VINETIC®

Voice over IP Processor for Customer Premises Equipment

VINETIC®-CPE System Package V2.0

for

VINETIC®-2CPE (PEB 3332) Version 2.2 and SLIC-DC (PEF 4268) Version 1.2

Distribution with NDA only

Preface

This document gives an overview of the supported features, latest changes and open issues for the VINETIC®-CPE System Package V2.0. All features have been tested in a module evaluation.

The version number “V2.0” is the label for the feature set described in **Table 2**.

1 General Issues

This chapter enumerates the components which belong to the system package. These components are available via your local Infineon Technologies sales team or the VINETIC® Confidential Library within MyInfineon.

Table 1 gives an overview about the components of the VINETIC®-CPE System Package V2.0.

Table 1 Components of the VINETIC®-CPE System Package V2.0

Component Type	Component Description, Version	Comment
VINETIC®-2CPE (PEB 3332 F, PEB 3332 HT)	Version 2.2	
SLIC-DC (PEF 4268 T, PEF 4268 F)	Version 1.2	
VINETIC®-CPE Version 2.2 Device Driver	Release 1.2.1 Version 1.2.1.3[1)]	
TAPI Subsystem	Release 3.3.2 Version 3.3.2.5[1)]	
EDSP Firmware	2CPE1-RTP4 Rel. 0.17.32.V2.2	
VINETICOS	V1.2	
VINETIC® documentation		Refer to all documents from chapter **References**.

1) Packed into a self extracting archive named setup_<chipname>-<release>.exe for Windows or drv_<chipname>-<release>.sh for Linux.

2 Supported Features

Table 2 lists the available features of the VINETIC®-CPE System Package V2.0.

Abbreviations used in Table 2: S = supported; Y = yes; N = no

Note: Not all VINETIC® hardware and EDSP firmware features are supported by current VINETIC®-CPE Version 2.2 Device Driver release. In case of questions please contact your local Infineon Technologies sales team.

Table 2 Supported Features

Feature	S	Channels/ Resources	Restrictions/ Comments
Voice over IP			
RTP protocol support	Y	4	
RTCP support	Y		
G.711 incl. Appendix I (PLC) and Appendix II (VAD/CNG)	Y	4	PLC is sometimes called BFI
G.711 VAD/CNG with noise spectral information	Y	4	
G.726 incl. VAD/CNG and BFI error concealment (16, 24, 32, 40 kbit/s)	Y	4	G.726 Coder resources are overlaid with PCM resources
G.723.1 (5.3 kbit/s and 6.3 kbit/s)	Y	4	
G.729 Annex A (8 kbit/s) and Annex B	Y	4	
G.729 Annex E (11.8 kbit/s)	Y	4	
iLBC (13.3 kbit/s and 15.2 kbit/s)	Y	4	
Line Echo Cancellation exceeding G.165, G.168, G.168-2002: NLEC up to 16 ms tail length	Y	4	
Window based LEC	Y	4	
Voice Play Out (voice packet reordering, fixed and adaptive jitter buffer, clock synchronization)	Y	4	
Automatic Gain Control (AGC)	Y		
Connection Control Service			
3-Party conferencing via packet network	Y		
3-Party conferencing via PCM	Y		
3-Party conferencing via PCM and packet network	Y		
Hold remote VoIP party	N		Ioctl IFX_TAPI_ENC_HOLD

Table 2 Supported Features (cont'd)

Feature	S	Channels/ Resources	Restrictions/ Comments
Fax Relay			
T.38 support (V.21, V.27ter, V.29 and V.17)	Y	4	Fax Relay T.38 resources are overlaid with Coder resources.
Signaling			
Integrated DTMF generator	Y	4	
Integrated DTMF decoder	Y	4	
Integrated Caller ID (FSK) generator, according to Bell 202 and V.23	Y	4	
Caller ID receiver	Y	4	
Support for FXO-driver on analog and PCM interface	Y	n/a	
Caller ID (on hook = type 1) Telcordia/Bellcore ETSI CID between ring bursts (FSK and DTMF) ETSI prior to first ring burst (FSK and DTMF - with DTAS, LR or RP) SIN 227 (British Telecom) NTT (Japan)	Y	n/a	
Caller ID (off hook = type 2) Telcordia/Bellcore ETSI (FSK and DTMF) SIN 227 (British Telecom) NTT (Japan)	Y	n/a	
Message Waiting Indication with support of VMWI (FSK)	Y	n/a	By integrated Caller ID (FSK) generator
Call Progress Tone detection (CPT)	Y	4	
RFC2833 support for named DTMF events	Y	4	
Howler Tones (very high level on analog port)	N		
Universal Tone Generation in up- and downstream (same tones)	Y	4	One generator per signaling module
Universal Tone Generation in up- and downstream (different tones)	Y	8	Two generators per signaling module
CODEC/SLIC			
Worldwide programmability for AC transmission performance parameters (country specific programming, e.g. AC impedance matching, hybrid balance, transmit and receive gain, frequency response), specification in accordance with ITU-T Recommendation Q.552 **[14]** for interface Z and ETSI Standard ES 202 971 **[13]**	Y	n/a	
Integrated sinusoidal balanced ringing capability - software programmable up to 65 Vrms ringing voltage (depending on external components), frequency range between 15 and 75 Hz	Y	n/a	
Loop start signaling	Y	n/a	
Polarity reversal	Y	n/a	

