Analysis of Interleaving Scheme for Narrowband VoIP System under Pervasive Environment

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Abstract : In Voice over Internet Protocol (VoIP) system, the speech signal is degraded when passed through the network layers. The speech signal is processed through the best effort policy based IP network, which leads to the network degradations including delay, packet loss and jitter. The packet loss is the major issue of the degradation in the VoIP signal quality; even a single lost packet may generate audible distortion in the decoded speech signal. In addition to these network degradations, the quality of the speech signal is also affected by the environmental noises and coder distortions. The signal quality of the VoIP system is improved through the interleaving technique. The performance of the system is evaluated for various types of noises at different network conditions. The performance of the enhanced VoIP signal is evaluated using perceptual evaluation of speech quality (PESQ) measurement for narrow band signal.

Keywords : VoIP, interleaving, packet loss, packet size, background noise

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