

## **Best Practices for Change Control of Computer Systems (3/15/2004)**

Computer program source code is a valuable university asset; many hours are invested in creating and maintaining it.

Hardware and operating systems are also an asset, the university depends for them for continued operation. For these reasons, the following best practices for change control are being promoted for all source code and computer systems that are of departmental or enterprise wide interest.

Computer systems (both software and hardware) are commonly classified as either enterprise wide, departmental, or personal systems. Personal systems are those that have no direct impact on the department or on the whole enterprise. A personal system may assist one in performing their job, however if the person left their position a personal computer system could be discarded without significant impact on the department or enterprise. A workstation containing ones personal web site is an example of a personal workstation. By contrast with personal system, departmental and enterprise systems must survive personnel changes and are of value beyond the use of a single individual. Any computer system that feeds data into one of our ERP systems is not a personal system.

The following best practices should be followed for all enterprise wide and departmental computer systems.

### **Best Practices**

1. Source code should be protected against loss and disaster.
2. Keep a copy of program source code in a secure location.
3. Keep prior versions of source code in a secure location.
4. Keep backup copies of source code in a secure location.
5. Testing of changes should be approved by the steward of the data as well as the steward of the program.
6. Changes to programs that feed data into our ERP systems should be tested in a separate test system and the risk evaluated before going to production.
7. A written record of change approvals should be kept for all systems that feed financial data to our ERP (Enterprise Resource Planning) systems.
8. Have a back out procedure for source code changes that go into production.
9. All change to hardware, operating systems, and application parameters should be well planned, logged, and have backout procedures. Prior notification and approval of these adds, moves, and changes should be obtained from the clients of the system.