Maui Community College
Computing Services
Comprehensive Program Review
2005

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I. Mission Statements and Overview of Computing Services.

A. Mission and Vision of the College.

**Mission**

Maui Community College is a learning-centered institution that provides affordable, high quality credit and non-credit educational opportunities to a diverse community of lifelong learners.

**Vision**

We envision a world-class college that meets current and emerging Maui County education and training needs through innovative, high quality programs offered in stimulating learning environments. The College mission, goals, and actions will be guided by the native Hawaiian reverence for the ahupua’a, a practice of sustaining and sharing diverse but finite resources for the benefit of all.

B. Function of Administrative Services.

The Office of Administrative Services provides for the various administrative support services and activities of the College which generally include administrative management, budget and fiscal services, personnel management, operations and maintenance, and computer services. The Office:

- Insures the College operates within federal and State statutes, established policies and procedures of the University of Hawaii and Maui Community College; informs the campus community of applicable policies, guidelines, procedures, forms, and alternatives available in accomplishing tasks; and determines campus administrative policy as appropriate.

- Reviews and assists in the preparation of the College’s long- and short-term educational plans, accreditation self-studies, program reviews, special studies, etc.; makes corrections and recommendations for improvement; prepares and implements the short- and long-range plans for the Business Office, Operations and Maintenance, Human Resources and Computing Center.

- Facilitates the College’s staff development program to ensure that employees are kept abreast of changes in rules, regulations, and procedures as well as technological advances that may affect their work.
- Performs and/or participates in special studies of interest or concern; makes recommendations, offers alternatives, corrects problems, discusses the facts, etc., as appropriate.

- Monitors all aspects of the activities of extramurally funded projects including critically reviewing the proposal ensuring the activities can be performed within available resources and time frame, monitors progress, and follows up on reporting requirements.

- Responds to requests for information, especially from systemwide offices, State agencies, and legislators.

- Coordinates the budgeting for the College, including the biennium budget requests, six-year operating budget plan, the Capital Improvements Program (CIP) projects, and the Special Repairs and Maintenance (R&M) program requests; prepares the budget requests for the Business Office, Operations and Maintenance, Human Resources Office and Computing Center.

- Provides for the Business Office functions of procurement, auditing personnel account codes, payroll, cashiering, financial management, cash controls, telephoned switchboard, campus mail, and budget execution.

- Provides for the proper maintenance and care of all physical facilities and properties of the College, including adequate security of the premises; prepares short- and long-range plans and implements them within the resources available; monitors CIP, energy conservation, Special R&M and other campus projects.

- Coordinates the computing services for the Colleges, including hardware operations, data base management, and network communications.

- Collaborates with instructional program to provide food service to College.

- Maintains and handles personnel record keeping and transactions.

- Maintains information on working conditions, salaries and transactions.

- Oversees recruitment and hiring.

- Handles classification, pay administration and contract interpretations.
Reviews and processes workers' compensation claims and Health Fund.

Organizational Chart. (See Appendix A 1.)


Mission

Computing Services is a service-oriented department that provides high quality technical support, computing systems and network infrastructure for credit, non-credit and extramural programs within the Maui Community College tri-island community.

Function

Computing Services plans, and obtains funding for, acquires, installs, and supports the appropriate/necessary equipment, software and communications for the education, training and use of suitable computer applications for instructional, academic, administrative and student support for the college’s tri-island community.

Functional Statements

1. Implement the Computing Plan of Maui Community College.

2. Facilitate, locally, plans of the University of Hawaii Information Technology Services and IT Offices of the other colleges in the UH system.

3. Assess college computing needs.

4. Obtain funding for software, equipment and program support through budget requests and grant proposals.

5. Acquire and install software and equipment necessary for college computing infrastructure, including network and central servers for file service and printing.

6. Configure and maintain/repair network and server equipment/software that is required for infrastructure, including wireless network and college web site.

7. Provide programming services to create unique systems or tailor purchased systems for campus-wide or system-wide use.
8. Provide advice and assistance in purchasing departmental and campus unit software, computers and peripherals.

9. Install and configure departmental, campus and outreach unit software and hardware.

10. Provide programming and server support/maintenance for departmental or campus-unit systems, such as Compass, Skills Bank, and student digital media file access.

11. Maintain and repair departmental, campus and unit computing equipment and peripherals.

12. Inform and train faculty and staff in the use of software/hardware and new systems.
II. Overview of Computing Services.

A. Overview.

Computing Services, housed in the Ka`a`ike Technology Center, supports the college network, central servers, web activities, user support, and repair/maintenance of more than a 1100 computers on the tri-island campus.

Background. In 1982, MCC created its first computing plan to achieve the goals and satisfy the needs determined by a college-wide assessment. Its focus was threefold: 1) integrate computing into curriculum, regardless of the field of study; 2) create the necessary hardware/software/staff infrastructure to support in-house administrative and academic support computing, including fiscal, personnel, library, and student information systems that could share data with other branches of the University of Hawaii; and 3) implement a campus-wide information network to support e-mail, word processing, spreadsheet and file transfer applications. Funds for implementing this initial plan came from a five-year Title III grant that began later in 1982.

Communications. Campus buildings are connected by both multimode and single mode fiber, the latter being used primarily for special video functions. Multimode fiber is used for traditional data communications via switched Ethernet at speeds of 100mbs and 1000mbs. The outreach education centers and the main campus are connected with each other, the Internet, and other branches of the University of Hawaii via OC3 links (154mbs) which carry both traditional data and interactive video over the TCP/IP network. The main campus has two OC3 links, one via microwave and the other over fiber. This provides redundancy and reduces congestion that might be caused by large amounts of interactive video traffic. Within buildings Cat 5 or Cat 5e supports Ethernet or Fast Ethernet communications.

Central Servers. The more than 1100 computers connect to servers at the University of Hawaii for e-mail, personnel, fiscal, student information, and WebCT instructional systems. MCC supports a variety of central servers for a variety of functions, such as web servers, facility scheduling, placement testing, skills development applications, work requests and maintenance, storage of large files necessitated by 3D modeling and animation, and software license control. Server hardware includes legacy VAX systems, Alpha, Compaq (single, dual, and quad processor systems), Sun (dual processor), and miscellaneous PC servers.

Facilities. The college has 18 microcomputer classrooms (each usually employs 24 student work stations, one presentation system for instructor, and two printers). Some of these have special equipment or capabilities, such as Ka`a`ike’s digital media classroom and two SkyBridge microcomputer classrooms. There are 16 specialized computing labs with a minimum of 6 computers, including a 25-station office simulation lab, a 25-station
electronics lab, and two open labs: a 36-station business lab, and 34 computers in The Learning Center. MCC boasts a student-to-computer (computers used only by students) ratio of 1 computer to 3.8 students.

**Staffing.** A Computing Coordinator, who is responsible for network infrastructure, instructional and administrative systems and support of faculty/staff computer usage, supervises a systems programmer/network engineer, an applications and Banner programmer, a user-support specialist/computer-trainer, a hardware technician and a half-time clerical staff member who supports students with computer account problems.

**B. Goals and their relation to MCC Mission and Strategic Plan**

1. Examples of work directly related to Mission and Strategic Plan.

   Computing Services is actively involved in the College Strategic Plan Commitments and Core Values stated in the Strategic Plan, and these, such as “Hawaiian Islands advantage” often take considerable time. For example, two of our staff were involved in planning and setup for, and support during, the WACUBO 2004 (Western Association of Community College/University Business Offices) Conference in Wailea. Again, last summer Computing Services provided hardware setup, software installations and Internet access, as well as day-to-day (and night) support for two large conferences held at the Kahului campus: Deep Impact and National Marine Educators Association. During conferences weekend work is the norm, rather than the exception, and time spent assisting with such events puts the staff behind in their regular work of supporting the college. It is anticipated that the World Small Island Conference in 2006 will be equally as demanding and enjoyable as the three conferences mentioned above.

   Computing Services has also worked in support of Goal 3 – Objective 1: **Goal 3 – A Model Local, Regional, and Global College.** Transform the profile of the College, positioning it as one of the world’s foremost multicultural centers for island and indigenous studies. **Objective 1 -- Establish Maui Community College as a preferred educational and training destination for local, national, and international students.** Needing a full-time webmaster to redesign MCCinfo to better market the college national and international student populations, a proposal was written to the Rural Development Project (RDP) to fund the position and related equipment for the first year. If the number of out-of-state students increased enough that the extra tuition could support the fulltime webmaster, then the position would become self-sustaining. In fact, almost twice the number of out-of-state students necessary for institutionalization of the webmaster occurred. Computing Services supervised the webmaster during the first
year and will create the position and hire the fulltime webmaster prior to January 2006 when RDP grant funds are exhausted.

Computing Services has also served in support of Goal 3 - Objective 2 – Strengthen the role that the College performs for the indigenous people and general population of Maui County by actively preserving and perpetuating Hawaiian culture, language, and values. Preparation for Ka `Aha Hula ʻO Halauaola (World Hula Conference 2005), which was held last summer at the Kahului campus, the Computing Coordinator attended regularly scheduled conference-planning meetings throughout the preceding school year, rewired the conference planning office, provided conference employees with equipment prior to conference equipment being acquired, and helped them set up e-mail accounts. Computing Services then installed software and new microcomputers and printers, as well as providing support during the academic year and the actual conference, including hardware and software installation for presentation systems and computers and printers needed in conference central headquarters.

2. Previous year’s goals, plans and objectives.

The Computing Services Mission and Goals are in keeping with the Maui Community College Strategic Plan as referenced below.

a. Goals and Objectives:

(1) Increase office support from halftime (0.50) to fulltime (1.00).
   (Strategic Plan Goal 1, Objective 1; SP G2, O2)

(2) Reorganize college IP addresses into appropriate subnets.
   (SP G1, O1; G1, O2; G2, O2)

(3) Implement Maximo work order system.
   (SP G1, O1; G1, O2; G2, O2)

(4) Reduce work order turn-around time.
   (SP G1, O1; G2, O2)
   Objective: Create forms to improve intra-office communication.

b. Accomplishments:

(1) Position count for additional office support used for Business Office. A college moratorium on hiring is in effect, and new positions must be funded with existing budget; so this objective is on hold.
   (SP G1, O1; G2, O2)
(2) IP reorganization plan modified to meet expanding needs. New subnets created and new IP addresses input in computers at following locations: Laulima, TLCL-02, TLCL-03, Hawaiian programs, Cooperative Extension Service, Student Services, Molokai and Lanai Education Centers, and Ka Lama, Kupa’a, Faculty Hale, Science, Agriculture, and lower-campus faculty/staff. (SP G1, O1; G1, O2; G2, O2)

(3) Input all locations (buildings, rooms, ground maintenance areas) for Kahului campus, enabling drill-down selection by users of any location. Input work request types for O & M and Computing Services. Trained 5 secretaries how to submit work requests for piloting Maximo. The pilot revealed problems with printing administrative forms for work orders, no space for supervisor’s comments on administrative forms, missing bathrooms and storerooms in the drilldown for several buildings, and frustration with time it takes to submit a work request when compared with existing O & M system and the former Computing Services work request system. Half of the problems have been rectified, and a meeting of those who piloted the system has been scheduled. (SP G1, O1; G1, O2; G2, O2)

(4) Improved average work-order turn-around time from 3.8 to 3.0 days; median turn-around time is still 2 days. (SP G1, O1; G2, O2)

C. Organizational Chart.

The official organization chart is the first item in Appendix A. The following “unofficial” chart portrays the actual day-to-day work relationships and is more accurate because it includes Computing Coordinator and the temporary Electronics Technician position which are officially part of Instruction, rather than Administrative Services. The official organizational chart also lists Kris Shibano as the “supervisor; however since he has been assigned halftime to the UH System, Melody Bohn has necessarily supervised User Support activities.
III. Analysis of Qualitative and Quantitative Data.

A. Qualitative data.

Each year Administrative Services surveys the campus community. The assessment device is comprised of statements to which those responding indicate whether they Strongly Agree, Agree, Disagree, Strongly Disagree, or have No Opinion. The statements are derived from the each department’s functional statements (see I. C. Functional Statements above). (See the entire questionnaire in Appendix B 1-3.) Below is the summary which compares surveyed responses for 2004 with that of 2003.

