

NSF withdraws proposed limits on supercomputer access

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Resistance from researchers has prompted the National Science Foundation to drop provisions denying supercomputer access to visiting researchers from mainland China and Soviet-bloc nations. The disputed provisions were in contracts that formally established supercomputing centers at four universities.

Concerns raised by the US State Department and the US Department of Defense apparently had prompted the NSF to include the restrictions in the contracts with Princeton University, Cornell University, the University of Illinois at Urbana-Champaign, and the University of California at San Diego.

"All references to foreign nationals have been dropped," said Susan Mars of Cornell's Theory Center. A compromise dropped the explicit limitations but left the door open for future exclusions. Similar alterations in the restrictions were reported for Princeton, the University of California, and the University of Illinois.

The question of limited access has not yet affected a proposed fifth center to be run jointly by Carnegie-Mellon University, the University of Pittsburgh, and Westinghouse. "We're negotiating with them over money," said Michael Levine of Carnegie-Mellon's physics department. Officially, he said, "the issue has not come up yet."

The basic issue, however, remains unresolved because the State Department's technology transfer division is working on a comprehensive policy for all supercomputer access—not just for the NSF-sponsored centers. The review is part of the division's routine review of high-technology applications for potentially sensitive military and espionage applications, a State Department spokesman said.

"We think they [supercomputers] probably fall in this category," said Michael Marks, a senior policy analyst for Under

Secretary of State William Schneider, Jr., who is in charge of technology transfer issues.

Marks said that the State Department, by working through the NSF, was trying to come up with a policy that satisfies both national security and academic concerns. "We're not try to have a confrontation," he said. "We are not trying to impede access to supercomputers by the academic community. . . . I expect the academic community will be able to live with the policy [that is eventually determined]."

Among the concerns raised at the State Department by supercomputing access were the use of these computers to develop very sophisticated nuclear weapons, antisubmarine warfare, and encryption techniques, Marks said.

The Department of Defense fears Soviet-bloc researchers could use the knowledge gained from supercomputer access to help the Soviets build and use supercomputers for military purposes, said Donald J. Goldstein, the principal director of trade secrets at the Office of the Secretary of Defense. The Soviets so far have no supercomputers, he said, and the US wants to preserve its edge in this area.

It is also conceivable that Soviet-bloc researchers might use US supercomputers to process data for the Soviet military if the data were important enough, Goldstein said.

The Chinese were on the restricted list because they are a communist government, Goldstein said. However, relations with the Chinese have improved since the list was drawn up decades ago and their status may change, he indicated. (The week the access issue first became public, President Ronald Reagan signed a nuclear technology exchange agreement with China's president, Li Xiannian.)

Personally, Carnegie-Mellon's Levine said he was upset by the proposed restrictions. "A simple, blanket exclusion of access by foreign nationals from the Warsaw Pact and mainland China creates a contradictory situation for a university to find itself in," he said.

Universities promote research freedom and try to allow the brightest minds to work on areas that interest them and to which they can themselves contribute, he said. Limiting those research areas contradicts the universities' purpose, Levine argued.

The government did not made its case for limiting access in the NSF committee meetings where the issue was first raised, Levine said. "I don't understand what is to be accomplished by these [proposed] restraints."

While supercomputers can greatly speed computation, they do not offer any capability that is not available on smaller

machines such as DEC VAX mainframes. A range of computers, from personals to supercomputers, exists that conceivably could be used for research against US interests, Levine said. Those who want to harm US national interests do can find alternatives to supercomputers, he said.

The Department of Defense's Goldstein disagreed. "It's really a matter of degree," he said. Supercomputers are so much faster than conventional large computers that there is cause for concern, he said.

Levine argued that the proposed limits will harm only the US by discouraging research through artificial and unrealistic limits. Before blanket limits are imposed, the government needs "to show that the mechanisms in place aren't working."

Inquiries about the proposed restrictions to the National Science Foundation's Office of Advanced Scientific Computing were referred to its general counsel, Charles Herz. Attempts to reach him were unsuccessful.