

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PROJECT MAC

Reply to: Project MAC  
545 Technology Square  
Cambridge, Mass. 02139

March 14, 1968

Telephone: (617) 864-6900 x6201

Department of the Army  
Office of the Chief of Staff  
The Pentagon  
Washington, D.C. 20310

ATTN: Mr. George A. Raub, Room 1D-614

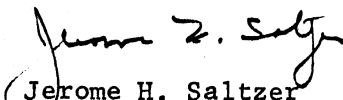
Dear Sir:

In reply to your letter of 17 January 1968 I am enclosing a copy of a paper given at the ACM Symposium on Operating Principles (to be published in the May, 1968, Communications of the ACM) and three internal working documents concerning the supervisor protection mechanism and information storage protection used on the Multics system for the GE 645 computer. As far as I know these are the only documents available at M.I.T. Project MAC on the subjects you list. I do request that you consider them as working papers produced for design still in progress, and therefore subject to change before official release.

As you probably know, our work on Multics includes a specific intent to insure inter-user protection and privacy, and to develop techniques which may be usable in obtaining military security. An overview which discusses this intent may be found in the paper by Corbato', et al., "Introduction and Overview of the Multics System," AFIPS Conference Proceeding Vol. 27, Spartan Books, Washington, 1965, pp. 185-196. Since the system design and implementation is not yet complete, much work is not yet written up in a usable form. If you have any further interest, more publications may be available at some future date, or current information might be obtainable by a personal visit.

I would like to call your attention to Rome Air Development Center document RADC-TR-65-415, entitled "Security Techniques for EDP of Multi-level Classified Information," by H.W. Bingham, AD476557. Secondly, you may be interested in the existence of a Panel recently chartered under DDR&E of DoD to study the problems of multilevel security in remote access computer systems. This panel, chaired by Willis Ware, has not yet produced any written documents.

Yours truly,

  
Jerome H. Saltzer  
Assistant Professor of  
Electrical Engineering

JHS/egm  
Encl:


MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Feb 7 1968

Memo to 1. R. M. F. Room \_\_\_\_\_ Ext. \_\_\_\_\_

2. Corby

What do we want to do about this??

from  Room \_\_\_\_\_ Ext. \_\_\_\_\_

MURAN BOSTON



DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF STAFF  
WASHINGTON, D.C. 20310

17 January 1968

Gentlemen:

Currently this office is conducting a study intended to formulate a policy addressing the protective aspects (e.g., the proprietary, private, or classified nature) of time-shared computer systems. During the research effort, references to your organization's proprietary time-shared computer facility were discovered. To support this study any literature delineating salient, protective attributes of your organization's time-shared computer system would be appreciated. This material could include but not be limited to such subjects as:

1. The software/hardware/procedural techniques to protect data sets, processor hardware, processor software, communication lines, and remote consoles from penetration and intruders via an approved supervisor, privileged instruction set, memory protect, access control, processing restrictions, file management, secrecy transformations, etc.;
2. The reliability and operability of the protective safeguards at all levels of system usage and component/module/system degradation;
3. The potential intruder's contemplated intentions, role, interest, and equipment for which the protective components of the system are designed to foil;
4. The several levels of protection as a function of the subject matter involved;
5. The expected cost (e.g., work factor) to the intruder who successfully penetrates the system's protective features;
6. The additional resources required to achieve a given level of privacy or security.

⇒ | The format and/or context of the information is not of importance for purposes of this study. Official publications, informal memoranda, and references will be useful. All material provided will be treated confidentially if desired.

MA SPM ?? Gatlingburgh paper?

G. A. Raub/mh/70038  
17 January 1968

CSAVCS-MI

It is requested that information or communication be addressed to  
George A. Raub, Room 1D-614, The Pentagon, Telephone 202-OX-70038.

Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "George A. Raub, for".

ROBERT B. BUCKMASTER  
Acting Chief, Information Sciences Group  
Management Information Systems Directorate