<p>| Maui CC - Administrative Services - Assessment Survey for the Calendar Year 2004 |</p>
<table>
<thead>
<tr>
<th>Complete Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Opinion</th>
<th>Improved</th>
<th>Stayed the Same</th>
<th>Declined</th>
<th>Average</th>
<th>2003 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing Center 1</td>
<td>29</td>
<td>40</td>
<td>14</td>
<td>7</td>
<td>9</td>
<td>4.01</td>
<td>3.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computing Center provides high quality service</td>
<td>12</td>
<td>30</td>
<td>35</td>
<td>12</td>
<td>9</td>
<td>3.47</td>
<td>3.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff is courteous and helpful</td>
<td>46</td>
<td>36</td>
<td>7</td>
<td>0</td>
<td>9</td>
<td>4.44</td>
<td>4.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computing Center work order system is adequate</td>
<td>11</td>
<td>33</td>
<td>22</td>
<td>15</td>
<td>18</td>
<td>3.49</td>
<td>3.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus network system is adequate</td>
<td>16</td>
<td>46</td>
<td>18</td>
<td>6</td>
<td>11</td>
<td>3.84</td>
<td>3.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support of existing hardware is adequate</td>
<td>9</td>
<td>41</td>
<td>19</td>
<td>12</td>
<td>15</td>
<td>3.58</td>
<td>3.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support of existing software is adequate</td>
<td>9</td>
<td>46</td>
<td>20</td>
<td>10</td>
<td>15</td>
<td>3.64</td>
<td>3.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus Systems (website/calendar/scheduler, email, etc.) are adequate</td>
<td>13</td>
<td>54</td>
<td>18</td>
<td>4</td>
<td>7</td>
<td>3.85</td>
<td>3.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training provided by the Computing Center has been adequate</td>
<td>8</td>
<td>32</td>
<td>22</td>
<td>9</td>
<td>24</td>
<td>3.55</td>
<td>3.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have the Computing Center services improved or declined over the past year?</td>
<td>18</td>
<td>48</td>
<td>10</td>
<td>1.11</td>
<td>0.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>153</td>
<td>358</td>
<td>175</td>
<td>75</td>
<td>117</td>
<td>3.77</td>
<td>3.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although the above data will be analyzed in greater detail under C. below, it is obvious that average ratings improved since last year for 9 of the 10 statements.

Following are individual comments made by those responding to the survey.

**ADMINISTRATIVE SERVICES ASSESSMENT SURVEY – COMMENTS FOR COMPUTING SERVICES CalendarYear 2004**

**COMPUTING CENTER**

- Need more staff
- More training on some basic skills would help the computing center by cutting down on requests from faculty. If we were trained, we could do more for ourselves.
• Need another APT. Workload is too heavy. Great improvement of website! Another APT position for hardware and software support is needed.
• I haven’t required their services! Wow!
• Friendly staff is usually available.
• Need more staff in computing services!! They are all overworked!!! Melody always has a smile on her face, which is always nice to see. Keep up the good work!!!
• Improved new w/ website
• Computer service is terribly slow. Needs improvement and more help.
• Staff is very helpful
• Melody is fabulous
• CS is a mess. Need more staff.
• Tech for department needed
• They try hard but need to get everybody better organized
• Computing center especially Melody is such as asset to the MCC community. With what the Computing Center is working with they are superb. The actual system itself needs to be improved.
• (Training provided by the Computing Center has been adequate) I have had no training
• Network system is adequate but could be improved. Melody is “Da Bomb”
• The website has improved recently
• Melody is terrific
• Not enough staff to provide services in a timely fashion
• They are in need of more staffing and need much more support
• Needs more staffing of full time workers. Should implement a live work order status web app stating work order progress and level of severity
• Melody is great to work with
• More specialists like Mel Bohn and Kris Shebang would provide greater/better campus service
• Short-staffed
• Just no $ and overworked staff; hours for training inconvenient
• This is another area where more help is needed. Good people have more than they can handle. No time for more than crisis management
• We rely heavily now on computers – in classrooms, offices, etc. We need to get more staff for maintenance and training
• Would be more user friendly
• Thank god for student helpers
• The plus is student aides too!
• Severely understaffed
• Many people on campus spend much time on computer. As part-time, I don’t, so the “Banner” system has been complex, mysterious and not user-friendly. It took multiple tries to “get in”
• New Website and improvements to room scheduler are appreciated
• Better since Melody
• Need to update computers, but that’s a budget item…
• Staff is very helpful and will show you how to fix the problem in case it happens again, you can fix it on your own
• If they had adequate funding and number of staff, they could be a lot better. Their minimal conditions hurt the campus as a whole.
• (Computing Center provides services in a timely fashion) Because staff doesn’t do their best … need more help. Wish the portal were listed on the side bar of home page. They need help too! Great service from Eddie and Melody, especially.
• They need more personnel (even when Brian returns). People most wait up to 2 days for fixes. This is really bad. We need computers to work
• (Support of existing hardware is adequate) some systems are still running windows ’98. This is over 7 yrs old!
• Increased workload, not enough staff.
Outer Islands:

- Service has been very good – when available
- Molokai’s computer center is badly out of date, usually not working, minimally functional. As support services are rarely available on Molokai. It is even more important to have up to date, working computers.
- Melody has been a tremendous asset! I like Steve but he needs to retire.

The most obvious theme in the above faculty/staff comments was that Computing Services needs more staff; 39% indicated this directly, and another 9% also indicated the need for staff, but less directly.

In April 2005, Administrative Services surveyed student responses via the web. Following are the results for Computing Services:

<table>
<thead>
<tr>
<th>4. Computer Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Staff is courteous and helpful.</td>
</tr>
<tr>
<td>Completely Agree</td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>No Opinion</td>
</tr>
<tr>
<td>Response</td>
</tr>
<tr>
<td>21.1%</td>
</tr>
<tr>
<td>35%</td>
</tr>
<tr>
<td>3.6%</td>
</tr>
<tr>
<td>0%</td>
</tr>
<tr>
<td>16.3%</td>
</tr>
<tr>
<td>Total Respondents: 275 (Skipped this question): 10</td>
</tr>
</tbody>
</table>

| 12. Access to campus internet system is adequate. |
| Completely Agree |
| Agree |
| Disagree |
| Strongly Disagree |
| No Opinion |
| Response | Response Total |
| 19.4% | 54 |
| 51.4% | 141 |
| 9% | 22 |
| 4.3% | 12 |
| 17% | 47 |
| Total Respondents: 276 (Skipped this question): 19 |

| 13. Computers in labs and classrooms are adequate. |
| Completely Agree |
| Agree |
| Disagree |
| Strongly Disagree |
| No Opinion |
| Response | Response Total |
| 16.1% | 29 |
| 46.4% | 128 |
| 16.7% | 46 |
| 6.8% | 17 |
| 16.7% | 46 |
| Total Respondents: 276 (Skipped this question): 15 |

| 14. Software in labs and classrooms is adequate. |
| Completely Agree |
| Agree |
| Disagree |
| Strongly Disagree |
| No Opinion |
| Response | Response Total |
| 10.5% | 20 |
| 46.7% | 129 |
| 15.5% | 54 |
| 4% | 11 |
| 19.2% | 53 |
| Total Respondents: 276 (Skipped this question): 15 |
Less than three-fourths of the students felt that labs and classrooms have adequate computers (73%) and software (71%); whereas approximately 85% felt the campus network, website and e-mail system were adequate. Students (95%) agreed with faculty/staff (92%) that “staff is courteous and helpful.” Following are the student comments:

Comments:

1. better equipment in science labs are needed

2. The computers, or the servers, need to be fixed in the library. There are multiple data errors and the librarian can not be expected to maintain the whole system.

3. I disagree because you folks wanted me to do this survey but the first attempt didn’t put the link.

4. Its hard to believe that I cannot even bring my own laptop to school and not be able to log on to the internet.

5. The Maui CC website is definitely better than before and I like the MYYH Portal and the ability to look up my transcript.

6. Some professors have trouble trying to use the equipment in the classroom and waste valuable time pushing buttons, it would be helpful to have a user handbook to troubleshoot the problems in the classroom.

7. the ICT lab at MCCC is completely ridiculous...the computers are from like the 1900's! this is 2005 now and with the amount we are paying for tuition, we should have better computer equipment.

8. I had some problems with my web class, not all of the computers in the learning center are Adobe equipped.

9. Sometimes getting into the system is hard and slow. However, for the most part, I am satisfied.

10. Here is one thing I'm concerned about, the library is the only place that stays open adequate hours for most students studying needs; however, the internet/computer access is very limited, one, there is not enough computers, and two, the computers only let you go onto certain sites, I understand about protecting the computers, but the limitations are ridiculous on those computers, and as I've said, it's the only place that is open long enough for students to get an adequate amount of study time.

11. I find that there are always a hind full of computers in the ICT that are out of service. Also, I have had problems getting access to a computer in the ICT to do school work because there are people using the computers to listen to music, and look at internet advertisements...

12. New MCC website very difficult to find things, old website better.

13. Hawaiian fonts, etc. should be downloaded to all computers, rather than only in the Learning Center. Had difficulty with printer in Dr. Gil's room last semester....WI Literature in Hawaii. It was not printing when we had a class project. Should have access to internet throughout campus. There must be a system in which it can program/identify users in case they browse through inappropriate sites.

14. No Comments

15. the myportal is complicated, I tried to upload photos to an email it didn't work. I would like to bring a laptop and connect to internet via wireless. no information as to where this would be possible. Art dept. has no computers for students.

16. TCOM closes could not dub sound and had to be referred to another area and computer to work on. It would be preferred to use the computers in the lab for all the required work from capturing video to dubbing sound and burning it to a DVD/CD. Photoshop software need for the class was not available in the Business Lab Hawaiian language font is not being made available to students taking Hawaiian language. This should be made available to all Hawaiian language class and subject areas of Hawaiian. These programs should be given to instructors to advice their students of where to go Business Lab/ILT where the computers are equip with these programs. FSHE-K. ROBINS CLASS, THE SOFTWARE WAS NOT AVAILABLE OUTSIDE OF CLASS IN ANY OF THE COMPUTER LABS. MATH CLASS 22/23 THAT HAS SOFTWARE TO AID STUDENTS IN TUTORING OR PRACTICING SHOULD BE AVAILABLE TO ALL STUDENTS.
35% of the comments indicated computers are old, and 20% of the comments (some overlapping with the computer comments) felt software is inadequate.

B. Quantitative data.

In examining the quantitative data below, there are several things to consider regarding the work orders. First, the number of work orders accounts for, at most, 35% of the work. Second, 85% of the work orders are handled by two of the five technical staff. Third, the work orders do not account for all that these two staff do. For example, in most cases there are no work orders for updating old, and installing new, software in any of the 18 microcomputer classrooms or 23 open or specialized labs. Nor is there ever a work order when new computers are purchased to totally replace those in a microcomputer classroom or lab.
When work requests are of the type “Install hardware,” they can be quite varied, particularly regarding the time necessary to complete them. For example, one might specify to install a CD-RW drive; a second might be to move an existing computer to another office where there may be no existing connection to the network; a third might be to install a new computer which would entail loading Microsoft Office and our basic load which consists of a variety of programs, such as Netscape (including configuring Messenger for a particular user), McAfee Antivirus, SSH, jinit.exe, Shock, Flash, Adobe Reader, RealOne, Quicktime, Hawaiian Fonts and Winzip, as well as connecting the monitor, keyboard and mouse to the system unit in the necessary location which requires the proper IP address and other TCP/IP information, connection to appropriate network printers, and may involve movement of furniture or building a longer Ethernet cable and updating the Domain Name Service. And a fourth might be simply “Install 9 new computers in our offices.” In light of the foregoing, information has been included for the number of computer installations, other hardware installations, and software installations for faculty/staff and for students. (The basic load indicated above counts as a single software installation.)

The foregoing paragraphs and examination of the table of quantifiable data reveal there is not a one-to-one relationship between the numbers of different types of installations with the numbers of completed work requests. Two other types of information for which there were no work requests are also presented as quantifiable data: # of Student UH account problems resolved; and # of Requested data uploads/downloads completed. (“Requested” in this last item does not mean “work request.”

