

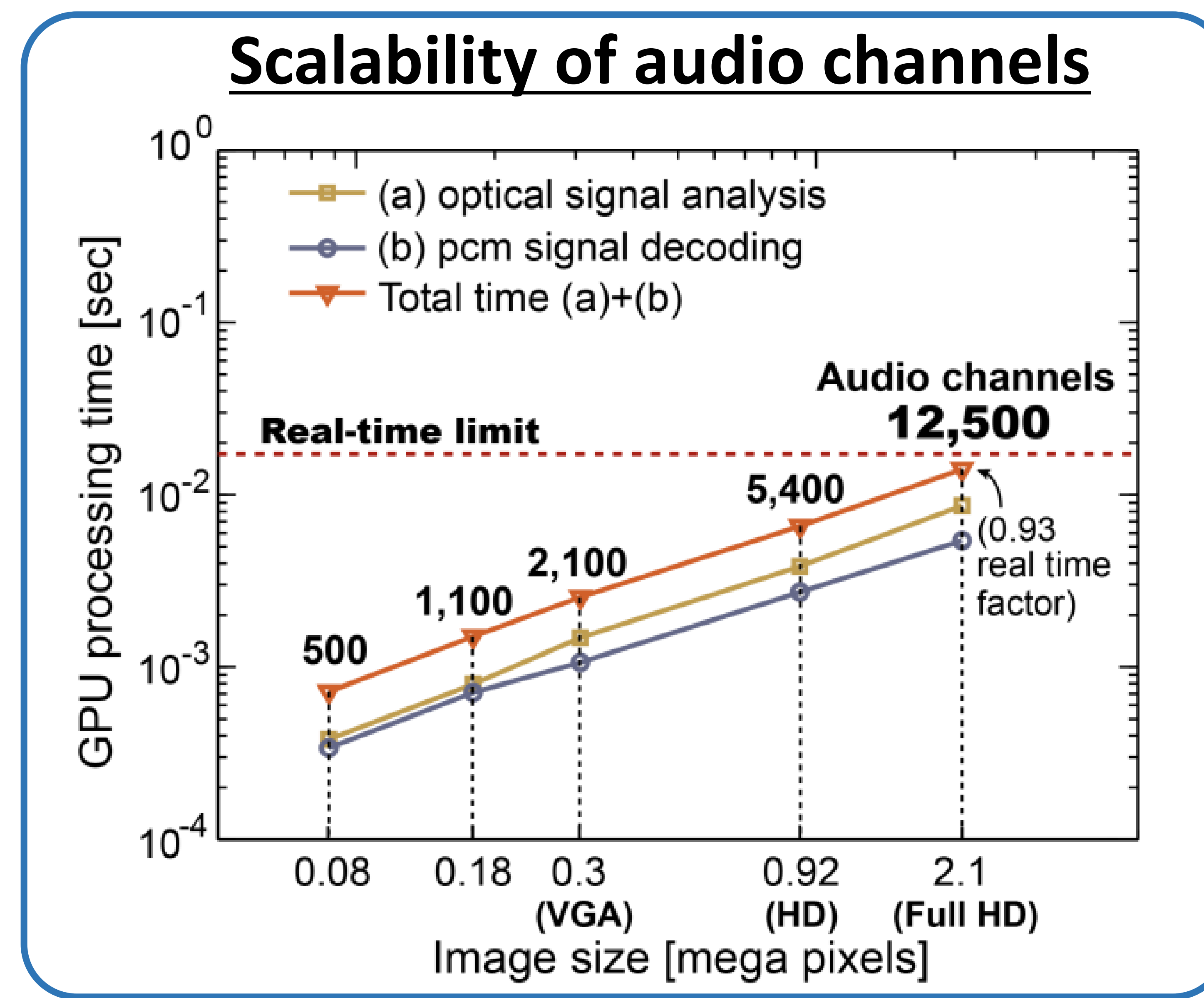
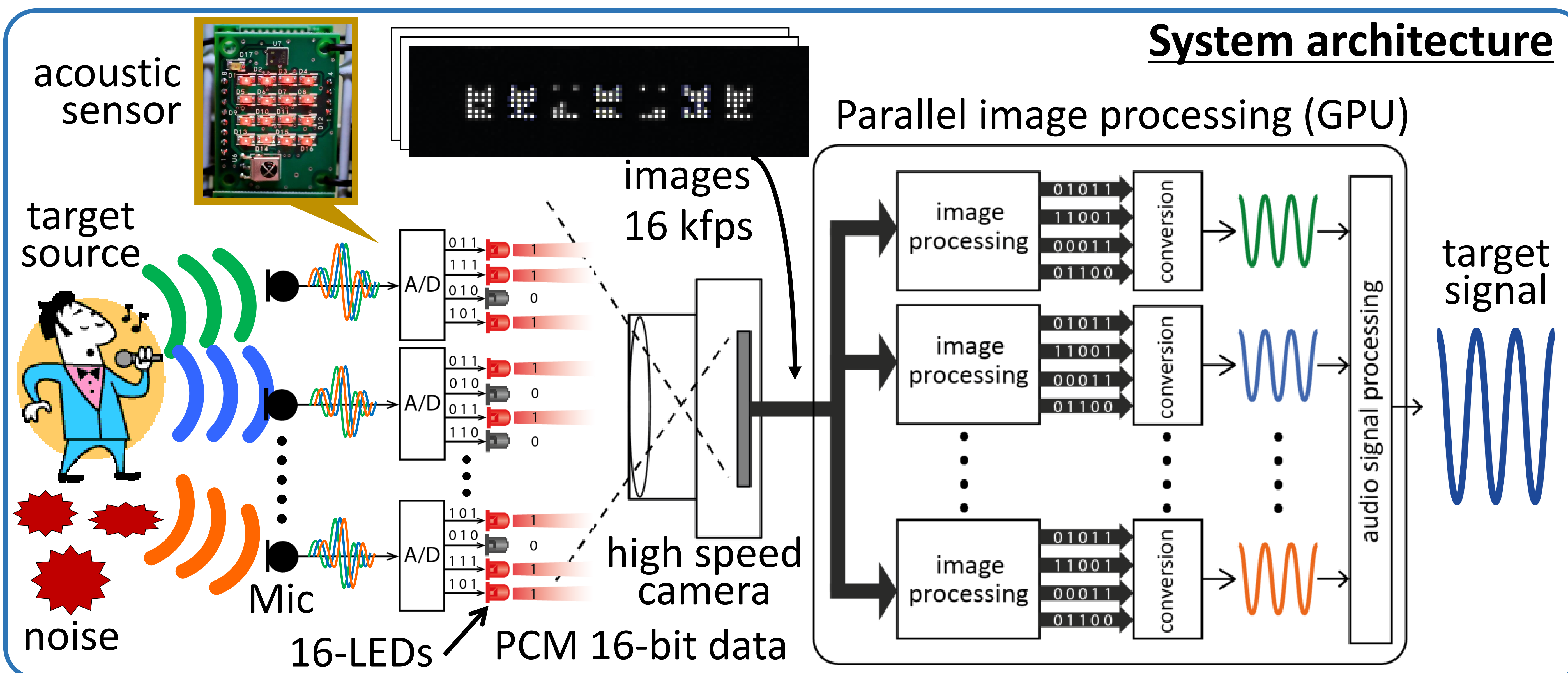
可視光通信による指向性收音

