

Vocollect[®]
a business unit of **Intermec**[®]



Vocollect VoiceArtisan[®]

Vocollect VoiceArtisan - Extending Your Vocollect Configuration

VoiceArtisan is Vocollect's flagship Integrated Development Environment (IDE) that empowers customers and partners to expand the overall base capabilities of their Vocollect solution, using Rapid Application Development (RAD) techniques.

VoiceArtisan is an open, flexible and extensible modern IDE that enables Certified Vocollect Partners and trained customer IT teams to design, code, deploy and maintain customer-defined solutions to address unique business requirements beyond existing out-of-the-box software functionality.

Vocollect and Vocollect Certified Partners extend their voice-enabled applications using VoiceArtisan with enhanced open source Eclipse™ and Python® tools. Certified VoiceArtisan Developers use Python, an open source programming language, to specify the process and business logic of their VoiceApplications.

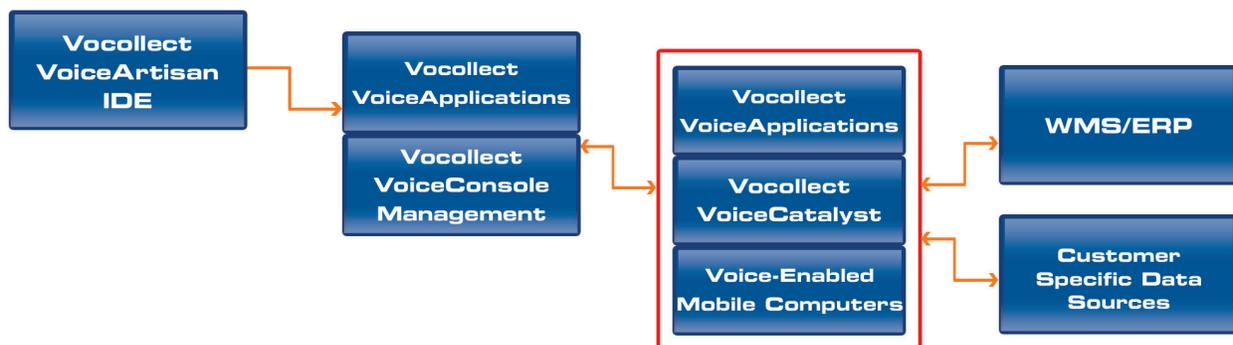
Business Benefits:

- Development times are reduced due to code and Library re-use
- Automation test framework decreases QA time
- Application learning time is drastically reduced with commented Python code
- Application customizations are far more portable from release to release
- Reduces application compile, load, run and test turn-around time
- Multiple-developer project coding allows rapid application development

VoiceArtisan makes it easy to creatively add seamless integration with various data sources using RAD development and testing approaches. VoiceArtisan enables solution developers to focus their efforts on business innovation, problem solving, and adding value exponentially to their existing Vocollect Voice® configuration.