<table>
<thead>
<tr>
<th>COMPUTING CENTER</th>
<th>FY2002-03</th>
<th>FY2003-04</th>
<th>FY2004-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>A # of Workorders completed.¹</td>
<td>1152</td>
<td>1229</td>
<td>1252</td>
</tr>
<tr>
<td>B # of Workorders outstanding at year end.</td>
<td>18</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>C # of Requested data uploads/downloads completed.</td>
<td>135</td>
<td>247</td>
<td>253</td>
</tr>
<tr>
<td>D # of Computer installations completed.</td>
<td>63</td>
<td>227</td>
<td>48</td>
</tr>
<tr>
<td>E # of Other hardware installations completed.</td>
<td>57</td>
<td>191</td>
<td>56</td>
</tr>
<tr>
<td>F # of Software installations for faculty, staff, asst.</td>
<td>230</td>
<td>389</td>
<td>439</td>
</tr>
<tr>
<td>G # of Software installations for classrooms/labs</td>
<td>927</td>
<td>1333</td>
<td>1072</td>
</tr>
<tr>
<td>H # of Computers on campus at end of the year.</td>
<td>1034</td>
<td>1096</td>
<td>1167</td>
</tr>
<tr>
<td>I Computing Center technical staff FTE.²</td>
<td>5</td>
<td>4.8</td>
<td>4.5</td>
</tr>
<tr>
<td>J # of Workorders completed per technical staff</td>
<td>230.4</td>
<td>256.0</td>
<td>278.2</td>
</tr>
<tr>
<td>K # of Computers on campus per technical staff</td>
<td>206.8</td>
<td>228.3</td>
<td>259.3</td>
</tr>
<tr>
<td>L Average days to complete a workorder</td>
<td>8.3</td>
<td>3.9</td>
<td>3</td>
</tr>
<tr>
<td>M Median days to complete a workorder</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>N # of Student UH account problems resolved.³</td>
<td>ND</td>
<td>252</td>
<td>328</td>
</tr>
<tr>
<td>O Computing Center non-technical staff FTE.</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>P Comp Ctr Budget (does not include Steve George)</td>
<td>$242,347</td>
<td>$248,431</td>
<td>$248,431</td>
</tr>
<tr>
<td>Q % Comp Ctr Budget/Overall College Budget</td>
<td>1.28%</td>
<td>0.80%</td>
<td>1.15%</td>
</tr>
</tbody>
</table>

¹ Workorders account for approximately 35% of Computing Services work.

² Technical staff includes the Computing Coordinator even though most duties are not that of a technician.

³ 85% of Student UH account problems resolved are done by non-technical clerical (0.50) staff.
C. Analysis of qualitative and quantitative data.

Strengths:

1. Staff is perceived as courteous and helpful by faculty and staff (4.44 Avg. on 5-2 scale), and 92% “agreed” or “completely agreed” to the statement, “Staff is courteous and helpful.” 95% of the students responding to this same statement also “agreed” or “completely agreed.”

2. Average ratings for all items on the 2004 Faculty/Staff Assessment Survey improved except for “Support of existing software is adequate” was slightly down (3.64 from last year (3.70). Because the difference is so slight it is likely a random fluctuation.

3. Faculty/staff survey respondents felt services had improved somewhat this past year; whereas the previous year (2003-04) respondents felt services had definitely declined from 2002-03. The negative response from the 2003-04 survey was likely a result of the large number of computer installations with which Computing Services was saddled, and during which time (late summer and Fall 2003) our communications with faculty and staff were less frequent.

4. This past year Computing Services cut the average time to complete a work order by almost a day (.9 days) compared to 2003-04. This was accomplished with reduced staff (down 0.30 FTE); however several factors likely biased this result:

   a. Three volunteers contributed 0.50 FTE, and all of their work was prior to the work order system breakdown. (Work orders submitted after breakdown had little impact on the year’s statistics.

   b. Computing Services was more successful than previous years in having faculty/staff submit ex post facto work orders for help desk request types and emergency requests (same day completion).

   c. Also, Computing Services has been more successful in having hardware/software installation requests delayed until equipment and/or software has arrived on campus.

Weaknesses:

1. Technical staff was down to 4.5 FTE because of MCC’s contribution (Kris Shibano) to UH SRIS system and Brian Harding’s extended sick leave and eventual death at the end of June 2005. This occurred the same year that funding for additional (0.50) office support and funding for 0.50 casual hire...
was removed from budget. It is clear that faculty and staff also feel that Computing Services is short-staffed because 48% of the comments made on the qualitative evaluation indicated more staff is needed.

2. Breakdown of Computing Services work request system. Ironically, the average response to the 2004 Assessment Survey’s question about the work order system being adequate showed an average increase in agreement.

3. Although we completed a number of objectives related to two of our goals, IP Reorganization and Implementation of Maximo work order system, neither goal was completed. It is clear that staffing cutbacks mentioned under Weaknesses 1 (above) have negatively impacted the realization of these two goals.

4. Since only one item on the 2004 Assessment Survey was rated lower (.06 of a point) than in 2003, it needs to be addressed. Since software support is usually heralded as one of the better departments in Computing Services and it continued to be lauded during 2004, and since Melody Bohn received many compliments in the faculty/staff comment section, as well as having additional support from volunteers and casual hires, it is possible that software demands have radically increased or the wording of the Assessment item is suspect. Reflecting on the latter possibility, “Support for existing software is adequate,” it is possible that “existing software” is the main focus, rather than “Support.” Computing Services is aware that some are dissatisfied that we don’t provide whatever software a given individual may want. Hopefully, a technology fee will help this by keeping student software current; then the nominal funds that have been used for these purposes could be diverted to faculty and staff software. Further analysis is needed.

5. A major weakness was pointed out by the student survey respondents. Less than three-fourths of the students felt that labs and classrooms have adequate computers (73%) and software (71%). 35% of their comments were related to the need for better computers in the labs and microcomputer classrooms, and 20% of their comments were about software problems. Perusal of the equipment listed by microcomputer classroom and lab (part of section IV. C. Facilities below) indicates that such is the case.

Fortunately, since the student survey was taken 22 Celeron 2.8GHz systems with 512MB of RAM and 80 GB hard drive, funded by a grant through Title III, have been installed in Ka Lama 201, which had the oldest microcomputers on campus (Pentium 133MHz systems with 64MB RAM). In addition, the Molokai 106 microcomputer classroom/lab will have its 25 computers replaced during the Spring term with funds from a successful
proposal to the Rural Development Project. The microcomputers will be powerful systems with hardware and software for video and audio editing.

Although Computing Services has projected equipment replacement through 2010 (see Appendix B 2) and it was incorporated into MCC’s Strategic Plan, 8-year Plan Details (see Appendix B 5), it is clear that the budget process will not begin to accommodate these needs, nor will successful grant proposals. The approach most likely to succeed in funding replacements of hardware and software and additional equipment to meet the need of increased number of students is a technology fee. Last year the college was in the process of requesting permission for such, but stopped the process when UH ITS submitted its proposal for a technology fee. Since that was not successful, the college is in the process, once again, of submitting a request for a modest fee to the Board of Regents.

6. 24% of the comments made by students taking the survey were based on misinformation. If the 34 students who made comments are representative of our student population, then a quarter of our students are misinformed about computing practices or policies in a given lab, the library or the campus as a whole. Clearly, at least two of the respondents think the library should also serve as an open lab, in spite of library signs which indicate that the intended use of their equipment is research and perusal of library holdings. Even though it is apparent from the comments that students do not read signs, handouts, or look at information in prominent places on the college website, Computing Services will find ways to better communicate with students, even when most of such comments are regarding elements outside its jurisdiction. The Computing Coordinator will work with the various lab supervisors and the library on problems related to signage, additional information that should be on their respective web pages and will find other ways to make policies and which machines have specific software within a given lab clear for the students.

A. Human Resources.

1. Positions list.

- Steve George, Professor, Computing Coordinator
  Pos No. 0084137 FTE 1.00 (11-month faculty)
  Planning, policy, direction, budget execution, special projects, network engineer (hardware), fill behind all functions.

- Frances Segundo, Clerk Steno II
  Pos No. 0041198 FTE 0.50
  Student UH computer account support, office management, purchasing and contracts, telephone support.

- Kris Shibano, IT Specialist, Supervisor
  Pos No. 0081381 FTE 1.00
  Applications Programming, Banner SRIS, system administration, fill behind user support activities.

- Pacifico Evangelista, IT Specialist, Server Operations Supervisor
  Pos No. 0080154 FTE 0.50 & 0081212 FTE 0.50
  Systems programmer, network engineer (software), e-mail and legacy system administration, special projects.

- Faith Melody Bohn, IT Specialist, User Support Operations Supervisor
  Pos No. 0080539 FTE 1.00
  Software support, installation and training, web support

- Brian Harding, UH Electronics Tech I, (Deceased)
  Pos No. 0080885T FTE 1.00 (partly filled by 19-hour casual hire)
  Hardware and network connection troubleshooting and repair

- Brad Duran, IT Specialist, (began as casual hire 7/01/2005)
  Pos No. 0079979T FTE 1.00
  User support for hardware and software (0.50), fill-behind Kris Shibano who works halftime for UH system (0.50 ad hoc reporting and small server system administration

Computing Services anticipates the transfer of the web master position (RCUH 1.00 FTE) from the Rural Development Project to Computing Services (general funded 1.00 FTE) in January 2006.
2. Positions compared with other campuses.

Organization charts from the other community colleges in the UH system (see Appendix A. 2-9) were perused to learn numbers and types of positions and the organization of their computing shop(s). The results are recorded in the bottom portion of the table below. In addition, this years UH Faculty and Staff System Directory was scrutinized to corroborate the organization charts. The results of that search are also recorded in the bottom portion of the table below. Since the two sources did not agree in either numbers or organization, the Computing Coordinator called each college and interviewed the heads of the respective departments. (Wayne Chun provided the information in lieu of his supervisor for the administrative computing department at Honolulu Community College.) The names of the interviewees begin in the staffing section of the upper portion of the table. The results of the interview are clearly more accurate than the two former sources mentioned and therefore were used for comparison purposes in the upper portion of the table.

<table>
<thead>
<tr>
<th>Comparison of Community College Size, Responsibilities, and Staff Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College Size</strong></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>College Size</td>
</tr>
<tr>
<td>Student Semester Hours (SSH)</td>
</tr>
<tr>
<td>Student FTE</td>
</tr>
<tr>
<td># of Students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Microcomputer Responsibility</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Micros for Student Use</td>
<td>556</td>
<td>1,200</td>
<td>574</td>
<td>350</td>
<td>250</td>
<td>756</td>
<td>206</td>
</tr>
<tr>
<td>Total # of Micros in College</td>
<td>1,013</td>
<td>0</td>
<td>931</td>
<td>500</td>
<td>400</td>
<td>1,133</td>
<td>305</td>
</tr>
<tr>
<td># of Micros You Repair</td>
<td>1,013</td>
<td>0</td>
<td>931</td>
<td>500</td>
<td>400</td>
<td>1,133</td>
<td>305</td>
</tr>
<tr>
<td># Micros You Install Software On</td>
<td>1,013</td>
<td>1,100</td>
<td>614</td>
<td>500</td>
<td>400</td>
<td>960</td>
<td>285</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Off-Campus Facility Responsibility</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Ed. Outreach Ctrs. You Service</td>
<td><strong>5</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td># Remote lab /&amp;or classroom sites</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staffing</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>According to Interview</td>
<td>Kitchen</td>
<td>Schulte</td>
<td>Chun</td>
<td>Becker</td>
<td>Hatton</td>
<td>Kajiha</td>
<td>Nakadomari</td>
</tr>
<tr>
<td>Faculty FTE</td>
<td>adm</td>
<td>aca</td>
<td>adm</td>
<td>aca</td>
<td>1/2 big dept</td>
<td>one dept</td>
<td>one dept</td>
</tr>
<tr>
<td>IT or Etron or Educ.Specialist FTE</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Clerical FTE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Staff FTE</td>
<td>4.50</td>
<td>13.00</td>
<td>9.00</td>
<td>6.00</td>
<td>9.50</td>
<td>5.50</td>
<td>4.50</td>
</tr>
<tr>
<td>Plus Student Help</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Work Load per staff member***</td>
<td>841.1</td>
<td>372.7</td>
<td>835.8</td>
<td>344.8</td>
<td>677.4</td>
<td>919.5</td>
<td>429.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staffing according to org.chart (7/2004)</th>
<th>adm</th>
<th>aca</th>
<th>adm</th>
<th>aca</th>
<th>adm</th>
<th>aca</th>
<th>adm</th>
<th>aca</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty FTE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>IT or Etron or Educ.Specialist FTE</td>
<td>1</td>
<td>3.5</td>
<td>4</td>
<td>3</td>
<td>6.00</td>
<td>5.00</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Clerical FTE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Total Staff FTE</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

*All purchases must include 4-year on site maintenance and repair, so virtually no in house repairs.

**All purchases must include 4-year on site maintenance and repair, so virtually no in house repairs.

***Workload per staff member was calculated by adding # of Students, # of Micros You Repair, # Micros You Install Software On, and 10 times the sum of # of Ed. Outreach Ctrs. You Service and # of Remote lab /&or Classroom sites. This sum is divided by the total work force which is calculated by adding Total Staff FTE and 4 times the number of Student Help.

