

# Era: Superminis lead to Workstations - '84 and on

About 1984, the Cyber and the DEC-10 were replaced with a **Gould Superminicomputer**. The 9050 series was a 32-bit Superminicomputer designed for scientific/engineering computing. Its UTX/32 4.3BSD Berkeley Unix-based operating system was one of the very first multi-processor shared memory implementations of Unix. It allowed up to 128 users. It had a cycle time of 75 nsec and was supported by 16 Mbytes of memory.



Mines made a key decision (primarily driven by CIO Emeritus Derek Wilson) at that time was that the future lay in distributed computing and networking. Mines was one of the first universities to adopt that principle and build their computing strategy around it.

That decision, more than any other factor, drove Mines' commitment to high-speed workstations over the next two decades.

## Center for Wave Phenomena - CWP



[cwp.mines.edu](http://cwp.mines.edu)



In about 1984, the Center for Wave Phenomena was formed to lead Mines'

work in seismic processing. CWP was led by Norm Bleistein and Jack K. Cohen, and they focused mainly on the mathematics of wave propagation. From 1984 to about 1988 they used a combination of Unix workstations including a Masscomp 5700 with multiple 68200 processors and 68881 FPSs.

In 1987 Ken Lerner joined CWP, and he was followed by Dave Hale. Dave was Mines' primary driver in high-speed computing for the next few years, with a focus on high-performance workstations.

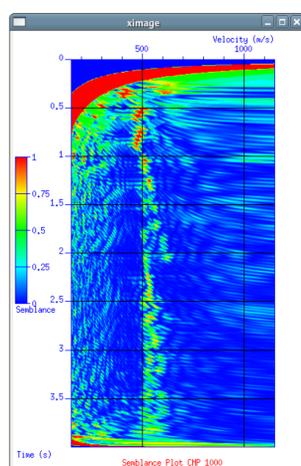


Students in the department who were doing more structural geology/seismic stratigraphy work used the TIMAP "Tie map" computer, a dedicated seismic processing computer system.

## CWP Seismic-Unix

# CWP SU

John Stockwell joined CWP in 1988. John is the maintainer of CWP's Seismic Unix. "SU" is a public domain seismic processing software package written and maintained by the Center for Wave Phenomena (at the Colorado School of Mines, in Golden, Colorado). The current web site for SU is <http://www.cwp.mines.edu/cwpcodes>.



Velocity Analysis with SU



## NeXT comes to Mines & Mines goes to NeXT

In 1989, Dave Hale, (now also with CWP) purchased the first NeXT machines (three, initially) in Colorado. Dave says: "This first purchase of three NeXTs led to an invitation to a meeting with a small group of academic folks and **Steve Jobs** at the University of Washington. During this meeting he answered a strategic question I had about exploiting the Motorola DSP56000 chip that came inside each NeXT cube. I had already begun programming this chip for seismic imaging, but Steve steered me away from this, telling me that it was a stopgap for NeXT, used for audio and modem emulation. I appreciated his candid response."



COLORADOSCHOOL OF MINES