

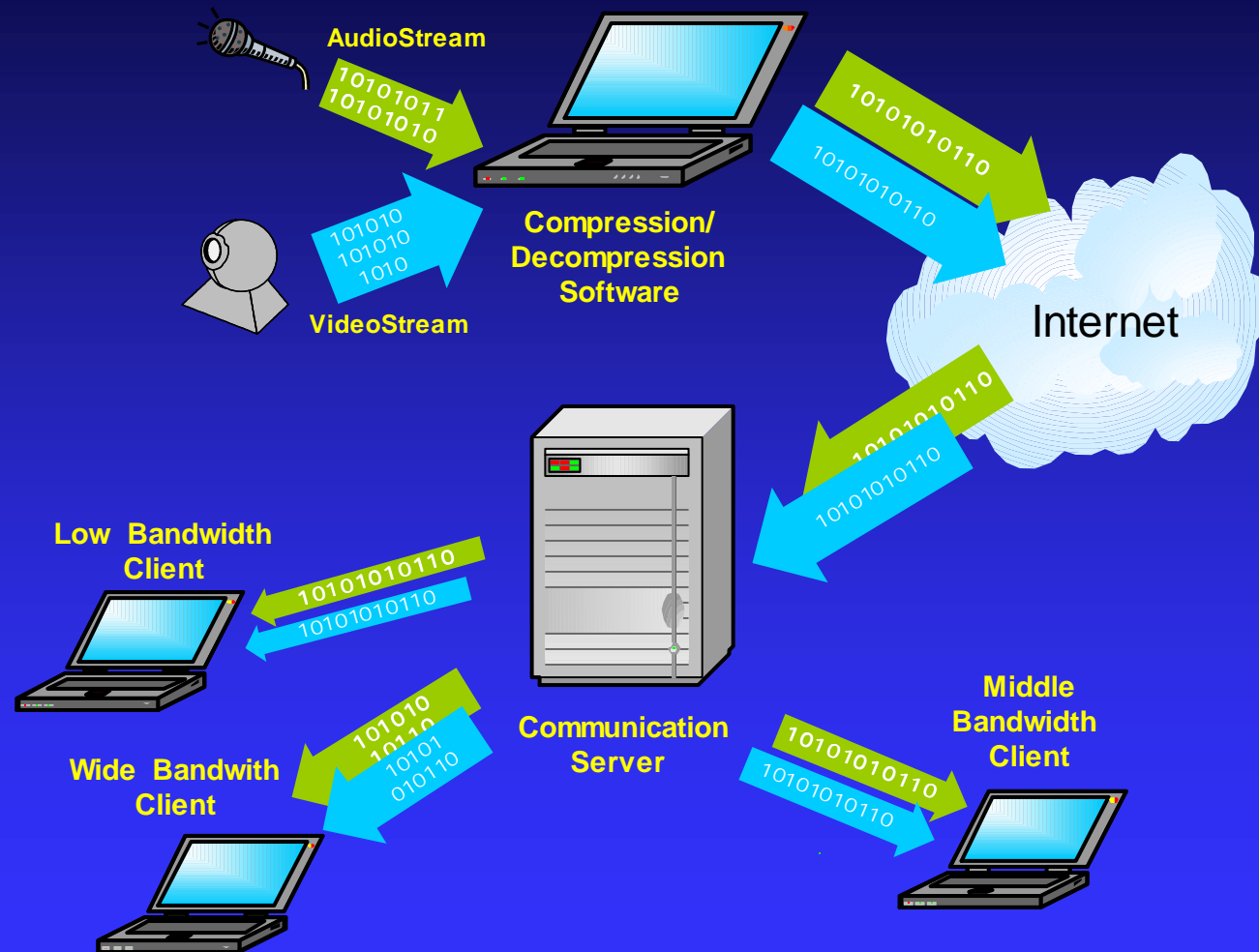
# Visicron Broadcast Bandwidth-Scalable Wavelet Codec

Visicron Corp.