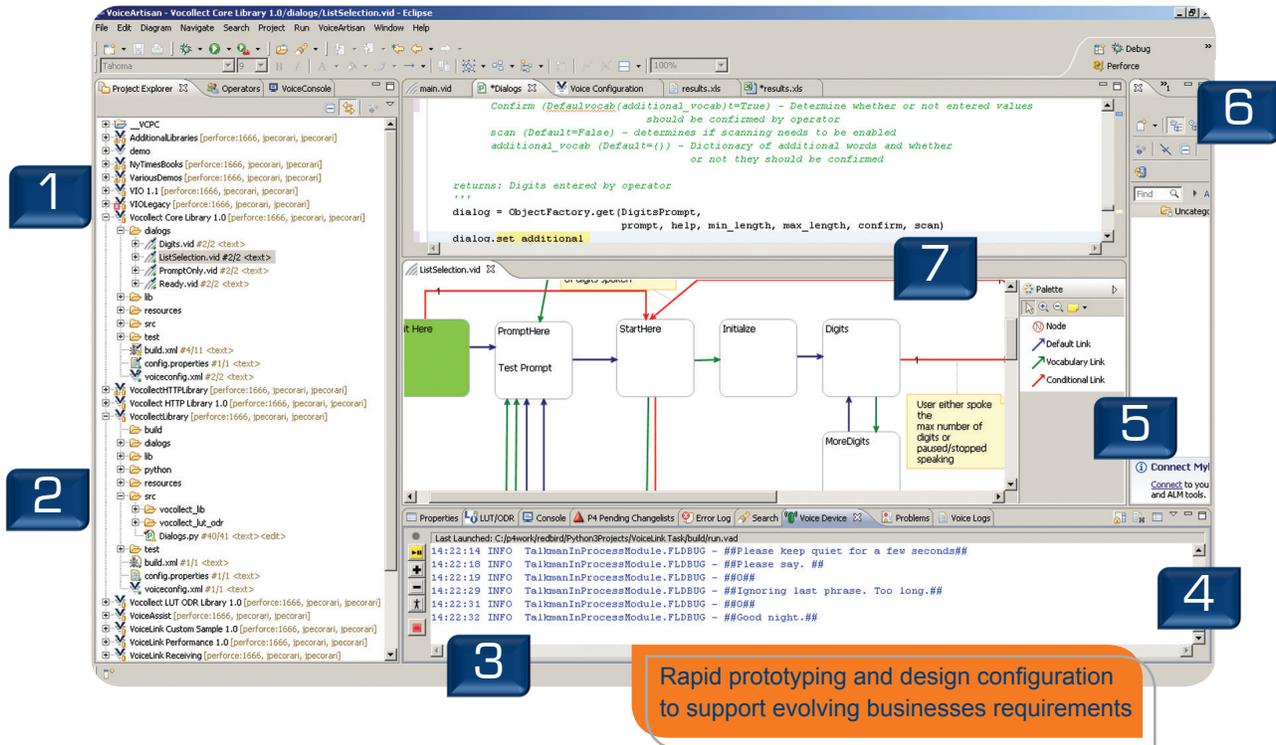
Vocollect VoiceArtisan - Architectural Overview

VoiceArtisan produces VoiceApplications™, which are workflows used to direct workers through a variety of tasks, optimizing productivity and accuracy. VoiceApplications are flexible, powerful and incorporate Vocollect's warehousing best practices knowledge gained over the past 25 years. They provide customers and partner developers with many options to deploy various workflows to fit their specific business needs. VoiceApplications support multiple voice workflows to seamlessly enable WMS/ERP integration requirements. They are managed through Vocollect VoiceConsole®, an easy to use, browser-based interface that provides device, operator, and configuration management and system diagnostics. VoiceApplications can run on computing devices running Vocollect VoiceCatalyst® software, enabling flexible connectivity to devices, servers and information beyond the traditional capabilities of voice client software.



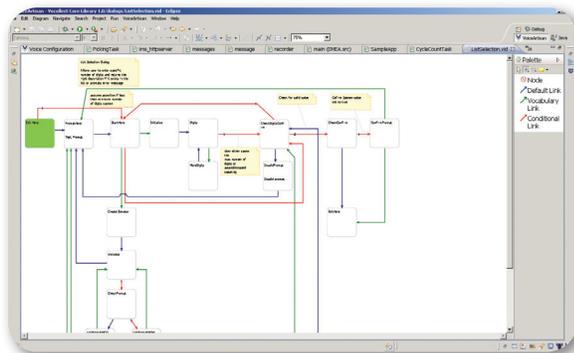
Vocollect VoiceArtisan - Open, Flexible and Extendable

As noted, VoiceArtisan's IDE empowers customers and partners to easily extend the overall capabilities of their base Vocollect solution offering by outputting VoiceApplication files, used by VoiceCatalyst for expanded interfacing with a WMS/ERP, and various data sources and devices:

