and MIT took, but still a record for a private company.

Speakers suggested that the government should set up a central bug-fighting office that could find and remove weaknesses from software and perhaps respond during a crisis. This time, fortunately, the attack was not designed to damage files. Nor did it affect the network, other than to use it as a vector for infection. But next time, the network might not remain intact, and it might be much more difficult to get warnings and repair messages out. In this situation an alternative communication network might be needed. But some doubt the practicality of a central security office, given that the real obstacles exist at the level of the individual user and computer system manager. In the past many have been indifferent to warnings about bugs and reluctant to keep abreast of revisions of the software they use.

There was some concern that the furor might trigger a tightening of access to federal computer networks. Requiring new security passes to get on line, says Jeffrey Schiller of MIT, would be like "posting armed guards at exit ramps on the highway because you're afraid your house will be robbed." It would impede the majority of nonmalicious users and perhaps do little to stop computer vandals. Robert Kahn, one of the founders of ARPAnet, now at the nonprofit Corporation for National Research Initiatives, agrees. The threat, he says, arises not from the openness of the system but from an attitude that tolerates computer hacking.

This thinking has led some computer experts to cry for blood. They argue that the best way to keep the networks open is to punish Morris severely, as an example. This attitude is strong among those who see Harvard's and MIT's computer labs, where Morris spent many hours as an undergraduate, as being full of "hot-rodders." As one critic put it: "This is an example of what I call 'libidinal programming,' " not the work of a serious professional. It reflects a culture of arrogance, he said.

Others look on the case with more tolerance, arguing that it helped focus attention on neglected problems that needed repair. They see little evidence of malicious intent.

Chuck Cole, chief of computer security at the Lawrence Livermore National Laboratory summarized the views expressed at Fort Meade, reflecting what appears to be a consensus: "The strong preponderance of opinion was that there should be punishment. A small fraction said it was a valuable experience." Most agreed, he added, that it would be wrong to "send this guy off to prison. Maybe there should be a fine and a requirement that he do some community service." ■ ELIOT MARSHALL

Soviet-Based Global Foundation Takes Shape

Sakharov is a key player in a group that aims to fund a broad range of peace and environment projects

THE RECENT FORMATION of a private international foundation, the portentously named International Foundation for the Survival and Development of Humanity (IF), marks the first time an entity of its kind has been established in the Soviet Union.

The foundation is headed by Evgeny Velikhov, vice president of the Soviet Academy of Sciences. Jerome D. Wiesner, president emeritus of the Massachusetts Institute of Technology (MIT), is vice president. Plans are to pursue a grand agenda related to "urgent problems of international security, development and environment." The foundation hopes ultimately to raise up to $10 million a year from private sources.

The latest meeting of the executive committee was held in Washington in November during the visit of Andrei Sakharov. Sources say that permission for Sakharov to leave the Soviet Union was a direct consequence of his membership on the board. Approval of the foundation's charter by the Council of Ministers was held up by conflicts over allowing Sakharov to travel, which reportedly were resolved when hardliner Boris Ligachev was "kicked upstairs" to be in charge of agriculture policy. "We refused to come without him [Sakharov]," Velikhov told the *New York Times*. The Council of Ministers approved the foundation in October, guaranteeing it freedom to raise money and pursue its activities in the Soviet Union, and according diplomatic travel and communications privileges to its official representatives.

The idea for the foundation was proposed in February 1987 by Velikhov and Wiesner during an International Forum for a Nuclear-Free World held in Moscow. The group was founded last January.

The IF board is a weighty international roster with representatives from 18 countries. The eight U.S. board members include industrialist Armand Hammer, who has pledged $1 million to the foundation; Apple Computer president John Sculley, who has donated computer equipment; Theodore Hesburgh, president emeritus of Notre Dame University; and former defense secretary Robert S. McNamara. There are six Soviet members including Roald Sagdeev, former director of the Soviet Space Research Institute. The first annual meeting of the board is scheduled to be held in Moscow in January 1989.

The organization has already purchased its own building in Moscow and is run by Rolf Bjoernerstedt from Sweden, a former United Nations assistant secretary general. There will also be an office in Stockholm and one in Washington, headed by William Miller, president of the American Committee on U.S.–Soviet Relations.

The foundation has established committees reflecting its primary areas of interest—on security (headed by board member Frank von Hippel of MIT), human rights (headed by Sakharov), education, development, the environment, and medicine and biology. More than 40 project proposals meeting the foundation's criteria for relevance have been received. These include projects on energy efficiency, the conversion of military resources to civilian uses, verification technologies, Baltic Sea protection, drug and alcohol problems, children's computer camps, African development, and a "socio-psychological survey to investigate mutual stereotypes and prejudices of Soviets and West Germans."

Fund raising is now the immediate priority. As of September, the United States's accounts had $300,000, including donations from the Ploughshares Fund in San Francisco and Rockefeller Family and Associates. The MacArthur Foundation in October donated $150,000 for general expenses. The Carnegie Corporation, whose president David Hamburg is an adviser to IF, has been making in-kind donations and will be participating in specific projects. Carnegie, according to Fritz Mosher, believes it is more appropriate for the IF to get its funding from individuals than from big foundations.

Contributions in the Soviet Union include money from the Soviet Peace Fund. Various other fund-raising approaches are planned such as lotteries and the sale of a record album. Since the foundation is a first in that country, there is said to be a large yet-untapped potential for private donations. ■ CONSTANCE HOLDEN