



DRAGON NATURALLY SPEAKING PROFESSIONAL

Speech Recognition Software for the Financial Services Industry

INTRODUCTION

Today's investment advisors operate in a uniquely challenging business environment. In addition to facing growing compliance requirements and regulatory demands, they are confronted with the rising cost of doing business in an increasingly competitive industry.

Effective compliance is critical to an investment advisor's practice. It not only facilitates a productive, efficient, and transparent client-advisor relationship, but it also mitigates legal and regulatory issues that could lead to significant fines and/or costly litigation. Such consequences can impede business, damage advisors' reputations, and compromise established corporate brands.

How can investment advisors meet growing compliance demands while maintaining high productivity and controlling costs? More and more investment advisors are leveraging speech recognition to

- dramatically reduce the time it takes to document client interactions in their client relationship management (CRM) systems
- improve detail and accuracy of meeting notes while capturing them while they are still fresh in their minds
- produce other client communications like email, written correspondence, agreements, plans, and newsletters
- maintain documentation to meet compliance requirements and minimize risk of litigation

Investment and financial planning firms can deploy speech solutions broadly to speed the documentation process and boost individual advisor productivity without changing current business processes, existing CRM systems, or deployed information systems.

This white paper discusses how investment firms are using speech recognition solutions, like Dragon® NaturallySpeaking® Professional from Nuance Communications, to minimize compliance risk, drive higher productivity, and control costs for bottom-line results.

HOW SPEECH RECOGNITION WORKS

With speech recognition, investment advisors can turn their voices into text with up to 99 percent accuracy using virtually any Windows-based application — including Microsoft® Word, Excel®, PowerPoint®, Outlook®, and popular contact management systems like Salesforce, ACT!, Siebel, and Goldmine. The transcribed text appears on the screen three times faster than most people type, dramatically speeding the creation of meeting notes, confirmations, and emails.

In addition, voice commands allow advisors to control applications and navigate menus or dialog boxes by voice. More advanced speech recognition systems also include custom voice commands that can be created to automate routine tasks, instantly populate fields within template documents, and further streamline the overall compliance documentation process.

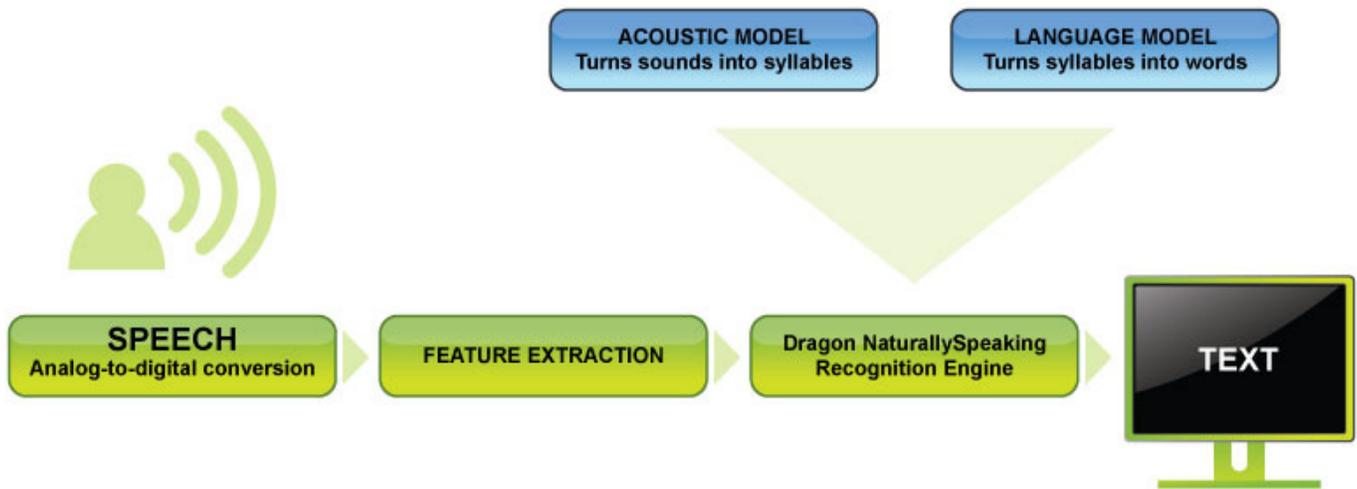


Figure 1: How Speech Recognition Works – Speech recognition uses the human voice as the main interface between the user and the computer.

