

H. CARL McCALL
STATE COMPTROLLER



A.E. SMITH STATE OFFICE BUILDING
ALBANY, NEW YORK 12236

STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

November 27, 1998

Dr. Christoph M. Kimmich
Acting Chancellor
City University of New York
535 East 80th Street
New York, New York 10021

Re: Actions to Address the
Year 2000 Challenge
Report 97-N-13

Dear Dr. Kimmich:

Pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article 2, Section 8 of the State Finance Law, we have audited the City University of New York (CUNY) Year 2000 compliance efforts for the period of April 1, 1996 through March 31, 1998.

A. Background

A major challenge facing government organizations today is the need to prepare their computer systems to handle dates beyond December 31, 1999 - otherwise known as the Year 2000 problem. Until recently, most computer programs were designed to use two digits to designate the year, and therefore cannot determine the century. For example, a computer in the year 2000 might calculate that a person born in 1997 is 97 years old, rather than 3 years old. Left uncorrected, fundamental operations on computer systems will fail or produce incorrect results.

The problem is imposing as it encompasses all computer hardware from mainframes to personal computers (PCs) and all computerized programs and processes, including those developed by vendors, programming staff, and end-users. Ancillary equipment such as elevators and telephone-switching devices may also be subject to interruptions if a microprocessor or embedded computer code that is not Year 2000-compliant controls its functions. Moreover, the amount of time available to correct this problem is limited, because some systems must process Year 2000 dates well before December 31, 1999.

Faced with the risk that systems may not become Year 2000-compliant in a timely manner, management must ensure that the resources it devotes to correcting the problem are applied to the most important systems. Contingency plans must also be established to ensure provision of important services and functions in the event that systems fail because of noncompliance with Year 2000 requirements

CUNY is the largest urban university in the United States, and is the third-largest public university system. Some 200,000 students are enrolled in degree programs on 21 campuses in all 5 boroughs of New York City. Another 150,000 CUNY students take adult and continuing education courses.

CUNY operates two major data centers, Computer Information Services (CIS) in Manhattan and the University Application Processing Center (UAPC) in Brooklyn. Each of these centers operates independently, with its own mainframe computer, and supports CUNY's critical centralized information systems. The systems maintained at these centers include the Student Information Management System (SIMS), the Personnel System, the Library System and the Student Automated Record Keeping System (SARK). SARK is operated under contract for the New York City Board of Education. Systems supporting the Financial Aid, Tuition Assistance, Direct Loan, and Pell Grant programs are also processed on the mainframe computer.

The University Accounting Office (UAO) independently maintains its own CIS mainframe applications to support financial, budget, student aid, and inventory needs. Each CUNY college maintains educational systems and depends on a variety of PCs as well as ancillary equipment that use embedded computer code or microprocessors. A few CUNY colleges have their own mainframe computer, and two of them maintain their own Student Information Management System.

The scope of the CUNY computing environment and the importance of this environment to the functioning of the college educational system in New York City requires a well-planned and well-executed approach to the Year 2000 problem. We believe that CUNY needs to have the following essential elements of control if it is to succeed:

- top management involvement to raise awareness about the problem and to define the policy and organizational approach for correcting the problem;
- development of an inventory of systems that need to be corrected;
- establishment of the timeframes and resource requirements for correction efforts;
- creation of a command and control organizational structure to manage and accomplish correction of the problem; and
- establishment of procedures for the examination, modification, and testing of noncompliant systems and the implementation of corrected systems.

These elements of control are consistent with those recommended for large organizations by the United States General Accounting Office and the Gartner Group, a leading information technology consulting organization.

CUNY began to examine the Year 2000 issue as an agency-wide project in the fall of 1997 when the Vice Chancellor for Budget, Finance and Information Services began holding discussions about the issue with central office units. CUNY's two data centers, CIS and UAPC, and UAO had already initiated their own independent Year 2000 projects for the agency's major centralized systems. Efforts to raise awareness agency-wide were also initiated in the fall of 1997 at monthly Administrative Council meetings attended by central office administrators and managers as well as the colleges' vice presidents.

