

WHITE PAPER

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**Wavelink Corporation**  
**Boost Business Efficiency and**  
**Extend the Value of Applications**  
**with Cost-Effective, Best-in-Class**  
**Voice Functionality**

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## INTRODUCTION

When voice is utilized for data input and issuing directions in enterprise applications such as picking, the need for workers to enter data via the keyboard into the mobile computer is eliminated, which enables hands-free operation. The ability to combine voice with other types of data entry, such as bar code scanning, provides a further crosscheck to ensure that tasks are accurately completed. This results in an improvement in worker productivity and safety, as well as a reduction in errors.

## **THE OPPORTUNITY: EXTENDING THE VALUE OF ENTERPRISE APPLICATIONS WITH VOICE**

All over the world, companies are utilizing mobility to extend business applications whenever and wherever workers are, condensing cycle times and automating the collection of information to improve productivity and error-proof data. Since legacy host-based applications are often the foundation of many core business processes, they are frequently among the first applications mobilized, typically via terminal emulation (TE), with many companies choosing to utilize Wavelink Terminal Emulation. Utilized by enterprises all around the globe, Wavelink TE extends legacy applications that reside on host systems to mobile computers. For example, manufacturers and distributors leverage Wavelink TE to provide mobile access to picking and replenishment applications in order to streamline workflows, improve worker efficiency and increase the overall throughput in the warehouse.

Today's mobile data applications are prime candidates for voice integration. The addition of voice can provide two key benefits. The use of voice for data input, as well as for issuing directions, can eliminate the need for workers to key information into the mobile computer, enabling hands-free and eyes-free operation that improves productivity and safety. In addition, the ability to combine voice with other types of data entry, such as bar code scanning, provides a further crosscheck to error-proof data. For example, after workers in a warehouse have fulfilled a voice instruction to select a specific item, a quick scan of the bar code or RFID tag on that item provides valuable verification that the right item was picked. The result is a high level of accuracy in order fulfillment, improving customer service and retention levels, as well as eliminating costly mistakes.

In spite of the many benefits and the fact that many mobile devices are already voice-capable, enterprises have been slow to adopt voice-directed applications due to a variety of issues:

- Many available voice-directed applications were based on custom and proprietary technologies, a poor fit in today's business world where best-in-class business practices call for standards-based technology for ease of integration and scalability.
- The costs to incorporate voice were very high, often involving:
  - Replacement of terminal emulation applications

- New voice application
- New voice server
- Additional RF (radio frequency) network overhead
- Upgrade or replacement of existing back-end application
- Integration of the new voice application with the existing back-end application
- The recurring costs associated with management of the new voice infrastructure, including the voice application, voice server and voice profiles
- The time and cost required for IT resources to manage the lengthy design and deployment phases

The high cost and complexity of these projects formed overwhelming barriers, preventing the majority of enterprises from reaping the benefits that voice-directed applications deliver, and from fully utilizing the voice features of existing mobile computers. The inability to easily enrich mobile legacy applications with the most current mobile technologies potentially marks the end of the lifecycle for these large business investments. They are no longer extensible.

## THE SOLUTION: WAVELINK SPEAKEASY™

The Wavelink Speakeasy platform<sup>1</sup> provides a unique and revolutionary voice-enabled emulation architecture that allows for quick and cost-effective integration of voice into legacy applications. Easily integrate voice without any changes to your existing system<sup>2</sup>: no need to add a voice server, modify or replace host applications, and there is no ongoing management of new servers or voice profiles. The integration of voice requires only the creation of a script that resides on a voice-enabled mobile computer with Wavelink's Terminal Emulation client and the Wavelink Speakeasy plug-in. The script defines which fields in the database will accept voice input, and the allowable input, such as 'yes', 'no', or a range of numbers. Additionally, administrators can create, edit and manage scripts through an easy to use graphical user interface (GUI).

In record time and at a record low cost, enterprises can enable hands-free voice-driven applications that significantly improve productivity and throughput in operations such as picking and put-away. Traditionally, workers were required to utilize either a clipboard with paper documents and/or a keypad on the mobile computer to interface with the application, pressing a series of keys or entering information on the keypad in order to obtain the next instruction. The ability to distribute those instructions via voice eliminates that requirement. Workers are free to focus on picking items instead of pressing keys or writing and reviewing their entries on a clipboard, enabling the same workforce to execute more work orders per day with greater accuracy. Additionally, those companies still using paper and clipboards will see further savings by moving to voice picking, by reducing waste that affects the environment and can cost thousands in paper use.