Table 2 Supported Features (cont'd)

Feature	S	Channels/ Resources	Restrictions/ Comments
AC Ring Trip detection	Y	n/a	
Fast Ring Trip detection	Y		
Ringing with DC offset	Y	n/a	
On-hook transmission	Y	n/a	
PCM Interface G.711 A-law/µ-law	Y	8	
PCM Interface 16 bit linear	Y	8	
PCM Interface G.726 (16, 24, 32, 40 kbit/s)	Y	4	G.726 Coder resources are overlaid with PCM resources
Driver/API			
Linux	Y	n/a	
VxWorks	N	n/a	
Host Interface			
Parallel Host Interface: Intel/Motorola compatible	Y	n/a	
Serial Control Interface SCI (Infineon), SPI compatible	Y	n/a	SPI mode 3 is used (different to previous chip versions)
Big and little endian support	Y	n/a	
Miscellaneous			
Integrated Test and Diagnostic Functions for local loop monitoring according to GR-909	Y	n/a	
Wide band support (16 kHz transmission possible)	N	n/a	
Polling access (VxWorks)	N	n/a	

3 Changes

Table 3 shows the detailed changes between the new VINETIC®-CPE System Package and the previous one.

Table 3 Changes compared to System Package Release V1.1

Issue	Issue Type / Comment
Device Driver Issues	
Please refer to Table 4.	
VINETIC®-2CPE (PEB 3332) V2.2 Issues	
New chip version	
EDSP FW Issues	
WLEC	New Feature
MFTD replaces UTD and ATD	New Feature
2 UTG per channel	New Feature
VINETICOS Issues	
VINETIC-2CPE V2.2 officially added Documentation adapted (only documents that are related to VINETICOS available in GUI). Additional features for other VINETIC/Danube versions.	

Table 4 Changes between Release 1.2.1 and 1.1.17

Change	Change Type
Based on TAPI v3 technology	New Feature
Encoder Hold	New Feature
Linetype FXO (for Clare DAA)	New Feature
MFTD support	New Feature
2 UTGs per channel	New Feature
WLEC enabled	New Feature
Default initialisation, removed implicit data channel add to phone channels. *Note: ATTENTION - applications must call DataChAdd explicitly for CID, DTMF detection, voice coders etc.* drv_vinetic configure option --enable-obsolete-premapping (for backward compatibility)	Change
Default initialisation, LEC is not assigned/activated on analog lines. drv_tapi configure option --enable-obsolete-lec-activation (for backward compatibility)	Change
UDP redirection adapted to TAPI v3	Change
CID NTT standard: timing for Ringalert + Ring Pause needs to be configurable independently	Change
PCM channels 4 to 7 are accessible.	Bug Fix
GPIO release effects other GPIOs and sets callbacks to NULL.	Bug Fix

4 Open Issues

Table 5 contains open issues of the VINETIC®-CPE System V2.0.

Table 5 Open issues of the VINETIC®-CPE System Package

Description of Issues	Status
CPTD does not detect the predefined tone 26 (Ring Back) correctly.	Open
Not all combinations of composed tones are played out properly.	Open
Event IFX_TAPI_EVENT_FAXMODEM_HOLD does occur although not enabled with the ioctl IFX_TAPI_SIG_DETECT_ENABLE. It may then also appear when a decodable signal ends but there is still some signal the line.	Open
The pause time of simple tones in a composed tone must be unequal to zero, otherwise only the first simple tone is played out.	Open

References

[1] VINETIC®-CPE Product Brief

[2] VINETIC®-2CPE/-1CPE (PEB 3332/-3331) Version 2.2 Prel. Data Sheet Rev. 1.0, 2006-07-07

[3] VINETIC®-CPE Prel. User's Manual System Description Rev. 2.0, in preparation

[4] TAPI User's Manual Programmer's Reference Rev. 1.2, 2006-08-09

[5] VINETIC®-CPE Device Driver User's Manual Programmer's Reference Rev. 1.2, in preparation

[6] T.38 Fax Agent Release 1.2 User's Manual Programmer's Reference Rev. 1.0, 2006-08-16

[7] T.38 Protocol Stack Release 1.22 User's Manual Programmer's Reference Rev. 1.0, 2006-08-16

[8] T.38 Test Application Release 1.2 User's Manual Programmer's Reference Rev. 1.0, in preparation

[9] VINETIC® T.38 Fax Relay Package Release 1.5.2.3 Release Note Rev. 1.0, in preparation

[10] VINETIC®-2CPE/-1CPE (PEB/PEF 3332/-3331) Version 2.2 Hardware Design Guide Rev. 1.0, 2006-08-16

[11] SLIC-DC (PEF 4268) Version 1.2 Prel. Data Sheet Rev. 2.0, 2005-07-11

[12] VINETIC®-CPE System Errata Sheet Rev. 2.0, in preparation

Attention: Please refer to the latest revision of the documents.

Standards

[13] ETSI Standard ES 202 971 V1.2.1, (2006-01), Access and Terminals (AT); Public Switched Telephone Network (PSTN); Harmonized specification of physical and electrical characteristics of a 2-wire analogue interface for short line interface

[14] ITU-T Recommendation Q.552, (11/2001), Transmission characteristics at 2-wire analogue interfaces of digital exchanges