In December 1997, the Vice Chancellor initiated an inter-office Year 2000 Task Force (Task Force) headed by the Director of Campus Services, that was to assemble materials that would help central offices and colleges manage the tasks of assessing the Year 2000-compliance status of their systems and implementing the required changes. The Vice Chancellor asked each central office unit to assign an individual to serve on the Task Force. College presidents were asked to identify a staff member who would serve as point of contact for the Task Force. All of these individuals were to be responsible for overseeing or coordinating Year 2000 activity within their offices or colleges. The Task Force acts as a facilitator for the central offices and colleges, but has no authority or responsibility for implementing the agency-wide project. Each central office and college remains ultimately responsible for correcting its own systems. At a post-field work meeting, CUNY officials advised us that the Task Force first met on April 29, 1998, and asked each college to establish a committee to develop a corrective action plan and an application inventory within four weeks.

B. Audit Scope, Objective, and Methodology

The scope of our performance audit includes CUNY's agency-wide efforts to achieve Year 2000-compliance for its computer systems. Our objective is to determine whether CUNY's efforts provide reasonable assurances that important computer processing will continue without material interruptions or inaccuracies caused by the Year 2000 problem. To accomplish this objective, we reviewed and evaluated the adequacy of CUNY's actions during the period of April 1, 1996 through March 31, 1998, to solve the problem. In conducting our audit, we used guidelines and criteria developed by both the Gartner Group and the United States Government Accounting Office (GAO).

We conducted our audit in accordance with generally accepted government auditing standards. Such standards require that we plan and perform our audit to adequately assess those operations which are included in our audit scope. Further, these standards require that we understand CUNY's internal control structure and its compliance with those laws, rules and regulations that are relevant to the operations which are included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions reported in the accounting and operating records and applying such other auditing procedures as we consider necessary in the circumstances. An audit also includes assessing the estimates, judgments and decisions made by management. We believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

We use a risk-based approach to select activities for audit. Therefore, we focus our audit efforts on those activities we have identified through a preliminary survey as having the greatest probability for improvement. Consequently, by design, we use finite audit resources to identify where and how improvements can be made. We devote little audit effort to reviewing operations that may be relatively efficient or effective. As a result, we prepare our reports on an "exception basis." This report, therefore, highlights those areas needing improvement and does not address activities that may be functioning properly.

C. Results of Audit

CUNY's establishment of a Year 2000 Task Force at the agency level occurred much later than government and computing industry leaders have indicated would be appropriate if all Year 2000 risks were to be addressed in a timely manner. We are concerned that the late start and the decentralized nature of its efforts may leave certain functions at risk. Officials at all levels throughout CUNY will need to work together to meet this challenge.

Specifically, we have concluded that CUNY's efforts to date do not reasonably assure that instructional and administrative functions performed on college-level computer systems and thousands of PCs throughout CUNY and its colleges will continue to operate and to produce correct results as the Year 2000 approaches. In addition, we concluded that CUNY's efforts provide insufficient assurance that the use of ancillary equipment that has noncompliant computer code will not have a significant impact on the operation of CUNY facilities.

Each of three major units with central mainframe applications has made substantive independent efforts to prepare for the Year 2000. The continuance of these efforts, as well as attention to certain weaknesses that we identified during our examination should help to ensure the timely correction of mainframe computer applications at CIS, UAPC, and UAO that are mission-critical. Time is of the essence, and continued oversight is necessary.

CUNY needs to consider the development of contingency plans or other alternative solutions that may be pursued if important systems fail or are not expected to be compliant on time. Some systems may need to be compliant before January 1, 2000.

1. Project Management

The accomplishment of an agency-wide Year 2000 initiative can be best assured when top management prepares and issues a timely policy directive and program charter that formalizes it and makes it possible to broadcast support for resolution of the problem. In addition, with large-scale organizations such as CUNY's, the agency usually establishes a Year 2000 program office responsible for overseeing progress, approving plans, establishing priorities and budgets, and controlling necessary resources. It is also necessary to launch an effective Year 2000 awareness program designed to alert all affected parties to the challenge and to help in the exchange of information and knowledge that is needed to achieve a timely and complete resolution of the problem.