How does it work? Speech recognition software uses the human voice as the main interface between the user and the computer. (See Figure 1) Speaker-dependent speech recognition systems like Dragon NaturallySpeaking Professional create a unique voice profile for each user of the system that contains information about the unique characteristics of each person’s voice. This profile also includes a customized set of words, known as a vocabulary, and user-specific information including software settings and personalized voice commands.

When users create their profiles, Dragon starts with general models of how the language is spoken, and adapts to how individuals speak and which words they use. This way, the software accommodates users with varying accents and speech patterns and allows users to dictate naturally.

Dragon starts with a standard vocabulary of more than 300,000 vocabulary entries, including many names of people, places, and institutions. The system also includes basic knowledge of capitalization and other standard typographical rules. But every investment firm — or individual advisor — uses specific names, terminology, acronyms, or other vocabulary unique to its specialty or client base. These unique terms are frequently used in emails, meeting records, confirmation notices, and other forms of documentation and correspondence.

To boost accuracy and further speed documentation, speech recognition software also allows investment advisors (or those who work for or with them, such as assistants or IT administrators) to:

- **Add new vocabulary entries** such as client names, acronyms, and financial terminology frequently used in their business
- **Delete entries** that could cause acoustic ambiguity (such as competing spellings like Schaeffer and Schafer)
- **Indicate precisely how items should be capitalized and formatted**, including alternate written forms for various contexts (such “Fig.” instead of “figure” when the word appears before a numeral)
- **Analyze** an individual’s written documents to adapt the user profile’s vocabulary based on writing style and words used

Dragon regularly refines the advisor’s profile and employs it to accurately determine the words or commands spoken and choose between words that sound alike — resulting in improved recognition accuracy over time.

MEET GROWING COMPLIANCE REQUIREMENTS

Investment management firms and independent investment advisors need to ensure ongoing compliance in a market characterized by rapid growth, changing risk profiles, and increasing regulations. Noncompliance with applicable laws or regulations could result in sanctions, including fines and censures, suspension or expulsion from a certain jurisdiction or market, revocation of licenses, or possible prosecution. In addition, noncompliance can adversely impact the reputation, prospects, revenues, and earnings of both the individual advisor and the larger investment management firm.

Depending on credentials, affiliations and total assets managed, investment advisors are subject to the rules of numerous government agencies and independent regulatory groups. In the US, these may include the Securities and Exchange Commission (SEC), the National Association of Securities Dealers (NASD), the Financial Industry Regulatory Authority (FINRA), a firm’s own compliance department, and/or state accounting boards and securities regulators. What’s more, given recent financial service industry scandals, regulatory scrutiny is only expected to increase. In fact, the recently passed Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 is projected to drive up the number of advisors under traditionally tougher state supervision by raising the assets threshold for federal regulation of financial advisors from \$30 million to \$100 million.

To meet compliance requirements and protect against litigation, investment advisors must carefully document all conversations with clients. Why? A note to file that is taken in the normal course of business may be introduced as evidence before the courts in the event that a transaction — or failure to execute a transaction — is disputed. Sending letters that confirm instructions from investors can also help advisors to avoid miscommunication and minimize risk.

Dragon provides a fast, efficient and cost-effective solution for creating the documentation required to meet ever-expanding compliance requirements, while enabling investment advisors to easily capture the detailed information needed to minimize risk of litigation and improve service to investors.

”In our work with financial advisors and brokers/dealers, we have found more and more people struggling to keep up with the amount of paperwork they must complete on a regular basis...No wonder advisors are spending time on compliance issues. Of course, if they are spending time on compliance issues, they are not meeting with a client — which means it is going to eat into production, sales, and the bottom line.

Katherine Vessenes
President, Vestment Advisors, Inc.

DICTATE YOUR WAY TO PRODUCTIVITY AND PROFITS

Dragon NaturallySpeaking Professional streamlines time-consuming data input and other administrative tasks by serving as a third input option to complement traditional keyboard entry and mouse clicks. Busy investment advisors — who are often compensated strictly on commission — can significantly boost productivity by entering notes and creating documentation and correspondence faster just by speaking. That way, they can spend more time on revenue-making activities like prospecting, client meetings, investment research, and transactions. And for advisors who work for a large investment firm, greater individual success means higher corporate profits.