### ***What is Speakeasy?***

This voice enabling plug-in for Wavelink's Terminal Emulation (TE) is a software-only solution utilized by enterprises all around the globe to extend legacy applications that reside on host systems to mobile computers. Speakeasy allows enterprises to add voice to legacy applications

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<sup>1</sup> For the purposes of this paper, we will be looking at Wavelink Speakeasy Terminal Emulation. Wavelink Voice offers a variety of Voice solutions. For more information, please visit [www.wavelink.com](http://www.wavelink.com).

<sup>2</sup> Existing mobile computers must meet minimum mobile computer specifications, including 128MB RAM

as easily as Wavelink's TE allows the extension of legacy applications to mobile computers, in weeks instead of months.

### ***Why choose Speakeasy?***

Wavelink's best in class Terminal Emulation is well proven and time tested, with over two and a half million users worldwide. Speakeasy follows suit, leveraging world-renowned text-to-speech and speech-to-text engines from Nuance®. These high quality engines are designed specifically for the mobile environment, offering a very small footprint that enables client-side processing with minimal power usage. The most critical aspect of any voice-directed application is the quality of the voice-recognition function and the actual voice. When you choose Speakeasy, you choose the same voice engines that are depended on every minute of the day. This includes many business critical applications, including automated directory, operator assistance, auto attendant, call-center, self-service applications for account access and payments, and interactive integrated automobile navigation systems that deliver real-time directions and more.

### **Speakeasy benefits include:**

- **100% client-side processing**  
Speakeasy offers 100% client-side voice processing. The need to transmit information related to voice processing over the wireless LAN (WLAN) is eliminated, dramatically reducing network traffic.
- **Session persistence**  
Speakeasy leverages Wavelink TE session persistence. Wavelink is the pioneer of server session persistence technology, offering proven solutions you can count on for demanding environments and applications. In business and in use around the world since 1992, Wavelink provides dependable mainframe application access in challenging RF environments or for sensitive applications where constant connectivity is critical.
- **Simple and rapid deployment: write once, deploy many**  
A single script is written and then wirelessly deployed to mobile devices, minimizing the development and implementation time.
- **No server revisions required**  
Speakeasy is a unique patent-pending voice enabling technology for terminal emulation implemented through scripting on the mobile computer itself. Other voice solutions

require a new, dedicated server that hosts the new voice application logic and/or revisions to the legacy host application. Wavelink Speakeasy delivers the benefits of voice without the complication, invasiveness and expense of server-side solutions.

- **Speaker independent**

Many voice solutions rely upon user-specific voice profiles. Profiles require the end user to 'train' the system by creating their unique voice profile. This profile must then be loaded to the mobile computer upon login and managed going forward. Speakeasy's powerful and proven speech recognition engine eliminates the need for voice profiles.

- **Protects network bandwidth**

Many voice-enabled solutions add traffic to the enterprise wireless network. Speakeasy eliminates this negative impact on network bandwidth since 100% of the voice processing occurs on the mobile computer. As a result, the potential need to expand the network infrastructure to accommodate the integration of voice into legacy applications is eliminated.

- **Internationalization**

Speakeasy offers native language support for worldwide deployments, including: English, Spanish, French, Italian, German, Czech, and many more. In addition, Speakeasy offers support for regional dialects for major languages such as U.S. English, U.K. English and Australian English, U.S Spanish and European Spanish, or European French and Canadian French. In addition, language support is agnostic to the mobile computer. Speakeasy can provide speech-to-text and text-to-speech functionality for virtually any language, even if the mobile computer does not support the display of the language. For an updated list of languages supported, please visit the Wavelink website at [www.wavelink.com](http://www.wavelink.com).

### ***What does the Speakeasy solution require?***

*Wavelink Speakeasy requires:*

- A voice-enabled mobile computer with Wavelink Terminal Emulation software and Speakeasy (mobile computers must also meet the application requirements, for example, processor and memory).
- A high quality microphone and headset

## THE BENEFITS OF EMPOWERING YOUR APPLICATIONS WITH VOICE

Voice-enabled emulation delivers a range of benefits for the enterprise, improving workforce utilization and safety, data accuracy and the value of new, as well as existing, technology investments.