Until the Task Force was initiated in December 1997, CUNY had not issued an executive-level Year 2000 directive. Considering the scope of CUNY's organization and its extensive reliance on information technology resources, we believe such a directive should have taken place much sooner to reduce the risk of untimely corrections and any resultant service disruptions. CUNY's agency-wide Year 2000 project does not call for a specific program office to control the effort. Instead, it relies on the Task Force to facilitate the individual efforts of various central office units and college committees. CUNY maintains that this approach is more suited to its overall organization structure. We reiterate our concern, which is consistent with opinions of Year 2000 problem experts, that solving the problem in large organizations requires a command-and-control structure and operating philosophy. We believe that CUNY needs to be prepared to follow a more control-oriented policy if this facilitative approach does not make sufficient progress.

We noted during our field work that CUNY did not have an agency-wide cost estimate or budget for its Year 2000 project, lacked a comprehensive plan for supporting it, had not completed a comprehensive system inventory as a basis for assessing relative risk exposure for noncompliant systems, and had not involved its legal department in assessing the potential for lawsuits if services are interrupted because its computer systems are noncompliant. During our post-field work meeting with CUNY officials on June 11, 1998, officials indicated that they had made progress with the management of their agency-wide project. They informed us that a preliminary compliance inventory had been initiated for mainframe peripherals, telecommunications equipment, modems, PC servers, desktop PCs, and mainframe software. They also indicated that a testing plan for minicomputer and PC computer equipment was available and that CUNY's Legal Affairs office was represented on the Task Force. The Vice Chancellor informed us that he expects the colleges to have completed a system inventory and prepared a related Year 2000 assessment by the fall of 1998, and that a Year 2000 budget will be available for the 1998-99 fiscal year.

We also found that CUNY's initial efforts to raise awareness had been targeted at high-level officials, and did not address other staff. CUNY officials have subsequently indicated that they are now implementing an effective awareness program throughout the agency. For example, the CIS Spring 1998 electronic information newsletter was devoted primarily to explaining the Year 2000 problem and CUNY efforts to address it; the Task Force asked the college presidents to communicate with their employees about the problem; and CUNY's Internet website was being used to disseminate Year 2000 problem information throughout the organization and obtain feedback.

2. Project Status

CUNY management has been making consistent progress in correcting Year 2000 problems at the CIS and UAPC data centers. In addition, the UAO has identified Year 2000 problem areas and has made plans to correct these in the near future. However, CUNY's colleges appear less knowledgeable about the issue, and in need of direction and monitoring.

- **CIS Data Center**

The CIS Director of Communications is responsible for central office computer operations and all hardware, including ancillary equipment. CIS has developed an inventory of central office mainframe equipment and software, PCs, and teleprocessing equipment. For these items, letters

have been sent to the appropriate vendors seeking written certifications for Year 2000 compliance. CIS has been evaluating software that would help test PCs for Year 2000 compliance, and has installed Year 2000-compliant versions of its Student Information Management System, City University Personnel System, and vendor-supplied Library System - all of which are centralized application systems used by most of the colleges. After our field work was completed, CIS provided us with a May 19, 1998, memorandum from the University Chief Engineer to all Vice Presidents/Deans of Administration requesting their help in identifying all embedded systems throughout the University so that equipment manufacturers can be contacted as soon as possible to determine the Year 2000-compliance status of the embedded systems.

Despite this progress, CIS has neither established an overall work plan for its Year 2000-compliance efforts nor has it completed a formal inventory of all of its applications. These steps would help ensure a complete assessment of Year 2000 risks as a basis for setting priorities, allocating resources, and establishing work plans. In addition, CIS has not utilized any specific written policies and procedures that should be followed to assure the full testing of affected systems for Year 2000-compliance. These weaknesses increase the risk that remaining Year 2000-related problems will not be corrected in time.

CIS officials advised us that full systems testing is expected to take place after its new mainframe computer is installed in the fall of 1998. They said they expect this testing to be completed by December 1998, thus allowing CIS one full year to debug any problems. To complete their testing objectives in the desired timeframe, we believe that officials need to address the weaknesses we noted. In addition, CIS may not have a full year to ensure compliance for all affected systems if the time horizon to failure for any of those systems occurs before December 31, 1999. In the absence of a complete systems inventory and related risk assessment, it is uncertain whether and to what extent CIS systems are at risk before Year 2000.

Response of CIS Officials to Audit: In response to our report, CIS officials state that Task Force meetings continue, testing procedures have been provided and several inventories have been completed.

