

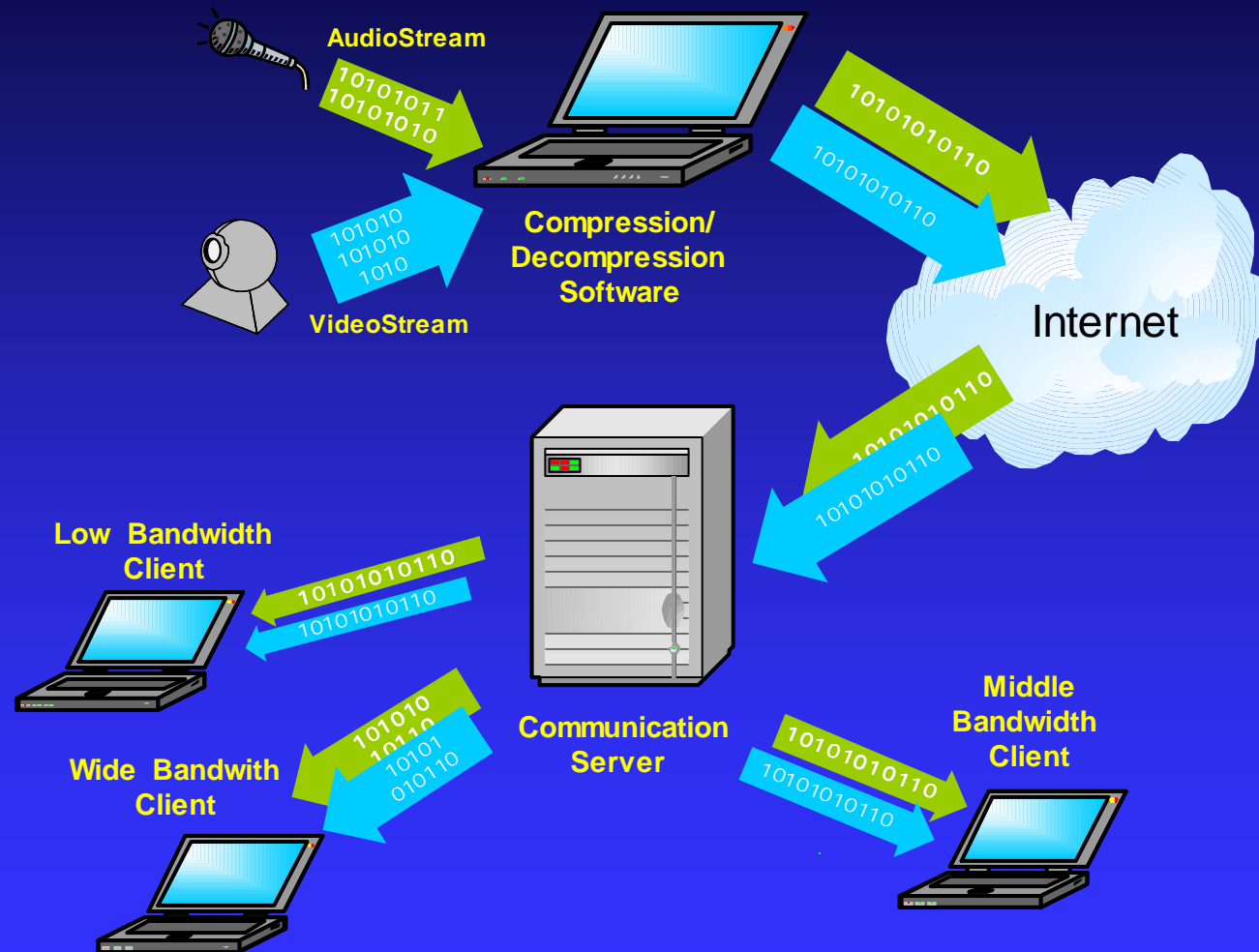
Visicron Broadcast Bandwidth-Scalable Wavelet Codec

Visicron Corp.

