AI-Powered
Packet Loss Concealment

Overview:

Meeami's Packet Loss Concealment (PLC) system is a real-time neural network-based solution that reconstructs missing audio packets during network transmission. Whether caused by jitter, dropouts, or unstable bandwidth, packet loss degrades voice quality. PLC ensures seamless, uninterrupted audio by intelligently predicting and regenerating lost speech data — even during consecutive packet drops.

Ideal Use Cases

- **VoIP Communication (Zoom, Teams, Meet)**
  Maintain intelligibility during unstable network conditions.
- **Live Audio Streaming (Edge Playback)**
  Ensure uninterrupted audio on embedded and mobile devices.
- **Telecom Infrastructure**
  Integrate at codec or transport level to reduce drop-induced artifacts.
- **Smart Devices & TWS Earbuds**
  Enhance call quality in constrained networks with low-memory models.

Technical Specifications

Feature	Specification
Input Audio Rate	16 kHz
Model Size	~5.1 MB
MACs	3.9 Billion
Latency	~40 ms
Frame Size	10 ms (finalized)

Deployment Notes

- SDK in development for integration with Meeami CleanAudio stack
- Designed for cloud and edge applications
- Will integrate with VoIP stacks, media engines, or as a pre/post-processing block

Outcomes & Value

- **Seamless Audio Experience**
  Smooths dropouts without causing robotic or clipped sound.
- **Improved Call Quality Scores**
  Boosts MOS/PLCMOS ratings in poor network conditions.
- **Lightweight & Integrable**
  Optimized to fit into existing audio stacks with minimal latency.
- **Compatible with Streaming Pipelines**
  Designed for edge playback and real-time platforms.

Transformational Impact

Without Meeami PLC	With Meeami PLC
Clicks, pops, gaps during packet loss	Reconstructed speech with temporal smoothness
MOS drops below 3.0 under 10% loss	Maintains MOS ≥ 4.0
Intelligibility severely degrades	Natural-sounding speech during transient loss
Manual jitter buffer tuning	Neural concealment adapts to varying loss rates

Interested in Piloting PLC?

Meeami's Packet Loss Concealment engine is available for evaluation.
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