- **University Accounting Office**

The University Accounting Office (UAO) systems are processed at the CIS data center. UAO's Information Systems Group, which is responsible for the maintenance of these applications, has identified the ones in critical need of correction: Financial, Budget, Student Financial Aid, and Fixed Asset Inventory systems. UAO officials advised us that they have decided to replace the Fixed Asset Inventory System, and showed us a plan for converting to the replacement system by April 30, 1999.

UAO officials stated that they had reviewed all of the component programs and have already made significant changes to its systems during 1997. Further corrective efforts were on hold until staff had finished the year-end processes for fiscal year 1997-98, scheduled for completion by the end of July 1998. They said they expected to intensify their efforts after this time, and have targeted the end of calendar year 1998 for completion of their portion of the agency-wide project. While there is no formal Year 2000 work plan, the UAO maintains a list of outstanding issues and is using its

regular project management system to track its efforts. We found that no distinct Year 2000 testing plan has been developed that would ensure that all Year 2000 risks are tested, despite the confidence of UAO officials that all necessary testing will be accomplished by the end of 1998. We believe a written test plan is essential to assure CUNY that all appropriate risks will have been tested by the target date of December 31, 1998.

Response of UAO Officials to Audit: UAO officials replied that now that fiscal year 1997-98 is closed, UAO's efforts in bringing all systems to Year 2000-compliance have intensified dramatically. They add that test files have been established for the Accounting and the Budget/Payroll Systems. They report that the Student Financial Aid System master file is compliant.

- **UAPC Data Center**

The University Application Processing Center (UAPC) is located at Kingsborough Community College. Its staff advised us that UAPC started in January 1997 to implement strategies to ensure the proper operation of its application systems into and past the Year 2000. Although neither a formal awareness program was initiated nor a formal inventory completed, UAPC's critical applications have been identified and have either been corrected or are scheduled for corrective action to be taken in 1998. Work remains to be done on four critical applications: the Student Automated Record Keeping (SARK), Direct Loan, CUNY Admissions, and the Tuition Assistance Program (TAP) Certification systems. Although no formal project plans have been made for the completion of work on these systems, benchmark dates have been set. This effort is being viewed as regular program maintenance and there is no formal documentation for testing in terms of Year 2000-compliance requirements. Staff at UAPC do not foresee that the Year 2000 problem will cause major disruptions in their operations.

The UAPC data center director indicated to us that the major system at risk is SARK, which is presently used by the New York City Board of Education for all students under its Division of High Schools. SARK tracks and/or reports attendance, transfers, transcripts, grades, postcard mailings, and test scoring, among other items. It has been operational since 1968, and the Board of Education has been using it under a contract between the Board of Education and CUNY. The current contract expires in June 2000 and it is not clear whether the Board of Education will want to renew the contract. According to UAPC officials, the Board of Education is currently testing a new PC-based system to fulfill SARK processing. Therefore, it is not certain whether the Board of Education will continue to require SARK in the Year 2000 and beyond. However, officials indicated that no one from the Board of Education had formally contacted UAPC on this matter. In addition, the contract does not include Year 2000 language. Given these conditions, UAPC does not believe it is responsible for correcting SARK. We believe that it is incumbent on CUNY (as well as the Board of Education) to reach agreement as soon as possible on the need to make SARK Year 2000-compliant. After our audit field work was completed, UAPC officials reported to us that they plan to keep SARK functional through June 30, 2000. Full SARK compliance with Year 2000 requirements is expected by July 1999.

Response of UAPC Officials to Audit: UAPC officials indicate that they have met with the Board of Education to reach an understanding about SARK. UAPC plans to keep SARK functional to June 30, 2000. Officials now state that no commitment has been reached for beyond June 2000.

The CUNY Admissions System, which processes applications for first-time undergraduates and transfer students, was expected to be corrected by May 31, 1998. SARK interfaces with this system as most incoming CUNY freshman come from the Board of Education's high schools. UAPC officials indicated they will need to window the dates from the interface files that transmit data from SARK concerning Board of Education high school graduates who register at CUNY. (Windowing involves the use of program logic to determine whether a two-digit year is in the 1900s or the 2000s and does not involve conversion of data by expanding to a four-digit year field.)

