Title	Minimum Workstation Configuration Guidelines
Category	Hardware Architecture
Date Adopted	(Resource Document Only - Approved by the Technical Panel on August 13, 2003)
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A. *Authority*

Section 86-1506 (6). "(The Nebraska Information Technology Commission shall) adopt minimum technical standards, **guidelines**, and architectures upon recommendation by the technical panel created in Section 86-1511."

B. *Purpose and Objectives*

The purpose of this document is to recognize the responsibility of the NITC to establish recommended **minimum** configurations for personal computers. Minimum configurations are established in order to simplify technical support and enable a secure desktop environment. Minimum configuration guidelines established by the NITC will (must) change over time in response to requirements of newer applications or operating systems.

These guidelines provide a suggested set of minimum configurations that agencies can adopt or modify to meet their specific needs. These guidelines are not intended to endorse or support any single hardware or software vendor. These guidelines are subject to periodic review and revision.

As minimum configurations, these guidelines are recommendations to be considered in conjunction with other factors, including financial constraints, performance requirements of specific applications, and an agency's networking environment.

The primary objective of these guidelines include recommendations to:
A. Improve versatility and compatibility of desktop systems;
B. Insure that personal computer configurations procured with state funds can operate efficiently in today's high speed connected environment;
C. Provide a guide to agency on when to upgrade existing personal computers;
D. Reduce technical support problems; and,
E. Provide a secure desktop operating system.

As the State of Nebraska begins to develop Internet enabled applications, and e-Government and e-Business applications that are delivered over public and private Intranets and the Internet, it is imperative that agencies maintain desktop clients that can efficiently run these new applications. Agency desktop personal computers should be able to:
1. Execute network applications;
2. Support Internet technologies;
3. Extend the desktop communications to the state telecommunications backbone;

4. Support e-Business and e-Government applications; and,
5. Provide desktop security, encryption, and virus protection services when connected to the state telecommunications systems.

C.   *Standards and Guidelines*
1. Agencies and institutions should manage desktop workstations as assets. This concept is similar to good management of other physical assets. It should include a planning process for determining, adopting, and periodically upgrading the minimum workstation configurations that meet the agency or institution's specific internal needs and any new external requirements.   Requirements for new Business applications or mandated operating system upgrades should be the basis for capacity planning. Capacity planning should address options for implementation such as phasing in new purchases, moving older workstations to less demanding uses, or surplusing.

2. Existing Personal Computers:

   Agencies should develop a plan to upgrade or replace existing personal computers if they do not support the following minimum system requirements:

   Minimum Hardware Guidelines for Existing Personal Computers
   (1) CPU: 750 MHz or higher Intel or equivalent CPU
   (2) Memory: 256 MB RAM
   (3) Hard Disk: 6 GB hard disk with a minimum of 2 GB of free space
   (4) Operating System:
      (a) Windows 2000 Professional
   (5) LAN Connection: Ethernet - must support at least 100 Mb

3. Minimum New Personal Computer Purchasing Guidelines:

   When purchasing new personal computers, an agency should consider the following minimum guidelines.

   a. Standard Desktop Hardware
      (1) CPU: 2 GHz Intel or higher or equivalent CPU
      (2) Memory: 512 MB RAM or higher
      (3) Hard Disk: 20 GB or larger
      (4) Operating System: Windows XP Professional (requires 512 MB RAM)
      (5) LAN Connection: Ethernet - must support at least 100 Mb

   b. GIS Workstation Desktop Hardware
      (1) CPU: 2 GHz Intel or higher or equivalent CPU
      (2) Memory: 512 MB RAM
      (3) Hard Disk: 20 GB or larger (e.g., SCSI)
      (4) Operating System: Windows XP Professional (requires 512 MB RAM)
      (5) LAN Connection: Ethernet - must support at least 100 Mb

   c. Server Hardware:

(1) CPU: Zeon 2 GHz or higher
(2) Memory: 1 GB RAM minimum
(3) Hard Disk: 10 GB Fast Open or larger (e.g., SCSI) Raid 0 for Operating System, Raid 5 for Data
(4) Operating System:
    (a) Windows 2000 SP4
    (b) Windows 2003 Server
(5) LAN Connection: Ethernet - must support at least 100 Mb

4. Software Recommendations:
    (1) Office Productivity: MS Office XP Standard Edition (recommended)
    (2) Simple Terminal Emulation:
        (a) TELNET3270 or
        (b) TELNET5250
    (3) Advanced 3270/5250 Terminal Emulation with Host Addressable Printing
        (a) IBM Host Client Access Package
    (4) Internet Browser:
        (a) MS Explorer 5.0 or higher with 128-bit encryption, and XML compliance. or
        (b) Netscape 4.78 or higher with 128-bit encryption, and XML compliance.
    (5) Virus Protection:
        (a) Anti-Virus software (Norton Anti-Virus recommended)
        (b) Anti-Virus subscription service to protect against newest attacks

5. All agencies and local government agencies that utilize networking services of the Nebraska Department of Administrative Services' Information Management Services Division and/or the Division of Communications should migrate to Windows NT 4.0 or Windows 2000 Professional in order to support network security.

6. Any agency or local government agency that operates a direct connection to the public Internet shall implement security procedures that are consistent with NITC security policies, including firewall services.

7. All agencies that receive public Internet e-mail service shall implement security procedures that are consistent with NITC security policies, including the requirement of virus protection on the desktop or mail server.

8. There is far more to the cost of a personal computer than its initial purchase cost. In fact, the purchase cost of the PC usually represents only a small fraction of the total cost of using and supporting the PC over its lifetime. Consulting firms typically calculate PC ownership, depending on the environment, as costing anywhere from $8,000 to $12,000 per year. Costs arise from categories like user wasted time, software, peer support, training and technical support. Industry standards indicate that the ratio of one full-time technical support person is required for every 50 PCs.

D. *Key Definitions*

1. <u>Agency</u> shall mean any governmental entity, including state government, local government, or third party entities under contract to the agency.
2. <u>Networking Services</u> shall mean any system that transmits any combination of voice, video, and/or data between users.

E. *Applicability*

These guidelines are intended to be sufficiently generic to apply to a wide range of governmental and educational agencies in the State of Nebraska.

Agencies should follow these guidelines whenever they intend to support networking services on the desktop. The guidelines may not apply whenever the desktop does not share network services, when there is no connection to state or local networking services, or whenever an application requires a different hardware and software configuration to perform a specific function.