Strengthening Authentication with Guaranteed Identity

ValidSoft

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Vendors that Matter: Company: **ValidSoft**

Founded: 2003

Specialty: "Precision Voice Biometrics", placing emphasis on a strong mathematical approach of combining spoken dynamic passcodes with users' voice authentication - with speed, accuracy, precision and transparency for next generation multi-factor authentication (MFA) and fraud prevention. In addition, ValidSoft stands out for its privacy by design, omni-channel and interoperability, having been deeply integrated into the largest contact center and MFA platforms.

Distinction: ValidSoft's solutions provide "Guaranteed Identity" which is fundamental to building trusted conversations and secure interactions in all digital markets, and among enterprise employees (including contact center agents) and consumers. The solutions result from more than two decades of R&D investment and refinement of its voice biometrics engines and platforms, augmenting it with elements of cryptography, mathematics, artificial intelligence (AI), machine learning (MI), deep neural networks (DNN), and partnerships to address the challenges of MFA single-sign-on and real-time, strong authentication deployments.

## Solutions for Gig Employees and Work-From-Home Agents

As the pandemic morphs into an endemic, it is now clear that there is no well-defined end to the era of work-from-home (WFH) employees. In the space of four years, their ranks expanded from 23% of the U.S. workforce to nearly 60%. Looking ahead, according to the Pew Research Center, more than 6 out of 10 (61%) of that cohort say they are working from home by choice, and only 38% say they will go back when their workspace is opened up again.

To better understand this new paradigm of WFH employees (including remote contact center agents), Opus Research recently surveyed 250 executive decision makers from multiple industries in the U.S., Canada, U.K., and Western Europe about business technologies for security, authentication, and fraud prevention.

When asked if the pandemic had accelerated changes in customer authentication and fraud prevention strategies, the respondents voted overwhelmingly in the affirmative:

88%
Yes

COVID-Accelerated Changes in Authentication
& Fraud Prevention Strategies

12%
No

0%

100%

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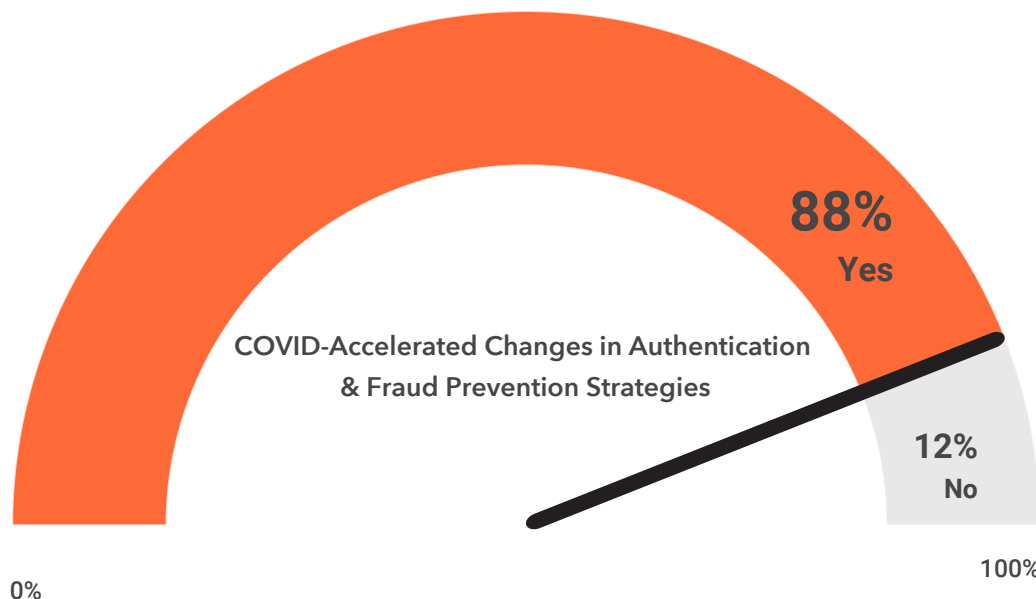
The survey also found that in the last two years, organizations are seeing dramatic increases in fraud activity. Not only did the survey find increased fraud activity with remote, work-from-home agents (75%), but indeed security threats are increasing across all channels and modalities: Messaging (70%), IVR (59%), WebChat (58%), Contact Center (54%).

