

# VoiSentry speaker verification

## Datasheet



## Identity verification for any application

Across all market sectors, businesses compete in terms of customer experience. Enabling the simplicity and convenience of verifying by voice, as an alternative to agent-led ID&V, provides an unobtrusive and intuitive customer experience in addition to offering time and cost savings for the contact centre.

Furthermore, with the escalation in identity theft, fraud and social engineering attacks, businesses have a compelling imperative to provide additional security in terms of access to user data, accounts and services.

### Key features

Easy integration	A 'virtual appliance' for deployment as a VM on the developer's platform of choice; on-premise, data centre, or hosted cloud
REST APIs	Applications can be written in the developer's programming language of choice
Anti-spoofing	Mitigates risks from mimicking and faked-audio attacks
Multi-tenant	Ideal for multiple, distinct applications, and hosted/cloud solutions
Autonomous passphrase	Users can have their own, individual passphrase
Text independent	Verification can be continued throughout a call
Scalable and redundant	Add capacity and redundancy by creating a multi-node system
Load balancing	Optimise system node throughput, loading and response time
Web-based UI	All nodes accessible from a log-in at a single node; remote, web-services administration

# VoiSentry

## Product benefits

**Cost-effective and efficient** – avoids time/cost of agent-led ID&V for the vast majority of calls

**Multi-factor authentication** – enables enhanced security and fraud prevention

**Unobtrusive customer experience** – presents simple, convenient, intuitive verification by voice

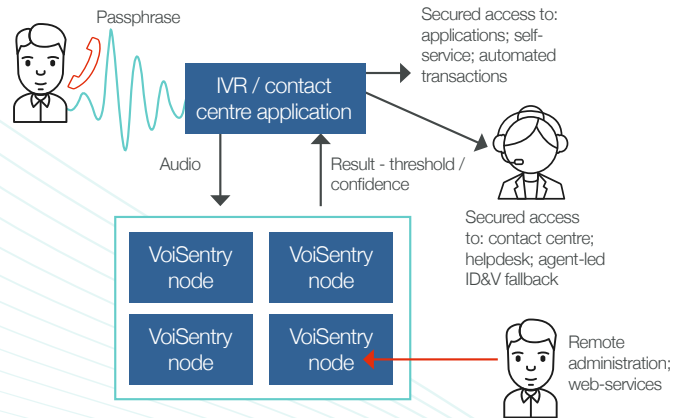
**Improves customer satisfaction** – reduces irritating security interrogations

**Flexible deployment options** – ideal for multiple, distinct applications, and hosted solutions

For developers of contact centre solutions, or providers offering services to multiple clients from their hosted, cloud-based platforms, VoiSentry presents an ideal solution.

A multi-tenant contact centre solution, for example, can offer speaker verification as a customer interaction security option, simply and conveniently, to individual businesses, each according to its needs.

Each business has full, independent control over the creation of datasets against which its users' enrolments and verification attempts are performed.



## Technical summary

Minimum hardware configuration	
Processor	8 CPU cores
Memory	16 GB RAM
Storage	20 GB of VM disk storage (when using the integrated volume)
Software environment	
Deployment	Supplied as a 'virtual appliance'; for deployment as a VM (ideally the sole VM) onto a hardware platform with an installed virtualisation hypervisor
Hypervisor	VMWare vSphere ESXi 6.0, or ESXi 6.5; Microsoft Hyper-V
Application Programming Interface (API)	Web-services, REST-based API (provides enrolment and verification services)
User interface (UI)	HTML-based administration UI (allows administrative control and status visibility over an entire cluster)
Web-services (WS)	A WS-based administration REST interface (enables VoiSentry to be remotely administered from 3rd party applications)
Data storage	Self-contained volume (within the virtual appliance); alternatively, greater external capacity may be assigned
Additional specifications	
Voiceprints	Derived biometric meta-data for verification purposes; datasets not externally accessible; proprietary format; cannot be used elsewhere
Passphrase	Fixed, or autonomous selection
Verification modes	Text dependent; text independent; text prompted

Languages	Language independent
Recommended input audio (min)	2 seconds of speech
Recommended enrolment audio (min)	3 repetitions of speech
Recommended verification audio (min)	1 repetition of speech
Verification time	Sub-second (for a passphrase of 3 seconds)
Enrolment time	Sub-second (for 3 repetitions of a passphrase of 3 seconds)
Audio format	.wav format; G.711 (A-law or $\mu$ -law) or 8kHz, 16-bit linear (mono) PCM
Feature analysis	Designed for real-world telephone speech, sampled at 8kHz; noise robust
Verification performance	A configuration <sup>1</sup> has been shown to achieve up to 40,000 verifications per hour
Verification accuracy <sup>2</sup>	A system <sup>1</sup> has been shown to achieve an imposter detection rate of up to 99.5%
Equal error rate (EER) <sup>2&amp;3</sup>	A system <sup>1</sup> has been shown to have an EER of 1.9% <sup>2</sup>
Anti-spoofing	Yes
Voiceprint adaptation	Yes
Automatic speech recognition	Selectable (digits 0-9; 'yes' and 'no' – English; French; German; Spanish; Italian)
DTMF detection	Yes
Security threshold	Configurable
Scalability	Via node clustering (adding nodes to a cluster can be expected to scale throughput approximately linearly)
Resilience and redundancy	Fail-over protection via clustering nodes
Load balancing	Reverse proxy; node polling
Management	May be monitored/managed from administrator log-in at single node
Licensing	Embedded licence server; external licence server (Windows; Linux)

#### Notes:

<sup>1</sup>A cluster consisting of a single node running as a sole guest under VMWare ESXi 6.0 on an Intel i7 at 3.2GHz, and assigned all 4 cores (8 hyperthreaded cores) and 12GB RAM (additional 4GB used by the hypervisor) with a local, commodity SSD.

<sup>2</sup>VoiSentry has been evaluated using an industry standard SpeechDat database, supplemented with data collected by us, covering a wide range of telephone equipment and acoustical environments.

<sup>3</sup>The number of false acceptances being equal to the number of false rejections.

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