

Asterisk⁴ embedded Vdex-40 hybrid phone system

Vdex is a hybrid PBX phone system interoperating with the telephone and Internet networks to offer the best of both. Operating a modified version of popular Asterisk⁴ software, Vdex provides both PBX and advanced voice over Internet (VoIP) functionality. Vdex does not require Internet connection. If the Internet "goes down" Vdex still performs as a PBX and messaging system, placing and receiving calls to and from the telephone network. When connected to the Internet, Vdex is additionally a VoIP gateway providing access to lower-cost and free calls, call routing over the Internet to remote phones, offices and others connected to the Internet anywhere in the world.



Vdex-40 by technoCo

Select Features and Benefits

Separate Voice & Data Processors

Vdex incorporates multiple processors separating much of the voice and data traffic. This maximizes voice quality even when there is heavy data traffic.

Hardware Voice Compression & Echo Cancellation

Vdex also includes one or more Digital Signal Processors (additional to the above) dedicated to compressing voice (so voice uses less valuable Internet bandwidth). The DSPs also remove any echo that sometimes can be heard when VoIP systems connect to the telecom line.

Automated Call Attendant

Each call is automatically answered using a greeting or spoken directory you define and record. For example, callers may hear: "to speak to our sales department, push 1, for accounts push 2...." or, "if you wish to be connected to John Smith, push 1, for Sally Brown, push 2". The call is then forwarded to an extension according to options you define and the caller selects.

Answer each incoming line differently

You may configure each incoming phone line to be answered differently. For example, callers on your home phone line may hear "High, thanks for calling John & Betty. We're not here so leave a message for John by pushing 1 or Betty by pushing 2". Alternatively, callers on your home office line may hear "Hello, thank you for calling JB Inc, for sales push 1, for accounts push 2...." (requires installer configuration).

Conferences

Vdex supports conferencing for up to 8 participants. Unlike some conference services Vdex supports transcoding, e.g. participants can be using different voice CODECS and still join in.

Voice Mail

Callers may leave a voice message when extensions are not answered. A unique voice-mail greeting may be recorded for each extension. For example, "Our accounts team is currently unavailable. Please leave your name and ..." or "Hi, you've reached Sally. I'll be back at five o'clock so call again then or leave a message". Vdex can even email you the recorded message.

Interactive Voice Response (IVR)

Create your own interactive voice response and sophisticated message system. Purchase an option to conduct voice surveys of your callers.

Asterisk⁴ PBX Application

Vdex uses a subset of the well-known and established Asterisk PBX program which has been modified, enhanced and hardened by Team TechnoCo.

Forward Calls When Busy or Away

Vdex can automatically forward calls to your extension to your mobile, other extensions or your personalized voice mailbox when you are away or not available.

Least Cost Routing of Your Phone Calls

Vdex can be programmed to automatically route calls so as to reduce your call costs. For example, international calls may be routed over the Internet; local calls may be routed via the telephone network (required Internet telephony account).

Calls With Other SIP VoIP Users Can be Free of Telco Phone Call Costs

Calls to your other offices, staff, other Vdex users and virtually any SIP compliant phone or PBX connected to the Internet may be routed over the Internet and be free of traditional telephone call costs.

Use Your Office Phone Line From Home, or Virtually Anywhere.

Make telephone calls using your office telephone line by using a SIP-based telephone which may be located virtually anywhere Internet connection is available – great for allocating work calls made at home to the work phone bill, or taking work calls while at home. Alternatively, use your mobile or a standard phone to call into your office whereby Vdex can redirect your call out through a second telephone line or out over the Internet.

Configure and manage via Druid browser interface

Configure and manage Vdex via a special Vdex version of the respected Druid graphical user interface by Voiceroute. This version has been optimized by Voiceroute for peak performance as an embedded application running inside Vdex. Druid has also been hardened over a period of 18 months by Team TechnoCo. Vdex can be configured locally over the LAN and remotely over the Internet.



Vdex-40 Specifications

PBX Functionality

- Multiple processors separate voice from data & are managed independently
- Hardware echo cancellation
- Hardware voice CODECS
- Conferencing, including mixed CODECS (transcoding)
- Embedded system: no spinning disk drive or noisy power supply fan
- Automated Attendant
- Configurable IVR
- Multiple, nested IVR support
- Answer call and route caller to requested extension
- Call Forward on Busy, No Answer
- Call Hold, Park and Transfer
- Call Routing – least cost etc
- Caller ID (not all countries)
- Call logging/statistics
- Interactive Voice Response (IVR)
- Local and Remote SIP Extensions
- Memory: On-board Flash
- Remote Call Pickup
- Remote Office Support
- Telephone extensions: SIP (digital)
- Time and Date stamping
- Voicemail save to internal flash memory
- Voicemail to email
- Local & remote configuration via browser

Firmware

- Asterisk⁴, other GPL, Druid and other

Voice Codecs & Functions

- G.711, G.723.1, G.726, G.729a/b
- G.168 echo cancellation

Processors

- ⁴ARM processors x 2
- DSP: one or more proprietary DSPs

Ports

- LAN port: 1 ethernet 10/100BASE T port, RJ45 socket
- Telco: 4 x FXO (telco line ports)

Capacity – Voice

- Telephone extensions SIP (using same Codec): typical 36+
- Simultaneous G723.1/G726/G729ab PBX Codecs: 16
- Voice mail accounts: typical 36+; 9 to 45 hours, codec dependant
- Telecom line ports (FXO): 4
- SIP Service Providers: typical but not limited to 6

Internet & Network

- Asterisk SIP Components LAN side
- WEB server
- Mail user agent to send voicemail messages

Signalling – Analogue

- Loop start
- FSK Caller ID (not supporting all countries)

Signalling, Voice – Packetised

- Asterisk SIP Components on the LAN side
- IAX^{2,4} (G.711 only)

Management

- Configuration and management via optimised and hardened Druid browser interface
- Password protected; accessible from LAN
- Segmented storage of configuration & backup to LAN
- Firmware upgrade via LAN
- Reset: software via LAN or fitted momentary switch

Ports – Additional

- 1 x Reset Momentary Switch
- 1 x low volt power supply

Memory³

- 1GB NAND Flash, 128MB SDRAM and 8MB NOR Flash

SUMMARY

Feature	Vdex-40	Feature	Vdex-40
Two Processors Separate Voice & Data And Maximise Quality	✓	Telecom Lines – FXO Ports	4
Conferencing Including Transcoding: Mixed CODECS	✓	SIP Extensions (total where using same codec)	36+
Hardware Echo Cancellation - Superior To Software Solutions	✓	Simultaneous G.723.1/G726/G.729a/b PBX Codecs	16
Hardware Voice CODECs Provide Optimal Voice Compression	✓	Voicemail Accounts	36+
Config/Manage, Local+Remote via Druid Browser Interface	✓	Voicemail + Record + IVR Users Concurrent	12
Asterisk Subset, Modified and Hardened by TechnoCo	✓	SIP Provider Accounts – Typically But Not Limited To	6
Voicemail Notification & Messages Sent via Email	✓	Conferencing Capacity (shared with other resources)	8
Interactive Voice Response – Nested and User Configurable	✓	LAN (local area network) Ports	1
Memory – Flash, Non-volatile (no mechanical disk drive)	1 GB ³	Memory - SDRAM	128MB ³

DRUID browser interface by Voiceroute

for further inspiration or to contact us go to:

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