Radisys

SOLUTION BRIEF

Engage AI-based Noise Reduction Ensures Clearer Communication Experience Anywhere

Remote meetings and work from anywhere are the new way of life. Whether employees are working from home or mobile, noisy environments remain a big challenge for voice and video communications via cellular, landline, or VOIP connections. Everyday noises like people talking, a crying baby, a barking dog, emergency sirens, airport announcements, or even keyboard clicks, interfere with the quality of experience and comprehension of conversation. These distractions are multiple and present everywhere, creating growing demand for higher quality calls and meetings.

Traditional simple noise filters are not effective in filtering unique and varying noises such as: dogs barking, babies crying, dishes clanging, sirens, horns, airport announcements, and keyboard clicks. Through advances in machine learning and artificial intelligence, noise reduction filter models can now be constructed to more effectively eliminate these sounds.

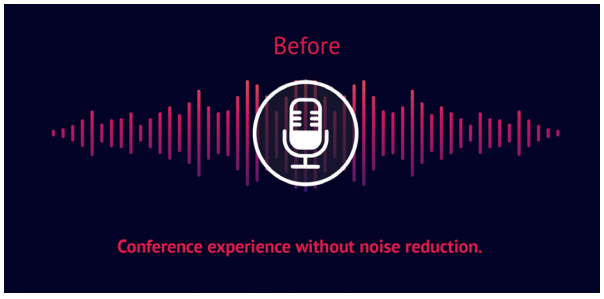
The Radisys Engage In-Call Assistant – a carrier-grade cloud-based speech analytics service - leverages AI-powered analytics to eliminate these distractions from any personal or business call or meeting. Communication service providers and conferencing providers can offer noise reduction as a value-added service to consumers and businesses across multiple verticals. Automatically, without any user intervention, this service can ensure that anyone, whether they are a C-level executive conducting an important board meeting, a doctor conducting a virtual visit from home, or a student attending class online, will not have to apologize for the loud, barking dog in the background when a delivery driver rings the doorbell. For contact centers, noise cancellation can mean reduced call times and reduced call errors, which can create millions of dollars in savings, highly satisfied customers, and a tangible, quick ROI.

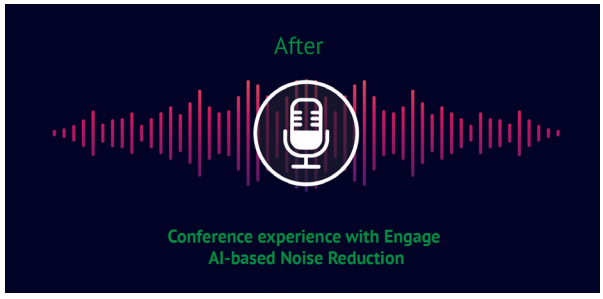
Shifting from Basic to AI-Driven Technique for Productive Communication & Collaboration Experience

Traditional approaches to noise filters are not effective in reducing unique and varying noises. Prior generations of noise cancellation algorithms are not adaptive enough and almost ineffective for eliminating many background noises. Today's advanced artificial intelligence-based noise cancellation is designed to reduce unwanted sound by creating a signal that is identical to the unwanted noise but with the opposite polarity. The two signals cancel out due to destructive interference. Large sound datasets that provide a foundation for training, together with the ability of today's technology to improve as it is used, can address the broad range of environments where voice and video interactions take place better than ever before.

The high level approach consists of three steps:

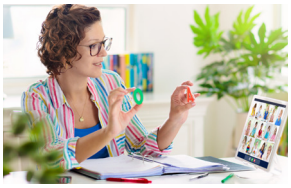
1. Data Collection: Generate a large dataset of synthetic noisy speech by mixing clean speech with noise
2. Training: Feed this dataset to the Deep Neural Network (DNN) on input and the clean speech on the output
3. Inference: Produce a mask (binary, ratio, or complex) that will leave the human voice and filter out noise





Click the above images to listen to an actual sample of the Engage AI-based noise reduction in action. (External Vimeo Link).

Call Centers
Increase agent productivity when they work from home or open office.



Online Teachers
Enjoy noise-free productive remote classes with your students.

Remote Teams
Increase agent productivity Have noise-free meetings with your team members by giving them more flexibility.

Business Leaders
Work from home or public workspaces without worrying about background noise.

The Engage In-Call Assistant's Noise Reduction service uses advanced AI-based techniques to eliminate or reduce the level of background noise in the desired signals to improve sound quality and conversation intelligibility. The deep learning-based noise cancellation algorithm removes background noises that otherwise could not be eliminated through a basic algorithm. It gives professionals, remote teams, teachers, doctors and call center agents a noise free working environment, anywhere.

The Radisys Engage In-Call Assistant includes a comprehensive suite of programmable speech and video analytics tools to power new, innovative, and intuitive services such as personal virtual assistant and biometric authentication. The Engage platform gives communication service providers and conferencing solution providers the performance, security, quality, and control they need to build scalable high-value customer experiences over their network services and as over-the-top applications.

Service Providers can deploy Engage In-Call Assistant in their private datacenter, in a Radisys hosted cloud, or add it to the Radisys Engage Media Server deployed in their network.

Key Benefits:

- Improves voice and video conference experience and enhances productivity of business meetings anywhere, anytime.
- Increases business and customer loyalty by offering easy-to-use high value services that address a common problem.
- Provides flexibility to adapt to specific customer needs with programmable capabilities.
- Improves customer experience and reduces errors with greater intelligibility of calls – which can translate into higher customer retention AND lower costs.
- Accelerates time to market through a cloud-based "as-a-service" solution with reduced total cost of ownership.

Why Radisys

- Transformative cloud based solutions that propel service providers towards becoming digital experience providers with programmable communication platforms and applications.
- Reaching 2 billion users through 150+ telecom operators globally.
- 30+ years of product and operational excellence.
- An experienced team of experts collaborate with you to introduce a full suite of locally relevant digital applications.

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