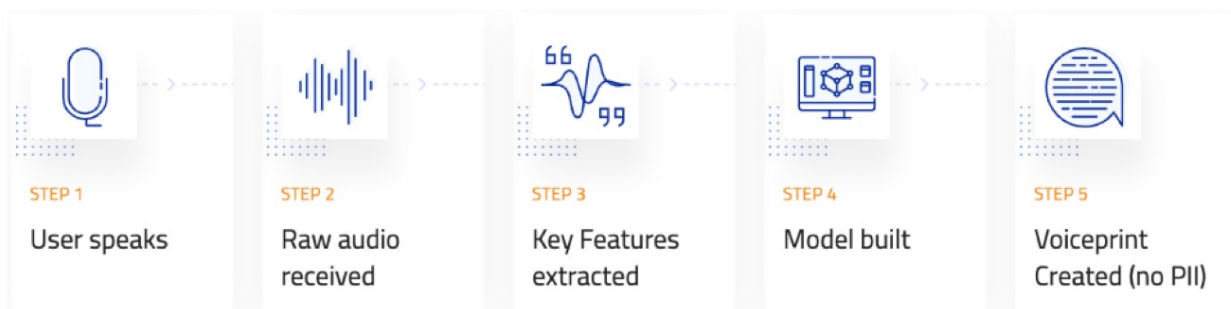| Channel	Percentage
Home Agents	75%
Messaging	70%
IVR	59%
WebChat	58%
Contact Center	54%
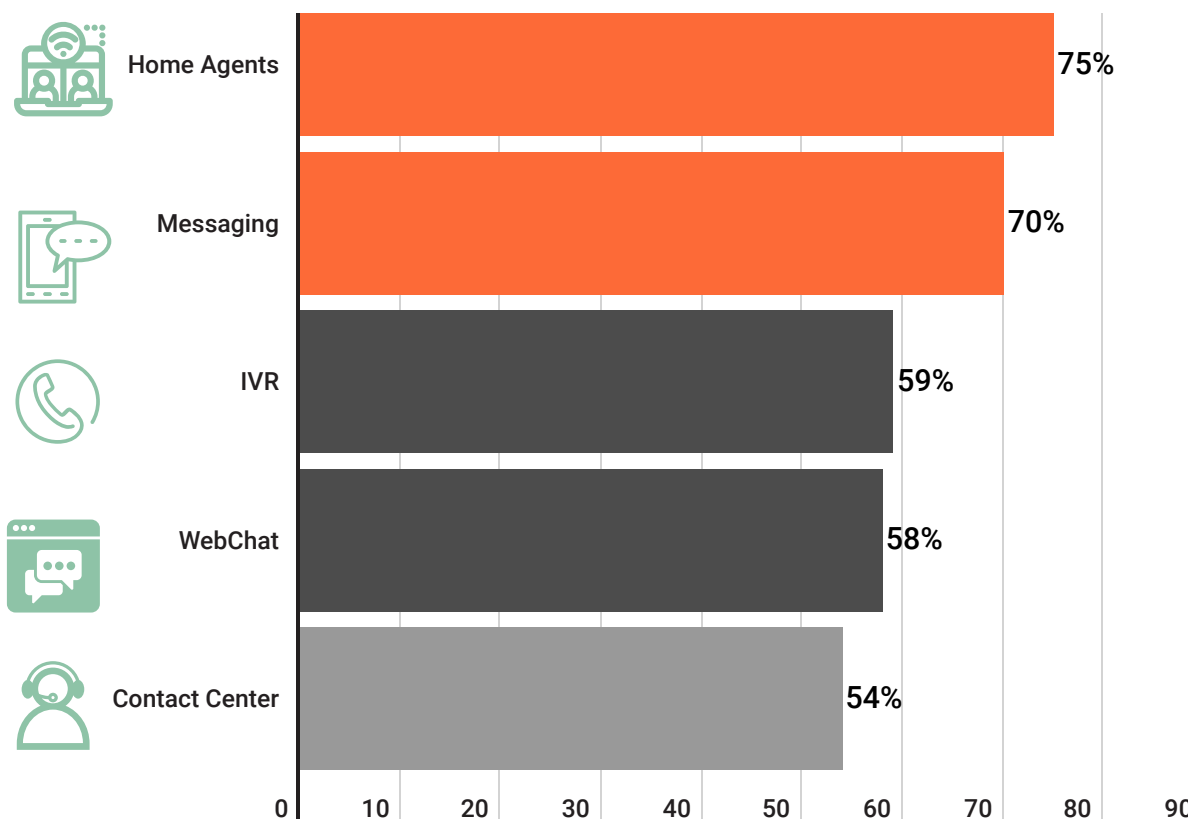
The imperative is on customer service organizations and businesses of all sizes to acknowledge and understand these new threats and security exposures. Opus Research has long advocated businesses to minimize the need for PINs, passwords, knowledge-based questions, and other vulnerabilities to human exploitation. However, voice biometrics used in conjunction with randomly generated OTPs offer a sophisticated and highly accurate alternative to legacy authentication methods and can even extend their life if implemented properly. It is actually quicker to speak an OTP than to have to remember it and type it in, so the user experience for intelligent customer authentication can actually be improved across a diverse set of user engagement channels, whilst preventing some of the latest attack vectors such as those used in the recent LAPSUS$ attacks.

