In 2010 the college established a Technology Plan which identified goals, objectives, and replacement guidelines for computer technology within district and college IT standards. This supplement provides details regarding the replacement, redeploy, and disposal of computer technology.

Technology Advisory Group
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Overview
In 2010 the college established a Technology Plan which identified goals, objectives, and general replacement guidelines for computer technology within district and college IT standards. In absence of a district technology plan, and beginning with in 2012-2013, the Technology Advisory Group undertook the task of clarifying replacement and redeployment guidelines. This process resulted in the development of the Technology Replacement Plan (TRP) addendum. The intent of this addendum is to guide college technology replacement.

This addendum includes recommendations regarding projections for replacement and associated costs considerations to be used in planning. These projection and replacement guidelines are applicable to equipment for faculty, staff, management; equipment for instructional computer labs; and equipment needed to support the college administrative, teaching, and learning, and supporting applications.

The Technology Replacement Plan guidelines will:

- Identify redeploy order for computers, printers, multimedia and related equipment.
- Identify computers and related equipment that have become obsolete and should be liquidated.
- Inform replacement costs projection in accordance with Total Cost of Ownership for budgeting and planning purposes.

The guidelines for replacement and maintenance reserves funding established in the college Technology Plan are listed in the Appendix of this document.

The SharePoint inventory database reflects the current equipment supported at the college.

Criteria to Replace Computers and Related Equipment
The criteria to replace college computers and related equipment will be reviewed annually by the Technology Advisory Group and modified as needed. Current criteria are as follows (Source: RCC Technology Plan 2010-2014).

- Age and model of computer/workstations or peripheral equipment within the following replacement:
  - Desktop hardware 3-4 years
  - Network hardware and desktop peripherals 5-7 years
  - Wiring and physical infrastructure 10-15 years
  - Wireless coverage standards reviewed with district IT staff

The college Technology Advisory group will evaluate requests outside of these criteria based on documented and submitted needs within the program review process and available funds. The
Technology Advisory Group will collaborate with college and district IT personnel to assist with prioritization of need. Ideas include:

- Review administrative departments on 2-year cycle to see if delay replacement can be delayed by 1-2 years.
- Review use of re-deployed computers for computer labs and faculty.
- Look at possibility of adding memory to existing lab computers.
- Review multi-media equipment replacement needs to determine if replacement can be delayed a year or more.

**Redeployment**

Computers and related equipment for personnel, existing instructional computer labs, and classrooms will be redeployed by age with documented rationale/criteria within Program Review and Unit Plan process as follows:

- Computer and equipment utilized by students and faculty to access college resources and instruction
- Staff and management to support instruction and college operations

Funds permitting, every attempt will be made to upgrade redeployed computers to meet department needs within minimum college and district standard software requirements, and standards. Exceptions to the redeployment are Perkins (see Appendix) and other grant funded computers and related equipment. The Share Point Inventory database will include the notation as to general fund, Perkins, or grant funded status.

**Liquidation**

Computers and related equipment that have been replaced by new or redeployed units will be liquidated in accordance with district policy AP/BP 6550 if it is determined that:

- Equipment does not and cannot meet the current District standard configurations
- Equipment has a history of disrepair
- Equipment is older than three years and cannot economically be repaired, or for which parts cannot be acquired
- Equipment has no other college or district identified use

**Costs and Projections for Planning**

While every attempt was made to verify information, equipment changes occur continuously within each office/department. This working document may be subject to change. The college will utilize the Share Point Inventory database to determine and verify age and need prior to equipment being purchased.

The Technology Advisory Group will work with the Resources and Administrative Services Council and the Vice President of Business Services to inform and provide input to the
Midrange Financial Plan to include Total Cost of Ownership costs and to cross-check with inventory to determine all projected replacement costs needed for planning.

**Total Cost of Ownership Considerations:**
Business and Information Management Total Cost of Ownership criteria for consideration are numerous. In calculating the total cost of ownership for a computer, the following items may be considered.

- Hardware acquisition-purchase cost of the computer, terminal, storage, printer
- Software acquisition
- Support personnel salaries and benefits
- Implementation costs
- Network infrastructure costs
- Server costs
- Mid-level management costs
- Support and Training

An exact formula to calculate the Total Cost of Ownership does not currently exist at Riverside City College and every company/organization operates differently. Because the college is new to implementing TCO it is recommended that the TCO include as many direct costs as possible. In addition the TCO guidelines established by the Chancellor’s office by the GartnerGroup several years ago may also be considered.