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

2003

# Bandwidth-Scalable Broadcasting



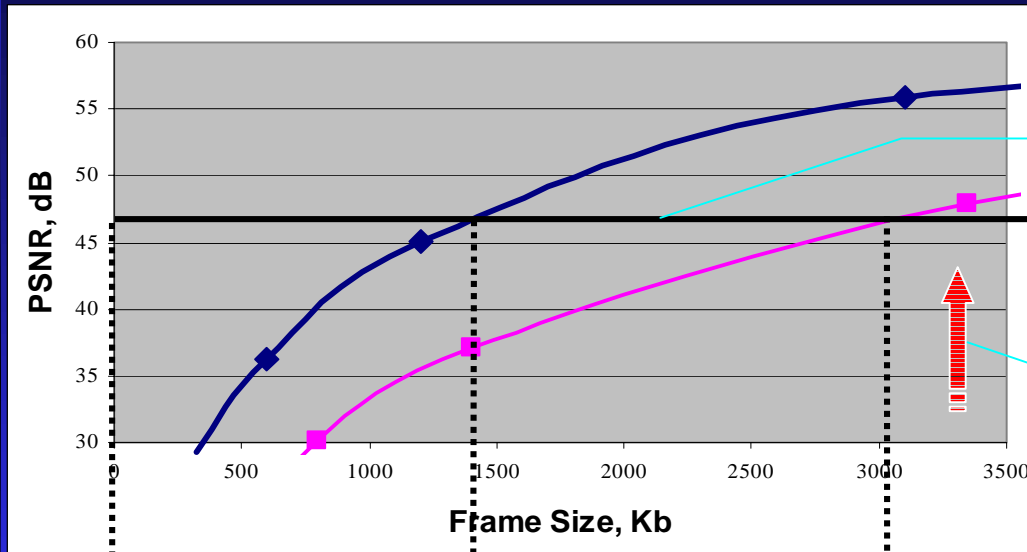
# System specific

- **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

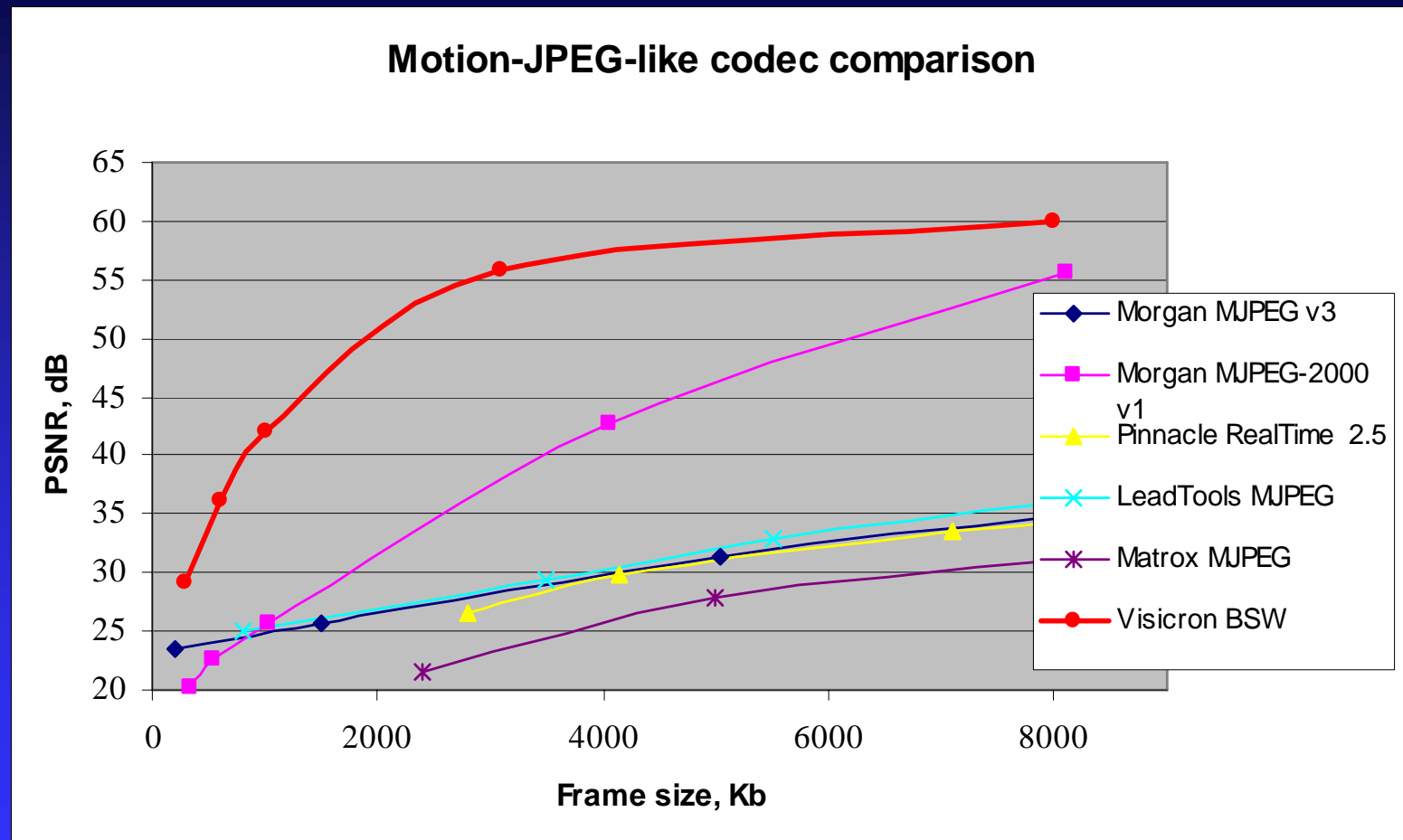
Advantage in compression for blue codec

# 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

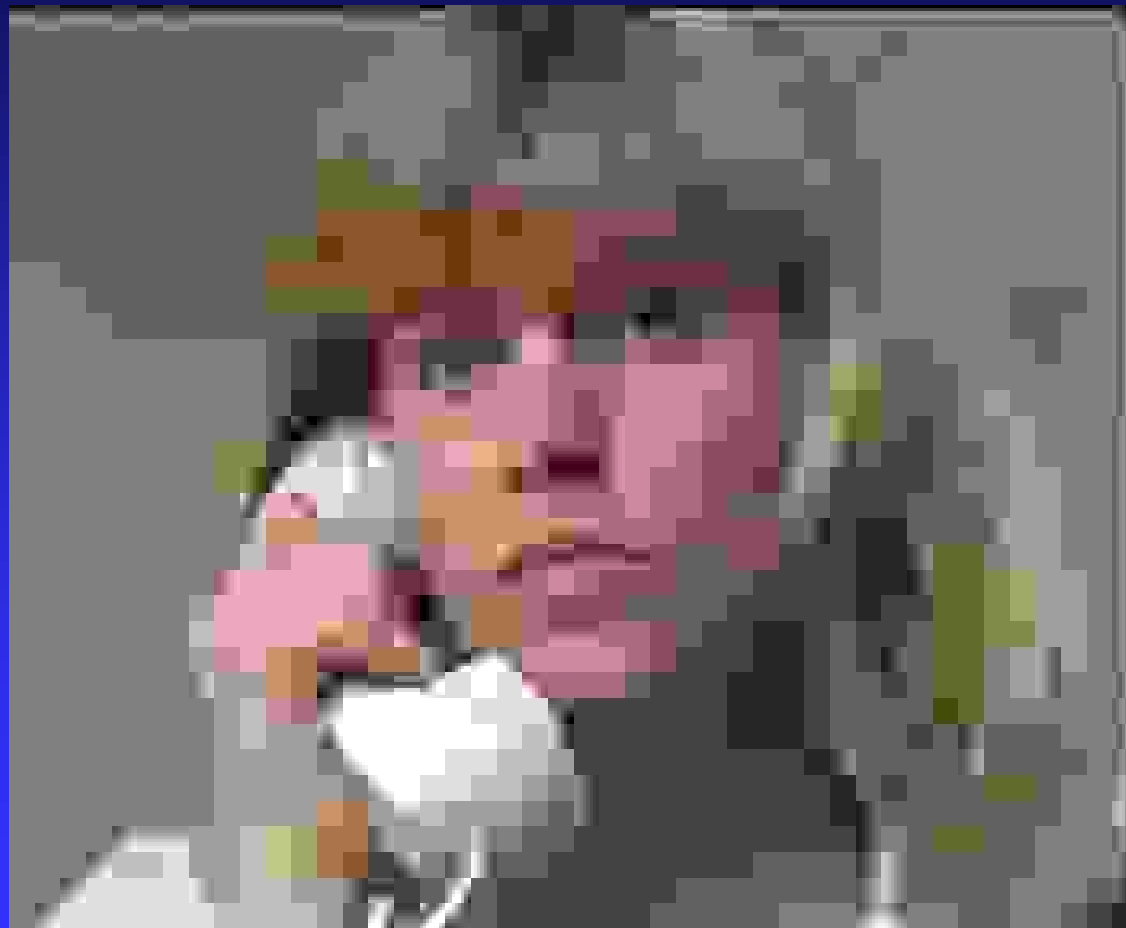


Comparison on typical videoconference sequence

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

# Motion JPEG Codec

Morgan-multimedia MJPEG codec on 200 Kbit, 10 fps



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



# Motion JPEG-2000 Codec

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



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

# 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

Please contact us:

- For technical information please contact

[dv@compression.ru](mailto:dv@compression.ru) or  
[dvatolin@visicron.com](mailto:dvatolin@visicron.com)

- For purchase please contact  
[sales@visicron.com](mailto:sales@visicron.com)