INSTITUTIONAL SELF EVALUATION

STANDARD IIIC

TECHNOLOGY RESOURCES

STANDARD IIIC1
The institution assures that any technology support it provides is designed to meet the needs of learning, teaching, college-wide communications, research, and operational systems.

STANDARD IIIC1: DESCRIPTIVE SUMMARY

The college provides technology support for the national, Pohnpei, Kosrae, Chuuk, Yap and FSM-FMI sites through the office of information technology (IT), part of the Department of Administrative Services. [IIIC1a] The office of IT provides constant preemptive planning and deployment of technology as well as reacts to needs as they arise to ensure system-wide technology support. The Information Communication Technology Committee (ICTC) provides oversight and evaluation of technology employed by COM-FSM.

The college has set up and currently maintains over 545 computers in 18 main computer labs (labs of 20 to 40 units) as well as a number of smaller ones. The college's IT personnel maintain local area networks (LAN) at all six sites and maintain a wide area network (WAN) that provides the college community with Internet connectivity at all sites, including shared technologies such as: Voice over Internet Protocol (VoIP) telephony, and a central student information database serving the entire college in real time. [IIIC1] [IIIC1a]

The college provides all faculty members with the appropriate technology to perform their assigned instructional activities. The office of IT currently maintains 371 computers for staff and faculty use, 62 at Chuuk site; 32 at Kosrae site; 19 at FMI, site; 80 at Pohnpei site; 31 at Yap site; and 178 at the national site. [IIIC1 (1)]

The (ICTC) recommends decisions on major purchases as well as the distribution and utilization of technology resources. [IIIC1d] All other technology decisions are the responsibility of the (IT) director through the Department of Administration.

The ICTC is responsible for the following:

- Develop or revise policies and/or procedures assigned to or identified by the committee;
- Act on request for usage of technology fee funds;
- Develop and maintain the technology plan for the COM-FSM system;
- Coordinate information and communications technology provision throughout the college to maximize its effectiveness;
- Recommend career development and training needs of IT support personnel;
- Recommend the information communications technology resources required to implement the college's strategic plan; and
- Review and recommend a preferred vendor list for technology purchases for the college.
- Review assessments/evaluations of information technology services and make recommendations.[IIIC2]

The diverse membership of ICTC and the openness to all college divisions and units to take part in the IT planning ensures adherence to this standard.

STANDARD IIIC1: SELF EVALUATION

The College of Micronesia-FSM provides technology support for the national, Pohnpei, Kosrae, Chuuk, Yap and FMI sites through the office of information technology which is part of the Department of Administrative Services. To fully provide technology services and professional support, the office of information technology currently consists of these following full time positions:

- Director of information technology (1)
- System administrator at the national site (1)
- IT campus coordinators/field specialist, at all state sites (5)
- Field technician specialist at the national site (2)
- Help desk specialist/administrative assistant at the national site (1) [IIIC1a]

A technology plan was written by an ad-hoc committee which included the directors of research and planning and information technology. The current plan was approved by the COM-FSM Board of Regents during their May 2005 meeting, agenda item 9C1. This plan ensures that technology is fully integrated with institutional planning. [IIIC1 (2)] [IIIC1 (3)]

The technology plan provides a central committee to review and define technology resources and to ensure all aspects of technology in use throughout the college are compatible and the integrity of the IT system is maintained. The technology plan is an effective instrument that ICTC uses to guide the college in issues relating to procurement and planning for future technology needs.

STANDARD IIIC1: PLANNING AGENDA

- To enable as many members of the ICTC to be present for the decision-making and planning process, the chair of ICT committee will call a meeting at least twice each semester as called for in the terms of reference (TOR)
- The designated ICTC subcommittee should continue negotiations with FSM Telecom to improve the speed and reliability of internet connections. The faster and more reliable connections will improve communications among sites.
- The ICTC membership will be reviewed annually with a goal of having acceptably diverse representation as mandated by the TOR.

STANDARD IIIC1A

Technology services, professional support, facilities, hardware, and software are designed to enhance the operation and effectiveness of the institution.

