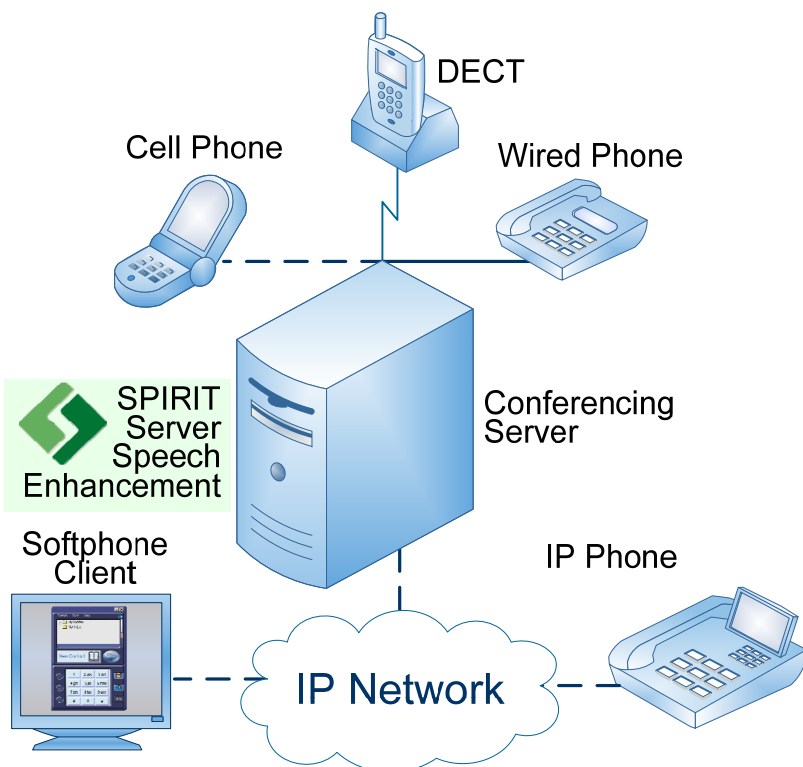


SPIRIT Server Speech Enhancement

Thousands of conferences are hosted by servers every day. Calls originated by mobile/PSTN phones in bad environment are terminated on HI-FI VoIP end user equipment. Converged networks and added latency make initial echo & noise more audible. When it's impossible to remove this echo in terminal equipment at the near side, SPIRIT offers a solution performing speech enhancement in on the server side and improving the quality of incoming voice after the fact.

The SPIRIT Server Speech Enhancement ensures the PSTN voice quality for all VoIP clients regardless the original speech quality. This module suppresses the echo and significantly improves VoIP conversation quality. Server Speech Enhancement performs noise suppression on the server side. Thus VoIP clients receive incoming speech free of noise, echo and other distortions.



Benefits

- Full duplex conversation
- High level echo and noise suppression
- Fast convergence and dynamic adaptation

Key Features

- Echo Canceller
- Noise Suppressor
- NLP&CNG

Applications

- Conference servers
- IP gateways
- DECT base stations
- PHS base stations
- GSM/CDMA base stations

Availability

- TMS320C54xx
- TMS320C55xx
- ARM
- TEAK
- Intel x86
- Intel Xscale

Features

- Full duplex conversation enables both parties to speak at the same time saving speech intelligibility and making conversation more natural without any distortions or breaks
- High level echo and noise suppression in noisy environments and non-linear distortions
- Fast convergence and dynamic adaptation to changing environment

Key Technologies

- Echo Canceller is used to cancel acoustic echo caused by terminal equipment and line echo not fully suppressed by network equipment.
- Noise Suppressor ensures highly intelligible and easy-to-understand speech quality even when a lot of different noises get mixed with speaker's voice.
- NLP&CNG are used for residual echo suppression after echo cancellation and smooth comfort noise generation during the silence intervals, to avoid the "disconnected line" effect.

SPiRiT Server Speech Enhancement is available in two variants: fully featured Server Speech Enhancement Advanced, providing perfect echo cancellation and listening experience and low-MIPS consuming Server Speech Enhancement Light, ensuring top voice quality and reducing system's recourse consumption 50%.

AVAILABILITY MATRIX	Server Speech Enhancement	
	Light	Advanced
Acoustic Echo Cancellation		✓
Acoustic Echo Suppression	✓	✓
Noise Suppression	✓	✓
Non Linear Processor		✓
Comfort Noise Generation	✓	✓
Clock Drift Control	✓	✓
Audio Tuning Wizard	optional	optional
Multi-channel Audio Mixer	✓	✓
Automatic Gain Control	✓	✓
Anti-Howling Control	✓	✓

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