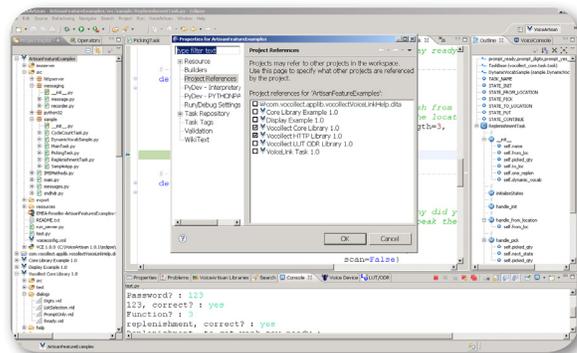


- 1 Fully-functional portfolio of best practice based workflows tasks, e.g. Selection, Inventory, Put-Away, Replenishment, Receiving, Loading, Cross-dock, Transfer, etc.
- 2 Source-code library of reusable objects and dialogs
- 3 Fully integrated testing, debugging, and source-code control environment
- 4 Agile development framework to support customer configuration management
- 5 Multi-protocol interfacing to WMS/ERP and voice hardware: Devices, Data Sources, Communications (TCP/IP, Web Services, HTTP)
- 6 Open Standards Development Environment - Eclipse/Python
- 7 Graphical scripting and text scripting options

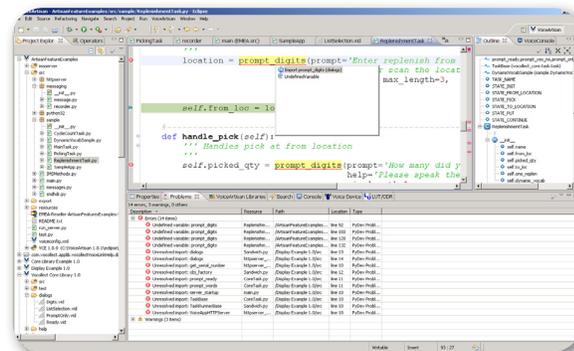
Vocollect VoiceArtisan - Capabilities Summary



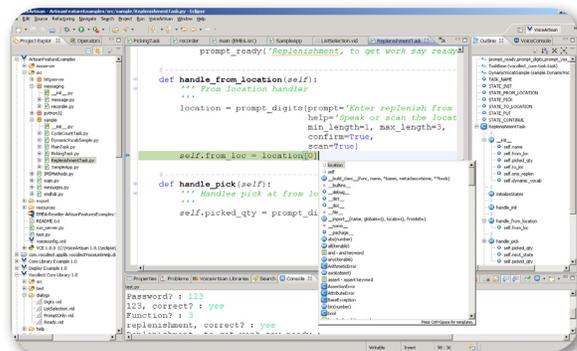
Best Practice Driven Dialog with Your Business Logic Scripts



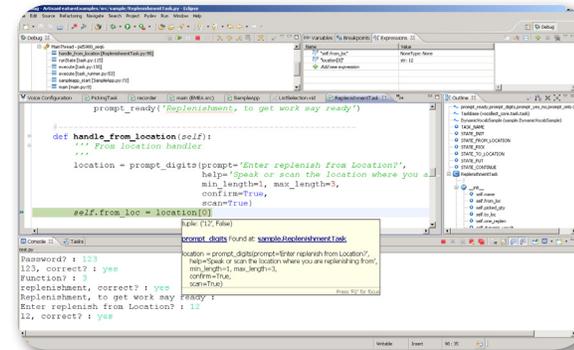
Reference Existing Projects and Libraries to Re-use Source Code



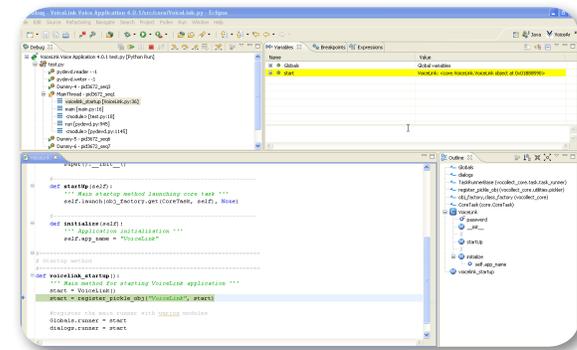
Development Environment with Elegant Syntax and Error Checking



