



United States  
Department of  
Agriculture

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Office of the Chief  
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TO: Agency Heads  
Staff Office Directors  
Agency Chief Information Officers  
Agency Chief Financial Officers

FROM: Charles R. Christopherson, Jr.  
Chief Financial Officer  
Chief Information Officer

SUBJECT: USDA Application Design and Development Standard – Thin  
Client Applications

### Summary

This memorandum establishes the department-wide requirement for all new commercial off-the-shelf (COTS) applications, new government-developed applications and existing applications undergoing major enhancement to be designed, developed, and implemented to operate successfully on a thin client workstation. These are called thin client applications. A thin client application is one where the application software is installed on and operates from the server or mainframe environment, which presents the application views (or screens) to the end-user on their workstation. The client side of the application installed on the end-user workstation usually consists only of generic rendering software, e.g., a web browser. This requirement is effective immediately.

### Background

The Department of Agriculture (USDA) is planning to begin broad use of thin client workstations. Use of thin client applications will enable this transition. A thin client workstation is a hardware device that operates like a desktop or laptop but generally has a smaller footprint in terms of space and has been configured with only basic technology components since application software, data, and processing power resides in the network server or mainframe environments rather than on the workstation.

The USDA Information Technology (IT) Strategic Plan establishes a number of goals that are dependant in part or in full on the transition to thin client workstations. The relevant goals by category are:

- IT Organization and Skills
  - Implement Department efforts to streamline and cut costs
- Technology and Architecture
  - Align infrastructure to directly support strategic business goals
  - Sustain a robust information security management program

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Wide-scale implementation of thin client workstations is largely dependent on the implementation of applications that will perform on them. Thin client applications also enable USDA to expand on the concept of telecommuting through the use of cellular and other mobile computing devices.

A good example of a thin client application is your personal email address provided to you by an Internet service provider. The email is available when you log onto the system. You can write, send, receive, and store email without using any programs or storage on your local computer.

The advantages of thin client computing include:

- **Lower Hardware Costs.** Thin client hardware is generally cheaper because it does not contain the same level of technical components as a typical desktop or laptop. They also generally have a longer period before requiring an upgrade or becoming obsolete.
- **Lower Energy Consumption.** Thin client workstations require less energy to operate because it does not contain the same level of technical components as a typical desktop or laptop.
- **Easier To Secure.** Thin client devices can be designed so that minimal or no application software or data resides on the hardware. This minimizes data theft. Furthermore, the intrinsic value of a thin client workstation is less than a desktop or laptop since it cannot be used as a stand-alone workstation.
- **Lower IT Administration Costs.** Thin client devices are managed almost entirely at the server. The hardware has fewer points of failure and most technical support can be accomplished within the server environment.
- **Easier Hardware Management.** Should a thin client device fail, a replacement can simply be swapped in while the client is repaired; the user is not inconvenienced because their data is not typically stored on the thin client device.
- **Less Wasted Hardware.** Computer hardware is very environmentally damaging. Thin clients can remain in service longer and ultimately produce less surplus computer hardware than an equivalent installation of desktops and laptops.
- **Lower Software Administration Cost.** Thin client applications are easier to maintain from managing configuration settings to installing new releases and patches,

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since this is accomplished in the server environment rather than at workstation environment.

### **Policy**

As of the date of this memorandum, all new applications, including COTS applications and existing applications undergoing major enhancement must operate successfully on a thin client workstation. This requirement also applies to subcomponent applications.

Agencies and Staff Offices must document in new and revised business cases how the application will support the thin client workstation and take advantage of mobile communication technology.

The Office of the Chief Information Officer will serve as the focal point for capturing and sharing best practices related to thin client application design and development as implementations take place.

Agency intent to meet this thin client application requirement must be addressed as part of the Acquisition Approval Request process. Furthermore, technical aspects of thin client applications must be recorded into appropriate system documentation and in the Enterprise Architecture Repository.

This requirement for thin client applications does not alter other application requirements including, but not limited to:

- Integration with USDA's eAuthentication Service,
- Financial and program controls, and
- Security controls.

Each organization must factor into its telecommunication plans any potential impacts to network capacity as Agency and Staff Office applications are developed or enhanced to meet the thin client requirement. Eventually the transition to a single USDA network will allow USDA to respond more proactively to capacity issues as thin client applications are fielded.

Please contact Chris Wren, USDA Chief Architect, at (202) 720-6746 or via email at [christopher.wren@usda.gov](mailto:christopher.wren@usda.gov), for more information on this requirement.