Industry-Leader ValidSoft Offers Extensive Implementation Experience

Luckily there are solutions that have been designed specifically for this purpose. They deliver speedy and more secure customer authentication that can be implemented with low friction and deliver long-term positive business impacts. This includes the responsibility to respect every individual's privacy and comply with local, regional, and national privacy laws/regulations, which is another competitive differentiator. One such solution provider is ValidSoft, which offers a comprehensive and thoughtful implementation experience, mature solutions, and a deep focus on voice biometrics for authentication. The company puts significant strong emphasis on privacy-by-design (which has been independently tested and accredited) and compliance, with significant customer references and deep technical expertise.

As an industry leader, ValidSoft offers active, active/dynamic, precision, passive, and continuous passive authentication that works with text-dependent, text-independent, and/or conversational speech. The encrypted biometric data is decoupled from Personally Identifiable Information (PII) which helps to ensure privacy and full compliance.

How ValidSoft Creates Voice Prints

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
User speaks	Raw audio received	Key Features extracted	Model built	Voiceprint Created (no PII)

How ValidSoft Secures Voice Prints

Biometric models held in databases are digital representations of your physiology and that representation is dependent on the biometric modality.

➤ A voice biometric model does not contain any audio; it is a digital representation of the distortion your physiology creates on sound and is stored as a series of encrypted digits.

➤ It contains no Personally Identifiable Information (PII) whatsoever and has no value other than for its dedicated purpose within a specific deployment.

➤ It cannot be reverse engineered into audio; it cannot be substituted as it is seeded. Nor can it be played into a microphone and cannot be used in any way whatsoever, apart from its intended purpose in the implementation in which it was created.

Specific to ValidSoft, they do not store the actual voice recordings of enrollees. Those are immediately discarded after a biometric representation of the voice is created. Since the derivative biometric data are encrypted, one-way hashed, and obfuscated it cannot be reverse engineered to reproduce the original voice recording, or any personally identifiable information (PII) (even if the data were unencrypted or decrypted). Moreover, the derivative voice print data created are only useful to ValidSoft's own proprietary applications; the data are of no value to any attacker.

ValidSoft has developed three distinct products to take on the security challenges created by the lasting changes in patterns for work and commerce.

➤ **ValidSoft Trusted Employee™**: A frictionless, real-time multi-factor voice authentication solution that verifies voice identity with either active or passive biometrics to a very significant mathematical precision, countering Replay and Synthetic Speech Attack (Deepfake) vectors so employers can be completely confident they are interacting with the correct claimed employee.

➤ **ValidSoft Trusted Agent™:** A version of its Guaranteed Identity suite designed specifically to secure contact centers against remote unauthorized proxy agents. The solution utilizes passive/continuous passive to provide the highest level of mathematical precision, countering Replay and Synthetic Speech Attack (Deepfake) vectors.

➤ **ValidSoft Trusted Experience™:** Provides a single form of identity assurance that is fast, frictionless, consistent, predictable, and repeatable on all channels.

