Nuance 6

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Nuance 6, the core client/server software in the Nuance Communications product suite, combines unparalleled accuracy and natural language understanding to extend the performance advantage of Nuance in speech recognition applications. Utilizing advanced linguistic and statistical models to interpret and understand natural human speech, Nuance 6 enables sophisticated speech recognition applications that allow users to talk to computers as if they were speaking with human agents. Nuance 6's open, scalable software architecture, comprised of the Nuance RecServer™, Nuance Resource Manager™ and the Nuance RecClient™, makes efficient use of hardware resources to allow the implementation of affordable, flexible speech recognition applications that give users a competitive advantage in today's rapidly changing business environment.

Powerful client/server software architecture

Nuance's distributed architecture allows recognition to happen on a separate stand-alone machine or network of servers, expediting the recognition process and resulting in memory savings. This is achieved by simultaneously sharing recognition data objects that can be shared across multiple recognition searches. By dynamically allocating recognition resources with the Resource Manager, Nuance 6 capitalizes on the efficiency of processing of multiple recognition requests in parallel and provides automatic fail-over protection in the event of a hardware or software failure. Nuance's client/server architecture also allows applications developers to decouple audio acquisition from recognition processing. The RecClient performs all audio and telephony functions required by speech applications, including echo cancellation and endpointing when DSP is unavailable, and manages the collection and transmission of speech to the multi-threaded RecServer. The RecServer itself handles speech recognition and understanding. This allows the application to focus on call-flow and dialog management, resulting ultimately in a more seamless interaction with the end user.

Open and scalable

Speech recognition solutions built with Nuance 6 provide tremendous flexibility and choice because Nuance software is open and fully scalable. While the technology is maximized for telephony applications, it can support many different audio providers on multiple IVR platforms, and its supported availability across multiple UNIX and NT platforms allows users to take advantage of continuing hardware improvements. Nuance 6 supports small and large applications with vocabularies from two to 15,000+ words, and easily accommodates variable capacity requirements. Because the RecClient provides a consistent interface to the application, the application does not have to be recompiled to support different audio providers (like telephones and microphones) on the same IVR platform.

Unmatched recognition accuracy

Nuance's approach to speech recognition achieves a very fine acoustic resolution, and therefore a higher degree of accuracy and a better ability to handle large-vocabulary applications. By partitioning the digitized speech signal into a sequence of short frames, and then using algorithms and statistical processes to analyze the data, the RecServer determines the words or phrases that were spoken. To optimize the accuracy of the RecServer, Nuance uses a unique combination of Hidden Markov Models, a statistical technique that integrates linguistic rules and training from recorded speech databases, and innovative Gaussian-mixture processing.

Natural language understanding

Once the RecServer has recognized the speech, it uses a template-matching natural language approach to determine meaning. This means the RecServer takes the relevant pieces of recognized speech and matches them against a customized template of pre-specified information. This template approach is more robust and sophisticated than word spotting or "tag" approaches and easier and more efficient than an application-specific sentence parser.

Nuance 6 Key Features

- Continuous Speech Recognition
- Natural Language Understanding
- Barge-In
- Open, Client/Server Architecture
- Machine Load Balancing and Fault-Tolerance
- Landline and Cellular Environments
- N-Best Results And Confidence Scoring
- Multiple Language Support
- Easy-To-Use, Powerful APIs
- Minimal Recognition Latency
- Telephony Control
- Portable Across Major IVRs

Nuance 6 Key Benefits

- Rapid Development of Powerful, Highly Scalable Applications
- Speaker-Independent, Speaker-Trained, or Both Recognition Methods Combined
- Flexible Dialog Design Options
- Ability to Hot-Swap Hardware And Grammars
- Large Vocabulary Support
- Proven, Unmatched Recognition Accuracy in Various Acoustic Environments
- Robust Telephony Capabilities

Nuance 6 Supported Platforms

PLATFORM	AIX RS/600	Solaris Intel	Solaris Sparc	WinNT Intel	OSF DEC Alpha	SCO OS5 Intel
Dialogic with Antares	✓	✓	✓	✓	✓	✓
NMS Audio Provider	✓	✓	✓	✓	✓	✓
Periphonics			✓			
Direct Talk	✓					
Aspect/Voicetek			✓		✓	✓
Syntellect				✓		

About Nuance

Nuance Communications develops speech recognition, language understanding and speaker verification software to automate access to information and services over-the-phone. Nuance's products enable a user to speak to a computer over the telephone in everyday, conversational language. Headquartered in Menlo Park, California, the company focuses on customer service applications in call centers, particularly within the financial services and travel industries, and on enabling enriched functionality and new services in telecommunications networks. For more information, see Nuance's Web site at http://www.nuance.com or call (650) 847-0000.