

CHAPTER 20 - HARDWARE/SOFTWARE/COMMUNICATIONS STANDARDIZATION

1. PURPOSE. To establish a program to define the computer hardware, software, and communication standards for the Agency's information technology environment.
2. SCOPE AND APPLICABILITY. This policy applies to all EPA organizational units and their employees. It also applies to contractors and other agents of the EPA who are performing work for the Agency insofar as any hardware, software, or communications involved will be delivered to the Agency at any point in time. All applications, databases, and/or electronic files that will be delivered to the Agency at any point in time must conform to these standards.
3. BACKGROUND.
  - a. The Office of Management and Budget(OMB)requires that each Federal agency establish internal policies and procedures for the efficient management of information technology and, more broadly, its information resources.
  - b. The Agency's ability to accomplish its mission objectives depends upon a strong, supportable information technology infrastructure. A stable, integrated, cost-effective information technology architecture is needed to satisfy environmental and administrative information requirements and to facilitate dynamic communication among Agency organizations. The information technology infrastructure is the foundation for environmental and administrative information and interoffice communication.
  - c. EPA spends millions of dollars annually on information technology acquisitions and in developing mission critical environmental and administrative information systems. As the development of these systems begins to occur on a more distributed basis, and as users assume more responsibility for managing their own systems and information assets, the need for organizations to acquire cost-effective, software, and communications resources that support connectivity, promote

interoperability, improve processing capability, and is supportable is very important.

- d. Standards help ensure that Agency organizations produce applications and information assets that are consistent and compatible with the Agency's information technology infrastructure and in turn help promote more cost-effective business practices. Standards help contain costs in a number of ways (e.g., there are fewer applications for users to learn; the Agency has fewer interfaces to support; and overall Agency acquisition costs are reduced). Common platforms and application development tools promote information sharing within as well as outside of the Agency. A consistent architecture helps to resolve issues such as data/technology integration, application portability, and data communication.
- e. A standardization program (i.e., an agreed-upon set of procedures for proposing, evaluating, endorsing, communicating, and enforcing standards) is an essential component of efficient management of automated data processing (ADP) resources. It is the mechanism for defining common hardware platforms, software tools, and communications for application development and data sharing in the Agency's information technology environment.
- f. EPA's Hardware, Software, and Communications Standardization Program is defined in accordance with Federal Acquisition Regulation which assigns responsibility to individual agencies to determine the applicability of a particular standard to a particular requirement. One of the primary objectives of the Hardware, Software, and Communications Standardization Program is to ensure those products and specifications which have been endorsed as official Agency standards are responsive to the Agency's functional and support needs. Another key objective is to establish a framework for procurement of specific commercially available hardware, software, and communications products which have been endorsed as official Agency standards.
- g. Recognizing the importance of balancing technological,

economic, and management concerns, this policy establishes a process through which Agency hardware, software and communication standards are proposed, thoroughly defined, evaluated for potential costs, reviewed by the Agency's Information Resources Management (IRM) and representatives of the user community, and formally endorsed by senior management. In view of the dynamic nature of the technology marketplace, the process provides for changes to be made to the set of hardware, software and communication standards, as needed.

- h. Agency standards, along with life cycle management and data management policies and principles collectively form a set of rules that help govern the management of the Agency's corporate information. Agency-wide contracts are established to provide Agency users with standard hardware, software, and communications products. These contracts provide access to the items officially designated as Agency standards and other products as appropriate.

#### 4. AUTHORITIES.

- a. Information Technology Management Reform Act of 1996.
- b. Competition in Contracting Act of 1984 (P.L. 98-369).
- c. Paperwork Reduction Act of 1995.
- d. OMB Circular A-130, Management of Federal Information Resources.
- e. OMB Circular A-11, Exhibit 43, Data on Acquisition, Operation and Use of Information Technology Systems.
- f. OMB Circular A-76, Performance of Commercial Activities.
- g. Executive Order 12845, requiring agencies to purchase Energy Efficient Computer Equipment.
- h. Federal Acquisition Regulations (FAR).
- i. EPA Acquisition Regulation (EPAAR).

#### 5. POLICY.

- a. Standards will be established for hardware, software, and communications technology used on the Agency's computing platforms and national computing services (e.g., wide area telecommunications network (WAN),

personal computers, Local Area Networks (LAN), servers, gateways, mainframes, and supercomputers).