<http://www.visicron.com/>

2003

Bandwidth-Scalable Broadcasting



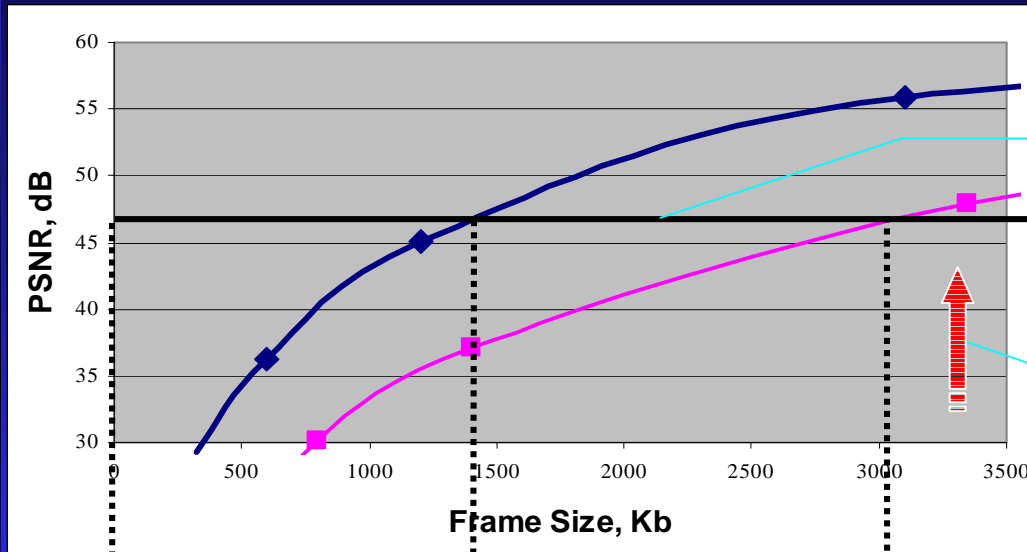
System specific

- **Broadcasting goal:** one user is broadcasting many are receiving
- **Base problem:** different users has different network bandwidth
- **Ordinary solution:** use frame-independent codec and adapt framerate to each user
- **Visicron-II solution:** use Codec with Bandwidth-Scalable Codec Architecture based on Wavelets

Comparison with Motion-JPEG-like codecs

- PSNR measure is used for quality comparison (general measure for codec comparison)
- Average frame size is used for size comparison

