

Livermore to get \$100m supercomputer

Washington. President Bill Clinton announced last week that the US Department of Energy is to buy the world's most powerful supercomputer from IBM.

The \$100-million machine will start operating in 1998 at Lawrence Livermore National Laboratory in California. It will be used to simulate nuclear explosions in the absence of testing. But Clinton added that "it can quickly be switched over to civilian uses as well".

Energy department officials say that about 20 per cent of the machine's capacity will be used for classified-weapons work and 20 per cent for non-classified scientific use. The remaining 60 per cent will be interchangeable between the two.

Bruce Tarter, director of Lawrence Livermore, said that the machine would help US weapons laboratories to regain their world leadership in the use of supercomputers. In the 1960s and 1970s, the weapons laboratories had the fastest machines in the world. But the arrival of parallel processing and distributed computer workstations in the 1980s marginalized their lead. "We weren't special in that context," Tarter says.

Now the energy department's multi-billion-dollar Accelerated Strategic Computing Initiative (ASCI) aims to boost supercomputing power in the laboratories

of the world for leadership in science and technology, he said.

"To stay on top, I've done everything I can to increase our commitment to science and technology at every level, and especially at the universities. No investment we've ever made has paid off more, in jobs and security.

"If we really want the America of our dreams, we must have research and development that's the best in the world."

The president was speaking at the National Science and Technology Medal awards ceremony at the White House on 26 July. He awarded a special Technology Medal to the widow of Ron Brown, the commerce secretary who died on a trade mission to Bosnia earlier this year, and pledged to defend the controversial Advanced Technology Program (ATP) in Brown's honour.

Clinton said that congressional attacks on ATP were based "more on ideology than on the evidence". He claimed that the programme had "forged remarkable progress in the private sector".

Clinton is campaigning for re-election not on the basis of any broad theme but through a steady stream of announcements, each addressing the concerns of some small constituency. The supercomputer announcement, which received nationwide television coverage, was the scientists' turn.

The supercomputer procurements will total \$900 million in the first five years of ASCI alone. But they will raise international questions about the extent to which the United States is still subsidizing its supercomputer industry through the nuclear

weapons programme.

The administration says it wants an open market in supercomputers, but Japanese and European suppliers have yet to make a single sale to the US federal government (see box, below).

Jack Gibbons, Clinton's science adviser, said that the administration "believes in international competition in business, including the supercomputer business" and predicted that Japan would "sell some over here soon".

He criticized Representative David Obey (Democrat, Wisconsin) for his attempt to dock the salaries of US government officials who tried to buy a supercomputer from NEC (see *Nature* 382, 5; 1996).

But Hazel O'Leary, the energy secretary, appeared to admit that the new procurements were intended to bolster the US industry. She said: "To remain competitive, we've got to maintain this dominance in computer capability." But she also said that "this was an open procurement — anyone could have bid". Department officials repeatedly refused to say how many companies had bid, or whether any of them were from outside the United States.

The new machine will be accessible to non-weapons scientists inside and outside Department of Energy laboratories. David Nowak, head of the ASCI programme at Livermore, says that a small-grant programme — worth \$4 million this year, growing to \$12 million by 1998 — will support university scientists who want to use it.

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by five orders of magnitude by 2010. The first machine bought under the programme was a 1.8-teraflop computer (1.8×10^{12} floating point operations per second) ordered from Intel last year by Sandia National Laboratory in New Mexico.

The Lawrence Livermore machine will deliver three teraflops, but is distinguished by its huge memory capacity. A ten-teraflop machine will be bought for Los Alamos National Laboratory in New Mexico, for operation by 2000, officials said, and thirty-teraflop and hundred-teraflop computers will follow by 2004.

Clinton used the announcement to boast about his administration's track record in science. America is competing with the rest

Cray files formal 'dumping' complaint

Washington. Cray Research, the supercomputer supplier, has formally filed complaints with the US Department of Commerce and the International Trade Commission (ITC) alleging that its rival NEC is "dumping" a supercomputer that the Japanese company hopes to supply to the National Center for Atmospheric Research (NCAR) in Boulder, Colorado.

NCAR has chosen NEC to supply four large vector supercomputers under a \$35-million, five-year contract. But Cray says the price is "substantially and illegally below the cost of production" of the system (see *Nature* 382, 5; 1996).

Announcing the complaint, Robert Ewald, president of Cray, said that NEC was charging NCAR one-tenth as much as it charged two Japanese customers for the same processor units last summer. NEC had "cut prices sharply in Europe and Canada over the last few years", he said. "Now they are bringing that strategy to the US, where Cray has

stronger recourse to the law".

The Cray complaint is causing a major headache for the National Science Foundation (NSF), which funds NCAR and must approve the bid. According to Ewald, it could take a year to assess the complaint, and in the meantime "it will be up to the funding agency if it wants to continue" with the purchase.

NSF officials say the department has 20 days to decide whether the complaint warrants a full investigation, and that the foundation would make no comment and take no action during that period. It has not yet received the NCAR procurement contract for approval, says one official.

NSF is also waiting to see if the final version of its funding bill contains language, inserted by the House of Representatives in its version of the bill, docking the salaries of NSF officials if the procurement proceeds and the commerce department subsequently rules that it did constitute 'dumping'. **C. M.**