STANDARD IIIC1A: DESCRIPTIVE SUMMARY

Section V of the technology policy defines "computing resources' and how these resources can and cannot be used by students, faculty and the community. Page three of the policy states: The computing resources of the College of Micronesia-FSM are intended to support the academic programs of the college. Anyone pursuing academic work may use the facilities and equipment. Use is limited to curriculum, academic, and college related work.

The information technology director informs the ICTC of all issues involving technology services, hardware and software used by the college. ICTC is charged with the responsibility of providing advice to the president on all essential professional support needed to enhance the operation and effectiveness of the college. [IIIC(5)] Technology is used in two main applications at the college, student instructional activities and operations support.
The college maintains 18 main computer laboratories spread throughout the college to maintain a minimum student to computer ratio of 10 to 1. Of these main computer labs, there are five computer laboratories at the national site, five at the Pohnpei site, two each in Yap and Kosrae, three at Chuuk, and one at FMI.

The ICTC and the information technology office also work closely with the president's office, student services, administrative services, financial aid office and admissions office to maintain and improve the use of technology to support college operations including the following:

- The financial aid office (FAO);
- The office of admissions and records (OAR);
- The business office (BO);
- The learning resources center (LRC); and
- The student information system (SIS), an application developed for the use of many college units.

STANDARD IIIC1A: SELF EVALUATION

The IT Office is currently supporting four Windows Servers and three Linux servers at the national site. The three Linux servers run core network and database services supporting all COM-FSM sites. The financial aid office runs on a Windows 2000 server with eight clients. The ED-Express database for FAO is mapped locally and only accessible through Windows username and password authentication.

The business office's accounting system is supported by a Windows 2000 server. Its SAGE MIP Fund Accounting software is centrally accessed by 10 clients over a secure 100 mbps connection using Windows username and password authentication.

The learning resources center runs with a Windows 2000 server, its multiple users include LRC staff and patrons all accessing Follett through this server. Cataloging and other data are stored in the Follett database on this server. IT office is running a Windows 2003 server for various network services, WINS, DNS and network antivirus and spy ware control through AVG Internet Security Network Edition software. The IT server also stores most of the computer laboratories profiles for the national site.

The IT Office manages four Linux-based systems at the national site. Two are responsible for connectivity throughout the college WAN. A network attached server has been installed and is located at a secure storage facility/office at the national site. This server backs up all Linux and Windows based servers using RSYNC. It backs up daily and keeps them for seven days. One server houses the SIS application hosted on its MySql database.

The college maintains 18 main computer laboratories spread throughout the college to maintain a minimum student to computer ratio of 10 to1. Of these main computer labs, there are five computer laboratories at the national site; five at the Pohnpei site; two each in Yap and Kosrae, three at Chuuk, and one at FMI.

Application Development

The SIS application has been developed in a LAMP environment, Linux-Apache-MySQL-PHP in this case. The goal was to produce an application that can be used at each state site to minimize the amount of bandwidth required and to make the application experience a positive one, the solution being developed makes extensive use of AJAX (Asynchronous Java-script and SML). AJAX allows web pages to request information from a server in the background without reloading the entire webpage. The information, when received, is used to update the existing web page. Each web page uses more JavaScript to support this approach, but much of the JavaScript is shared between various pages. It's downloaded once, cached and re-used.

Security

Improved data security by allowing additional access restrictions to be provided with data retrieved from the server.

Accounts Receivable Module
Student account (non term specific)
Refund check batch entry and printing
Cashiering session management, with reports of transactions by cashier
Cashiering session adjustment
Financial aid award package entry

Academic History
Official transcript available
Graduation list

IDP
Ability to evaluate student records against an IDP

LDAP integration

A SIS phase II module is currently in the works. The details for expected capabilities after SIS phase II is complete will include:

- Faculty module - Access to all advisee academic records (class schedules, online transcripts, IDPs, etc); Access to content related to sections they teach, e.g. class lists (as report and/or CSV export), contact information for students, etc.; Catalog and schedule data, e.g. schedule of classes, section enrollment data; and Online posting of grades
- Student module - Access to own academic records (class schedule, term grades, online transcript, IDP); Access to own financial data (account summary, term charges and

balance, financial aid package); Catalog and schedule data, e.g. schedule of classes; Management of contact information (mail and e-mail addresses); and View current holds.

