8 Audio ports
*Gamma SBC Endpoint	UDP 6000-6095, 8000-8095, 9000-9095	VOIM24 Module	VOIM24 Audio ports
*Gamma SBC Endpoint	UDP 10000-10375	VCIM Module	VCIM Audio ports
Any	UDP 5588, 6254	UCP Module	UCP IPKTS Signalling
Any	TCP 7878, 8899	UCP Module	UCP XML & Presence port
Any	UDP 7016-7031, 7116-7131, 7316-7331	UCP Module	UCP Video Ports
Internal IP Range	TCP 9500 UDP 9501	N/A	Phone BLFs
Any	TCP 8081	UCP Module	Remote Mgmt
Any	TCP 8082-8084	VOIM 8/24 or VCIM	Remote Mgmt
Any	TCP 8085	UVM	Remote Mgmt

* Customer SBC endpoint IPs are supplied on handover

2.2 SIP ALG

Many of today's commercial routers implement SIP ALG (Application-level gateway), coming with this feature enabled by default. SIP ALG is intended to help solve NAT related problems when VOIP devices are sat behind a firewall. However many router

and firewall manufacturers ALG implementations are incorrect and can cause several issues with SIP.

If enabled SIP ALG can cause several issues including one-way audio, dropped calls, problems transferring calls, handset dropping registration and making or receiving internal calls.

The iPECS LIP handsets use a protocol called IPKTS rather than SIP. The iPECS LIP handsets are less susceptible to issues caused by SIP ALG than traditional SIP handsets. However, if you are experiencing any of the SIP ALG issues previously detailed we still recommend disabling SIP ALG.

Please note that if you are using any 3rd party SIP devices or Skype for business integration with an On-Prem system we recommend disabling SIP ALG.

Note: For instructions on disabling this feature please refer to the specific router user guide.

3.0 The LAN

3.1 Support for VLAN

The Ericsson-LG handsets support LLDP however this is switched off by default. To enable this feature you simply need to navigate to the option 9 in the Network Configuration section of the menu from the handset. To enable LLDP simply toggle LLDP-MED from OFF to ON.

If you wish to use this function on the customer's LAN then you should enable LLDP function on the customer's network equipment and disable any alternative options. For example, if you are using LLDP make sure CDP (Cisco Discovery Protocol) is disabled on the customer's network equipment.

The iPECS handsets also have the ability to set VLAN tags from the device:

VLAN Priority (LAN)

VLAN ID (LAN)

VLAN Priority (PC)

VLAN ID (PC)

3.2 Quality of Service

We strongly recommend that QoS is enabled on both LAN and WAN side of your network; to give priority to the voice packets over data packets.

QoS settings are as follows:

iPECS LIP handsets: EF (DSCP 46)