Capturing Directional Sound through VLC



Abstract

It is possible to listen to the sound from a desired direction and isolate the noise from others by properly aligning and mixing the signals of a microphone array. Moreover, large arrays produce better sound directionality, however, they have been unrealistic due to the cost and complexity of the wiring interface and processing hardware. We developed a system capable of capturing the audio signals of huge microphone arrays via Light Emitting Diodes (LEDs) and a high speed camera. To achieve real time performance, we employ a single Graphics Processing Unit (GPU) for massive parallel processing. With such a large-scale system, super directive audio focusing in wide areas will be possible in the future.



- 担当: パブロ・ナバ・ガブリエル (副担当: 白木 善史、佐藤 尚)
- 連絡先: gabriel.pablonava@lab.ntt.co.jp ●オンライン・デモ: <mms://csflash.kecl.ntt.co.jp/cslab/mrl/pablo/vasdemo1.wmv>
- 参考論文:

Pablo Nava G., Nguyen Duy, Kamamoto Yutaka, Sato G. Takashi, Shiraki Yoshifumi, Harada Noboru, Moriya Takehiro, "A High Speed Camera-based Approach to Massive Sound Sensing with Optical Wireless Acoustic Sensors", *IEEE Trans. on Computational Imaging*, Vol 1, No. 2., pp 126-139.