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Technical Notes: NUANCE RECOGNIZER 10 OVERVIEW

Nuance Recognizer handles a wide range of recognition tasks from basic vocabulary ("Please say yes or no."), to deriving the meanings from naturally spoken responses to open questions ("Hello. How can I help you today?"), to understanding huge lists of over 1 million items (for example, for automating Directory Assistance services). The recognizer supports more than 45 languages and dialects. A brief summary of what's new in version 10 is provided below:

New in Nuance Recognizer 10.2.1

Features and changes:

- Partial masking - speech grammars can send non-confidential results to log files while the security settings protect confidential data.
- Adaptation - improvements and new configuration parameters.
- Migration tool added to automate transfer of existing applications to the new release.
- New NLU classifier which improves SSM classification accuracy.
- Improved accuracy and more robust confidence scores.
- Support for alphanum_lc builtin.
- Recognition server process (NRS) bundles recognition –64 bit.
- Adaptation for multi-tenancy.
- Large Server Support—Runs in multi-process, shared-memory configuration to optimize resource usage.
- Supports multiple, concurrent language pack versions for the same language.
- Backward compatibility mode with NR9.
- Supports accuracy-enhancing features like state-duration, state-skipping, model combination, and self-adaptation.

Architecture changes:

- There is no direct API access to the recognizer. All voice browsers use a standard MRCP interface to Nuance Speech Server to perform recognitions.
- The recognizer runs as an independent recognition process. This expands memory capabilities.
- You can run more than one Nuance recognition server under a single Nuance Speech Server, and you can run the recognizer processes on different hosts.
- You can scope the configuration on a per-tenant and per-session basis. The session.xml configuration expands the dynamic capabilities of the system, enables developers to tune applications (without requiring access to recognition or text-to-speech hosts, and without affecting other applications), and makes the system especially attractive for hosting environments.
- The system automatically collects, merges, and centralizes log files for all Nuance Speech Products. To configure logging, see the Logging with Nuance Speech Products.

New features:

- Accuracy is significantly improved.
- Capacity (density) is expanded, allowing many more simultaneous calls per recognizer.
- Configuration processing is expanded:
  - Per-context configuration (grammar layer)
  - Per-session configuration (user and application layer)
  - Per-tenant configuration (host layer)
  - Per-installation configuration (operational layer)
  - Per-platform configuration (integration layer)

- Documentation integration (one system for related product documentation).

- Centralized logging collects Speech Server, Recognizer, and Vocalizer call logs.

- Language Packs are now versioned. For example, en.us/10.0.0. Allows use of different versions by different applications.

- Per-tenant adaptation enabled. Tenant-adapted acoustic models are stored in the tenant-data-directory.

- Multi-process with language packs put into shared memory.

- Documentation for statistical language models (SLM) has been expanded and updated, including a discussion of interpolated SLMs.

General constraints in this release

- This section lists known product limitations in this release.

- When perform rollovers of a log file, the system creates a single backup file using "bck001" in the naming pattern. For future rollover operations, the system overwrites the 001 file; it does not create 002, 003, and so on.

- There is no longer direct API access to the recognizer. All voice browsers use a standard MRCPv2 interface to Nuance Speech Server to perform recognitions. MRCPv1 support is planned for a future release.

- Nuance Recognizer does not yet support IPv6.

NSS Requirements:

- The use of Nuance Speech Server version 6.2.x and above

About Diagenix Corporation

Diagenix is an innovative voice application company with over 20 years of industry expertise and knowledge in providing packaged and custom voice applications, servers, tools, and hosted outsourcing services that enable companies of all sizes to quickly and efficiently provide anytime, anywhere, access to information and transactions over the telephone. For more information, visit www.diagenix.com

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