Note: Since Leeward said a staff member spent "half his time on the college website" and no other college had staff who served as the college web designer and master, Leeward's Total Staff FTE was considered to be 9.0 for the calculation.
It is clear from examining the Comparison of Community College Size, Responsibilities, and Staff Size table on the previous page that the MCC Computing Services staff has one of the greatest work loads. It was difficult to tell whether Hawaii Community College or MCC had the worst workload. Therefore the **Workload per Staff Member** numerical composite was devised. This was done by taking the only figures that reflected relative amounts of work: total number of students, total number of computers that staff is responsible for repairing, total number of computers for which the staff is responsible for loading software and number of outreach centers and remote lab sites. Just adding outreach sites (6 was the biggest number of outreach and remote sites) into the total would amount to nothing because even the smallest college has over a thousand students. So number of sites was multiplied by 10 before adding it to the total. (Gut feeling would dictate that multiplying by 50 or even 100 would be a fairer number, but since MCC had the second most sites, we didn’t want readers thinking that we were stacking the deck.) The foregoing sum was then divided by total FTE plus student help which were counted as 0.40 FTE because even though they work halftime (and normally work fulltime during summer months) overall they are less effective than regular staff.

There is certainly nothing official about the **Workload per Staff Member** number. It is only a mechanism to help in looking at the table rather than having to mentally process the various situations, such as the school with the most computers does not do hardware repair on any of them, and the one with the fewest computers repairs them after the required 4-year on-site service warranty has expired.

Back to the original reason we came up with this numerical composite. It appeared that at the moment Hawaii CC had the heaviest load with the additional four outreach centers they are temporarily supporting until two staff can be hired once again under the new Title III grant. However, even with the temporary extra duties they still didn’t have the highest “workload” number.

The following table shows the colleges in order according to the worst workload:

<table>
<thead>
<tr>
<th>College</th>
<th>Workload per Staff Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maui</td>
<td>919.5</td>
</tr>
<tr>
<td>Hawaii</td>
<td>841.1</td>
</tr>
<tr>
<td>Kapiolani</td>
<td>835.8</td>
</tr>
<tr>
<td>Leeward</td>
<td>677.4</td>
</tr>
<tr>
<td>Windward</td>
<td>429.8</td>
</tr>
<tr>
<td>Honolulu</td>
<td>372.7</td>
</tr>
<tr>
<td>Kauai</td>
<td>344.8</td>
</tr>
</tbody>
</table>
Kapiolani is third in terms of workload—most likely because their 7,315 students are factored in the composite number. An interesting side note: During August, September and October of this year Kapiolani staff assisted 59 students with computer account difficulties (from document sent by the Kapiolani Computing Coordinator as a result of the interview process). During the same period of time MCC Computing Services staff assisted 92 students with computer account difficulties.

Just as Kapiolani appears to have more with which to contend than the median college (Leeward) in terms of “workload,” Windward appears to have a lighter “workload” than the median. Windward has one of the smallest staffs (4.50 FTE); therefore it can never be considered “well off” in respect to workload. All colleges have computing duties that have to be done regardless of how many students or computers the college has. A good example is the Banner system which each college uniformly claimed Banner required fulltime devotion of an IT Specialist. Therefore small staffs are hit hardest; when one staff is taken for standard Banner operations, fewer staff remain to do the rest of the work. These two examples (Kapiolani and Windward) indicate, as we have already stated, that the Workload per Staff Member number is not a precise measure of workload. However, it is interesting to note that even though Kapiolani has more than two and a half times the number of students of MCC, Computing Services assisted 56% more students during the same three-month period. The hardships of a small staff in the example of Windward also apply to MCC Computing Services which has the second smallest staff, and during the time this document has been written we have been informed that one of the staff will be given fulltime to the UH System for Banner.

3. Position groupings compared to other campuses.

There are three different types of organization of computing support departments at the seven community colleges. Kauai and Leeward are organized as one shop as is Maui; however they are both under academic support while Maui Computing Services is under Administrative Services. Hawaii, Honolulu and Windward have two computing shops, one for administrative computing and one for academic support. This dichotomy is particularly surprising for Hawaii and Windward considering they are smaller colleges and the administrative side of the operation have only 1 and 2 technicians, respectively. Kapiolani places the webmaster into the library and consolidates Media and Computing, as well as faculty development into a single unit with several departments; only the numbers of those who perform functions that are related to computing are included in the table above.
B. Financial Resources.

1. Budget needs assessment.

Budgets for fiscal year 2005 and 2006 are found in Appendix C 1 and 2. It must be noted that these budgets do not include the salary of the Computing Coordinator because that position is part of Instruction. The Computing Services budget for personnel normally increases from year to year to cover collective bargaining increases for staff. Although the budget for operations remains relatively constant, it is adequate.

There are several needs that have been discussed in other sections of this document; they will be reiterated here, beginning with operational budget needs.

a. Large central switches need to be put under maintenance contracts.

The section *Contracts and other costs* explains the need for placing the Cisco 6006 under a maintenance contract. Since the current amount budgeted for maintenance contracts is $15,500 and the total planned contract expenditure for FY 2006 is $14,300, we should be able to begin the maintenance contract in March. The contract should be able to be continued next fiscal year, as well, because the Maya Software maintenance contract is part of a Rural Development Project proposal that is likely to be funded. If not, Maya should be afforded by instruction because it is used solely by students in digital media arts courses. The Cisco 6506 should also be placed under a maintenance contract if UH ITS is not still providing maintenance for it. Maintenance costs for the 6506 should be approximately $4,000. Therefore the Cisco 6506 switch could also be placed under maintenance in April of 2007 for a whole year with the existing budget allocation for contracts. It could be continued thereafter by increasing the contracts line item by $2,700.

b. Additional funds for parts will be needed in the FY 2007 budget.

Aging equipment requires increased repairs, increase in the number of parts purchased, increase in the cost of acquiring what are essentially obsolete parts, and, of course technician time for repairing. During the last calendar year (spanning FY 2005 and FY 2006) there has been a significant increase in the number of parts (hard drives, motherboards, video cards, network interface cards, USB cards and power supplies) that needed to be purchased for repair of faculty, staff and student computers, not to mention laser printer fuser and roller assemblies. As the 2006 fiscal year nears its end, the cost of parts needed during FY 2005 will be compared with that of FY 2006. The projections based on
this comparison will be forwarded to the Director of Administrative Services along with the request for additional funds for the FY 2007 Repair & Maintenance budget line item.

c. Funds for additional staff are needed.

It has been more than seven years since anyone has been added to the staff. 48% of the comments of the last survey of the faculty and staff indicated the need for Computing Services to increase its staff. The comparative analysis of staff and their responsibilities at each of the community colleges in the UH System also indicates the need for more staff. The Administrative Services unit is well aware of the needs and last spring made an IT Specialist their top priority for new positions. Unfortunately, after Computing Services had done the paperwork to create the new temporary position, MCC froze all vacant positions and new positions. Computing Services was able to continue with the hiring process by using funds from its Electronics Technician position, vacated by the death of Brian Harding. The result merely maintains the status quo; we have robbed Peter to pay Paul, or in this case, robbed Brian to pay Brad. If funds are not available for the Electronics Technician soon we are likely to loose that temporary position which was vacated last June. MCC’s Chancellor has recently decided to give Kris Shibano fulltime to the UH system to work on Banner. When this occurs Computing Services staff will be reduced another 0.50 FTE. As mentioned elsewhere in this document the staff has already been reduced 0.50 FTE for the past two years.

The Administrative Services unit also voted Computing Services’ request for an additional 0.50 clerical support as the third most needed new position. More information regarding this position has been written, perhaps, than any other topic in this document. In addition to processing more student account problems than Kapiolani in the first three months of the semester, the existing halftime clerical staff is responsible for all office management, paperwork, purchasing and telephones. The existing halftime clerical staff assists other clerical staff with purchasing of computing hardware and software, and dispatches staff in response to emergency phone calls and other requests that are not made as part of the normal work request procedure. The Maximo system will require a tremendous amount of clerical work to implement it and to maintain just day-to-day work orders. Robert Burton supervisor of Operations and Maintenance has made it clear to other Administrative Services supervisors that there is no way that O & M can use the Maximo system without a significant increase in clerical staff for their department, alone. The same is the case for Computing Services.
It should be reiterated again that restoration of funding for the Electronics Technician position. Will merely increase the technical staff by 0.50 FTE over what it was from 3 through 7 years ago. When Kris Shibano is given fulltime to the UH System, funding the badly needed Electronics Technician (1.00 FTE) position will merely maintain the same level of technical support that began more than seven years ago. The addition of 0.50 FTE clerical support discussed in the previous paragraph would be the only increase in staff in more than seven years.

d. Funds for equipment replacement are needed.

As mentioned above in section III C. Analysis of qualitative and quantitative data, 5. Weaknesses, equipment replacement and upgrades are badly needed at Maui Community College. Although the costs and a schedule for equipment replacement itemized by Computing Services are part of the MCC’s Strategic Plan (see Appendix B 5), it is unlikely that such a plan will be funded through the biennium budget process. Funds for such equipment will most likely have to come from a technology fee that is assessed students.

Following is a tabular summary of additional funding needed to implement items discussed under a and b above (Operating Expenses) and c (Employee Expenditures) above. Funds for equipment replacement (d above) is not included because it is obvious that this need will only be met through a student technology fee.

<table>
<thead>
<tr>
<th>Amounts for Funding Additional Needs</th>
<th>Begin FY2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Contracts for Cisco 6006 and 6506 Switches</td>
<td>$3,000</td>
</tr>
<tr>
<td>Repair and Maintenance (estimated)</td>
<td>$600</td>
</tr>
<tr>
<td>Electronics Technician (PBA) 1.00 FTE</td>
<td>$32,724</td>
</tr>
<tr>
<td>Clerk Steno 0.50 FTE</td>
<td>$15,000</td>
</tr>
<tr>
<td>Total</td>
<td>$51,324</td>
</tr>
<tr>
<td>Savings:</td>
<td></td>
</tr>
<tr>
<td>Difference: between Brian's old pos &amp; Brad's new pos.</td>
<td>$6,276</td>
</tr>
<tr>
<td>Casual hire/stuhelp if Kris not given fulltime to UH ITS</td>
<td>$5,000</td>
</tr>
<tr>
<td>Total needed.</td>
<td>$40,048</td>
</tr>
</tbody>
</table>

2. Contracts and other costs.

The table below shows existing contracts for hardware and software, as well as an item that should be on maintenance. The Maya Software maintenance contract has been covered for the last five years with Title III funds. A proposal has been submitted to the Rural Development Project
for initial funding of a new digital media arts instructional program. If the proposal is successful, grant funds will pay for the renewal of the maintenance contract in April 2006. If not, then Computing Services will pay for the contract and will turn it over to the instructional unit to cover the cost in the 2007 fiscal year.

<table>
<thead>
<tr>
<th>Annual Maintenance Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sole Source/Current Vendor</strong></td>
</tr>
<tr>
<td><strong>Current Contracts:</strong></td>
</tr>
<tr>
<td>MRO Software Inc.</td>
</tr>
<tr>
<td>UH ITS (UH TEI)</td>
</tr>
<tr>
<td>Faronics Technologies USA Inc.</td>
</tr>
<tr>
<td>Journey Education Marketing</td>
</tr>
<tr>
<td>Eaton Powerware</td>
</tr>
<tr>
<td>Arvato Services, Inc.</td>
</tr>
<tr>
<td>GenevaLogic</td>
</tr>
<tr>
<td>Pacific Computer Corp.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>Additional Contracts Needed:</strong></td>
</tr>
<tr>
<td>lowest bid</td>
</tr>
<tr>
<td>lowest bid (if not covered by UH ITS)</td>
</tr>
</tbody>
</table>

3. Equipment.


After the new campus conduit/fiber infrastructure was completed MCC requested that the $100,000 that remained for the project be used to purchase the necessary switches, hubs and media converters to connect all the buildings to Ka`a`ike at a minimum of 100mbps. The State did not honor the request, so $7,500 was squeezed out of the college budget to begin connecting the most critical facilities via the new fiber infrastructure. The following year Computing Services saved another $5,500 from its budget to continue the work, but the money was taken to cover another campus unit’s over expenditure. During each of the last two years Computing Services has purchased $2,500 of such equipment at the beginning of the fiscal year.

The central hub of the Kahului campus network is a Cisco 6006 layer 3 switch with routing module. A Cisco 6506 switch routes all HITS and SkyBridge network traffic. Each of these critical switches cost more than $55,000. Of major concern is that both of these switches have been considerably weakened (life shortened) because of the numerous air conditioning outages in Ka`a`ike since the building’s inception. This is the reason that the 6006 switch was recommended as an addition to the Computing Services maintenance contacts, mentioned in the previous section.
b. Servers.

Computing Services has several small (single-processor) servers which are used for Calendar and Room Scheduler systems, Skills Bank, Compass Diagnostic Testing, Pharos pay-for-print system, and Maya. Memory has been added to a dual-processor server that is being used for the Maximo institutional management system, and a 4-processor server runs the Tegrity system and stores/serves video clips for Digital Media Arts video editing. A dual-processor Sun Microsystem computer is being readied for Domain Name Service and a system to authenticate those logging on to the network from the various computer labs. Two PowerEdge rack-mountable servers are used to back up our MCC website and for piloting e-commerce applications.