### ***Increased application flexibility***

The ability to accept voice in addition to bar code scanning, RFID and keyboard entry expands the flexibility of application design. Enterprises are free to select the type of data input that will enable the realization of workflows that maximize productivity. For example, the input of longer identifiers, such as serial numbers, is accomplished more efficiently with bar code scanning. Alternatively, speech-to-text input is a much more efficient means for workers to enter the quantity of items they have selected to fulfill an order.

In addition to streamlining processes for your workers, Speakeasy can also help improve the retail customer experience. With speech-to-text, customers can speak their questions into a retail kiosk to check price, inventory and more, and text-to-speech can provide instant audible answers.

### ***Increased productivity***

Hands-free operation allows for simultaneous action that increases productivity, such as the handling of product while receiving and/or providing information to and from the application in voice form. The voice entry is confirmed by the system, eliminating the need to look at the screen to verify data, further reducing cycle times and improving worker efficiency.

### ***Increased accuracy***

The use of voice helps reduce data entry errors. A hands-free wearable scanner enables workers to scan items as they are selected, in addition to speaking information about quantity or item descriptors. With Speakeasy, you can take immediate action if there is a stock discrepancy,

## QUICK VOICE FACTS

- *Increased accuracy – with 99+% accuracy users eliminate re-keying entries*
- *Increased productivity – customers see a minimum of 12 -15% increase*
- *Increased safety – hands-free, eyes-free*
- *Minimal training required – training time is reduced by a minimum of 50% with a highly intuitive, easy-to-use application with verbal prompts*
- *Real-time feedback*
- *Low cost for licensing and maintenance – see ROI in 12 months*

allowing for fast replenishment if applicable and improved stock records. By updating your stock in real-time you are optimizing the use of warehouse workers by eliminating the waiting time due to empty picking or the need to re-pick. The ability to combine available mobile computing data-entry options (voice and bar code scanning) significantly improves data accuracy and productivity.

***Ease of use***

The ability to issue verbal instructions and allow data input through speech enables the creation of highly intuitive and easy-to-use applications that require minimal, if any, training.

***Increased safety***

Voice-driven applications substantially reduce the need for workers to look at the display on the mobile computer. As a result, users driving vehicles (such as forklifts) maintain awareness of their environment.

***Cost effective***

When Speakeasy's low licensing price, lack of server-side hardware, quick installation and low maintenance price are combined with the benefits of voice, organizations see a rapid return on their investment. In addition to experiencing productivity cost savings through an average improvement rate of 15%, organizations that are using paper documents to track their inventory and picking will save money by going paperless.

Unlike other voice-picking products that require voice specific mobile devices, voice application and profile servers, and the replacement and integration of existing back-end applications, Wavelink Speakeasy requires none of these costly additions. With voice integration accomplished through the Wavelink scripting engine on the device, the solution works on standard hardware, which allows organizations to eliminate the high cost of maintaining other devices and additional fees to install voice-picking. All of these benefits mean that companies can spend less in order to see an immediate return on their small investment.

## SUMMARY

By leveraging your voice-enabled mobile computers/devices, Wavelink Speakeasy allows enterprises to integrate voice, one of the most current mobile functions, into legacy applications without a long and costly implementation cycle —weeks instead of months. Client-side processing reduces the impact on network capacity, reducing the potential need to augment network infrastructure to carry voice-related traffic.

Through Wavelink's Terminal Emulation with the Speakeasy plug-in, enterprises are able to more fully utilize legacy applications as well as the functionality of their existing mobile computers/devices, improving the return on investment (ROI) and reducing the total cost of ownership (TCO) for both of these existing technology investments. The resulting workflow enhancements improve the efficiency and safety of your workforce, overall throughput and the accuracy of your business data.

For more information on [Wavelink](#) Speakeasy please visit [www.wavelink.com/products/speakeasy.aspx](http://www.wavelink.com/products/speakeasy.aspx) or for more information on Wavelink Terminal Emulation please visit [www.wavelink.com/products/emulators.aspx](http://www.wavelink.com/products/emulators.aspx). Alternatively, call 1-888-697-WAVE (9283) in the USA and Canada or +800 WAVELINK (9283-5465) outside the USA and Canada.



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