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(54) **Title:** CROSS-CHANNEL ENROLLMENT AND AUTHENTICATION OF VOICE BIOMETRICS

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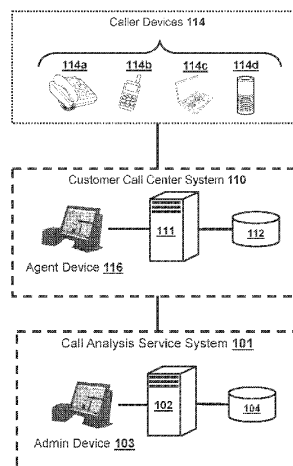


FIG. 1

(57) **Abstract:** Embodiments described herein provide for systems and methods for voice-based cross-channel enrollment and authentication. The systems control for and mitigate against variations in audio signals received across any number of communications channels by training and employing a neural network architecture comprising a speaker verification neural network and a bandwidth expansion neural network. The bandwidth expansion neural network is trained on narrowband audio signals to produce and generate estimated wideband audio signals corresponding to the narrowband audio signals. These estimated wideband audio signals may be fed into one or more downstream applications, such as the speaker verification neural network or embedding extraction neural network. The speaker verification neural network can then compare and score inbound embeddings for a current call against enrolled embeddings, regardless of the channel used to receive the inbound signal or enrollment signal.

[Continued on next page]

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