One of three legacy VAX servers is running the O&M work-order system. The other two VAX systems have been either terminated, or soon will be. The ten-year-old Alpha System is still used for Domain Name Service and support of some MCC web functions; it is our only server that has both hardware and software maintenance contracts. When these legacy systems are all shut down for good, more space will be available in the Network/Server site for newer equipment.

c. Laptops.

Laptops have become increasingly important for Computing Services Staff. Rather than upgrading the desktop systems, staff have chosen laptops. Three have been acquired in the last year and a half (one each fiscal year). Pacifico does a great deal of work at home as well as the office and has used a tablet/laptop for record keeping; his desktop was given to our casual hire. Kris has a small laptop which because of his many trips to Oahu for prolonged periods, now that he works halftime for the UH System. And Steve uses the mobility of his laptop to troubleshoot our wireless network, find rogue wireless routers on campus and at the dorms and work on documents such as this one at home. The two laptops that were acquired with Ka`a`ike funds are used by Melody and the Electronics Tech position for working at outreach centers and cloning of classroom and lab computers. They are next in the replacement scheme as they are slow and cumbersome.

d. See Appendix C 5-29 for current equipment inventory.

C. Facilities.

1. Offices and Storage.
Computing Services is located in the Ka`a`ike Technology Center in a suite of eight rooms (rooms 220-227). There is a reception area where the office manager/receptionist is located, a small area for student help, and a space where students with computing account problems can be serviced. There are five offices and a large room which houses servers, the campus network hub and racks which serve as the Ka`a`ike data vault. There is a large room for computer repair and software installation; with major reorganization of work areas, and shelf space, it could also house the hardware technician who will replace Electronics Technician (Brian Harding) when funds become available. A large storage area is located at the opposite corner of the same floor, placed at that location to maximize the respective spaces for computing and media equipment engineering and repair.

Since moving to Ka`a`ike in 2001, Computing Services has nearly maxed it’s occupancy of 15-20% of the 2nd floor’s designated area for offices and repair rooms. As additional staff is added, funds will be necessary for renovation and/or space will need to be reallocated within Ka`a`ike.
Computing Services also has a work area/office as part of the “data vault” and networking hub for Ka Lama building (Ka Lama 220). An old office adjacent to the Library data vault is also used on occasion; it was used by the systems programmer when the servers and hub of the campus network were located in the adjacent room prior to Computing Services’ move to Ka’a’ike.

2. Microcomputer classrooms and labs.

Microcomputer Classrooms:
All but 3 of the 18 microcomputer classrooms listed below were constructed with State CIP funds for instructional purposes, wherein each student has a computer system connected to the Internet at his/her desk, and the instructor has a presentation system. Laulima 108 & 211 and TLCL-02 had to be retrofitted (providing additional electrical power, running of cabling through ceiling or surface mounts, and purchase and/or construction of furniture to accommodate microcomputers) for this instructional function.

Although Computing Services is responsible for maintaining network connectivity, repairing hardware and installing software, the Business Lab Coordinator normally installs the software for Kalama 201, 206A and 206B, receiving assistance from Computing Services for special installations such as dual booting for Microsoft Windows for English and for Japanese.

For several years the Office of Continuing Education and Training employed a fulltime IT specialist. Other than network connectivity and computer repair, Computing Services would only assist in Laulima 211, 212 and 226 for special software installations, such as dual boot for Windows2000 and Linux or dual booting of Windows XT and Windows2000.

List of Microcomputer Classrooms:

<table>
<thead>
<tr>
<th>Classroom</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ka Lama 201</td>
<td>(22) Celeron 2.8GHz Systems w/512MB</td>
</tr>
<tr>
<td>Ka Lama 204</td>
<td>(25) Pent III/550MHz Systems w/128MB</td>
</tr>
<tr>
<td>Ka Lama 206A</td>
<td>(25) Pent II/450MHz Systems w/256MB</td>
</tr>
<tr>
<td>Ka Lama 206B</td>
<td>(25) Pent/200MHz Systems w/64MB</td>
</tr>
<tr>
<td>Ka’a’ike 107</td>
<td>(21) Pent III/1GHz Systems w/128MB &amp; zip</td>
</tr>
<tr>
<td>Ka’a’ike 108</td>
<td>(21) Pent III/1GHz Systems w/128MB &amp; zip</td>
</tr>
<tr>
<td>Ka’a’ike 218 Digital Media Lab</td>
<td>(25) Pent 4/3.06GHz Systems w/512MB, 2/75GB drives, CD-RW, DV-Storm, Digi001, 24&quot; monitor, WinXP</td>
</tr>
<tr>
<td>Ka’a’ike 219</td>
<td>(25) Pent 4/2.4GHz Systems w/256MB zip Linux &amp; Win2000</td>
</tr>
<tr>
<td>Kupa’a 203</td>
<td>(25) Pent 4/1.6GHz Systems w/256MB</td>
</tr>
<tr>
<td>Kupa’a 204</td>
<td>(25) Pent 4/1.5GHz Systems w/256MB</td>
</tr>
</tbody>
</table>
Computer Labs:
The 16 labs listed below are those that have at least 6 computers; it
does not include smaller labs such as agriculture, apparel design,
marine option program, space grant, math and special purpose labs
created with funding from small grants. Four of the labs listed were
constructed with the actual function of that specific lab in mind (business
lab, office simulation lab, electronics lab and OCET lab. The others
were retrofitted. The labs at Lanai and Hana also serve as classrooms
for teaching microcomputer technology.

Regarding lab responsibilities, Computing Services is responsible for
network connectivity, hardware repair (except the Business Lab where
Computing Services provides parts, but repairs are made by Business
Lab Coordinator or student assistants) and software installation except in
Kalama 203 (Business Lab) and 207 (performed by Business Lab
Coordinator) and Laulima 227 (performed now by part time OCET
technician).

List of Computer Labs:

<table>
<thead>
<tr>
<th>Lab Name</th>
<th>Location</th>
<th>Hardware Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laulima 108</td>
<td></td>
<td>(29) Pent III/800MHz Systems w/128MB</td>
</tr>
<tr>
<td>Laulima 211 OCET Media Lab</td>
<td></td>
<td>(21) Macintosh G4 systems (11 w/CD-RW)</td>
</tr>
<tr>
<td>Laulima 212</td>
<td></td>
<td>(21) Celeron(R)/2.5GHz Systems w/512MB</td>
</tr>
<tr>
<td>Laulima 226</td>
<td></td>
<td>(19) Celeron(R)/2.5GHz Systems w/512MB</td>
</tr>
<tr>
<td>Molokai Education Center</td>
<td></td>
<td>(25) Pent II/400 Systems w/192MB</td>
</tr>
<tr>
<td>PACE Mobile Micro Classroom</td>
<td></td>
<td>(21) Laptops with wireless connectivity</td>
</tr>
<tr>
<td>Pa'ina 138</td>
<td></td>
<td>(20) Celeron(R)/2.2GHz Systems w/256MB</td>
</tr>
<tr>
<td>TLC L-02</td>
<td></td>
<td>(24) Pent 4 1.6GHz Systems w/128MB</td>
</tr>
</tbody>
</table>

---

**Business Lab**  
(Open Lab)  
Ka Lama 203  
(5) Pent III/550MHz 128MB  
(4) Pent III/733MHz 128MB  
(10) Celeron/533MHz 128MB  
(15) Pent II/450MHz 256MB

**BCIS Computer Repair Lab**  
Ka Lama 206B  
(15) Pentium II Systems

**Office Simulation Lab**  
Ka Lama 207  
(24) Pent 4/2.26GHz Systems w/256MB WinXP

**HPC Programming/Linux Lab**  
Ka’a’ike 206  
(9) Pent 4/2.4GHz Systems w/256MB

**Cluster Construction Lab**  
Ka’a’ike 217  
(18) PowerEdge  
(9) Pent 4/2.4GHz Systems w/256MB

**Electronics Lab**  
Ka’a’ike 217  
(25) Pent 4/2.4GHz Systems w/256MB Win2000

**ECET Computer Repair Lab**  
Ka’a’ike 217  
(9) Celeron 450 Systems

**OCET ACT Lab**  
Laulima 227  
(16) Celeron(R)/2.5GHz Systems w/512MB

**Science Lab**  
Science 20B  
(6) Pent III/650MHz Systems w/128MB

**STEM Lab**  
Ka Lama 202  
(12) Pent 4/2.8GHz Systems w/1GB  
(2) Macintosh G4

**TLC Main Lab**  
(Open Lab)  
**TLC L-03**  
(8) Pent III/1GHz Systems w/256MB  
(7) Pent III/450 Multimedia Systems  
(7) Athalon64 3400+ w/512MB DVD-RW
<table>
<thead>
<tr>
<th>Lab Name</th>
<th>Location</th>
<th>Systems Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TLC Advanced ICS Lab</strong></td>
<td>TLC L-04</td>
<td>8 Pent 4/1.7GHz Systems w/256MB, 4 Celeron/500MHz Systems w/64MB</td>
</tr>
<tr>
<td><strong>University Center Laptop Lab</strong></td>
<td>Laulima 214</td>
<td>12 Laptops with wireless connectivity.</td>
</tr>
<tr>
<td><strong>Hana Educ. Center Lab</strong></td>
<td>Han-1</td>
<td>10 Pent III/733MHz Systems, 4 Pent 2/200, 2 Athalon64 3400+ w/512MB DVD-RW</td>
</tr>
<tr>
<td><strong>Lanai Educ. Center Lab</strong></td>
<td>Lan-2</td>
<td>15 Pent III/1GHz Systems w/256MB DVD, 1 Athalon64 3400+ w/512MB DVD-RW</td>
</tr>
<tr>
<td><strong>Molokai Ed. Center Lab</strong></td>
<td>Mol-Lib</td>
<td>8 Pent III/733MHz Microcomputers, 4 Athalon64 3400+ w/512MB DVD-RW</td>
</tr>
</tbody>
</table>
V. Internal Assessment of Department.

A. Department strengths.

1. Courteous and helpful staff.

   It is clear from faculty/staff and student surveys that our staff is perceived as “courteous and helpful.” Both faculty/staff (92% of respondents) and students (95% of respondents) “agreed” or “completely agreed” to the survey statement “Staff is courteous and helpful.” This also reflects the feelings of the Computing Services staff; we are truly blessed to have colleagues with such characteristics.

2. Versatile and willing staff

   Computing Services has a versatile and willing staff; this is essential if a small staff is to cover the gamut of IT services. Steve George came from college instructional, research evaluation and programmer/analyst backgrounds; he necessarily became well-versed in software applications, systems management/programming, hardware repair and networking because he was MCC’s computing infrastructure for the first seven years of its inception. Kris Shibano, having earned a computer science degree from UH Manoa, came from UHCC (previous name of UH ITS) with a wide range of skills from programming and system management to hardware repair and software knowledge to basic network and data communications skills.

   Other staff members have become versatile because of willingness to help, rather than out of necessity. Pacifico Evangelista was hired as a programmer, systems administrator and systems programmer. He was deemed by many to be the best VMS systems programmer in the UH system. Rather than resting on his laurels, Pacifico learned Cisco IOS on his own long before Cisco Academies had begun. Frances Segundo, our halftime clerk, loves to assist students. She was willing to learn to troubleshoot and resolve student account problems—a job normally carried out by an IT or Educational Specialist. Her spirit of team work and willingness to serve in this capacity, have enabled Steve and Kris to spend their time on more technical tasks, particularly important during the last three years when Kris was given half time to the UH system to work on Banner.

   Melody Bohn came with a hardware and software background as a satellite system test engineer with Hughes Aircraft, satellite operations database integration with Martin Marietta, and a graduate in MCC’s initial ECET program. She has a broad background in microcomputer applications and worked as a web designer. During the year that our
Electronics Technician was on leave to battle cancer and there were no funds to fill behind Kris Shibano as he worked halftime for the UH Banner system, we had a series of volunteers, student interns and part time casual hires to keep the technical staff functioning at 4.5 FTE. At this time Melody stepped to the fore and trained, organized and supervised the ever changing array of young assistants. Her willingness to step forward was key in improving service this past year even though we had fewer staff. (The faculty/staff survey indicated that our services had improved compared to the previous year.)

Brad Duran, the most recent staff addition, has both the electronics engineering and the computer engineering degrees from MCC’s ECET program, as well as a degree in computer science from UH Hilo. He joined the staff after working two years as an institutional researcher, giving him familiarity with the Banner system, in respect to programming reports. In his first four months, Brad has already shown his willingness to stay until a job is completed and also come in on weekends, if necessary.