Code Completion for Agile Development and Reduced API Learning Curve



Integrated Dynamic Debugging Steps through Code Break Points



Test Framework Supports Automation for Rapid Results

Vocollect VoiceArtisan - Key Features

- Library of best-practice, voice-enabled task workflows, including Selection, Inventory Control, Put-Away, Replenishment, Receiving, Loading, Cross-Docking and Transfer.
- Vocollect Voice specifically developed open APIs to help manage spoken user and device interaction with a voice API, an environmental API to manage interaction with specific devices and an audio API for sound settings.
- Leverages Python, an easy-to-use, open source language with thousands of trained developers around the world.
- Built-in support for source code life cycle request with CVS version control and Perforce configuration management.
- Supports object-oriented programming with classes and multiple inheritance.
- The environment supports raising and catching exceptions, resulting in cleaner error handling. Data types are strongly and dynamically typed. Mixing incompatible types (e.g. attempting to add a string and a number) causes an exception to be raised, so errors are caught sooner.
- Support both inbound and outbound real time transactions (voice or data source initiated events). Choice of transport protocols (TCP/IP Sockets, Web Services, HTTP, HTML).

Advanced Capabilities to Increase Operational Performance

Process Driven Multimodality

- Add functionality, (e.g. RF scan, display, RFID, etc.) to optimize the efficiency specific workflows
- Offer on-demand requests for HTML-based product photos; pallet or rack configuration, etc.
- Innovative solutions via non-integrated display support

Multi-host Capabilities

- Enable worker interaction with multiple host applications
- Enable device interaction with multiple applications from WMS to dashboards, etc.

Real-time, Dynamic Workflow

- Real time updates: change orders, assignments, etc.
- Real time worker updates: let-down requests, exception requests, accident notifications, etc.

Speech Recording and Distribution

- Record worker comments on exceptions
- Record worker requests of managers or other workers, minimizing disruptions to others

Custom Messages and Device Alerts

- Workers performing other workflows are interrupted and re-routed to receive hot items and distribute them to orders before they are shipped

Vocollect VoiceArtisan - An Open and Extendable Solution



Vocollect VoiceArtisan leverages Eclipse, a multi-language software development environment comprising an integrated development environment (IDE) and an extensible plug-in system. To learn more about Eclipse, go to <http://www.eclipse.org>.

Vocollect VoiceArtisan leverages Python, an open source programming language that is used in a wide variety of application domains. Python is often compared to Tcl, Perl, Ruby, Scheme or Java and some of its key distinguishing features are listed below. To learn more about Python, go to <http://www.python.org>.



Some of Python's Notable Features:

- Uses an elegant syntax, making the programs you write easier to read.
- Is an easy-to-use language that makes it simple to get your program working. This makes Python ideal for prototype development and other ad-hoc programming tasks, without compromising maintainability.
- Comes with a large standard library that supports many common programming tasks such as connecting to web servers, searching text with regular expressions, reading and modifying files.
- Python's interactive mode makes it easy to test short snippets of code. There's also a bundled development environment called IDLE.

Some Programming Language Features of Python are:

- A variety of basic data types are available: numbers (floating point, complex, and unlimited-length long integers), strings (both ASCII and Unicode), lists, and dictionaries.
- Python supports object-oriented programming with classes and multiple inheritance.
- Data types are strongly and dynamically typed. Mixing incompatible types (e.g. attempting to add a string and a number) causes an exception to be raised, so errors are caught sooner.
- Python contains advanced programming features such as generators and list comprehensions.
- Python's automatic memory management frees you from having to manually allocate and free memory in our code.

About Vocollect

Vocollect, a business unit of Intermec, Inc., is the leader in creating and providing voice-enabling solutions for mobile workers in distribution and warehouse environments worldwide. The speech recognition software and extreme recognition accuracy of in-vocabulary speech helps customers achieve a higher level of business performance through voice.

Every day over 400,000 workers worldwide use Vocollect's comprehensive voice solutions to distribute more than \$4 billion in goods from distribution centers and warehouses to customer locations. A global team of over 2,000 supply chain reseller and channel partner experts supports Vocollect Voice offerings in 60 countries and over 35 languages.

Vocollect VoiceWorld Suite integrates with all major WMS and ERP systems, including solutions from SAP AG, and supports the industry's top four handheld providers. For more information, visit www.vocollect.com.

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