Communications

COMMAND, CONTROL, COMMUNICATIONS,
AND COMPUTER (C^4) SYSTEMS

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1. Effective employment of Air Force resources in a dynamic and demanding world environment requires compact, robust, user friendly, and sometimes highly mobile C^4 systems. Those qualities can be achieved only through maximum standardization and adherence to well-conceived and conscientiously enforced architectures, optimized for vertical and horizontal compatibility and interoperability across Service, Departmental, and International boundaries. This directive establishes Air Force policy for ensuring that C^4 systems are acquired, operated, and maintained according to such principles.

2. The Air Force will provide for the economical and effective life-cycle management of C^4 systems. The standards, interfaces, and protocols included in Air Force technical and Department of Defense (DoD) information systems architectures will be used as the bases for functional area and major command (MAJCOM) system requirements, plans, architectures, templates, and blueprints.

3. Air Force C^4 system development and modification will conform to established DoD and Air Force standards and support increased compatibility, interoperability, and world-wide connectivity goals. Such system requirements will be satisfied before a C^4 system is fielded and will be followed throughout the system life cycle. In addition, business entities and functional operations will be subject to enterprise modeling, activity-based cost analyses, and procedural streamlining before initiation of information system software development or acquisition initiatives.

4. Air Force managers will develop and operate training and professional development programs so that C^4 system users are qualified to efficiently and effectively plan, integrate, operate, and maintain C^4 resources in compliance with the appropriate Federal, DoD, Joint Staff, and Air Force policies and procedures.

5. Air Force C^4 systems will be consolidated and standardized to maximize resource effectiveness and reduce costs, commensurate with operational requirements. Redistribution and reuse of existing hardware and software will be employed as much as practical.

6. The following responsibilities and authorities are established:

6.1. The Assistant Secretary of the Air Force for Acquisition (SAF/AQ) is responsible for C^4 and Information Resource Management (IRM) systems acquisition.

6.2. The Administrative Assistant to the Secretary of the Air Force (SAF/AA) is responsible for policies governing the life-cycle management of information according to the Paperwork Reduction Act.

6.3. The Deputy Chief of Staff, Command, Control, Communications, and Computers (HQ USAF/ SC) is responsible for all Air Force C^2 and IRM systems policy and management.

6.4. The Deputy Chief of Staff, Logistics (HQ USAF/LG) is responsible for all Air Force C^2 logistics and sustainment policy and management.

7. Terms Explained:

7.1. C^4System. Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control, through all phases of the operational continuum. This includes base visual information support systems.

7.2. Visual Information (VI). Use of one or more of the various visual media with or without sound. Generally, VI includes still photography, motion picture photography, recording, graphic arts, visual aids, models, display, visual presentation services, and the supporting processes.

7.3. Interoperability. The ability of systems, units, or forces to provide services to and   accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. The degree of interoperability should be defined when referring to specific cases.

7.4. Compatibility. Capability of two or more items or components of equipment or material to exist or function in the same system or environment without mutual interference.

7.5. Life-Cycle Management. The management of a system or item, starting with the planning process and continuing through successive management processes and associated life-cycle management phases (0-5) and milestones (0-5). Milestone reviews and approval of the activities performed in each preceding life-cycle phase is required before authority can be given to proceed to the next phase.

8. This policy applies to all Air Force military and civilian personnel and Air Force contractors who use, operate, or manage Air Force C^4 systems and facilities.

9. See **Attachment 1** for the measures used to show the degree of compliance with C^4 systems policy.

10. This C^4 systems policy interfaces with Air Force publications (**Attachment 2**) and publications of Federal, DoD, Office of the Secretary of Defense, and Joint Chiefs of Staff related to communications,