The staff works well together, particularly when emergencies have to be tackled. They are willing to work on weekends or later in the day in order to meet deadlines, complete projects or when it is necessary to do certain types of work when students aren’t in classrooms or when faculty and staff are not in offices. A notable example is Frances Segundo (clerk steno 0.50 FTE), who often stays longer into the afternoons when deadlines have to be met or when she is aware that a given day’s problems make it difficult for staff to answer the telephone or complete clerical work, or when there is no other support available for students in the afternoon.

3. Camaraderie among staff.

Computing Services is blessed to have staff members who like each other and want to help their colleagues when the need arises. The camaraderie has been noted by temporary help, volunteers, students and several faculty and staff members. Computing Services staff members enjoy working together, particularly during emergencies. They have lunch together and discuss work-related topics and problem resolution. Three staff members have had lunch together daily for 15 years. Occasionally the whole staff will go out to lunch together or to the Class Act; on these outings work is not discussed. The staff and volunteers have gathered a number of times for potluck dinners at the home of the Computing Coordinator.

4. Campus unit in which Computing Services resides.

All staff members are happy to be a part of Administrative Services, and during the last reorganization voted unanimously to remain part of this
college unit. David Tamanaha, Director of Administrative Services, understands the needs of an IT department better than his predecessors and is therefore very supportive of Computing Services. David was one of the first administrators to see the value of annual departmental self assessment and instituted such for the purpose of strengthening the departments and improving their respective services. The department heads meet regularly with the director, and the cooperation between the department heads is evident. After the annual assessments are completed, department heads determine which departments have the greatest need and set priorities for new departmental expenditures should funds become available; there is a genuine cooperative attitude among the department heads, as opposed to a “my department first” attitude.

B. Department weaknesses.

1. Insufficient staff size to meet increasing needs.

Almost half of the comments made by faculty and staff as part of the survey were about the need for more Computing Services staff. There has been no increase in staff for the past 7 years; yet in that time computing activity has increased dramatically. During the seven-year period since the last IT specialist was added to Computing Services, construction, renovation, or new use of 7 facilities has increased the number of new computers in use (400), new network connections that need to be maintained (840), and new data vaults that need to be serviced (7--3 at remote locations). These 400 new computers and their respective network connections do not include the many computers acquired as part of numerous grants during the same 7-year period, but by themselves represent a 56% increase in the number of computers over last seven years which has brought our total number to 1167. Although the 400 new computers acquired with CIP furniture and equipment funds, and the additional 840 new network connections that must be maintained are obvious, the addition of data vaults is not.

At the very minimum, setting up a data vault entails installation of rack(s) for communication and networking equipment, and the equipment on the racks; building cables that run from patch panels to ports of the hubs and/or switches installed in the rack(s) and running these cables beneath raised flooring or over a cable ladder above the rack(s) so the technician can move freely around the rack(s). In other cases such as the Lahaina Education Center, it involves the installing of conduit for voice and data, pulling the cables through these conduits from the point of use in classrooms or offices to the data vault, terminating one end of each cable with a wall-mounted jack and the other end at a patch panel jack. In addition, since the “low” bid for installing conduit from the point where the Time-Warner fiber entered the facility to the data vault, was not “low” at all,
the Computing Coordinator and Electronics Tech installed the conduit. Not long afterward the college decided to lease the entire building, rather than just two-thirds. Working with a larger facility, the floor plan was changed, resulting in change of the data vault location. Therefore the Computing Coordinator reengineered the conduit route to the new data vault. Although this saved the college thousands of dollars, it, of course, slowed Computing Services’ day-to-day operations.

Not only has computing grown remarkably in the last seven years since the last staff member was added, but one of our three IT specialists has been donated, halftime, for ongoing support of UH’s Banner system for the last three years. Although funding to fill behind the applications programmer was available for the first year, no casual hire could truly compensate for the time lost by Computing Services’ most versatile and fastest IT Specialist. During the last year and a half Computing Services also suffered the loss of its Electronics Technician, who battled cancer for a year before his death last June. Essentially, during the last year and a half Computing Services’ technical staff (which includes the Computing Coordinator) was effectively reduced to 4.5 FTE (see table in section III. B. Quantitative Data above).

When technicians are few, staff comp-time, vacations and sick leave have a more marked day-to-day impact on operations. Because of computing growth and staff reduction, Computing Services has had its hands full with day-to-day support and has not been able to complete its reorganization of IP addresses and subnets, rewiring of various buildings, and the implementation of two major systems (computer managed instruction system and institutional management system (Maximo).

2. Staff is unable to provide efficient back up for colleagues.

The weakness is a natural by-product of a small staff. The weakness is exacerbated by an ever increasing workload, not to mention the decrease of staff FTE during the last two years. For example, both the systems programmer (Pacifico) and the Computing Coordinator (Steve) were familiar with the Aldrich SRIS system. When the applications programmer (Kris) was hired, it was necessary for him to learn the system, and eventually, he was responsible for implementing SRIS90. Even though the two “senior” staff were familiar with SRIS90, they did not have the day-to-day familiarity with the student information system. Therefore whenever Kris was sick or on vacation, it would take Steve and/or Pacifico five times longer to perform a task than Kris. When the Banner SRIS arrived on the scene, Steve and Pacifico had training whenever it was available via HITS. At this time the number of MCC computers passed the 1000 mark and MCC computing accounts and web pages were being transferred to UH ITS servers. When Kris was being trained or working for
the transfer of SRIS data to Banner, his other (non-SRIS) duties needed to be absorbed by the remaining staff. This, coupled with the fact Kris’ duties had to be continually absorbed during the last two years, resulted in a situation where there was almost no backup support in Kris’ absence.

The above, coupled with Brian Harding’s year-long battle with cancer and eventual death last June, and Steve George’s pending retirement have brought to the fore the fact that in more and more areas, there is at best inefficient backup. Since Brian was the only Computing Services staff that was trained in terminating and splicing fiber, the remaining staff is not just less efficient, but is just not able to fill behind in this capacity. During the last year and a half, casual hires, volunteers, and student interns have been used to fill behind Brian. Because they were not permanent, nor full time, it would not have made sense to spend the money and time for any one of these to learn the necessary fiber optic skills.

Steve had conveyed to Brian over the years the idiosyncrasies of the various data vaults, and Brian learned first hand about the ones in the new facilities that were constructed during his tenure. Brian is gone and Steve will be retiring next year. If training isn’t done, trouble-shooting and correcting network problems will be extremely inefficient. Training takes time. Time is something a small staff has little of in a tri-island college community. These are just three examples of many such problems.

3. Training is needed for Computing Services.

The three specific examples discussed above in Weakness 2 point to the need for both formal and informal training to build a staff that can efficiently fill behind missing colleagues. In addition, formal, as well as informal training is needed for many other areas. In order for staff to learn new techniques and be on the cutting edge of technology, both funds and staff time need to be made available.

4. Communication with the campus community is weak.

Several circumstances have fostered poor communication with our campus community:

First, the work order system has been broken, and Computing Services requires the requestor to send an e-mail. The old system automatically sent an e-mail to the requestor giving the work order number and that it had been posted. Now if e-mails are not replied to in a timely (let alone immediate) fashion, the user becomes anxious about whether we have even received the request. Also, there are those who feel they have an emergency situation and phone Computing Services rather than e-mailing us. When they are asked to send an e-mail because we need a physical
record of the request, many become upset and complain that we ask them to do such, even when we say we have begun working on it (if it is a real emergency) but need them to e-mail us for the record. This situation will not go away once the new work order system is in place. Nor will the first problem be rectified because our basic Maximo system does not include the Workflow module which enables automatic e-mail responses to requestors.

Second, because of decreasing staff (in spite of increasing work load) we have stopped the bi-weekly newsletter. Actually, because there was less and less time to produce the newsletter, it had become a monthly publication prior to our stopping it two years ago.

Third, in trying to keep with the proper use of our e-mail system we were sending most of our e-mail bulletins to maui-computing-notices. Only more recently when we decided “if you can’t beat them, join them” and have been sending bulletins to maui-announcements have we received thank-you replies and indications that our community feels that we are communicating better.

5. Training is insufficient for faculty and staff users.

When staff is few and workload increases, something has to give. As indicated under B. Weakness 1. above, newsletters were the first thing to go. Rather than increasing the average time to complete a work order, training was reduced. In theory when training is reduced, user problems increase. We have little evidence of this, and relatively few faculty and/or staff attended past workshops. Computing Services does believe in professional development. Providing training for faculty and staff is stated as one of our functions. So providing minimal to no training during the last year is a definite area of weakness.

C. Work analysis.

When faculty, staff or students have a problem they almost always want it to be fixed immediately—even when the problems do not affect their daily workflow or productivity. Too often, requests are a result of the user’s poor planning, and if technicians are engaged on a problem that impacts a sizeable number of students or even a campus-wide network outage, Computing Services is accused of poor planning. Work orders often come in droves; they are rarely distributed evenly throughout the day and never distributed evenly throughout a week or a given month. Yet the expectation exists, and on occasion voiced, that Computing Services should be better able to plan and organize its time to meet the demands more effectively.
For a service-minded staff this can be a stressful working environment. Fortunately, because of the camaraderie, peers notice when a given staff member feels under pressure or is “stressed,” and the individual is reminded that the day is only so long and our staff is few. Staff will often assist one another when a technician is frustrated or when the job obviously needs to get done to reduce the pressure. The stressed technician (or sometimes the whole staff) is reminded that the Computing Coordinator is always responsible for any situation and is the one who shoulders the problem—so no worry. The fear or worry is diffused, and the technician is better able to focus on resolving the particular task on which he/she is working.

The impact of one or more individuals being sick, on vacation or taking comp-time is greater when the staff is small. These periods when the staff is reduced are the times when the remaining staff becomes more stressed. Some departments are able to handle these lean periods because they employ student help. Computing Services has not had a line item for student help for at least six years. Most of the campus assumes that we do have student help; but the students they see working for us are actually casual hires to partially fill vacancies such as Kris Shibano’s halftime work for the UH System or Brian Harding’s year-long absence while battling cancer. One summer we employed two interns that were funded by an NSF grant, but they did not work for us; they worked on activities specified by the grant.

Another misconception about workload is that the Computing Coordinator has less to do now that the more than a decade of planning and building new facilities has slowed down. Ironically, Computing Services was not consulted during the planning of Laulima, and was only part of the initial planning phase of Paina—not the final phase after architects and engineers had made major changes to the building’s communications infrastructure. Because no data jacks were put into four Laulima rooms plus the front desk in the entry hall, we have had to retrofit these facilities, or in some cases provide temporary data connections on special occasions (meeting of the Regents) by running cables down the hallways from other rooms.

Most faculty and staff assume that the only problem of having a small staff is that work orders do not get done as quickly. But probably the thing that suffers most is house-keeping. Maintenance and improvement of the network infrastructure is an example of house-keeping. Sometimes rectifying a network problem quickly involves “quick-and-dirty” cabling in a given data communications room or vault. Sometimes a special meeting is to be held in a room that has never been used for computer presentations; usually Computing Services is notified at the last minute, so the situation is rectified with more quick-and-dirty wiring. Over a period of time because there is little time for house-keeping the quick-and-dirty wiring increases to a critical mass, making it difficult to do routine troubleshooting in that facility. We have two large switches, one is used for traditional data, the other is
used for SkyBridge and HITS “data.” On at least three occasions the failure of one switch (or failure of the primary route to UH Manoa used by that switch) has forced us to use the good switch and/or circuit for both kinds of data traffic. This usually causes a network outage while we manually change cables and reconfigure routers that are in the switches. Depending on the nature of the problem it can be either a half hour or a half day to make the manual changes. With time for house-keeping this could be automated with no cost other than time for reconfiguring the routers and wiring.

D. Internal policies and procedures.

1. Policies.

a. Acceptable Use Policy.

The AUP was originally created by Computing Services and approved by a committee that was the precursor of the Technical Support Committee. It was a large committee that consisted of those in charge of labs such as The Learning Center, the Business Lab and the library which used to have an open lab, as well as faculty who taught in microcomputer classrooms. It was gathered whenever there were funds available for the replacement of classroom and/or lab computers and for special projects like the AUP. The Dean of Instruction approved it as did the college’s legal advisor. Students and new faculty had to indicate their agreement with the AUP before applying for an MCC computing account. Once the University of Hawaii began its one person one login policy, all students, faculty and staff have UH ITS Usernames and, of course must indicate agreement with the university’s AUP. However, MCC’s AUP (backed by that of the University of Hawaii) still pertains to the use of MCC’s network and computing facilities. See Appendix D 1-2.

b. Preferred E-Mail Practices.