The speed, accuracy, and ease of use of today's speech recognition systems deliver an efficient alternative to traditional approaches for document creation and information capture. Simply put, most people can talk faster than they can type. Speech recognition enables investment advisors to create input notes and create electronic documents at speeds of up to 160 words per minute — three times faster than typing. Dragon never makes a spelling mistake and recognizes a user's dictations with increasing accuracy over time.

Users just talk to their computers and their words instantly appear in the full Microsoft® Office® suite, as well as Microsoft Internet Explorer®, Corel® WordPerfect®, and virtually all other Windows-based applications, including most leading CRM systems.

BEYOND DICTATION

The benefits of speech recognition extend well beyond straight dictation, enabling investment advisors to accomplish countless routine tasks much more quickly and efficiently:

Navigate Applications by Voice

Dragon enables users to command and control the computer desktop by voice. Users simply speak standard commands that prompt the computer to perform an action. For example, a user could say, "Open Microsoft Word" and the PC launches the application, or "Set font size to 11" and the font size is automatically adjusted. Menu, sub-menu, and dialog box items (such as buttons and checkboxes) can be controlled hands-free. Users can edit and format their work; launch applications; switch between open windows; open, save, print, and close files; or cut-and-paste within or between documents — dramatically speeding up routine tasks on the PC.

Many applications can be more effective and easier to use when deployed in conjunction with Dragon. Searches, queries, and form-filling are all faster to perform by voice than by keyboarding. Document management, document assembly/automation, and CRM software programs are all highly conducive to control by speech. Tasks such as text and data entry can be completed by voice in most of the programs without any customization. Other functions can easily be performed using custom voice commands often referred to as "voice macros" (see below).

Managing Email

Since managing email takes up an increasing amount of everyone's workday, speech recognition software can be used to create, navigate, send, and respond to email by voice using popular programs like Microsoft Outlook® or Lotus Notes. What's more, Dragon NaturallySpeaking Professional contains text-to-speech technology that allows users to have the software read text aloud, which enables them to complete other tasks while listening to their email or documents.

Work on the Web by Voice

Dragon programs make it easier than ever for investment advisors to search the Web, access information, and navigate Web pages. This includes not only the public Internet, but also private Intranets and other HTML interfaces.

CONSOLIDATE MULTI-STEP PROCESSES INTO A SINGLE VOICE COMMAND

Dragon Voice Shortcuts

Dragon NaturallySpeaking Professional enables users to collapse multiple tasks into single voice commands. For example, using the Dragon Voice Shortcuts for Email feature, an investment advisor could simply say, "Send email to <contact name(s)>" and Dragon will launch his email program, create a new email, and put the name(s) he said into the "To:" box. (One can even say the name of a distribution list defined in Outlook, such as "New York staff.") Users can also search the Web with a simple voice command such as, "Search the Web for daily yield curves for zero-coupon bonds," or "Search maps for 1 Wayside Road, Burlington, Massachusetts." It's just as easy to find information on a user's desktop with a command such as, "Find email about Henry Anderson's GM stock purchase."

Boilerplate Commands

Investment advisors spend a considerable amount of time creating documents — many of which share standard elements. As a result, many find themselves entering the same information into these documents time and time again. Users can create text blocks — including commonly used phrases, paragraphs, and even graphics — and insert them into documents or emails using a single voice command for faster, easier documentation and correspondence. These custom commands can also contain "voice fields." In this way, a single voice command can create a complete "template" that can be completed by navigating through each field to fill in variable information (e.g., the name of a client or a standard disclaimer on an agreement).

Voice Macros to Perform Tasks

Repetitive tasks, such as CRM text entry, can be significantly accelerated by using speech. In many cases, users who are unfamiliar with complex software programs are more comfortable "telling" the computer what to do

Accelerate On-the-Job Productivity

Dragon provides dictation and workflow automation capabilities to help investment advisors complete routine administrative tasks quickly and efficiently. This enables them to spend more time on revenue-generating activities — without compromising compliance efforts.