- b. Agency standards are established in the context of balancing technological advances against the stability of operations.
- c. This process involves a comprehensive analysis of functional requirements, technical assessment, costs, and review and approval by the IRM and user community to establish and maintain a set of hardware, software, and communication technology resources as Agency standards. The standards are intended to provide a stable base for satisfying EPA's mission-based IRM needs and to ensure efficient management of its ADP resources.
- d. All EPA organizations, and their EPA employees, EPA contractors, and other EPA agents are required to use Agency standard products, specifications, and communications resources in the following circumstances:
  - 1) development or enhancement of Agency mission critical systems;
  - 2) development or enhancement of Agency systems which have interorganizational involvement (i.e., more than one AAShip or Region);
  - 3) development of applications and/or use systems which are intended to be connected to the Agency's computing network (an allowable exception is non-Agency users employing computers which use Agency standard communications protocols);
  - 4) development or enhancement of systems (hardware, software, and communications) that involve partnership with other Federal, State or local governments where the hardware, software, and/or communications methodology will eventually become an Agency resource; and
  - 5) support for Agency projects which have high resource levels.
- e. Products and specifications endorsed as Agency standards must meet the following criteria:
  - 1) the product(s) or specifications must conform with

- the Agency's information technology infrastructure as well as Federal standards and regulations;
- 2) the need for the standards must be identified and approved by Agency management; the product(s) must meet a functional requirement for the Agency or meet the functional needs of a large number of users; and
  - 3) the product(s) must have been tested for stability and integration in the Agency computing environment.
- f. The products endorsed as standard hardware will feature, to the maximum extent possible, energy efficient features as required by the Agency's Energy Star Computer Program.
  - g. The EPA Hardware, Software, and Communications Standards will be revised as necessary through the established process to reflect changing Agency functional needs, and changes in commercial marketplace offerings.
  - h. Agency-wide contracts are a primary mechanism through which the user community may obtain products which have been endorsed as standard hardware, software and communication products.
  - I. System Management Plans for development and/or enhancement projects must include an explanation of how the system will comply with Agency-endorsed standards.
6. RESPONSIBILITIES.
- a. The Chief Information Officer (CIO) is responsible for:
    - 1) developing policies, standards and procedures to implement all Federal IRM mandates including, but not limited to, the Paperwork Reduction Act, FIPS, and FAR; and
    - 2) authorizing a specific product or specification to be added to the official Agency standards for those items that have received substantive Agency-wide IRM management approval.

- b. The EPA Executive Steering Committee for IRM is responsible for:
- 1) providing senior management direction and leadership for the Agency's IRM Program and, in that capacity, for supporting the Agency's technology architecture, of which the set of Hardware, Software, and Communications standards is an integral component;
  - 2) commissioning the IRM Infrastructure Strategic Projects Subcommittee to provide direction for managing the Agency's Hardware/Software/Communication Standardization Program. This involves reviewing existing standards, determining when standards are obsolete, when there is a need for a new standard, and coordinating with the IRM community the review and approval process;
  - 3) making final decisions on any items referred to by the Subcommittee; and
  - 4) reviewing and approving/ disapproving System Management Plans for major systems (these plans must include an explanation of how the system will comply with the Agency's Hardware/Software/Communications Standards).
- c. The Office of Information Resources Management is responsible for:
- 1) managing the Agency's information technology infrastructure;
  - 2) working with the Infrastructure Strategic Projects Subcommittee of the Executive Steering Committee for IRM in conducting studies to determine whether product(s) or technology specifications need to be adopted as Agency standards (this includes performance testing); preparing proposal papers including economic analyses, analyzing comments from the client community and preparing final proposal papers for approval by the Subcommittee or Committee at large.

- 3) publishing the Agency Hardware/Software/Communications Standards Directory and updating it to reflect new standards; and
    - 4) providing technical support for those products which have been endorsed as Agency standards.
  - d. Senior IRM Officials (SIRMOs), PC Site Coordinators and LAN System Administrators are responsible for ensuring the procurements of Agency hardware, software, and communications are in conformance with Agency standards.
  - e. SIRMOs have additional lead responsibility for:
    - (1) submitting new proposals from their organization's user community to the Director, OIRM; and
    - (2) coordinating within their respective organizations the reviews of proposed standards.
  - f. EPA managers and employees are responsible for complying with this policy when they procure information technology resources for the Agency.
7. STANDARDS. The EPA Hardware, Software, and Communications Standards Directory is issued under separate cover. It contains the full set of hardware, software and communications standards endorsed by the Agency. It is available electronically on the Agency's Internal Web server on Internet.