audio visual, and automated information systems, information resources management, information management, and data administration (**Attachment 3**).
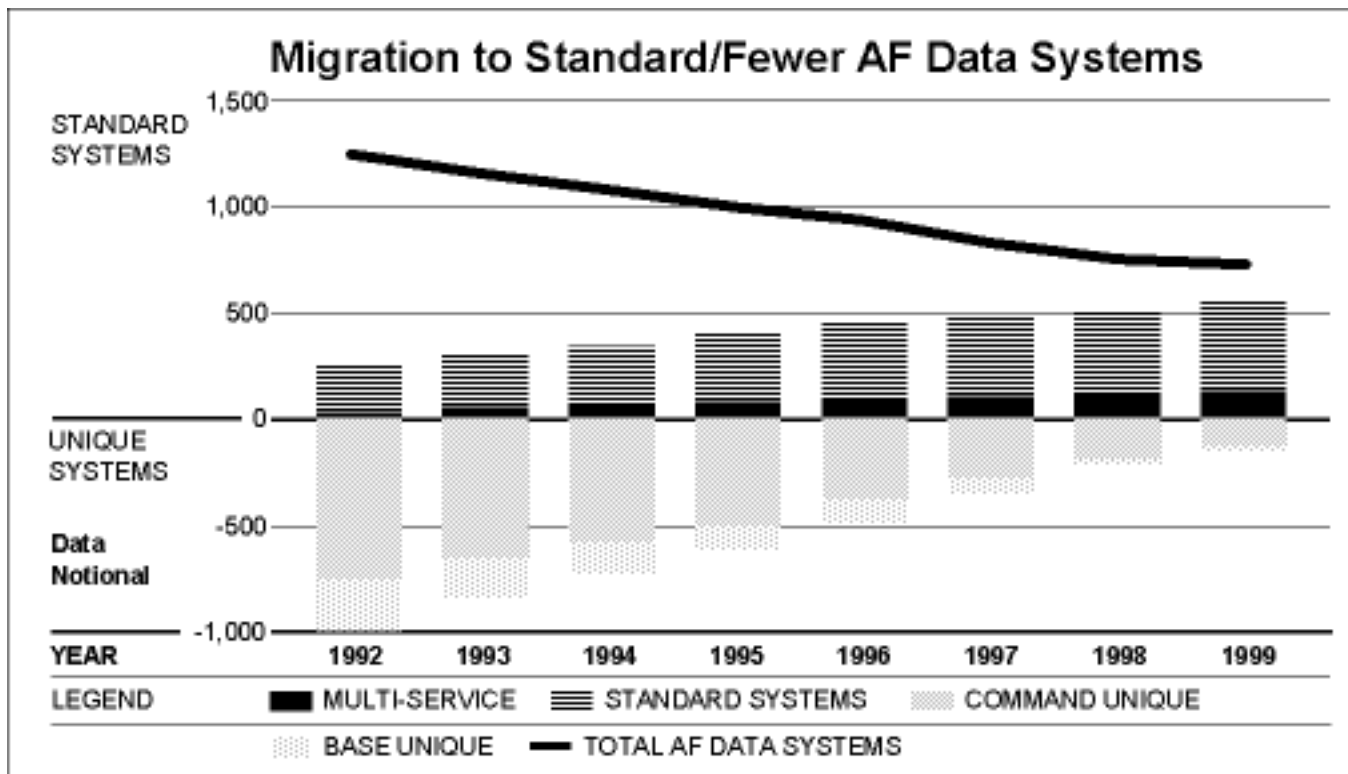
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Attachment 1

MEASURING AND DISPLAYING COMPLIANCE WITH POLICY

A1.1. Assess the policy that requires Air Force C4 system development and modification to conform to established DoD and Air Force standards and support increased compatibility, interoperability, and world-wide connectivity goals. **Figure A1.1.** represents the effect of standardization and migration to fewer Air Force data systems. The goal is to minimize the total number of data systems while maximizing the percentage of standard Air Force data systems. This will result   in lower development, operating and maintenance costs, and greater interoperability as base and command-unique data systems are replaced.

Figure A1.1.   Sample Metric of Migration to Standard/Fewer AF Data Systems.

Attachment 2

INTERFACING PUBLICATIONS

AFI 33-101, *Command, Control, Communications, and Computer (C^4) Systems Guidance and Procedures*, (Formerly AFR 700-1)

AFI 33-102, *Command, Control, Communications, and Computer (C^4) Systems Long- Range Planning*, (Formerly AFR 700-2)

AFI 33-103, *Command, Control, Communications, and Computer (C^4) Systems Requirements Development and Processing*, (Formerly AFR 700-3)

AFI 33-104, *Command, Control, Communications, and Computer (C^4) Systems, Base Level Planning and Implementation*, (Formerly AFR 700-4)

AFI 33-105, *Command, Control, Communications, and Computer (C^4) Systems Information Technology Standardization*, (Formerly AFR 700-9)

AFI 33-106, *Command, Control, Communications, and Computer (C^4) Systems Management Practices*, (Formerly AFRs 700-7, 700-8, 700-9, 700-14, 700-32, and 700-53)

AFI 33-107, *Command, Control, Communications, and Computer (C^4) Systems Architecture*, (Formerly AFP 700-50)

AFI 33-108, *Compatibility, Interoperability, and Integration of Command, Control, Communications, Computer, and Intelligence (C^{4}I) Systems*, (Formerly AFR 700-52)

Attachment 3

OTHER RELATED PUBLICATIONS

DoD Publications

DoD Directive 3405.1, *Computer Programming Language Policy*, April 2, 1987

DoD Directive 4630.5, *Compatibility, Interoperability, Integration of Command, Control, Communications, and Intelligence Systems (C^{3}I)*, November 12, 1992

DoD Directive 5000.1, *Defense Acquisition*, February 23, 1991

DoD Directive 7740.1, *DoD Information Resources Management Program*, June 20, 1983

DoD Directive 7740.2, *Automated Information System (AIS) Strategic Planning*, July 29, 1987

DoD Directive 8000.1, *Defense Information Management (IM) Program*, October 27, 1992

DoD Directive 8120.1, *Life Cycle Management (LCM) of Automated Information Systems*, January 19, 1993

OMB Circular

A-130, *Management of Federal Information Resources*

GSA Publications

Federal Acquisition Regulation (FAR)

Federal Information Resources Management Regulation (FIRMR)