

## Vega 400: E1/T1 Digital Gateway

- ☑ Up to 120 VoIP Channels
- ☑ 4 Ports for E1/T1 Resilience
- ☑ Voice, FAX and Modem Support
- ☑ Flexible Call Routing for Fallback and Least Cost Routing
- ☑ Emergency PSTN Backup
- ☑ Interoperability with a Wide Range of Legacy and IP Equipment

### Service Provider Applications:

- » Customer premises gateway for SIP trunking
- » Low-density PSTN gateway
- » Survivability for IP phones

### Enterprise Applications:

- » Enterprise VoIP networking
- » PSTN trunking for IP-PBXs
- » Enterprise IP telephony gateway



## Overview

The Vega 400 VoIP gateway connects digital telephony equipment to IP networks. All Vega 400 gateways are supplied with four E1/T1 interfaces, regardless of the license purchased.

The unit is purchased pre-licensed to suit the initial requirements of the customer for the quantity of concurrent VoIP calls desired through to 120 VoIP channels. Future expansion is easily achieved in the field & can be provisioned by means of further licenses and expansion modules.

Each E1/T1 interface can be independently configured as network side or terminal side. The Vega 400 gateway can therefore be connected to a PBX & the PSTN simultaneously. This configuration provides:

- » No disruption to the configuration of existing equipment
- » Flexibility & choice for call routing

### Integrated Bypass Relays For Resiliency

The Vega 400 gateway incorporates an additional four RJ45 sockets and fails over to these during outages. This resource can be utilised to achieve hardwired connection from the PBX to the PSTN for instances when the Vega is installed between the two. Or alternatively to failover to a back-up Vega 400 & thereby providing dual redundancy.

### ENP – Enhanced Network Proxy (Optional)

This option enables continuity of service during WAN/SIP outage and may be configured to operate in a number of ways including:

- » Standalone proxy
- » IP device survivability
- » IP device call routing
- » Emergency call routing
- » SIP to SIP call routing

### Open, Non-Proprietary Interfaces

The Vega 400 gateway supports the following signalling schemes:

- » ETSI ISDN
- » NI1, NI2, AT&T 5ESS, DMS100
- » ISO QSIG Basic Call & QSIG feature transparency
- » Channel Associated Signalling (CAS)

All VegaStream gateways can support SIP, H.323 & T.38 FAX.

The Vega 400 gateway has proven interoperability with a wide range of existing telecommunications & VoIP equipment.

## Technical Specifications

### Interfaces

#### VoIP

- » SIP
- » H.323 version 4
- » Audio codecs:
  - » G.711 (a-law/ $\mu$ -law) (64 kbps)
  - » G.729a (8kbps)
  - » G.723.1 (5.3/6.4 kbps)
- » Clearmode
- » \*GSM
- » FAX Support – up to G3 FAX, using T.38
- » Modem Support – up to V.90, using G.711
- » Up to 120 VoIP channels

#### Telephony Interfaces

Primary Rate ISDN (User configurable NT/TE):

4 x E1

- » Euro-ISDN
- » ISO QSIG
- » VN4
- » QSIG Feature Transparency (H.323)
- » CAS R2MFC

4 x T1

- » NI1/NI2
- » AT&T 5ESS
- » DMS100
- » CAS (RBS)
  - E&M wink start
  - Loop start
  - Ground start
- » ISO QSIG
- » QSIG Feature Transparency (H.323)

4 x Bypass relays terminating onto 4 x RJ45 for resiliency

#### LAN Interfaces

- » 2 RJ-45s, 10 BaseT / 100 BaseTX, full / half duplex

### Features

#### Identification

- » Caller ID presentation
- » Caller ID screening allows connections to be accepted only from selected call sources
- » SIP Registration & Digest Authentication
- » H.323 gatekeeper registration

#### Operations, Maintenance & Billing

- » HTTP(S) web server
- » RADIUS Accounting & Login
- » Remote firmware upgrade
  - Auto code upgrade
  - Auto configuration upgrade
- » SNMP V1, V2 & V3
- » TFTP/FTP support
- » VT100 – RS232/Telnet/SSH

#### Routing & Numbering

- » Dial Planner – sophisticated call routing capabilities, standalone or gatekeeper/proxy integration
- » Direct Dialing In (DDI)
- » SIP registration to multiple proxies
- » NAT traversal

#### Call Quality

- » Adaptive jitter removal
- » Comfort noise generation
- » Silence suppression
- » 802.1p/Q VLAN tagging
- » Differentiated Services (DiffServ)
- » Type of Service (ToS)
- » QoS statistics reporting
- » Echo cancellation (G.168 up to 128ms)

#### Security & Encryption

- » \*Media – SRTP
- » \*SIP – TLS
- » Management – HTTPS, SSH Telnet
- » Configurable user login passwords
- » \*Enhanced Network Proxy (ENP)

### Hardware

#### Certification

EMC (Class B)	Safety	Telecoms (ISDN)
EN55022	EN60950	E1: TBR4
EN55024	IEC60950	T1: FCC Part 68
FCC Part 15	UL60950	T1: CS-03
AS/NZS3548	AS/NZS60950	
VCCI		

#### Environmental

- » 0° .. 40°C
- » 0% .. 90% humidity (non-condensing)

#### Indicators

LED:

- » Power
- » ISDN: NT/TE & Link up
- » LAN: speed / activity

#### Physical Dimensions

- » 437mm (17.2") x 43mm (1.7") x 275mm (10.8") width/height/depth
- » Weight: 6.5kgs
- » Rackmount brackets supplied 483mm (19") 1

#### Power

- » 100..240 VAC, 47..63 Hz, 1..0.5 A
- » -48V DC also available, 1.2A (Max)

#### Program Storage

- » Code & configuration data are stored in FLASH & executed from RAM

\* Optional

In an effort to continuously improve our products Sangoma reserves the right to modify features, design or specifications at any time without prior notice or obligation.