



## Application Briefs

# Zypad Wearable Computers & Voice Recognition Software

## Introduction

Wearable computers are the ideal solution for running voice enabled applications bringing the advantage of leaving the hands completely free. It has been proven that wearable computers using voice recognition instead of barcode ring scanners increase productivity of 10 to 20 %.

Eurotech has successfully experienced **vo-CE®** is the software developed by **Itworks** an Italian company located in ANCONA with distributors worldwide.

## The vo-CE® software platform

With vo-CE®, a WMS working with Zypad devices integrated in a wireless environment can be easily and quickly equipped with automatic speech recognition (ASR) and text to speech (TTS) engines.

vo-CE® is a multi-language software:

- Italian
- French
- English UK
- English USA
- German
- Dutch
- Portuguese
- Brazilian
- Russian
- Polish
- Swedish

are now available, but more than twenty foreign languages could be customized thanks to embedded Nuance speech engines. Nuance Communications is the leading provider of speech and imaging solutions for businesses and consumers around the world.

With hundreds of data collection devices in several industries and retail sectors, vo-CE® is nowadays one of voice-based software selected by main WMS providers or data collection systems manufacturers. vo-CE® customers are software houses which design and install warehouse/supply chain management systems offering the plus of voice technology. vo-CE® was developed for a direct integration into WMS or ERP.



The software consists of the following elements:

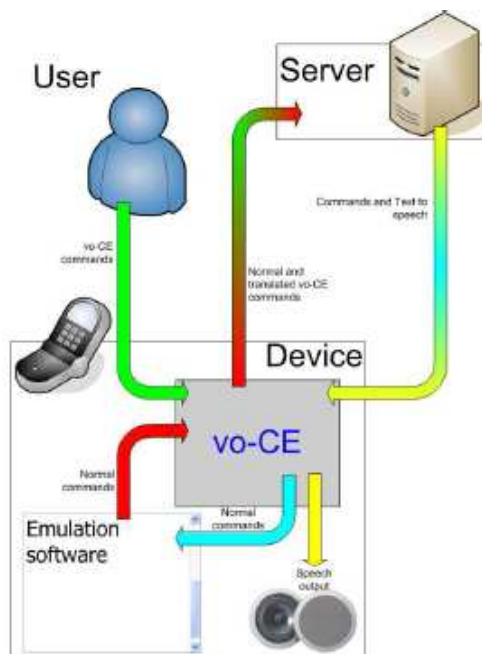
**vo-CE® MANAGER:** PC software for the starting configuration and user profiles management



**vo-CE®:** multi-thread application running on the mobile device.

vo-CE® is a “speaker independent” software, it means that it is able to recognize the voice commands of each users without association between the speaker and the speech engine. Since some particular logistics environments need a preliminary software customization to help the speaker recognition engine to do its best, through vo-CE® manager it is possible to create customized profiles for non-native language speakers.

### How vo-CE® works



#### Terminal emulation mode

vo-CE® is a multi-thread software running on the mobile device. The first thread has the task to create a bridge from the emulation software to the server using two sockets: the first one from the emulation software to vo-CE® (device IP, local port), the second from vo-CE® to the server (server IP, remote port). When the connections are on, vo-CE® starts analyzing all data streaming between the server and the emulation software, looking for vo-CE® TAGs.

vo-CE® TAGs are common strings between two sequences of characters. They contain text to speech or setting commands (e.g. speech rate level, speech volume, tone,...). The second thread recognizes vocal commands, encoding and sending them to the keyboard buffer.

#### vo-CE® SDK

vo-CE® is available even in the .dll version, which allows ISV's to include it into their own client running in the mobile computer, getting in very few time a WMS voice ready client. ISV's can decide if keeping working with on-line philosophy (continuous exchange of data between client and server) or with the off-line philosophy (single batch of picking, processed by the mobile computer without continuous interaction with the server).

The off-line method can be very useful for poor Wi-Fi coverage or very slow servers.

The vo-CE .dll includes two special dll's (custom.dll and device.dll) to develop custom general or custom device depending functions.

### vo-CE® FEATURES

- VT100/220, 3270/5250, HTTP and custom TCP/IP protocols
- Multi language software
- Speech independent or speech dependent
- Wi-Fi / Batch
- Quick WMS integration
- Microsoft Windows CE 4.2 and Windows Mobile 2003 or higher

### BENEFITS

- Good value for price
- Low impact on WMS architecture
- Manage many different user's profiles
- Enhance interaction between operators and host systems
- Nuance speech engines (TTS and ASR) embedded

### Headset specifications for Zypad wearable computers


Plantronics Supra Plus H251 with adapter kit for ZYPAD wearable computer (cable + protective cover)


## About Itworks

**Itworks** is an engineering company specialized in system integration for large ICT projects. Thanks to its skills in software development, Itworks realized vo-CE®, a software platform which allows mobile computers to run voice based applications.

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