- **Correct, revise and format text** using intuitive voice commands. Dragon automatically formats items such as prices, addresses, dates, phone/plate/part numbers, codes, units of measure, etc. Users have the ability to customize these formats to meet their unique preferences.
- **Dictate notes anytime, anywhere** using a handheld digital recorder -- while they are still top of mind -- to produce more detailed notes from client conversations and meetings
- **Access information** in enterprise applications and Web sites — entirely by voice — to speed creation of notes and documentation, and improve service to clients.
- **Create email** and manage the overwhelming flow of messages with ease using natural dictation and voice commands (including direct commands for creating Outlook messages and appointments).
- **Navigate and control desktop applications** by voice for new levels of productivity and ease of use.

rather than trying to master the interface. Macros can be created to enable users to go from field to field by voice, or to perform a sequence of keystrokes or mouse movements. Macros can yield productivity benefits for even the fastest typists because they reduce time-consuming, multi-step tasks to a simple voice command.

Creating commands that automate sequences of actions such as the pressing of one or more keystrokes or the opening of a particular Web page, folder or document, can be created simply, with no knowledge of programming, via Dragon NaturallySpeaking's command editor tool. In addition, Dragon's command editor provides the option to create sophisticated commands using scripting similar to Microsoft® Visual Basic®. For example, an investment management firm can build a single voice command that saves a transaction confirmation using a standard naming convention (including the date of

creation), emails it to the client and key contacts within the compliance department, and prints out a hard copy at the advisor's office — all with a single spoken command such as “Transaction wrap-up.”

INCREASE PRODUCTIVITY ON THE GO

Since investment advisors spend a significant amount at prospect and client meetings — whether at their office, the investor's home, or over lunch or dinner — Dragon offers an option to capture meeting notes from anywhere, at any time using a digital voice recorder. Immediately following a meeting, an advisor can dictate notes into any Nuance-certified handheld device for automatic transcription when they connect to their PC back at home or at the office. This offers significant advantages, enabling investment advisors to:

- Make productive use of travel time between client meetings
- Record more detailed client meeting notes while they are still fresh in their minds.

After dictating notes and returning to his laptop or desktop PC, the investment advisor simply transfers the audio files from the device to his PC; although file transfer methods vary, many devices simply plug directly into the USB port of a computer and let one “drag and drop” audio files from the device directly to his PC. Supported audio formats include: .wav, .vox, mp3, .wma, .sri, and .wma files. The advisor can choose where Dragon will transcribe the text, such as inside a Microsoft Word document or within a specific field within their CRM application.

This mobile productivity tool ensures that time spent on the road or off site does not mean even later nights at the office catching up on work. Investment advisors can use in-vehicle and other formerly unproductive time to dictate notes, email and other correspondence — safely and accurately. As a result, they are able to handle more clients and deliver better service without putting themselves or their firm at risk of noncompliance.

An enterprise deployment of speech recognition also allows users to export their user profile via the network or a portable storage device for use on another computer or laptop. This enables investment advisors to take advantage of speech recognition anywhere, at anytime, leading to more thorough, detailed notes, since they have access to all their customizations, including special vocabulary and commands.

IMPROVE CONTACT MANAGEMENT

Effective contact management is critical to an investment advisor's business as it significantly impacts his ability to build and grow successful, long-term client relationships. Dragon NaturallySpeaking Professional speeds and streamlines contact management by enabling advisors to easily navigate within any Windows-based CRM system and enter notes, actions, appointments and other data just by speaking. Voice-enabled contact management offers a number of key advantages:

- Keep client and prospect data up to date and build a robust database that can be used for marketing purposes
- Improve client service and build loyalty by ensuring prompt, efficient follow-up
- Lower costs by reducing the need for administrative support
- Increase the amount of time available to spend on primary client contact and service responsibilities that tie directly to sales and earnings
- Avoid complaints or potential legal action due to failure to contact a client about an important matter or miscommunication regarding a transaction request

SPEECH RECOGNITION FOR THE ENTERPRISE

Speech recognition products intended for personal use simply don't offer the network capabilities required for enterprise deployments. To simplify administration, lower costs, and ensure data security, financial services companies need enterprise-strength tools and applications based on industry standards that can be installed and managed from a central network location. Unlike most off-the-shelf speech recognition products, Dragon NaturallySpeaking Professional is an enterprise-ready application, with administrative tools for managing large user populations and securely managing voice profiles.