STANDARD IIIC1A: PLANNING AGENDA

- The information technology office director and vice president for administrative services ensure that technology planning is integrated into the college's strategic plan as mandated in the continuous improvement cycle.

STANDARD IIIC1B
The institution provides quality training in the effective application of its information technology to students and personnel.

STANDARD IIIC1B: DESCRIPTIVE SUMMARY

The academic divisions supervise the educational laboratories and provide student training. Each division is responsible for evaluating the software and computer usage and making recommendations to their division heads.
The (LRC) assesses student needs and provides tutorials for the use of computers in the LRC for research and educational purposes. New students are given an orientation. Students complete surveys to allow the LRC staff to improve their tutorials.
The staff development committee, in conjunction with ICTC, develops workshops for the annual staff development day. They have provided training for MS Word, Excel, Power Point and Access. They have also provided workshops in developing online courses and web pages. The effectiveness of these efforts is gauged by surveys from students and staff collected after trainings or class evaluations.

STANDARD III C1B: SELF EVALUATION

The college has set a minimum standard ratio of computers in computer labs to number of students of 10 to 1 (10 students to 1 computer). We have met this standard at every COM-FSM campus. All computers in computer labs meet the requirements of academic divisions for software requirements used to teach classes and conduct training.

STANDARD IIIC1B: PLANNING AGENDA

- ICT Committee and the Staff Development Committee will continue to evaluate training needs and provide as much training as resources allow, throughout the year.
- IT division will continue to conduct training when needed and provide collaboration and support for computer labs, libraries, and all other computer training facilities.
- New technology will continue to be purchased to replace or upgrade older technology as needed and as facilities and funding allows according to set schedules for all computer training laboratories and support infrastructure.

STANDARD IIIC1C
The institution systematically plans, acquires, maintains, and upgrades of replaces technology infrastructure and equipment to meet institutional needs.

STANDARD IIIC1C: DESCRIPTIVE SUMMARY

There are three primary processes for procurement and replacement of technology:

1. Each academic division provides for computer, printer, hardware, and software procurement in their annual equipment and supply budgets. These procurements are limited to faculty and staff machines, except in the case of educational software used for instruction. The administrative divisions also include hardware and software procurement in their annual budgets;
2. A technology fee is assessed students each semester, as stated in Section XV of the technology plan. This fee is used "for purchase of computer and related technology that is used directly by students in classrooms, labs, or other student-accessible facilities at the COM-FSM sites"; and
3. Hardware and software may be procured through grants. Many administration and faculty members have been successful in getting technology needs funded through grants.

The IT office has two technician specialists at the national campus who are responsible for maintaining all computers, networked printers, routers and other peripheral hardware used by faculty, staff and students. Each state site employs at least one systems specialist for localized maintenance and installation. A system specialist provides server and network support to all sites; as well as funds for "special contracts" to temporarily employ specialists for specific projects such as the SIS project.

STANDARD IIIC1C: SELF EVALUATION

Technology specialists repair hardware and recycle computers from the student laboratories as technology is upgraded. The computer use fee assessed students has been very effective in generating funds to replace computers in the computer labs at all sites. The fund was originally designed to replace the computer labs on a five-year cycle; however, due to a decrease in the cost of computers, the labs have been turned over more frequently or as needed.
Computers removed from student and educational laboratories are refurbished and then redistributed by the IT office under the direction of ICTC. ICTC evaluates the requests and prioritizes the redistribution of the refurbished computers. The minutes of ICTC contain the discussion and outcomes of the meetings. According to page 12 of the technology policy, division chairs and department heads must submit their technology requests in writing to the chair of the ICTC for approval then to the IT director for action on the decision.

STANDARD IIIC1C: PLANNING AGENDA

- As recommended in Standard IIIC1a., ICTC should meet on a regularly scheduled basis at least twice a semester to address any key technology issues.
- New technology will continue to be purchased to replace or upgrade older technology as needed and as facilities and funding allow according to set schedules for all computer laboratories and support infrastructure.

STANDARD IIIC1D
The distribution and utilization of technology resources support the development, maintenance, and enhancement of its programs and services.

