

New ns-3-based emulation platform for performance evaluation of tcp-based speech recognition

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Abstrak

Internet-based speech recognition applications prefer using TCP to ensure reliable speech data delivery. TCP-based speech recognition can be designed to push recognition updates on the fly, without waiting for all speech data to fully arrive at the server. We propose an ns-3-based emulation platform to evaluate the performance of TCP-based speech recognition. The server and the client are connected to the simulated network using a tap bridge. The real-time performance of full-duplex speech recognition is measured based on data size, loss rate, and propagation delay. For all our data samples, the application exhibits good performance when the propagation delay is 120 seconds and the loss rate is less than 0.3%, as well as when the propagation delay is 50 seconds and the loss rate is less than 0.5%.