Solutions with Quantifiable Benefits

Voice biometric engines provide the foundation for transparent, speedy, and accurate authentication of an individual's identity. Its use of voice biometrics is the differentiator because non-biometric solutions serve only to authenticate the identity of an authorized agent at the point of login and prove only possession of a device, not the identity of who is using that device.

Opus Research found companies find success with an approach that results in direct, quantifiable benefits that include:

➤ Protection of corporate assets through prevention of unauthorized access: using a strong, multifactor approach that includes biometrics.

➤ Removal of the ability to share security credentials, such as a password or even a physical token.

➤ Protection to non-repudiation level against Hacking, Identity Theft, Password/Credential theft and sharing, Replay and Synthetic Speech (Deepfake) attacks, MitM and MitB attacks when implemented in conjunction with OOB (out of band).

➤ Reduction in the risk associated with Single-Sign-on (SSO) solutions: which, when hacked, have broad impact across multiple services.

➤ Reduce the Help Desk load: where "password reset" requests can account for an inordinate amount of skilled technicians' time.

> *"Non-biometric solutions serve only to authenticate the identity of an authorized agent at the point of login and prove only possession of a device, not who is using that device."*

ValidSoft's Guaranteed Identity is even more apparent in contact center settings because it is applied in two different ways.

➤ Agents use their voice (along with other factors) when they log-in to their workspaces and telephone networks at the beginning of a shift.

➤ More crucially, each agent can be continually authenticated as they speak with clients or customers (preventing illicit job-sharing/handover, which poses a serious compliance risk, with work-from-home employees).

For contact center customers, this results in highly significant cost reductions in the contact center operations, reducing the total cost of an average call by up to 25% and reducing the time to reliably authenticate an individual from approximately 70 seconds to less than 3 seconds. Intra-shift, and even intra-call, speaker change detection is transparent to the agent, but it can trigger an immediate notification to supervisors when a non-authorized user is detected. ValidSoft Trusted Agent™ integrates with leading contact center solution providers.

Bringing Trust to Everyday Activities Now and in the Future

Guaranteed Identity is a concept that has benefits that apply far beyond the virtual walls of a distributed contact center. Today's corporate culture and the nature of work expects every employee to be, in effect, a customer-facing agent of the company.

A major U.S. bank, for example, operates a large service desk for managing password resets of employee users, within its global networks. ValidSoft's voice authentication solutions benefit the bank by allowing password reset and enterprise single sign-on (SSO) to be largely automated in a secure and user-friendly manner. It is an approach that, no doubt, provides a strong sense that the technology is "truly helping" the customer and its users. It is easy to see how ValidSoft's voice authentication approach, when applied more broadly across industries, will solve authentication and compliance challenges in the years to come.

Market Scope: High

ValidSoft's high-trust, low-friction Guaranteed Identity reduces fraud and promotes secure, personalized voice commerce, in readiness for the transition to the Metaverse. ValidSoft's Guaranteed Identity has the potential to strengthen identity assurance, authentication, and fraud detection on a global basis across a multiplicity of industries, in particular financial services where integrity and trust are paramount. In addition, the largest contact center providers (UCaaS/CCaaS) and business process outsourcers (BPOs) who play a major role in supporting high-volume contact center applications from remote facilities have found ValidSoft's solutions to be a powerful tool for fraud prevention (internally), as well as a service that they can market to their own clients, bringing them a competitive advantage in terms of a great CX, reduced operational costs and reduced fraud.

Market Impact: High

Looking ahead, providing voice biometrics-based, persistent assurance and trust across communications platforms will have positive impact, encouraging trusted commerce and e-commerce across multiple verticals. Of particular interest will be protection against attacks by "synthetic voices" or "deepfakes" which appear to be cultivated in the social networking or gaming platforms that are precursors to the Metaverse. ValidSoft is very well placed to address the challenges on the horizon, with its MetaVoice® technology stack.

About Opus Research

Opus Research is a diversified advisory and analysis firm providing critical insight on software and services that support digital transformation. Opus Research is focused on the merging of intelligent assistance, NLU, machine learning, conversational AI, conversational intelligence, intelligent authentication, service automation and digital commerce. **www.opusresearch.net**