STANDARD IIIC1D: DESCRIPTIVE SUMMARY

The IT office and vice president for instructional affairs have moved toward incorporating distance education. Expansion into the area of distance education courses is in the planning stages. Operating systems, especially server and router operating systems and switch equipment, are always chosen with appropriate performance and security aspects in mind. Statistics and logs are monitored by IT staff to verify performance. Changing situations are closely monitored to ensure the current infrastructure achieves maximum reliability. Periodically, surveys are used to attain feedback from users. The ICT committee is constantly assessing robustness of the technical infrastructure by raising concerns of users and listening to reports about changing situations from IT.

Whenever possible, the IT office makes updates/upgrades to infrastructure, as per policy guidelines. Information on updates and upgrades are also made available via the college's web site for users to attain and install upgrades whenever such upgrades are available and appropriate.

The network architecture in the labs are peer-to-peer connections with 24/7 internet connectivity through a remote proxy server powered by a Linux-based operating system located in a secure server room controlled by IT staff. All labs on the LAN are physically connected to their remote servers through a fiber optic cabling system that is mostly at gigabit speed.
College LANS implement star topology networks with variations of local network bandwidths of 10Mbps, 54 Mbps(wireless), 100 Mbps or 1000 Mbps (gigabit). Networks run over either copper Cat 5 and 6 cable or multimode fiber optic cable or wireless standard 802.11 A,B,G and N.
LRC lab has 40 PC computers running Windows XP.
Student support services program at the national site has six computers for student use.
Chuuk site has three computer laboratories with a total of 62 computers running MS Windows XP and MS office applications, all connected to the internet. This includes the LRC and designated computer rooms.
Kosrae site has an open computer laboratory with 30 PC computers running Windows XP. Kosrae also has one NIDA training room with 10 Micron computers used to deliver computer assisted instruction (CAI) in electronics and telecommunications.
Yap site has two computer laboratories; one with 30 PC workstations and another with 20 workstations specifically to deliver CAI in electronics and telecommunications.
Pohnpei site has three computer laboratories at the lower site and two situated at the upper site. All computer labs run MS windows operating systems with MS office applications and all are connected to the internet via the college network.

STANDARD IIIC1D: SELF EVALUATION

As stated in Standard IIIC1, the college provides a central committee that oversees the distribution and utilization of technology resources.

STANDARD IIIC1D: PLANNING AGENDA

- The college will continue to secure funding for technology resources for all sites through its technology fee. When possible, IT will seek funding approval to use tech fee funds through the ICTC to be used to equip all sites with more computers and replace or upgrade equipment when needed.

STANDARD IIIC2

Technology planning is integrated with institutional planning. The institution systematically assesses the effective use of technology resources and uses the results of evaluation as the basis for improvement.

STANDARD IIIC2: DESCRIPTIVE SUMMARY

The ICT committee keeps a record of all meetings and resulting recommendations. Minutes of meetings provide evidence that the committee makes decisions concerning technology and delegates responsibility on evaluation of programs and service requests made to individuals or the ICTC. Although ICTC is responsible for prioritizing purchases of technology needs for the college, section VIII of the technology policy mandates the IT director to determine the best recommended computer specifications based on currently available technology, suitability to specified purpose, and compatibility with existing systems. IT director reserves the right to request information on the purpose of the purchase and information regarding specified equipment. Justification must be submitted with the purchase order stating the need and the purpose of the item. IT director can decline to approve a purchase with adequate justification. The buyer can appeal such decision to the ICT committee. Available funding, division budgets, previous requests, existing plans, committee decisions, new immediate needs, mission critical systems and existing technology that can be reassigned are all factors examined by the IT director or ICT Committee before allocations of technology resources are made.

STANDARD IIIC2: SELF EVALUATION

To "determine that technology needs in program and service areas are met," requests from division chairs and/or site directors are weighed against the possible available technology solutions and reviewed by ICTC. ICT committee then makes recommendations to the IT division. The IT division is also responsible for researching available technology for integration into the existing technology infrastructure when needed, appropriate, or possible.

STANDARD IIIC2: PLANNING AGENDA

- Whenever available premises and funding permit, acquisition of technological resources are obtained to equip sites to be able to improve their work capabilities to achieve goals previously set as institutional priorities.