



**Audit  
Follow-Up  
Report  
August 2007**

**LaVonne Griffin-Valade, Multnomah County Auditor**

**Judith DeVilliers, Principal Auditor**

MULTNOMAH COUNTY  
**Auditor's Office**

[www.co.multnomah.or.us/auditor](http://www.co.multnomah.or.us/auditor)

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## Information Technology Audit Follow-Up

### Background

The Auditor's Office issued the report "Information Technology: Improve Inventories and Software Management" in September 2005. The purpose of the audit was to determine how personal computer (PC) and software inventories were managed and the risks posed by databases created on PCs using Microsoft Access. The audit was limited to general use commercial software and excluded the Sheriff's and District Attorney's Offices because county-wide Information Technology (IT) does not manage technology for these agencies.

Management of information technology resources was the responsibility of individual County departments until 2002 when the County reorganized and combined all department information technology staff into one central organization. Generally, the audit found that IT had done a good job in managing the change and supporting the County's resource needs.

The 2005 audit focused on needed improvements and made recommendations in the following areas: (1) understanding needs of computer users, (2) managing inventory for computers and PC software and licensing, and (3) managing risks for mission critical applications based in Microsoft Access.

IT delayed implementation of some audit recommendations with the expectation that their planned conversion to a "thin client" system would address audit concerns. With a thin client system, all the computing and software are on centralized servers rather than on individual PCs. However, as a result of studies and analysis late in 2006, the decision was made to terminate the phase-in of thin client on most desktops.

### Follow-up Scope and Methodology

We followed up on all of the recommendations made in the 2005 IT audit to gauge the progress made since the report was issued. To accomplish this, we interviewed managers and reviewed management reports. We performed this follow-up in accordance with generally accepted government auditing standards.

### Follow-up Results

#### Understanding needs of computer users

Best practices suggest that the change process, such as a move to thin client, should include steps to understand user requirements and business needs. During the course of our 2005 audit, we had difficulty identifying the location and users of County PCs. For this reason, we suggested IT take steps to gain an understanding of who was using PCs and how they were being used if the planned conversion to thin client was to be successful.

**Audit recommendation #1:** To better understand the needs of computer users in the County, IT should work with the departments to document business needs, user requirements, and who is using County PCs.

Recommendation implemented: IT reported they interviewed an estimated 3,000 employees as part of the thin client implementation. They collected valuable information from these interviews and plan to maintain and use this data to manage County technology. IT also had a consultant work with them in assessing needs relating to the thin client implementation. The results of these studies indicated that the County's desktop computing environment is far more diverse and complex than originally estimated.

### **Managing inventory for computers and PC software and licensing**

During the 2005 audit, we found that the County, with the exception of the Department of Community Justice, lacked an adequate inventory of its PCs or software. While IT managed PCs for the purposes of identifying workload, this was not adequate for asset management. Asset management provides financial accountability and identifies custodial responsibility, including a record of all purchases, the location of the assets, and the disposition when an asset is discarded. We found that the County could save money by managing software on a county-wide basis rather than by department and could improve compliance with licensing restrictions. We also found that many non-profit associations operating in County buildings had PCs serviced by IT Desktop Services but were not charged for this service.

**Audit recommendation #2:** To better manage and account for computer hardware, the County should create an inventory that includes the following: purchase date and cost, physical custody and responsibility, physical location, and disposition.

Recommendation in process: According to IT management, the thin client project would have provided solutions to this recommendation. With thin client no longer an option, IT is beginning to utilize the asset module of its Remedy software to track desktop devices. This module will provide the information needed for asset management including purchase date, cost, physical custody and location, and disposition. According to IT, computers are being added to this database as they are replaced or upgraded.

We recommend IT continue efforts to maintain an inventory of all computers in the County. With an estimated cost of \$1,500 per PC, the total inventory value for 4,000 computers (the number of PCs allocated as Flat Fee in FY05) would be \$6 million. Not only is the total of great value, but the complexity of the County's desktop system makes this level of accountability essential.

**Audit recommendation #3:** To improve security and accountability, the County should document computers owned or used by non-profits or contractors located in County buildings that have access to the County's LAN, including whether IT support is provided to those computers.

Recommendation implemented: According to IT, most of the non-profits are now off the LAN and no longer supported by IT.

**Audit recommendation #4:** To better manage software and licensing, the County should create an inventory of software and a means to share software county-wide.

Recommendation in process: Desktop Services was counting on the thin client project to facilitate licensing and sharing of software. Since the termination of the thin client project, they have taken steps to create an inventory of desktop computer software county-wide. They report that they are in the process of analyzing desktop software utilizing their purchase and accounting records. The process is complicated as Desktop Services also needs to obtain department purchasing records and gather detail for each computer. The results of this effort will then be maintained in the Remedy software with the computer inventory. An additional complication to maintaining an inventory of desktop software is the lack of a county-wide administrative policy requiring departments to purchase software through IT.

Sharing unused software and consolidating licenses could save dollars. We recommend IT maintain its priority in reviewing, assessing, and inventorying all desktop software. They should take steps to consolidate and share software whenever possible while still meeting the needs of County departments. The County needs a policy requiring that all desktop software purchases go through IT to avoid duplications and allow IT to maintain an inventory of all desktop software.

### **Managing risks for applications based in Microsoft Access**

There are thousands of Access databases on the County network. Because Access is relatively easy to use and data management is such a large part of many County program activities, it is not uncommon for Access databases to become critical for a program's mission to succeed. Access may not be sufficiently robust to serve as a stable platform for these applications and may lack the security required for some County data. With IT resources essentially being fixed, there is a risk that the additional support needed to keep some of these applications running could drain IT resources from higher priority projects.

**Audit recommendation #5:** To improve the quality of database management, IT and department management should adopt minimum standards for database applications.

Recommendation in process: IT has developed a draft of "Application Development Policies and Standards" which includes general standards for database applications.

**Audit recommendation #6:** IT and department management should work together to identify high priority Access-based applications and use a cost-benefit approach to determine where it is appropriate to plan for conversion or replacement.

Recommendation not implemented: IT has made little progress in reviewing Access-based applications. However, IT has a proposal for evaluating applications which would include some of the Access-based applications.

We recommend IT continue in its efforts to manage the risks for mission critical applications based in Microsoft Access.

## Response to Audit Follow-Up report



Department of County Management  
MULTNOMAH COUNTY OREGON  
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August 9, 2007

Dear LaVonne,

This message is in response to the Information Technology Audit Follow-Up report of August 2007.

I have read this assessment and am in agreement with the findings. IT has worked diligently to address the concerns raised in September 2005, and will continue to implement the recommendations that are currently in process throughout the upcoming year.

Addressing the use of MS Access will be a multi-year effort done in partnership with our departmental customers. The cost and complexity of the technology architecture needs to be reduced while ensuring continuity of critical business needs. A methodology has been developed, members of the County Operations Team have agreed to work with IT to evaluate their departmental applications and we have started planning efforts with DCHS to identify applications for consolidation. I am confident that we will make progress.

Kind Regards,

Becky Porter