Comparison with Motion-JPEG-like codecs



Equal quality line

The higher – the better quality

Frame sizes for different codecs

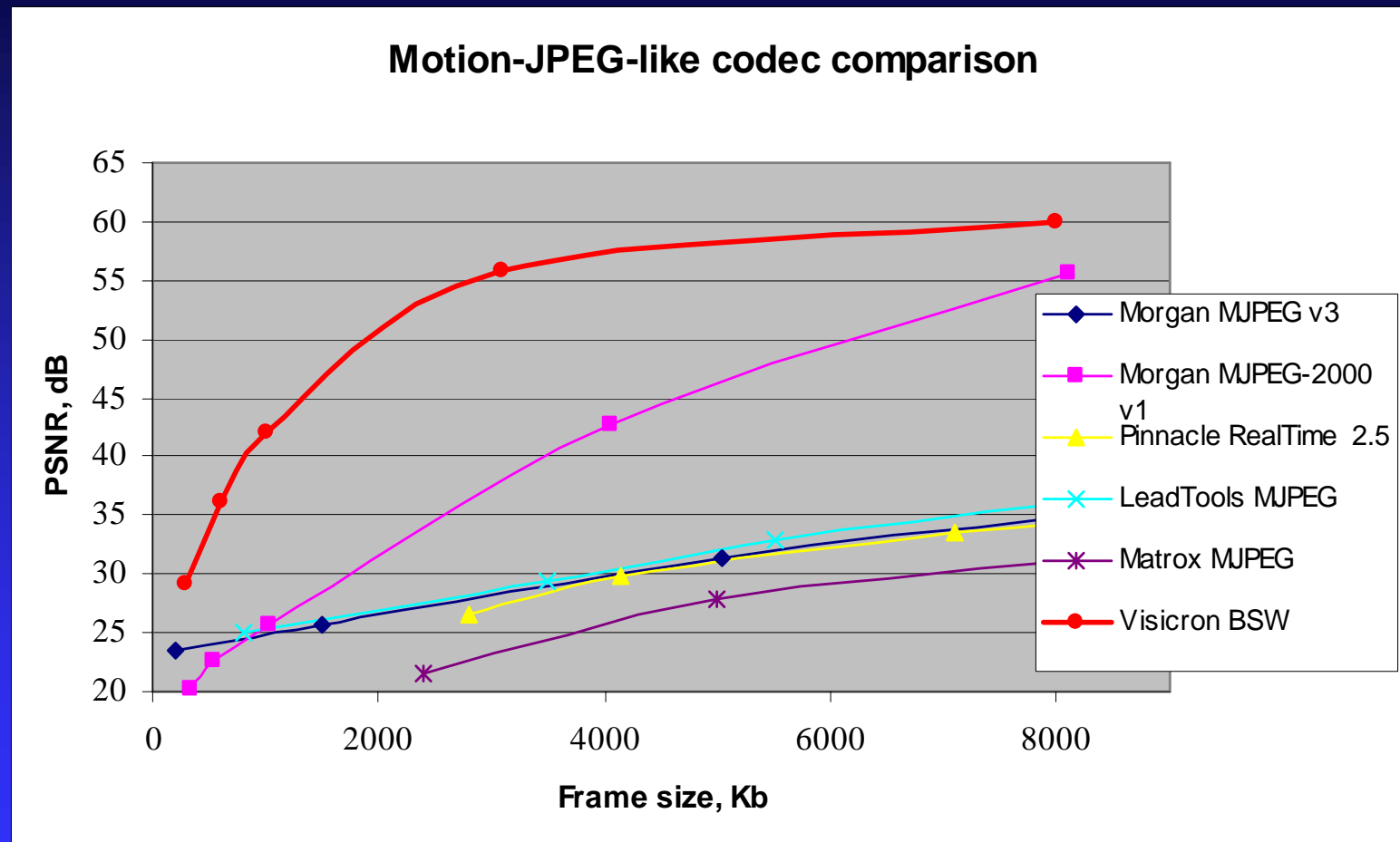
Advantage in compression for blue codec

Comparison with Motion-JPEG-like codecs

We compare our Visicron BSW codec
with modern popular codecs:

- Morgan MJPEG v3
- Morgan MJPEG-2000 v1
- Pinnacle RealTime 2.5
- LeadTools MJPEG
- Matrox MJPEG

