

UNITED STATES INTELLIGENCE BOARD
SECURITY COMMITTEE

75-8534

SECOM-D-112
17 September 1975

MEMORANDUM FOR: Chairman, United States Intelligence Board

SUBJECT : Community-Wide, Computer-Assisted
Compartmentation Control System (4Cs)

REFERENCE : (A) USIB-M-669, 30 May 1974, Item 5
(B) USIB-D-9.5/16, 30 October 1974

1. Attached is the report of the Security Committee's working group on the follow-on study which the Board agreed to support after the Security Committee recommended rejection of the CLAIRE concept.

2. Toward a goal of inducing economy and efficiency in the community's management of compartmented clearances, the representatives of CIA, DIA, Army, Navy, Air Force, State, ERDA and NSA developed and costed a design to meet their requirements in this area. The configuration of this system calls for a central facility in the form of a secure dedicated minicomputer in one agency connected to remote terminals in other agencies.

3. The design permits registration of approximately 300,000 individuals, each of whom can be credited with 1,000 clearances. The design is open-ended and more storage capacity can be added. The design provides for expansion capabilities but is limited initially to use in the Washington area. The design also provides for a suppression capability to limit access to certain personnel and/or clearances to the inputting department if this feature is desired.

4. The central facility would cost approximately \$431,707 and require monthly personnel costs of \$13,333 and maintenance costs of \$2,267. Departments and agencies perceive the need for

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(d) That the departments and agencies fund the costs of selection, purchase and installation of terminals configured to meet their perceived needs.

[Redacted Signature]

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Chairman

Attachment
4Cs Report

NOTED:

[Redacted Signature]

Harry E. Fitzwater
Director, Joint Computer Services

16 Sept 1975

Date

NOTED:

SIGNED

18 SEP 1975

Samuel V. Wilson
Lieutenant General, USA
D/DCI/IC

Date

SECURITY COMMITTEE
WORKING GROUP REPORT

Requirements for a
Community-Wide, Computer-Assisted

Compartmentation Control System

(July 1975)

Security Committee Task XI-I

Attachment:
Supporting Facts and Observations

Report of the Working Group of the USIB Security Committee
on Requirements for a Community-Wide, Computer-Assisted
Compartmentation Control System

1. Introduction

This report was prepared by a Working Group of the Security Committee of USIB with representation from CIA, Chairman, DIA, Army, Navy, Air Force, NSA, State and ERDA. The FBI and Treasury declined participation although they expressed interest in the study.

The report satisfies requirement of a task by the Security Committee in November 1974 to conduct a study of the intelligence community's requirements and devise a concept for a viable cost-effective procedure to assist in control of compartmented accesses.

The Working Group first assembled requirements of the community members and then submitted a statement of needs to system design personnel in CIA and DIA for independent feasibility and cost studies. The Working Group examined DIA and CIA proposals and selected a DIA design which the Working Group calls the "Community-Wide, Computer-Assisted Compartmentation Control System" (4C).

2. Discussion

A. The recommended 4C system consists of a dedicated mini-computer containing a central data base of intelligence community access approvals. The proposed system would be developed in two phases: the first phase provides on-line remote update and retrieval capabilities within Washington area headquarters offices only; the second phase permits an on-line expansion throughout the United States. Once implemented, the system would allow participating activities direct access to sensitive compartmented information (SCI) access approvals for most intelligence community personnel in a timely and efficient manner.

(1) Benefits from the recommended 4C system as opposed to maintaining existing separate systems within the intelligence community include:

a) Improvement of overall efficiency through uniformity of approach for security handling within the intelligence community.

b) Cost advantages result which are unattainable using existing individual system to achieve the 4C objectives.

c) Significant reductions in the volume of clearance certification message traffic inter- and intra-participating organizations.

d) Continuous rather than limited incumbent and billet access verification by Special Security Officer (SSO) facilities.

e) Elimination of need for permanent certifications among participating services and agencies.

f) Significant time savings for outlying Special Security Officer sites supporting major headquarters and subordinate elements having high volume in personnel and billet access requirements.

g) Elimination of need to contact multiple sources for individual billet access approvals.

(2) Specifically, the recommended system:

a) Meets the basic objectives as set forth by the Chairman, Security Committee, which are:

1 Permit rapid verification of current (and future) SCI access approvals of individuals by any intelligence community organization participating in the system;

2 Provide access control and accounting mechanism for intelligence "bigot" lists and "bigoted" programs/projects;

3 Eliminate individual SCI access control systems within participating organizations.

b) In pursuance of the above objectives, the recommended 4C system provides the following capabilities:

1 Offers participants an on-line query capability using cathode-ray tube terminals (CRT) and remote batch terminals (RBT).

2 Meets the common requirements of all member organizations for control and management of SCI access, and the DoD SCI billet structure.

3 Provides a "suppression" capability that will conceal, at the option of the inputting organization, the access authorizations and/or the existence of an individual's record from other participants.

