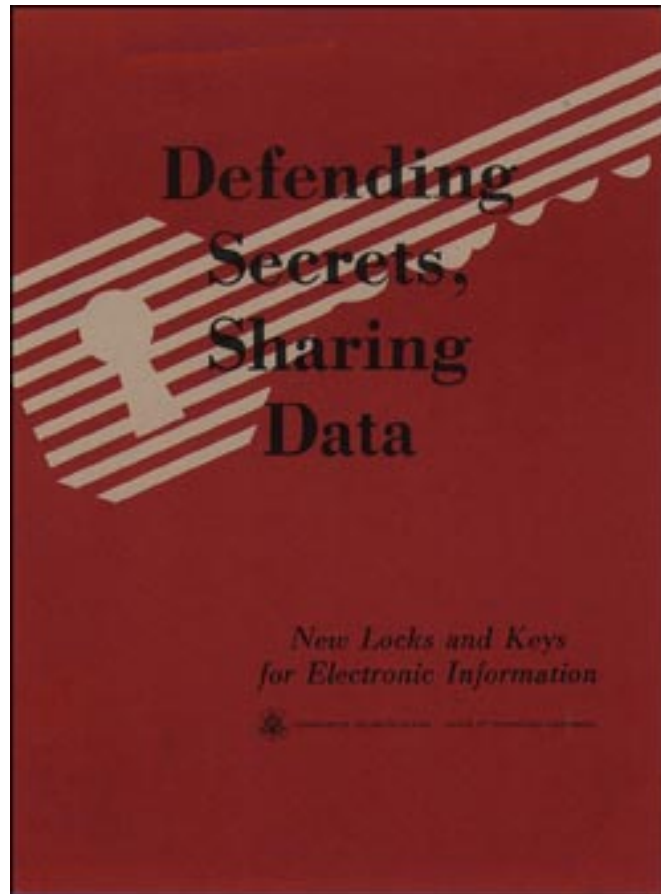


*Defending Secrets, Sharing Data: New
Locks and Keys for Electronic Information*

October 1987

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Foreword

Government agencies, private sector organizations, and individual citizens are increasingly using sophisticated communications and computer technology to store, process, and transmit valuable information. The need to protect the confidentiality and integrity of such data has become vital. This report examines Federal policies directed at protecting information, particularly in electronic communications systems.

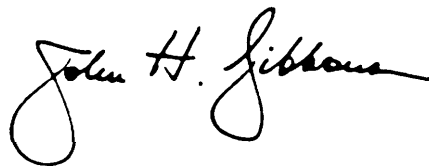
Controversy has been growing over the appropriate role of the government in serving private sector needs for standards development and, particularly, over the appropriate balance of responsibilities between defense/intelligence agencies and civilian agencies in carrying out this role. In defining these roles and striking an appropriate balance, both private sector needs, rights, and responsibilities, on one hand, and national security interests, on the other hand, need to be carefully considered.

This report examines the vulnerability of communications and computer systems, and the trends in technology for safeguarding information in these systems. It reviews the primary activities and motivations of stakeholders such as banks, government agencies, vendors, and standards developers to generate and use safeguards. It focuses on issues stemming from possible conflicts among Federal policy goals and addresses important trends taking place in the private sector.

OTA prepared the report at the request of the House Committee on Government Operations and the Subcommittee on Civil and Constitutional Rights of the House Committee on the Judiciary. It is the second component of OTA's assessment of new communications technologies. The first component, *The Electronic Supervisor: New Technologies, New Tensions*, was published in September, 1987.

In preparing this report, OTA drew upon studies conducted by OTA project staff, contractor reports and consultants, a technical workshop, interviews with Federal and private sector representatives, and those involved in research, manufacturing, financial services, consulting, and technical standards development. Drafts of this report were reviewed by the OTA advisory panel, officials of the National Security Agency and the Department of Defense, the National Bureau of Standards, the General Services Administration, the Department of the Treasury, and other government agencies, and by interested individuals in standards setting organizations, trade associations, and professional and technical associations.

OTA appreciates the participation and contributions of these and many other experts. The report itself, however, is solely the responsibility of OTA,



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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

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