

# Nuance VQA Solution for Contact Centers

## Introduction

The Nuance VQA™ Solution is designed to maximize agent operational efficiencies and enhance client management effectiveness. VQA will immediately provide a value proposition for contact centers by increasing the intelligibility of calls and ensuring positive and productive communications, regardless of the method or technology used by the inbound caller.

Quality communications lead to an improved caller experience and agent performance through a reduction in Average Call Handling Times, while reducing contact center costs.

The voice processing solution non-intrusively detects and eliminates problems bi-directionally from four primary sources that can degrade voice quality, such as:

- Network-induced impairments (e.g., noise, echo, and speech levels)
- Impairments from caller devices (e.g., telephone, mobile, headsets)
- Impairments from caller environments (e.g., restaurants, cars, airports, street noise)
- Impairments from agent environments (e.g. background noise, intelligibility)

The VQA solution complements existing technologies and telephony

implementations. It is integrated with existing TDM or IP networks by placing it in-line with metallic or optical bypass.

VQA optimizes voice quality in real-time, on both ends of the call simultaneously, enhancing the experience of the call for all participants and maximizing communications. Reduction in miscommunications caused by voice quality impairments will result in the following benefits to the contact center:

- Reduction in Average Call Handling Time (ACHT)
- Increase in agent call handling productivity
- Decrease in agent fatigue attributed to auditory filtering and perception
- Reduction in IVR false detections related to the presence of loud ambient noise or echo on a call
- Consistent customer interaction efficacy regardless of the location of an inbound caller
- Increase in Average Calls Answered (ACA) per agent
- Reduction in per call cost
- Enhanced customer experience

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## Features and specifications

### Highlighted features

- High performance voice processing
- VQA processing done in the compressed domain
- Tight processing control avoids any artifacts during overload conditions

### VQA features

- (ANC) Adaptive Noise Cancellation
- (AEC) Acoustic Echo Control
- (ALC) Automatic Level Control
- (EVI) Enhanced Voice Intelligibility

### Standard compliance

- ITU-T G.160, ITU-T G. 169

### Interfaces

- T1/E1 (RJ-45/BNC)
- GigE Copper
- GigE SM/MM Fiber

### CODEC support

- G.711 A/U Law
  - G.729A
  - G.722
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### VQA features and benefits

Voice Quality Assurance (VQA) software non-intrusively and automatically detects and eliminates problems that degrade voice quality. The solution mitigates network-induced impairments, impairments arising from the callers or agent's environment, and impairments from the callers' devices, in real-time, on both ends of the call simultaneously.

Voice Quality features includes the following:

#### Adaptive Noise Cancellation (ANC)

Bidirectional Adaptive Noise Cancellation eliminates background noise during both speech and pauses by up to an industry-leading 21dB. Advanced processing techniques dynamically adapt to changes in noise spectrum in real time, providing a dramatic increase in quality for calls placed from noisy environments and excellent clean speech performance.

##### Benefits to contact centers:

- ANC reduces the background noise on the customer call and makes his/her conversation more intelligible resulting in improved agent call handling performance
- Intelligent Voice Recognition (IVR) System accuracy increase due to the reduction of erroneous "barge in" related to loud ambient noise

#### Acoustic Echo Control (AEC)

Bidirectional Acoustic Echo Control

adaptively converges on and attenuates nonlinear echoes created by handsets and hands-free phones, making calls sound clear and natural. AEC attenuates echo up to 640ms and 0dB WAEPL, ensuring protection from even the strongest echo sources while maintaining excellent double-talk performance, providing maximum clarity for wireline, and VoIP environments. Automatically generates comfort noise to match actual background noise levels, providing improved conversational call quality without an annoying "dead air" effect.

##### Benefits to contact centers:

- Acoustic echo becomes more problematic with VoIP induced packet delay, making the echo more noticeable. By effectively eliminating the AE from the caller side, the user will experience a significantly improved voice quality experience.
- IVR accuracy increase due to the reduction of false detections related to echo. "IVR talking to itself"

#### Automatic Level Control (ALC)

Bidirectional Level Control technology dynamically detects level imbalances and automatically adds or attenuates by up to 15dB, as needed to bring both sides of the call to a specified volume level.

##### Benefits to contact centers:

- When calls are connected, the volume levels are often

unbalanced with one side of the call too high or low for comfortable listening. Callers will communicate more comfortably with agents and IVR's.

- Automatically increases the intelligibility of the phone call or the IVR messages. The talker is not required to turn up the volume on his handset because of high background noise.

#### Enhanced Voice Intelligibility (EVI)

EVI rebalances the spectral characteristics of speech components improving clarity and speech recognition. It enables the listener to more easily distinguish and understand voice in loud environments.

##### Benefits to contact centers:

- EVI automatically increases the intelligibility of the agent call or IVR messages, without distorting or amplifying the signal.

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### About Nuance Communications, Inc.

Nuance Communications is reinventing the relationship between people and technology. Through its voice and language offerings, the company is creating a more human conversation with the many devices, electronics, apps and services around us. Every day, millions of people and thousands of businesses experience Nuance through intelligent systems that can listen, understand, learn and adapt to your life and your work. For more information, please visit [www.nuance.com](http://www.nuance.com).