**GartnerGroup TCO Model**
The breakdown of direct and indirect costs used in the GartnerGroup TCO Model includes:

- Direct (i.e., budgeted) costs - measure the direct expenditures on IT by an organization (e.g., capital, labor and fees);
- Hardware and software - the capital expenditures and lease fees for servers, client computers (e.g., desktops and mobile computers), peripherals and network components;
- Management - the direct network, system and storage-management labor staffing, activity hours and activity costs, maintenance contracts and professional services or outsourcing fees;
- Support - the help-desk labor hours and costs, help-desk performance metrics, training labor and fees, procurement, travel, support contracts and overhead labor;
- Development - the application design, development, test and documentation labor and fee expenditures including new application development, customization and maintenance;
- Communications fees - the inter-computer communication expenses for lease lines, server access remote access and allocated WAN expenses;
- Indirect (i.e., unbudgeted) costs - measure the capital and management efficiency of IT in delivering expected services to end users;
• End-user IS - the cost of end users supporting themselves (and each other) instead of relying on formal IS support channels (i.e., peer and self support), end-user formal training, casual learning (i.e., non-formal training), self-development/scripting of applications and local file maintenance;

• Downtime - the lost productivity due to planned (i.e., scheduled) and unplanned network, system and application unavailability, measured in terms of lost wages (i.e., lost time).

According to the GartnerGroup research the initial cost of hardware and software represents only 30 percent of the Total Cost of Ownership (TCO). GartnerGroup and the Telecommunications and Technology Advisory Committee (TTAC) worked at length to determine the TCO model appropriate for the Community College environment. The cost estimate for the technology using this Total Cost of Ownership model for the Community College is $3,506 per computer. Therefore, a TCO computer is one that is funded at a level of support that corresponds to the 19 elements of the TCO model. The TCO model is designed and constructed to be reviewed and analyzed on a continual basis reflecting the ongoing changes and costs as they relate to equipment, software, training, and support personnel.
APPENDIX

Replacement and Reserve Funding Guidelines

- Suggested replacement: Evaluate and replace yearly, up to 1/3 of the oldest computer equipment utilized by students. Rationale: Warranties expire in three years time. Equipment older than three years requires expensive repairs and needs updating. Replacement must be inclusive and equitable for all departments. Information Services shall use its discretion in relocating used computer equipment to the end of life cycle using the following recommendation.
  - Allocate equipment and technology with the goal of maximizing useful life from performance users to standard users
    - Proposed performance user definition: Number crunching, high excel spreadsheet, database, power user with multiple window user, graphic intense, high end proprietary software
    - Proposed standard user definition: A standard user is someone who uses word processing, kiosk machine, basic internet usage
- Suggested reserves: Establish a computer replacement and repair fund for needs beyond the 1/3 replacement fund. Rationale: When maintenance contracts are allowed to expire, but equipment is not replaced, a contingency fund for repairs, maintenance/replacement is needed. Capital requests are considered once a year. This additional fund addresses needs that arise throughout the year, outside unit plan update, using established Technology Plan guidelines.
  - Reserve 2-3% of the annual college budget for replacement/upgrade equipment including but not limited to computer, media equipment and software.

Source: Riverside City College Technology Plan 2010-2014

Multimedia and Related Equipment Definition

Any Instructional Media Technology which is currently used in the classrooms by RCC Faculty, Administration and Staff are included in the Technology Replacement Plan. Instructional Media Technology is referred to as: LCD projectors, document cameras, Desktop displays, DVD and BluRay players, any network appliance associated with video conferencing and streaming media, Sound Re-enforcement – Amplifiers, Processors, Wired and Wireless Microphones, Speakers and Assisted Listening Devices and Network Servers which support steaming media.

Source: Instructional Media Center
Perkins Equipment Redeployment/Liquidation
When your program no longer has use of their PERKINS equipment:

1) Create an Excel spreadsheet with the pertinent information about the equipment:
   a. Name/Description (i.e., HP 4550N color laser printer)
   b. Quantity
   c. RCC Asset Tag Number

2) Send an e-mail to Julie.Pehkonen@rcc.edu in Career and Technical Education with
   the Excel spreadsheet attached. Indicate:
   a. When the equipment will be available for pick-up
   b. Who should be contacted at your site

When Career and Technical Education receives your list, we will:

1) Send an e-mail to all PERKINS funded programs notifying them of the available equipment

2) After 5 business days, if the equipment is still available, we will send an e-mail to
   Career and Technical Education notifying them of the available equipment

3) After 5 more business days, if the equipment is still available, we will notify the
   program so that they can contact the college inventory clerk to remove the
   equipment.

4) For equipment with a value greater than $5,000 (individual items), CTE will notify
   the Chancellor’s Office before the College can sell/dispose of the equipment.

Source: Julie Pehkonen, Director of CTE Projects