Enterprise deployments of Dragon include several components: client software; Nuance Professional Services (including planning, installation, customization, training and support); audio peripherals (such as headsets, handheld digital recorders, and wireless microphones); and enterprise resources (including server and storage resources, back-end system integration, end-user support, and data and profile maintenance). (See Figure 3)

A successful enterprise speech deployment requires careful attention to user expectations, training and customization. Training – customized to suit any situation and offered both onsite or remotely -- is an important element of an enterprise installation, enabling staff to quickly realize more significant productivity gains and cost savings and maximize their return on investment.

In addition, setting realistic expectations has a critical impact on the success or failure of the speech recognition program. While speech recognition enables organizations to automate workflows without disrupting existing processes, there is still a component of change as employees adopt the new technology and transition to the new approach of dictation vs. typing. Professional services can facilitate the change management process, helping to speed and ease the organization's transition and drive higher user adoption rates.

Unlike most off-the-shelf speech recognition products, Dragon NaturallySpeaking Professional is an enterprise-ready application, with administrative tools for managing large user populations and securely managing voice profiles.



Figure 3: Components of a Dragon Enterprise Installation

SUPPORT FOR UNIQUE ENTERPRISE WORKFLOWS

Dragon can be configured in a variety of ways to support desired workflow, reflect established business processes, and meet enterprise IT requirements. With the AutoTranscribe Folder Agent (ATFA), Dragon can be set to automatically transcribe digital voice recordings (see sidebar). The text and original audio files are then routed to the appropriate transcriptionist for review and correction, and end-user speech profiles are updated to continually improve recognition accuracy. Best of all, the ATFA makes all this happen in background mode — without tying up end-user desktop resources — to keep the enterprise operating at peak productivity.

JUSTIFYING THE EXPENSE

Dragon NaturallySpeaking Professional can deliver significant return on investment to investment management companies and individual investment advisors — often in as little as one year. And experience has shown that this kind of ROI is the rule rather than the exception. Most companies that purchase Dragon realize improved productivity and ROI almost immediately because:

- **It's easy to use**, allowing most users to be up and running in less than 15 minutes, leading to high adoption rates with minimal training and support costs.
- **It saves time** by enabling users to create reports and other case documentation three times faster than with keyboard and mouse alone.
- **It delivers up to 99% accuracy** out of the gate, letting users quickly create accurate, detailed reports with no spelling errors.
- **It automates and streamlines** repetitive manual processes for productivity increases of up to 300 percent.

In addition, Dragon's accessibility features eliminate potentially significant personnel-related expenses, including the annual cost of noncompliance with the American Disabilities Act, the cost of Repetitive Strain Injury (RSI) claims, and loss of productivity from RSI and fatigue.

When the benefits of Dragon are multiplied across dozens, hundreds, or even thousands of users enterprise-wide, the cost savings and productivity gains add up quickly.

ABOUT NUANCE COMMUNICATIONS, INC.

Nuance is a leading provider of speech and imaging solutions for businesses and consumers around the world. Its technologies, applications and services make the user experience more compelling by transforming the way people interact with information and how they create, share and use documents. Every day, millions of users and thousands of businesses experience Nuance's proven applications and professional services. For more information, please visit:

www.nuance.com

How Does the ATFA Work?

The ATFA automatically detects files awaiting transcription in end-users' Inboxes, and based on order of receipt, retrieves the digital voice files and automatically transcribes them into a text file. It also creates a synchronized audio (.dra) file along with the transcript file. The .dra (Dragon Recorded Audio) file contains acoustic data and allows users to open the original audio file later for playback and correction. It is this component of the ATFA that enables the transcriptionist to play back the rep's original dictation and correct the text by mapping it to the audio file.

The ATFA automatically sends the transcript and .dra file to the appropriate Outbox designated in the preconfigured workflow. At his or her convenience, the assigned transcriptionist can retrieve the text and synchronized audio files from the appropriate Outbox for review and correction. Since the ATFA includes both the text and synchronized .dra files, the transcriptionist can listen to the original audio while reviewing the document. He or she can highlight words or phrases and automatically play back the corresponding audio to verify accuracy of the transcribed text.

When correction is complete, the ATFA automatically updates the rep's master user profile — wherever it may be located on the network. By updating the master profile to reflect corrections to misrecognition errors, end users and transcriptionists can realize improved recognition accuracy and faster, easier correction over time.