The preferred practices policy for the use of e-mail was developed by a committee consisting of the Computing Coordinator, Computing Services’ technician overseeing e-mail activities, two instructional faculty and the Director of Administrative Services. Document completion was delayed because of the escalation of computing activity, coupled with a Computing Services staff reduction by 0.05 FTE. Recently several spammed e-mail debates revived interest in an acceptable used policy specifically for e-mail. The Technical Support Committee (TSC) has asked that the committee for the preferred e-mail practices reconvene and present their recommendations to the TSC. Once modified and approved by the TSC it will then go to the Executive Committee for its evaluation. Appendix D 3-6 is the most recent draft of the preferred practices document.
c. Conventions for naming hosts and printers.

Computing Services has a policy for naming computers and printers. Computers are named according to the UH Usernames of the respective users. Computers used by student help indicate their supervisor’s UH Username. Computers and printers that have no primary owner are named according to their location on campus (building and room number), making it easier to know the location of the equipment. See Appendix D 7 for such nomenclature.

d. Computing Hardware/Software Purchasing Policy.

For many years Administrative Services has had a de facto policy that all items pertaining to computing had to have the Computing Coordinator's signature or initials. Although this has saved thousands of dollars over the past years, two factors indicated it was time to update the policy: (1) the time required to screen the burgeoning flood of requests for minor, inexpensive equipment and supplies, and (2) P-Card capability has now made purchasing possible without the coordinator's signature. The revised guidelines are:

---

**Purchase of Computing Related Items**

Requisitions under $200 do NOT need Computing Services initials/signature, except for software and items that will be plugged into the network, such as wireless access points, wireless routers, hubs, switches, or printers.

All computers/servers that are purchased must have as a minimum a three-year warranty and three years of onsite support (minimum support is Mon.-Fri. next day service); the exception is laptops which normally must be sent back to the company for repair.

Requisitions for computers that are more than $2500 must go to superquote, unless items are under a contract; in which case price reasonableness must be shown by comparing contract with non-contract prices for computers with identical specifications.

No equipment for wireless networking (wireless access points, wireless routers) should be acquired without Computing Services’ prior approval. Therefore if P-Cards are used, please notify Computing Services (georgest@hawaii.edu with CC to fsegundo@hawaii.edu) via e-mail prior to the purchase to make sure equipment is appropriate and how it must be installed.
e. Computing Services follows the policies of UH ITS.

When faculty openly claim that Hawaii State regulations regarding things like use of State equipment and networks are oppressive and ridiculous, then Computing Services is aware that setting their own policies may fall on deaf ears. This is one of three reasons that Computing services follows UH ITS policies. A second reason is that time and money can be saved. For example, UH ITS did not support Microsoft Outlook for many years; by following their lead we saved many hours of support time and spared the campus from many additional virus onslaughts. Third, standardizing on their policy for wireless and even their hardware/software used for managing the network and authenticating wireless users, Computing Services provided its small staff with backup support in the event that the two staff who deal with the wireless network are unavailable for prolonged periods of time.

2. Procedures.

Policies are important for procedures; once policy has been made it determines procedures. For example, policies may determine priorities which determine how staff is to proceed when two or more jobs face a given technician at any point in time.

a. Forms.

There are a number of forms used by Computing Services when they go to a faculty or staff office. The first form is to let the user know that we have been there and the status of their work order.
On occasion a Computing Services staff member may go to an office to work on a machine and needs to inform the user of changes that were made. An example of a notification form is one that was used during a phase of the IP reorganization when not only were IP addresses changed, but other settings may also have been changed.

Another type of form that is used when staff go to offices is a check list of things to complete before they leave. This staff reminder is filled out but not left. If the faculty or staff is not at their office, the IT Specialist leaves the pink form discussed above to notify the user that the job has been done.
An example of a more typical use of forms is one that we have students complete when they come to Computing Services with account difficulties.

Forms are also used in the office for documentation. The following page is a form that is used for loading or reloading software on a microcomputer system. It serves three purposes: (1) the various items on the form prompt the technician when talking to the user, so that nothing is missed; (2) if another technician is performing the load, circled items and comments provide complete information; and (3)
sheet is filed and serves as documentation of what was done, and when, to a specific computer.

<table>
<thead>
<tr>
<th>Full Name or Classroom:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UH username:</td>
<td>Date:</td>
</tr>
<tr>
<td>ext:</td>
<td>Loaded by:</td>
</tr>
<tr>
<td>Manufac/Model/Pentium/Speed/RAM:</td>
<td></td>
</tr>
<tr>
<td>Serial Number:</td>
<td></td>
</tr>
<tr>
<td>Save: Data NS - Mail - Bkmks - Addressbk IE Favorites IP Info</td>
<td></td>
</tr>
</tbody>
</table>

**Windows**  
<table>
<thead>
<tr>
<th>Windows</th>
<th>Me 2000</th>
<th>XP Pro Home</th>
</tr>
</thead>
</table>

**Video**

**NIC**

**Sound**

(Win98 only: win98 from CD to C:\win98)

<table>
<thead>
<tr>
<th>Administrator Temp Pwd</th>
<th>mgr</th>
</tr>
</thead>
<tbody>
<tr>
<td>New User logon / Pwd</td>
<td>adm pwr usr</td>
</tr>
<tr>
<td>New User logon / Pwd</td>
<td>adm pwr usr</td>
</tr>
</tbody>
</table>

| Test IP Information | 166.122.66.224 | 255.255.255.224 |

**McAfee Updates** ver. (PERPETUAL v.8) 166.122.66.33

**AV console desktop icon**

**schedule @ startup**

**Primary Action Delete files, save as default**

**IE homepage:** www.mauui.hawaii.edu

Check IE Tools Fsn Options Connections Lan settings "Automatically Detect Settings"

**Windows Updates and patches**

**Automatic Windows Update enable**

**Office** CUSTOM INSTALL 97 2000 XP 2003

**Office Update**

**Basic Load AR6 flash hdd2 jinit realOne shockw SSH QT WinZip hawn fonts NS7.1**

**Other SW:**

**Email Configuration** IMAP POP Webmail

old path: new path:

**Restore Data NS - Mail - Bkmks - Addressbk IE Favorites**

**Office Bug-User Logon-Launch for user** Cpt name wk1

**Remove Test IP information** WG uhmaui

**Site Support permanent Pwd** IP 165.122.

**System Restore (Win Me & XP)** 255.255.255.224

**Image** 165.122.

**Finish Date:**

**Comments:**

After a computer with a generic load is made, or a model machine for a particular microcomputer classroom or lab has been loaded and tested, an image file is burned on a CD (or DVD in the cases of more
sophisticated lab computers). The following form is completed and stored with the CD or DVD. This documentation indicates the hardware configuration which the CD’s image file can successfully load.

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motherboard</td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td></td>
</tr>
<tr>
<td>Hard Drive</td>
<td></td>
</tr>
<tr>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td></td>
</tr>
</tbody>
</table>

b. Tracking Sheet.

When requests involve more than one person it is necessary to follow a procedure and document communication between the two. The following computer tracking sheet was created several years ago and has minimized delays in finishing a given project when two or more technicians are working on the same computer.

![Computer Tracking Sheet Image]
Another example that formalizes communication between technicians is the form requesting that a printer or computer and its IP address be added to, or updated in, the domain name service.

Please make the following changes to the DNS as soon as possible.

Printer or Computer Name: _____________________
IP Address: _____________________

c. Step-by-Step Procedures

Step-by-step or “how to” procedures take a variety of forms at Computing Services.

(1) Internal Procedures.

Some procedures serve to standardize troubleshooting various problems, enabling a variety of staff members to resolve problems when the point-person for a given type of problem is absent.

<table>
<thead>
<tr>
<th>NETWORK DOWN PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH Email down</td>
</tr>
<tr>
<td>ping mail.hawaii.edu</td>
</tr>
<tr>
<td>128.171.224.23</td>
</tr>
<tr>
<td>Alpha System down</td>
</tr>
<tr>
<td>ping 166.122.60.135</td>
</tr>
<tr>
<td>(DNS &amp; some web)</td>
</tr>
<tr>
<td>ping 166.122.68.97</td>
</tr>
<tr>
<td>(brendal)</td>
</tr>
<tr>
<td>ping 166.122.62.130</td>
</tr>
<tr>
<td>(naganoc)</td>
</tr>
<tr>
<td>if not up</td>
</tr>
<tr>
<td>check with Pacifico or</td>
</tr>
<tr>
<td>Steve</td>
</tr>
<tr>
<td>if up</td>
</tr>
<tr>
<td>UH webpage down</td>
</tr>
<tr>
<td>ping UH webpage</td>
</tr>
<tr>
<td>128.171.224.100</td>
</tr>
<tr>
<td>(<a href="http://www.hawaii.edu">www.hawaii.edu</a>)</td>
</tr>
<tr>
<td>if not up</td>
</tr>
<tr>
<td>Jan Kawachi 956-4510</td>
</tr>
<tr>
<td>Bill King 956-2403</td>
</tr>
<tr>
<td>Yul 956-5686</td>
</tr>
<tr>
<td>SKYBRIDGE/HITS</td>
</tr>
<tr>
<td>if not up</td>
</tr>
<tr>
<td>Yul 956-5686</td>
</tr>
</tbody>
</table>

It could also be a procedure to inform the staff how to update an IP map and upload the corrected document to Computing Services’ group website.
How to Submit an IP Map Update

1. Go to the Files section
2. Download a copy of a file from ip-maps folder
3. Make changes: Unbold old changes, if any. Bold new changes.
4. Save file with new name: UPD-oldname-ID-mm-dd.html

   oldname = original name of downloaded file
   ID = your initials or other self-identification string
   mm = two-digit number of current month
   dd = two-digit number of today's date

5. Upload to ip-maps folder

An example of a check list is one used whenever a power outage exceeds the capabilities of our uninterruptible power supply (UPS); the purpose is to make sure various servers are booted properly, and in cases where a server does not boot to full functionality explaining what to do so that it is fully functional.

After Power Failure Do List

1. Log on to MCCAC13 (Pharos)
   After Commnetx starts, click green Start Poll button.
2. Set MCCADB to conversational mode and power up.
   At consol prompt, enter: b dia0
3. Make sure MCCACA is functional:
   Test webserver: http://mauicc.hawaii.edu
4. Power on MCCAC12 (Maya); do not have to log in.
5. Make sure both MCCAD02 and MCCAC03 powered up.
6. Make sure MCCAD01 (iCal) and MCCAC00 (Compass) are powered up.
   Make sure Scheduler is functional.
7. Check network connections to Manoa, e-mail, website, etc.

Of course programs are pure examples of step-by-step procedures. Appendix E 1 is a page from our closed site that serves as documentation and the programmed procedure for calculating VLAN numbers.

(2) External Procedures.

Examples of external procedures, particularly “how to” and step-by-step procedures are mostly computer usage documents created to assist users who are willing and able to load and configure software themselves. See Appendix E 2-18 for the following examples of such:
- Downloading & Installing McAfee VirusScan Enterprise 8.0
- Downloading & Installing McAfee VirusScan Home Edition 9.0
• Installing Netscape 7.1 on PCs
• Configuring Netscape 7.1
• Using Room Scheduler

Also in Appendix E 19-20 is a handout given to new faculty and staff, telling them how to get a UH Username, subscribe to list services, and college e-mail.

Although most procedures are updated periodically, the Computing Services staff reviewed and updated all forms and procedures as part of this comprehensive assessment.

E. Work flow charts and assessment.

1. What to do when a student enters Computing Services office.

When students come to Computing Services it is to have their laptop configured for the wireless network or because they need a UH ITS Username or are having difficulties with their username and password or access to WebCT. Appendix E 21 and 22 diagram this process.

Page 23 in Appendix E is the flow chart for assisting an outreach student that is having difficulty accessing his/her computing account.

2. What to do when a computer enters Computing Services.

Computers come into the office because they are new and need software loaded, or they are in need of hardware and/or software repair/configuration. Pages 24 and 25 of Appendix E diagram these two processes.

3. Troubleshooting a network connection problem.

When the Computing Services staff was evaluating its procedures as part of the comprehensive program assessment, staff were in agreement that an important procedure was missing—one that troubleshoots a connectivity problem. The Computing Coordinator will document the process by creating a flow chart.
VI. Improvements.

A. Accomplishments since June 2005 to improve weaknesses.

1. Increase staff size.

On July 1, 2005 we added Brad Duran to the staff as fulltime casual hire and began paper work to make it a temporary position. The position was classified, recruitment ensued and the screening committee recommended that Bradley Duran be hired. On December 16, Brad will officially begin this temporary position which will satisfy two functions: 1) fill behind Kris Shibano, who was given almost three years part time (0.50 FTE) to the UH System to work on Banner; and 2) absorb some of the workload that has dramatically increased during the last seven years since the last IT Specialist was hired.