Response of UAPC Officials to Audit: Officials indicate that all programs involved in the undergraduate and advanced-standing admission systems have been modified and tested. They indicate that windowing logic has been provided for files from SARK.

Officials of UAPC told us that New York State Higher Education Services Corporation (HESC) was originally slated to replace the State's TAP Certification process with a new system in the summer of 1998. UAPC officials maintained that the needs of their TAP Certification System could not be determined until the details of the State's new process became available. After our audit field work was completed, UAPC officials informed us that HESC will not be providing a new system. Accordingly, UAPC should proceed with its plans for correcting its TAP Certification System.

The Direct Loan Program System is redeveloped for each academic year. Therefore, the correction for this application is to occur during its normal cyclical development and implementation process in the 1998-99 academic year.

Response of UAPC Officials to Audit: UAPC officials replied that the TAP Certification System and the Direct Loan Program System are Year 2000-compliant.

At the time of our field work, UAPC officials had not fully considered the Year 2000 reliability of products licensed or purchased from outside sources. However, UAPC officials have started contacting outside vendors and are obtaining written documentation of Year 2000 compliance. We were also informed that the UAPC mainframe and operating systems were already Year 2000-compliant. However, we were informed that, if the New York City Board of Education's SARK application contract is renewed, the UAPC mainframe may need to be upgraded. UAPC officials also informed us that they had not yet tested their PCs for Year 2000-compliance.

UAPC officials also have informed us that they are currently developing a plan for testing their mainframe operating system, vendor-supplied software, as well as applications that were developed in-house. They maintained that if their mainframe is upgraded they will assure that it is also Year 2000-compliant. UAPC officials added that all of their own systems are expected to be Year 2000-compliant by the end of 1998.

Since our field work ended, UAPC officials advised us that they have contacted vendors of all of the software installed on their mainframe regarding Year 2000-compliance. They have written guarantees of full compliance for all products except one, for which delivery of a fully-compliant version had been promised for June 1998. Three products for which a compliant version had not been installed were expected to be installed during the summer of 1998. UAPC officials expected compliant versions of all of the products they used to be in production by September 1998. They have also

completed an inventory of PCs to determine software and hardware compliance and have collected PC software-compliance information from vendors. They expect to complete needed PC upgrades to achieve Year 2000 compliance by the end of 1998.

Response of UAPC Officials to Audit: UAPC officials report that progress continues to be made with the mainframe operating system and vendor-supplied software. They added that PCs will be compliant by March 1999.

- **Colleges**

We met with officials at four colleges - City College of New York (CCNY), Hostos Community College, Kingsboro Community College, and the Borough of Manhattan Community College - to determine their awareness of the Year 2000 problem and the status of their plans for corrective actions in the areas of mainframe applications, PCs, and ancillary equipment. Officials at all four colleges informed us that they had received no guidance from CUNY's central office, except for a policy from Legal Counsel that provides and requests the use of Year 2000 language in technology bids and contracts. We found that none of the four colleges had initiated a Year 2000 awareness program, taken an application inventory, or established a Year 2000 work plan.

Generally, officials were grateful that we met with them and brought the Year 2000 problem to their attention. Some officials were not aware that ancillary equipment was also at risk. The ancillary systems that could be at risk at the colleges include security systems, fire alarms, heating-ventilation-air conditioning systems, energy conservation systems, elevators, time clocks, telecommunication systems, lab equipment, and in-house calendars. All of the college officials with whom we met appeared to want and needed guidance and direction to assure that their systems will be Year 2000-compliant. They all indicated that they would establish a project group and start to develop an inventory of systems and assess risks.

CCNY has not migrated its student systems to the CIS central office mainframe. The college maintains a Student Information and Tracking System on its own mainframe that was developed in the late 1960s and is not Year 2000-compliant. A new Year 2000-compliant system utilizing Oracle database and Oracle tools has been under development for the past five years with a Federal grant. However, there is no assurance that the grant, already on extension, will be extended further and that the system will be implemented in time. CCNY officials indicated that, as a last resort, they would migrate to the CIS data center.