4 Offers features for controlling the access of contractors, foreign personnel and others for whom "need to know" or release authority must be established prior to each access certification.

5 Can be expanded throughout the United States and eventually overseas, if desired. (See Attachment, paragraph 1)

6 Provides an on-line and batch update capability from remote locations and a complete audit trail to permit trace of all record changes to initiating organization.

7 Offers a record of access queries to the system.

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SUPPORTING FACTS AND OBSERVATIONS
OF THE WORKING GROUP

1. Dedicated Communications Line Costs

These costs are not system sensitive within the Washington area and may not be so within CONUS. However, at the point of overseas expansion of the system they will certainly become so. At that time the feasibility of linking overseas terminals through then existing switching systems should be addressed.

2. Analysis of Relative Merits of Large Scale and Mini-Computer in the Implementation of the 4C System

A. Large Scale Computer:

(1) Advantages

a) A one-third part of a large scale computer is tentatively available at CIA Headquarters for the application. Cost would be approximately \$3,000/month for rental of peripheral devices. (\$36,000/year or \$288,000 for 8 years.)

b) CIA software (GIM) and software knowledge and expertise would expedite system development by an estimated ten months.

(2) Disadvantages

a) Available (GIM) software cannot provide both a "suppression" capability and a capability at remote terminals for programming of output products.

b) "Spillage" of file data possible due to mixing of 4C System with other non-related applications possessing their own sets of terminals.

c) Backup capability is unknown. It would require commitment of additional CIA hardware or at least assignment of a precedence to 4C sufficient to permit it to displace other applications on other hardware. (This requirement represents some as yet undefined commitment of additional resources.)

d) Expansion potential is uncertain. Other systems sharing the computer will compete for available capacity as each system expands. Once the large scale computer is saturated, there is no capability for adding small increments of capacity.

B. Mini-Computer

(1) Advantages

a) Security maximized by not mixing file with other applications having separate terminals.

b) Backup capability achieved through use of two mini-computers, a dual processor. Both contribute to normal operations; however, if one fails the system response is degraded, but it does not cease to function. Under normal conditions one mini-computer (processor) would support on-line query operations, and the other would support batch operations.

c) Capacity of system can be readily expanded when operations dictate this step by purchase and installation of an additional mini-computer and disks.

d) The administrative problems of competing priorities with non-related systems sharing the large scale computer are avoided.

e) A "suppression" capability is possible without the sacrifice of any terminal programming capability.

(2) Disadvantages

a) Greater initial outlay of funds required. The \$226,707 required for the mini-computer hardware at the central site would exceed the rental charges associated with the CIA large-scale computer until approximately five years of operations.

b) Software preparation will take more time due to the lack of an off-the-shelf or a government-owned existing system that will completely fulfill system requirement. If the "suppression" capability remains a firm requirement, the time disadvantage of the mini-computer disappears as does software cost disadvantage (up to \$200,000 for mini, something less for large scale).

C. Conclusion

(1) Time required to procure any additional peripheral equipment needed for the central system, encryption devices, and terminal equipment for remote sites would presumably be the same as for procurement of the mini-computer hardware; i. e., time for full implementation would not be appreciably shorter than for the mini-computer alternative.

(2) The mini-computer alternative for implementation of the 4C concept would produce a superior system, for about the same amount of money and time than the large-scale computer alternative would require.

3. Reasons for System Encryption

Classification of the system at a level of CONFIDENTIAL is in accord with current community usage for extensive collections of security access data.

A. Encryption will prevent undetected, unauthorized introduction via line taps of spurious responses to terminal queries and will prevent modification of the data base via similar means.

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of access certification message traffic, reduction in the number of times which identical information is input to different data bases, decreases in time lost due to visitors awaiting access verification, and savings in security processing.

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SECOM-D-112
17 September 1975

Remarks:

1. Attached is a memorandum covering the report of the Security Committee's working group on the feasibility and cost analysis of a Community-Wide, Computer-Assisted Compartmentation Control System (4Cs). As you recall, USIB agreed to support this study effort after the Security Committee recommended dropping the [redacted] concept.

2. Because of the complexities of the subject matter, an oral and graphic presentation to USIB is proposed at the time this item is placed on an agenda. If you approve, [redacted] will circulate the report for USIB consideration.

It should go to IRAC too

APPROVED:

[Signature]
W. E. Colby

19 SEP 1975

Date

EXECUTIVE REGISTRY FILE 76-21/

Intelligence Board

Computer-Assisted Control System (4Cs)

May 1974, Item 5
10 October 1974

Security Committee's Board agreed to ended rejection of

and efficiency ented clearances, , Air Force, State, to meet their of this system calls dedicated minicomputer in other agencies.

approximately dited with 1,000 ore storage capacity sion capabilities n area. The design limit access to putting department

proximately \$431,707 33 and maintenance perceive the need for

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