Comparison with Motion-JPEG-like codecs

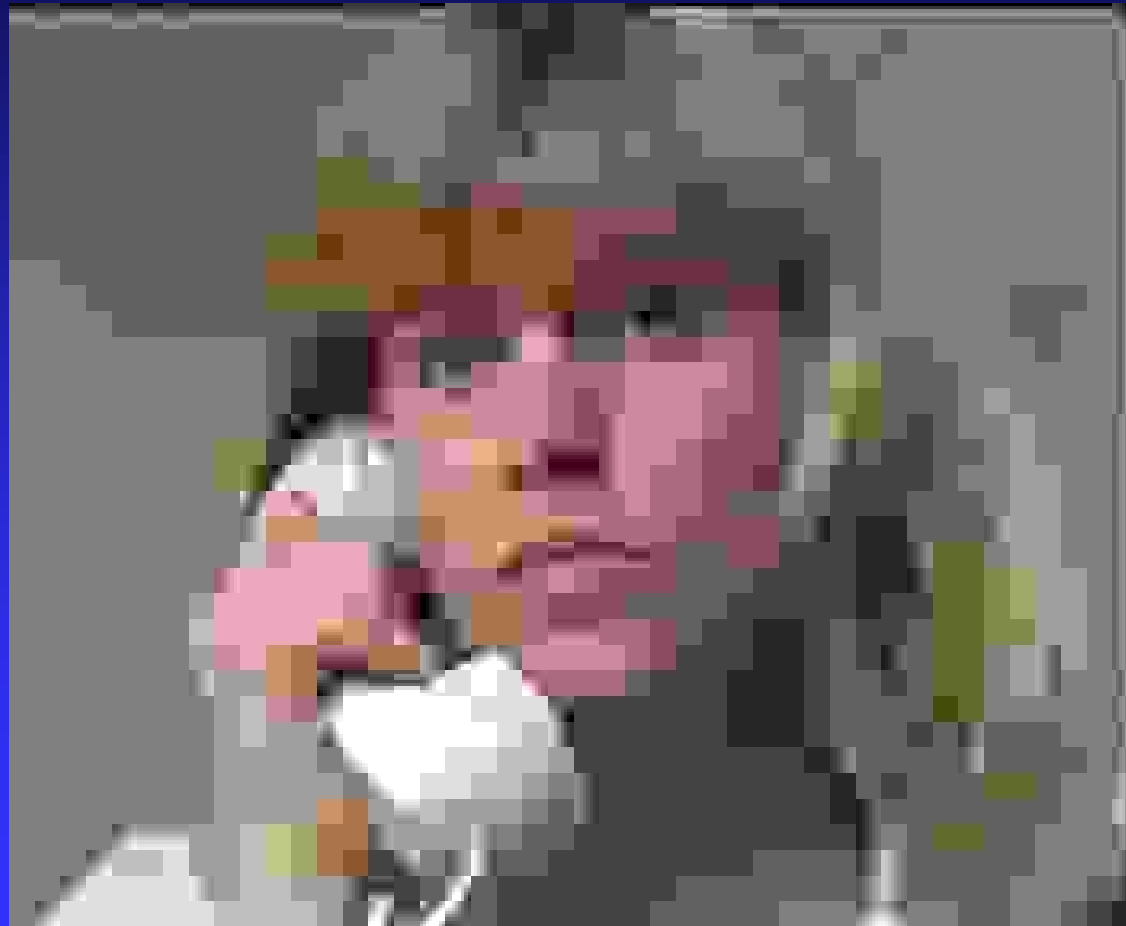


Comparison on typical videoconference sequence

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Motion JPEG Codec

Morgan-multimedia MJPEG codec on 200 Kbit, 10 fps



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Motion JPEG-2000 Codec

Morgan-multimedia MJPEG-2000 codec on 200 Kbit, 10 fps



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Visicron BSW Codec

Visicron BSW codec on 200 Kbit, 10 fps



Visicron Corp. <http://www.visicron.com/>

Visicron BSW Codec Advantages

- Highest scalability range:
 - ◆ With one broadcasting stream it is possible to make from 1 to 25 fps
 - ◆ Frame scalability is from 200 bytes per second. It is 10 times smaller beginning bandwidth than in MJPEG-2000 codec
- Business quality on ordinary internet bandwidth connection bitrate

Codec Characteristics

Frame Rate (P4-1700)	Up to camera limits
Average Bandwidth Used (at 320 x 240)	80 kbits on 5 fps
Compression Ratio	Up to 500:1
Compression Format Input/Output	RGB24, RGB32, UYVY, YUY2, V422, YVYU, YV12, I420, IYUV, CLJR, IF09

System Requirements

Operating system	Windows 95/98/ME/2000/NT/XP
Preferred CPU performance	700 MHz or greater
Preferred Camera	Any DV or NTSC camera into TV capture card; USB: Logitech QuickCam Pro 3000

Contact Information

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