After our visit, CCNY officials informed us they had initiated a three-phase plan for the inventory and testing of hardware and software, including all computer systems, network devices, printers, operating systems, and applications. The report of these findings will include estimates for any necessary upgrades and a list of priorities for solving the problem. The most time-consuming and difficult work will be the testing and evaluation of the in-house applications due to their complexity and size. At the time of our audit, officials said that when phase three finishes in May 1998, they can estimate the time and cost to fix CCNY's Year 2000 problems.

Hostos Community College officials informed us that they maintain their own Registration and Transcript System, which they stated is semester-driven and does not appear at risk. However, the Immunization Tracking System and an environment conservation system that issues reports have been identified as at risk, and officials said that both of them must be evaluated. The Dean of Administration told us that a report related to Hostos Community College Year 2000 efforts was being prepared for the next Administrative Council meeting.

Officials at Kingsboro Community College indicated that they were not concerned with their PC and software situation. They expressed the belief it would not prevent them from fulfilling their critical mission of providing education. However, their mainframe operating system is not Year 2000-compliant. In addition, the Facilities Department was not aware that the college's critical ancillary equipment and systems might fail. We were informed that the identification of systems at risk would begin, and that vendors would be contacted to obtain written certification of Year 2000-compliance. In addition, as a result of our visit, the Director of Computer Services sent out a memo to all faculty and staff making them aware of the Year 2000 problem. The Director requested that all systems/applications be reviewed and that all software packages currently in use be identified in writing for his office so that he could develop a plan for Year 2000-compliance.

The Borough of Manhattan Community College (BMCC) officials informed us that a plan for code changes had been developed and that programs that need changes had been identified. However, the plan was not documented. In addition, two staff members are being sent to a Year 2000 training program.

Response of College Officials to Audit: All four colleges we visited responded with documentation pertaining to their Year 2000 corrective efforts.

Recommendations

1. *Be prepared to take a more control-oriented approach should agency-wide project efforts under the facilitative approach not show sufficient progress.*
2. *Continue with efforts to establish a comprehensive systems inventory and to provide comprehensive planning, budgeting, system testing, legal office involvement, and user awareness in support of the agency-wide Year 2000 project.*
3. *Establish an overall work plan, systems inventory, and written testing procedures in support of CIS, UAPC, and UAO Year 2000 efforts.*
4. *Determine the New York City Board of Education's plans regarding the future of SARK and consider them in assigning priority to Year 2000 corrections in this application. Make the necessary modifications that will make the Admission System interface with SARK compliant.*
5. *Continue with plans for correcting the TAP Certification System operated at UAPC.*

6. *Use the Task Force and the Awareness Program to increase support and provide direction to the college campuses in their efforts to correct Year 2000 problems.*
7. *Develop contingency plans for performing important services and functions that would be interrupted if systems are not year 2000-compliant.*

A draft copy of this report was provided to CUNY officials for their review and comment. Their comments were considered in the preparation of this report and are included as Appendix A.

CUNY officials replied that the University shares our view that the Year 2000 problem is a major challenge facing government organizations and that a unified effort by the University and its colleges is needed to assure progress in this area. CUNY officials express concern that our report does not fully reflect the progress of the University toward Year 2000 system compliance. Accordingly the CUNY response provides information reflecting the current status of the University's efforts. The response includes comments regarding Year 2000 plans, accomplishments and status as provided by officials of CIS, UAPC, UAO and the four colleges that are cited in our report.

CUNY officials generally do not provide a specific response to each of our recommendations. With respect to recommendation number 7, officials do state that the University will work with KPMG Peat Marwick to ensure that all mission-critical systems are ready for the Year 2000 and where appropriate, take necessary remediation activities (including development of any contingency plans) to safeguard continued delivery of services.

Within 90 days after the final release of this report, as required by Section 170 of the Executive Law, the Chancellor of the City University of New York shall report to the Governor, the State Comptroller and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

Major contributors to this report were Robert Mehrhoff, Richard Perreault, and Jorge Vazquez.

We wish to thank the management and staff at the City University of New York for the courtesies and cooperation extended to our auditors during this audit.

