

little work on the CRAY-3 yet, so he's going to work on that. Maybe he's going to tap a few of you on the head and say, "How would you like to live in Colorado Springs?" I think we need to do more of that. We need to do some of that with Chippewa too. We need to start mixing things up. We need to build hardware in other places. I view Colorado Springs as a prototype as the company gets larger. I think 1,000 or 2,000 people is a big enough group. We have to organize things on a product basis so we don't duplicate a lot of effort. I know software is more difficult than hardware because you do have to interface to a customer. It seems more important to have a single voice, a single image. But to the extent that we can accomplish diversity in effort, and still have some commonality, we should work on that. It would be challenging, but I think it's a worthy goal.

Q: When do you think we'll need more than 32 bits for memory address?

A: It was sure tempting to go to 64 on the CRAY-2 program. I wavered for a long time, but it seemed so wasteful at that point. That was 10 years ago. Right now I would surely do it if we could start over. Someday we will start over, but not on the CRAY-3/CRAY-4 thing. There's a wonderful opportunity in Chippewa Falls for some of the people who are staying there-- the senior people on the CRAY-3 project for example. There's a half a dozen people there who have very good heads who didn't want to move. They are getting an opportunity to take some blank paper and design a new product. I believe this. I hope this is true. I want it to happen. If I were them, I would have a 64 bit address. It would be one of the opportunities. It's just inability to foresee. There was no way that I could foresee that memory sizes were going to grow at the rate they grew, so it was not the right choice. Sorry about that.

Q: What do you see as the key priorities for software in the near term and long range?

A: We have to satisfy the customer. That comes above everything else. I think the current emphasis at having transportability across our product line is awfully high on that list. I know you're doing all these things and I think everything that I hear now is right. I find no quarrel with where we're putting our effort right now. We have to develop multi-processor execution of singular programs and we have to develop transportability across our different product lines which we hope to keep different. I think that's one