

## Licensable Technologies

# PixelVizion

### Applications:

- Animation and special effects
- Video game graphics
- Immersive training facilities
- Film postprocessing
- Visualizing large-scale scientific problems

### Benefits:

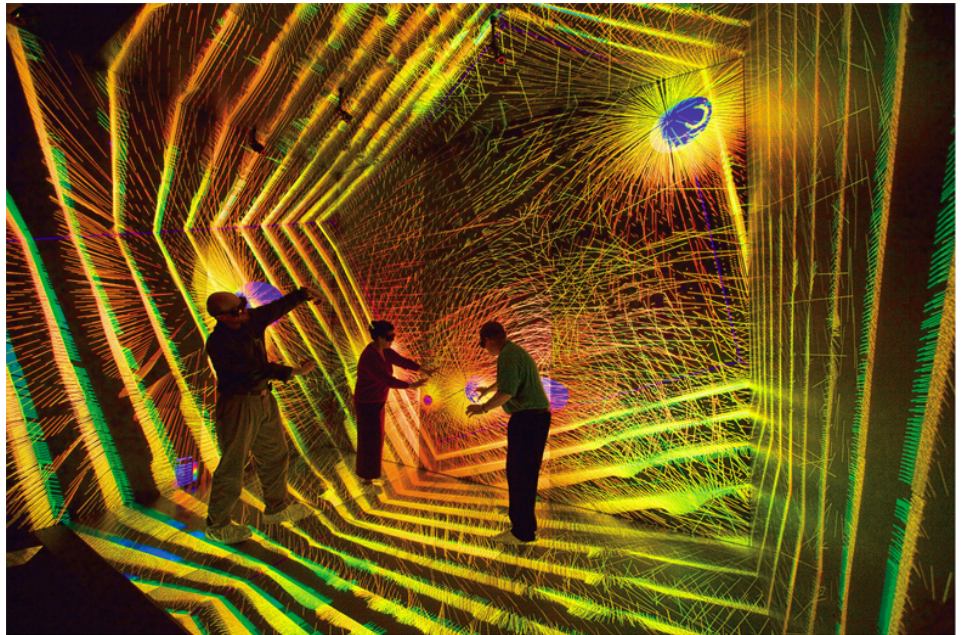
- Provides 10x to 20x faster image composition
- Offers a cost-effective, commercial, off-the-shelf solution
- Removes the need for an expensive network interconnect
- Provides flexible programming to enable faster development cycles
- Is highly modular and scalable
- Frees processing power for other applications
- Accommodates a variety of software rendering packages

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*The CAVE is a five-surface (left, front, right walls with floor and ceiling) display with 33 projectors lighting 43 million pixels in a 15 x 12 x 10-ft display area where researchers can work in a 3-D environment.*

### Summary:

As imaging and video technology continues to advance, the need to process, analyze, sort, and manipulate large data sets has grown tremendously. The image compositing function has become a visualization bottleneck. PixelVizion, an application developed by Los Alamos National Laboratory, is the first Network Processor Unit (NPU)-based computer visualization tool that addresses this bottleneck. It brings single-pass network data transmission and on-the-fly image compositing that yields an order-of-magnitude increase in interactive response times. PixelVizion is a hardware-assisted, lossless, highly scalable, high-frame-rate solution to the visualization bottleneck of image compositing. It composites extremely large volumes of data at rates that are 10 to 20 times faster than those of current compositing technologies. As a cost-effective, commercial, off-the-shelf solution, PixelVizion removes the need for an expensive network interconnect and accommodates a variety of software rendering packages.

### Development Stage:

Working prototype.

### Intellectual Property Status:

U.S. Patent granted

International copyright on firmware code

### Licensing Status:

The Laboratory is seeking a commercial partner to

- Assist with the implementation of PixelVizion onto commercial network processing unit platforms; and
- Package and distribute the technology in the commercial, academic, and government marketplaces.

[www.lanl.gov/partnerships/license/technologies/](http://www.lanl.gov/partnerships/license/technologies/)

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