foot. There's a bit of a more serious cooling problem as the power doesn't seem to go down. We keep holding our own. We think that we are around 200 kilowatts in this cubic foot which is about the same as the CRAY-2, but the ratio has changed a bit. In the CRAY-2 the power supply was at the bottom and didn't seem too impressive. Most of the space was modules. Here the whole bottom section is power supply and only the top 4" is modules. But you notice the numbers are getting more attractive. We have a 2 nanosecond clock period instead of a 4, we have 16 processors instead of 4, and we can issue every clock period. There appears to be an order of magnitude improvement in performance here and I believe the cost will be the same at the same point in the development cycle. We have gallium arsenide for the first time as well as liquid immersion. I made a couple of charts here and I'm extrapolating into the CRAY-4, because in my mind CRAY-3/CRAY-4 is an evolutionary transition where we simply move to a higher level of integration in gallium arsenide, and we have one processor per module instead of 4 modules per processor. That way we get 64 processors and about the same power level. If you look at the trend here the thing I think is most striking is the inflection point. Please note that the bottom scale is linear, but the vertical scale is logarithmic. Now, to get something that slopes upward on a logarithmic scale is not easy. You know it always turns out a straight line, but here it actually slopes upward at the point where we introduce gallium arsenide. That makes it pretty exciting. Going from 1800 MFLOPS in a hardware sense to 16,000 in the CRAY-3, and to 128,000 MFLOPS in the CRAY-4, I think is pretty exciting stuff to be telling our customers. It's pretty important we make this happen. If we look at it in MIPS the curve is somewhat the same. In fact it's just a little bit steeper from the CRAY-2 to the CRAY-3 because of issuing every clock period instead of every other clock period. We're getting up to 64,000 MIPS. That's 64 GIPS and hardly anybody talks in "gips" terms right now, but we should be the first ones. That's the end of my slides.

Now, what I'd like to know is what else you'd care about hearing that I might be able to tell you. Who would like to know something?

Q: When you looked at gallium arsenide interest in America, did you look at Japan also. What is the state of the art in Japan?

A: I'll repeat that in case you couldn't all hear the question. In looking for a gallium arsenide vendor for our Cray circuit computers, I'm talking about domestic suppliers, and of course that's our first choice. But the question