

Increases proposed for computing and communications research

In August 1998 the President's Information Technology Advisory Committee (PITAC) released an interim report proposing, among other suggestions, that the budget for computing and communications research be doubled over the next five years. The report spoke to the need for fundamental research support, but also emphasized software, advanced communication networks, and high performance computing.

In its final days, the last Congress passed the Next Generation Internet (NGI) Act of 1998. That bill authorizes a multiagency federal research and development program on an advanced Internet, a program that had been first proposed by the president in 1996 during the late stages of the presidential campaign.

Most recently, information technology research was mentioned in the State of the Union Address, in which the president said his budget would propose a 28% (about \$366 million) increase in funding for information technology research and research infrastructure investment. Given the talk about budget surpluses, such proposals may seem easy to make, but the reality is that there is not a lot of room in the discretionary civilian side of the budget, particularly for science funding. The proposal is a serious signal from the White House. But challenges will come not only from non-research civilian spending needs or tax cuts, but from other research fields that will receive lower than normal increases to pay for the big jump in computing expenditures.

The library community has a lot at stake in these programs as they move forward. Libraries are in the information business, and anything that will move information technology forward more rapidly, has both good and bad implications. The programs should produce better and more effective tools for collecting, distributing, storing, and using information. On the other hand, it is organizationally stressful (not to mention, expensive) for institutions to adapt to new technologies. Given the pace of change in this area, uncertainty and stress are even higher as libraries struggle to

adapt. Since the focus of the NGI programs is principally on higher education, it is the college and university libraries that will feel this next wave of change first.

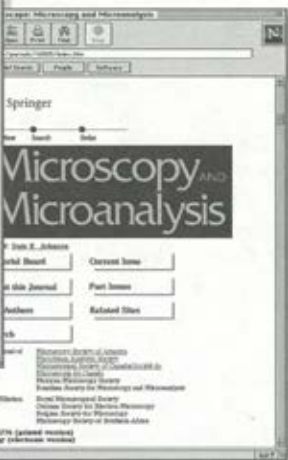
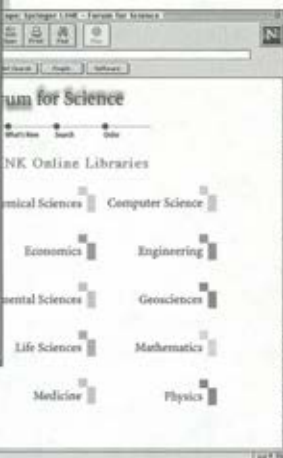
Science agencies are becoming aware of the need for research that focuses on the institutional problems of adapting to and adopting new technologies. The digital library programs, for example, will be looking at digital libraries as institutions as well as technologies in this round. NSF has asked for \$10 million to fund research on the organizational, social, economic, and policy aspects of digital libraries and, more broadly, of the Next Generation Internet. PITAC lent its imprimatur to the need for this type of work in its interim report to the president, and the White House has been encouraging the science agencies to focus on institutional and social aspects as well as hard technology.

The federal government has pushed computing and Internet technology forward principally through its science agencies—NSF, ARPA, NASA, and NIH—which produce the technology and serve as the “early adopters and users.” For many years, the emphasis has been on hardware and systems software. But lately, the focus of the debate, even in those agencies, has turned from raw technology to applications—to the needs of the user community, particularly those, like libraries and schools, which serve broader public information functions. That is partly because basic research issues more and more revolve around questions of application. The shift also reflects the political fact that the force behind increasing funding is the assumption that the results will benefit us all.

Libraries need to be vocal and active with the science agencies, most particularly with NSF (the lead agency for the IT2 program) in helping it set the research agenda. They need to assure that applications research that affects libraries and educational institutions is done with a clear and accurate picture of how these institutions actually serve their users and of the real needs of researchers, students, and the general public for information services. The benefits of information technology research can't be strictly “trickle-down.” The good news is that the information technology research programs seem open and encouraging to such an argument. They just need some good ideas to fund. ■

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