On October 24, 2005 Eddie Domingo was added as a 19-hour-per-week casual hire to partially fill the Electronics Technician position now vacant because of Brian Harding’s death. Computing Services is not able to fill the position fulltime because the only funds available to pay Brad and Eddie this fiscal year are from Brian Harding’s salary and $5000 available for casual hire or student help. Although the Electronics Tech cannot be completely filled at this time, at least the department is back to where it was three years ago in terms of technician power (5.00 FTE).

Unfortunately, the celebration and the ground gained position-wise did not last more than two weeks when we were told that Kris Shibano will now be working FULLTIME for the UH System for at least a year. Once Kris begins working fulltime for the system FTE will drop once again to 4.5 (0.50 FTE less than it was 7 years ago).

2. Training for efficient backup support of fellow staff members.

During the summer Melody trained Brad regarding the various procedures employed for hardware/software user support, including forms used for department documentation, idiosyncrasies of installation of particular software and system cloning procedures. Every time a networking or connectivity problem occurred in a different data vault or communications room the Computing Coordinator and Brad went together to resolve the problem. On the occasions of problems in unusual or problematic vaults, Melody and Kris also accompanied them, and all were trained (or had their memory refreshed) in the use of test equipment to resolve problems specific to that location and more general problems as well.
The move of culinary arts faculty and staff from the Student Center Building to a Pa`ina classroom which had only two data jacks, required decisions by both Melody and Brad of how to run the cables and required the building of numerous long and intermediate length network cables. This provided the opportunity for Melody, Brad and Kris to be trained, retrained, or to perfect their cable building skills. Following is a picture taken of the staff at the in-house workshop.

3. Increase staff formal training and sharing of personal knowledge.

Sharing of personal knowledge was done in the training at the unconventional vaults discussed under 2. above. Although other training involving cable building and use of test equipment mentioned above had the content of formal training, it was, of course, done informally and geared to practical, rather than theoretical learning.

In the first week of November 2005 the Computing Coordinator showed both Brad and Eddie how MCC’s wireless was set up and related training about media converters, the organization of the Kahului campus fiber infrastructure and the handling of fiber patch cables. After explaining to them the idiosyncrasies of the Laulima data vault and data communications room, they were given an examination—setting up two wireless access points for the Board of Regents visit, one of them in a room that had no network connections. They both received high marks (and a nice remark from a Regent) on their exam.

Of a more formal nature, the Computing Coordinator took both Brad and Eddie to the Kea Lani Hotel in Wailea for a vendor conference, learning about the new Niagara chip, galaxy servers and Java real time programming environment.
4. Improve college community communication.

As mentioned earlier increased use of the maui-announcements list service has brought several favorable comments even though this is the inappropriate vehicle for such. Recently the Technical Support Committee has suggested the committee which framed the preferred practices for use of e-mail list services revisit and refine the document. If the document can gain support of the Executive Committee, it could improve campus-wide communication, not just Computing Services interaction with the college community.

5. Increase training of faculty and staff users.

Melody trained six clerical staff from various campus units how to complete a web-based work request form. These staff were given this initial training so they could pilot the work request portion of the new Maximo institutional management system.

B. Additional plans to improve weaknesses.

1. Increase staff size.

Since the hiring of an additional IT Specialist has been accomplished, the number one priority is to find funding for the existing Electronics Technician position which Brian Harding vacated and Eddie Domingo is filling part time as a casual hire.

Because fulltime clerical support is so critical to the smooth running of day-to-day operations, saves technical staff from spending time answering the phone and performing clerical work, is so critical to students in need of password resets and other UH computer account changes, and because the new Maximo work request system requires extensive clerical support, changing our clerk steno from halftime to fulltime is our next personnel priority.

Computing Services is currently in the process of adding the webmaster position that was heretofore funded by the Rural Development project (see Section II B 1 above). While the position is becoming institutionalized it will be funded by tuition revenues from increased enrollment of out-of-State and international students. Although the position is not expected to significantly reduce the existing Computing Services workload, it is assumed that both the MCCinfo campus website and Computing Services web-based applications will benefit by the webmaster becoming a formal part of the department.
2. Training for efficient backup support of fellow staff members.

Computing Services will continue in-house training of staff members throughout the year as has taken place last summer and so far this fall term. Because of its importance, the training will continue whenever new situations arise as staff goes about their daily work of fulfilling work requests—even if such training results in a delay in completion of the work request. The top training priority will be that of Kris Shibano sharing his knowledge of Banner with Brad Duran. Obviously, it must occur prior to Kris becoming fulltime with the UH system.

3. Increase staff formal training and sharing of personal knowledge.

Every effort will be made to find funding for formal training this year, and periodic sessions for sharing of personal knowledge will be planned and held in spite of busy schedules.

4. Improve college community communication.

   a. The Computing Coordinator will reconvene the best practices for use of e-mail committee per the Technical Support Committee’s request.

   b. Communications regarding work requests.

      (1) Staff will make an effort to respond to e-mail work requests promptly even if the request can’t be completed for several days, and will give a projected time of completion.

      (2) Every effort will be made to complete the implementation of the Maximo work order system this year, providing enough clerical support can be provided.

   c. Although it was originally intended to resume the biweekly (or at least monthly) newsletter, workload projections based on the anticipated move of Kris Shibano to fulltime with the UH system, makes such an activity unlikely.

5. Increase training of faculty and staff users.

   Once again, increase in training of faculty and staff this academic year is not apt to occur if Kris Shibano is given fulltime to the UH system to work on Banner unless funds are available to increase the working hours of casual hire Eddie Domingo.
VII. Future Direction.

A. This coming year’s goals, plans and objectives.

Last year goals still in progress:

1. Increase office support from halftime (0.50) to fulltime (1.00).
   (SP G1, O2; G2, O2)

2. Reorganize college IP addresses into appropriate subnets.
   (SP G1, O1; G1, O2; G2, O2)

3. Implement Maximo work order system.
   (SP G1, O1; G2, O2)

B. Additional goals and objectives for this year:

4. Create and fill temporary position for hardware/software support and to
   fill behind Kris Shibano (programming and SRIS and institutional
   research reports) and Melody Bohn (software installation).
   (SP G2, O2)

5. Create and fill temporary webmaster position which the Rural
   Development Project funded during 2005.
   (SP G2, O2)

6. Create an on-line info base for staff, consisting of IP reorganization and
   subnet maps, DNS database, special procedures, nomenclature, and
   tools for discerning IP conflicts, VLAN #s, etc.
   (SP G2, O2)

7. Change Computing Services website to have the same look and feel of
   the recently updated MCCinfo.
   (SP G2, O2; G5, O2)

8. Install wireless network in the dormitory facilities.
   (SP G2, O2; G5, O2)

9. Decommission legacy DEC VAX equipment.
   (SP G2, O2)

10. Reduce work order turn-around time for third straight year.
    (SP G1, O1; G2, O2)
C. Resource needs and priorities.

Needs:

1. Funds for temporary fulltime position (0.6 FTE was funded in 2004, and during January through May 2005 two positions totaling 1.00 FTE were funded). See IV.B.4. above. Projected fill-behind-Shibano is 0.5 for 2005. Fill-behind programming and Banner and institutional research support is critical when Kris Shibano is on Oahu for training and collaboration on Banner. Since the new IT Specialist has been hired this fall, coverage of the workload has now shifted to new funding of the Electronics Technician position since its funding is being used to cover the salary of the new IT Specialist just mentioned. (SP G2, O2)

2. Additional office support will be needed for afternoons to assist students with password, WebCT and UHUNIX related problems and for when Maximo work order system is implemented. (Additional support is needed just to load databases before implementing Maximo.) Additional office support is also needed to implement and maintain Computing Services info base. (SP G2, O2)

3. Implement Maximo Work Order System: Additional office support is needed to build procedures, safety, inventory and preventative maintenance databases. (SP G2, O2)

4. Office support needed for populating and then maintaining on-line info base for improved Computing Services efficiency. (SP G2, O2)

Priorities:

Priorities are in the order presented under C. Needs above.

D. Computing Services Vision for the next five years.

1. Reorganization.

   a. In the 1980s, biennium budget requests for computer specialist positions could not get past the Office of the Chancellor for the Community Colleges until the locus of the positions was changed from Academic Support to Administrative Services. This created an organizational problem because the Computing Services department head was a faculty member, and Administrative Services Directors are not supposed to supervise faculty members. Since the department head will retire in 2006, this is a logical time to correct this problem. A new APT position, IT Specialist (Band C) would serve as Computing Services department head, and the faculty position count from the
retiring professor would be used for an instructional technologist who would become part of the Media Services department that is in the Academic Support unit. It is anticipated that the salary of the retiring faculty member will be able to fund the two positions. If more experienced individuals are desired in one or both of the two resulting technology positions, some additional funds may be necessary.

b. During the last three years Computing Services has experienced a staff reduction. Once this is rectified, and additional technical and clerical staff are added, Computing Services could assume the telecommunication (voice) function that is currently handled by the Office of the Director of Administrative Services. In such case it would be valuable for the new APT department head to have telecommunication experience, including Voice over IP.

c. The importance of technology in higher education will likely dictate a future merging of Media Services and Computing Services under an Information Technology Director. This approach has already been discussed for quite a few years and in the last three to four years has found favor with key administrators. However, budget shortfalls have precluded this option until the distant future. At a time when there is not enough money to fund even one entry level IT Specialist or Media Specialist even when both departments have seen staff reductions rather than increases over the past six to eight years, there certainly is not enough money to pay a technology director two to three times that of an entry level APT.

2. Maintaining currency of hardware and software.

During the past 25 years equipment and software have been acquired by writing successful grant proposals for numerous instructional programs as well as for the college as a whole. In the last 11 years hundreds of thousands of dollars of computing equipment have been purchased using State CIP funds as new facilities were constructed. The Ka’a’ike Technology Center was the last building constructed by the State that allowed computers to be purchased with CIP funds for furniture and equipment. Therefore during the last four years (lean years because of 9/11’s impact on State revenues), grant proposals have been the sole means of updating equipment and software.

Clearly, a technology fee is needed to provide regular hardware and software upgrades for the 756 microcomputers used in open labs, specialized labs, microcomputer classrooms and library facilities, as well as, upgraded hubs and switches which connect student-used equipment and respective facilities in MCC’s tri-isle college community, let alone the SkyBridge and HITS infrastructure.
3. Reduction of power consumption.

With 1167 computers and monitors running at the college at any given time—not to mention servers, printers and other computing devices—the demand for electrical power, and the cost for electricity, has increased dramatically. Two approaches will be used to reduce power consumption as it relates to computing activity: (1) a central mechanism that can shut down systems that are left on after normal instructional and work hours, unless machines, such as servers, are earmarked for round-the-clock use; and/or (2) when computers need to be replaced, acquire microcomputers that are less power-hungry (desktops with laptop processors) and LCD rather than CRT monitors.

4. Preventative maintenance.

In theory preventative maintenance on computers saves wear and tear and hence reduces replacement cost. In practice, however, such maintenance has not been shown to be cost effective. There is no doubt that computers and other computing devices that are kept in a cool, moisture free, and dust free environment last longer. However, such an environment is expensive to maintain in Hawaii because it normally means an air conditioned environment.

There are, however, several facilities that have relatively harsh environments, even some with window air conditioning units. Probably the worst is the faculty hale in which only the work room is air conditioned. The corrosion evident from just inspecting the outside of the system unit is remarkable. Even more significant is the short time it takes for dirt and lint to clog the system cooling fans. Systems that run hot usually die young. The Hana and Lanai Education Centers are somewhat better than the faculty hale, but equipment in all three facilities should be scheduled for periodic vacuuming and cleaning. Even in relatively new buildings such as Ka Lama and Kupaa, offices and classrooms that have carpeting produce a good deal of lint, particularly behind desks where custodians are not able to reach routinely. Computers in these facilities should be scheduled for regular, but less frequent cleaning.

Cleaning mice is a standard practice in some MCC facilities where student help is prevalent. However, the cost effectiveness of IT Specialists cleaning mice should be compared with the replacement of traditional mice with optical mice, maintenance of which is nominal. Because of the small number of staff, the cost effectiveness of various types of preventative maintenance should be studied and only the most critical and cost effective types of maintenance should be implemented.
5. Use of technology to improve services:

a. Find additional ways of utilizing the group function of MyUHPortal for staff communication, software tools and documentation.

b. Automate Windows updates for microcomputer classrooms/labs without providing administrator privileges on student computers.

c. Implement VNC-like helpdesk software to be able to assist faculty and staff where they work in their offices as we currently do for certain more critical machines in our Educational Centers located in remote areas such as Molokai, Lanai and Hana.