KHOMP

Converged Platform for Telephony Systems

Main Features

- Server with integrated telephony interfaces

- Three slots for combining different telephony interfaces: E1/T1, GSM, FXS, and FXO

- 1U cabinet for 19-inch rack mounting

Applications

- IP PBX Installation

- Installation of voice gateway with telephony interfaces

- Installation of recording systems

- Installation of IVR or ACD systems

Overview

    The EBS Server Modular was designed to enable you to create your own product for the small and medium-sized telephony solutions market. The EBS Server Modular is an appliance that includes a server with an exclusive processor dedicated to running your application and it allows you to integrate different telephony interfaces: E1/T1, GSM, FXS, and FXO.

    Its processors are dedicated to executing critical telephony tasks, as well as hardware echo cancellation, with no impact to the processing of the installed application.

    It comes in a compact 1U cabinet that can be installed in a 19-inch rack, with a clean design and an excellent cost-benefit ratio.

Possible combinations

    The EBS Server Modular has three slots for combining different telephony interfaces that may be required for your application, as long as it does not exceed 120 channels.

    The available modules are:
- 1x E1/T1 (30 channels)
- 2x E1/T1 (60 channels)
- 4x FXO (4 channels)
- 8x FXS (8 channels)
- 1x or 2x GSM (1 or 2 channels)
- 1x or 2x GSM H (1 or 2 channels)

Technical specifications

Server Hardware
- IPX4020 motherboard
- Integrated Intel Celeron Dual Core J1800 2.41 GHz 64-bit
- 2 GB DDR3 RAM Memory (expandable to 8 GB)
- 1x SSD 2.5" 120 GB (supports up to 2x 2.5" SATA disks)
- 5x RJ45 gigabit Ethernet 10/100/1000 Mbps
- 1x VGA port
- 3x USB 2.0 ports

Telephony modules E1/T1
- 1 or 2 links per module
- ISDN or R2 signaling (R2 only for E1/T1)
- Connector options:
  - Coaxial BNC, electrical resistance: 75 Ohms
  - RJ45, electrical resistance: 120 Ohms
- Clock setting
- Supports error checking method (CRC-4)
- Channel allocation algorithm selection (first free or balanced channel)
- Channel allocation sorting
- ISDN and R2 signaling advanced settings
- Collect call blocking through double answering in R2 signaling
- Collect call blocking through signaling in ISDN
- Supports up to four links when used only for E1/T1

GSM
- 1 or 2 channels per module.
- Supports SIM cards from different carriers in the same module
- Available band:
  - Quad-band 2G: 850/900/1800/1900 MHz
  - Penta-band 3G (available on the H model): 850/900/1700/1900/2100 MHz with fallback to 2G quad-band
- SIM Card size: mini SIM (2FF)
- SMS receipt, confirmation, and error notifications
- Cyclic allocation of GSM channels

FXO
- 4 channels per module
- 4x RJ11
- Minimum ring sensor: 13.5 Vrms @ 13–68 Hz
- Caller ID Detection
- Line impedance
- Collect call blocking

FXS
- 8 channels per module
- 2x RJ45: 4x FXS channels per connector
- Ring voltage 50–70 Vpp/25 Hz
- Extension numbering plan
- Dialing time-out setup
- End-of-dial marker
- Known numbers registering (Dial Plan)
- Ring cadence configuration Distinctive ring
- Internal and external ring tone setting
- Caller ID generation through DTMF or FSK
- Flash validation time
- Operations available at extensions:
  - Call on-hold
  - Assisted transfer
  - Blind transfer
  - Alternate Call Answering

Telephony features
- Three slots for combining E1/T1, GSM, FXS, and FXO interfaces
- Up to four E1/T1 links per product (when using only E1/T1)
- DSP: dedicated processors for running telephony tasks
- DTMF suppression
- Supports fax T.38 and pass-through
- Manual and automatic volume control (AGC)
- Hardware Echo Cancellation
  - Up to 64 ms (512 TAPS)
  - Convergence and automatic delay adjustment during calls
  - Compatible with ITU-T G.165 and G.168 norms (200 and 2002)

Call signaling and handling

- Detection of collect calls through recognition of tones, signaling or double answering
- Call progress for the generation of call control events in FXO interfaces and PBX protocols
- Classification of call answering (Call Analyzer)

Compatibility

- Windows
- Linux (kernel version 3.10 or higher)
- FreeBSD**
- pfSense**

** *Does not support use of the display*

Optional Items*

- SSSD 120 GB; 2.5"
- HD 500 GB; 2.5"
- 4 GB or 8 GB DDR3 RAM memory
- Redundant power supply -48 VDC
- 16x2 programmable alphanumeric front display for custom application development

* *Optional items are available at an additional cost.*

Physical/Environmental

- Power supply:
  - Input: 100–240 VAC, 50/60 Hz
  - Maximum power consumption: 150 W
- Redundant power supply (optional):
  - Input: -48 VDC
  - Maximum power consumption: 200 W
- Dimensions: 438x380x45 mm
- Transport box dimensions: 580x480x90 mm
- Gross weight: 7.4 kg
- Net weight: 6kg
- Standard 1U Module for 19-inch racks

Warranties and Certifications

- Appliance warranty (legal + Khomp warranty): 1 year
  - Legal warranty: 90 days
  - Khomp warranty: 9 months
- Telephony modules warranty: 3 years
  - Legal warranty: 90 days
  - Khomp warranty: 2 years and 9 months
- Anatel (Brazilian National Telecommunications Agency)
- Certification ISO 9001 certified industry

Product Images

Subtitle: *Rear view without interfaces allocated in the slots.*

Subtitle: *Rear view with 2 E1 Links (Slot1), 8 FXS (Slot 2) and 2 GSM (Slot 3).*

Subtitle: *Rear view with 4 FXO (Slot1), 8 FXS (Slot 2) and 2 GSM (Slot 3).*

Application Model