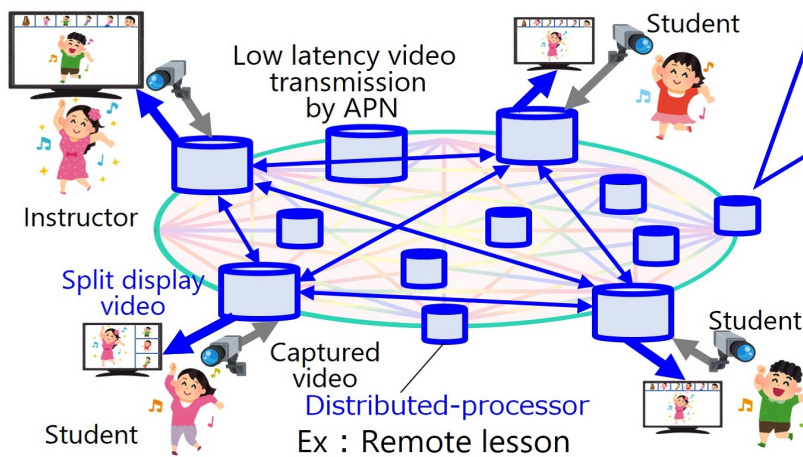## Background

The need of remote real-time lesson for dance and ensemble via networks is growing . However, it is hard to realize sense of unity in remote performances due to the latencies involved in video transmission and the screen-splitting process of multiple videos.

Summary

With our proposed viewer, we created the remote communication system displaying videos of multi-point with a delay of less than 20 ms. Demonstrations using this system have revealed the feasibility of remote communication without the stress of video delay.

Real-time video communication with sense of unity

Low latency video transmission by APN

Instructor

Split display video

Student

Captured video

Distributed-processor

Ex : Remote lesson

Student

Student

Distributed-ultra-low-delay split-display processing technology

Conventional Processing starts after all frames are aligned
> **Delay until for last frame received**
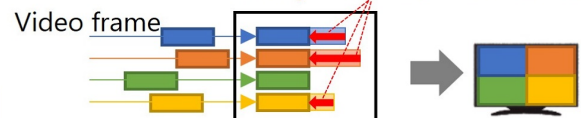
Video frame

Split-display processor Output video

Proposal processing starts with frame received
> **Avoid delay of waiting for last frame**
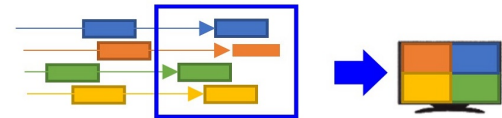
Support for multiple locations and perspectives

Features

- Reduction of waiting time for video-frame buffering by FPGA-based stream screen-split processing
- Distributed processing enables equipment to be deployed at each location to support multiple locations and multiple viewpoints
- Uncompressed video transmission using the low latency and wide bandwidth of optical fiber transmission

Future_benefits

Remote visual communication without delay and with sense of unity can be achieved even in remote locations by combining this technology and the features of the IOWN.

Exhibiting Company

NIPPON TELEGRAPH AND TELEPHONE CORPORATION

Contact

rdforum-exhibition@ml.ntt.com

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