Very truly yours,

Jerry Barber
Audit Director

cc: Robert L. King
Louis Chiacchere
Richard F. Rothbard

The City University of New York



OFFICE OF INTERNAL AUDIT

535 East 80th Street, New York, NY 10021

Voice: (212) 794-5421 Fax: (212) 794-5696

e-mail: ljcbh@cunyvm.cuny.edu

October 14, 1998

Mr. Jerry Barber
Audit Director
Office of the State Comptroller
A.E. Smith State Office Building
Albany, New York 12236

Dear Mr. Barber:

I write on behalf of Interim Chancellor Christoph Kimmich in response to your request for comments regarding your draft report (97-N-13) concerning the actions taken by The City University of New York to address the Year 2000 (Y2K) challenge. The University shares your view that the Y2K problem is a major challenge facing government organizations and that a unified effort by the University and its colleges is needed to assure continued progress in this area.

However, I am concerned that the report does not fully reflect the true progress of the University toward Y2K systems compliance. As your draft report indicates, the University has already taken action to prepare its major University-wide systems for Y2K compliance. The Y2K Task Force has become an important focal point for developing a coordinated approach in assuring that the colleges stay on track in achieving Y2K readiness.

The comments, which follow, provide an overview of the University's efforts in achieving Y2K compliance. In addition, responses to the draft report's specific recommendations were provided by the Office of Computing and Information Services and the University Application Processing Center (see **Attachments I and II**). The University Accounting Office also responded with an update regarding its continued progress in ensuring Y2K compliance (see **Attachment III**).

Overview

The University and its colleges are aware of the Y2K problem and its potential impact on our operations. The University and its colleges are taking steps to identify and address any critical systems at risk, and to ensure compliance with system requirements for year 2000.

The University has already taken action to prepare its major University-wide systems for Y2K compliance. The University-wide systems are supported centrally by the University Accounting Office, the Office of Computing and Information Services and the University Application Processing Center. These operating units have developed plans and are currently implementing strategies to ensure proper operations of their systems into and past the year 2000. These strategies include analyzing and modifying programs and systems developed in-house, and resolving data exchange issues and interagency concerns. In addition, the University Contracting Office in conjunction with the Office of Legal Affairs is addressing legal issues as they arise and providing the colleges additional procurement guidelines such as appropriate warranty language for procuring Y2K compliant products.

The University has created a Y2K Task Force comprised of representatives of each senior and community college, and Central Office operations. The Task Force was formed for the purpose of assembling materials that assist central and college departments in managing the task of assessing the need for changes and then implementing required changes for each of their systems. The Task Force serves as a catalyst, facilitator and coordinator in assisting colleges on Y2K issues ranging from site licenses to wide and local area networks, and mainframe operating systems and PC hardware. A CUNY Y2K website provides timely responses to college inquiries on a variety of Y2K problems such as testing PCs for problems related to dates stored in the underlying system functions (the Basic Input Output System, or BIOS). A PC tool kit is available on the website for downloading by the colleges. The University has raised awareness of the Y2K problem through the meetings of this Task Force, providing management and technical information through issuance of a newsletter and advisory memorandum, maintaining the CUNY Y2K Website and making presentations before the University's Administrative Council attended by college senior administrators and Central Office officials.

The colleges are assessing their own operating systems and preparing Y2K project plans indicating their priority compliance strategies. The strategies include taking inventory; setting priorities for critical equipment and systems; and testing of any modified devices that address Y2K problems. These plans are being provided to the Task Force. Synopses of the plans submitted by the four colleges that were visited as part of your review are contained in **Attachment IV**.

In conjunction with the Task Force, the University's Department of Design, Construction and Management is coordinating with the colleges the identification of embedded systems that are date-sensitive such as security systems, elevators, HVAC and fire alarm systems. The Dormitory Authority of the State of New York (DASNY) is funding a project to assess the potential building equipment/systems operational problems associated with use of embedded systems on college campuses. The project will entail document research, a detailed survey to collect data and inventory existing equipment/systems,

evaluation of existing systems to identify equipment/systems, evaluation of existing systems to identify equipment/systems subject to possible operational time change problems, documentation of manufacturers' input concerning compliance, evaluation of the relative impact that existing deficiencies have on facility utilization with the formulation of specific solutions and recommendations, formulation of cost estimates, creation of databases and college reports which contain information concerning existing campus/building systems.

With respect to the draft report's recommendation number 7, an assessment of Y2K computer issues is also currently being undertaken by KPMG Peat Marwick as part of its audit of the University's consolidated financial statements. The results of this assessment will be shared with University management for the purposes of evaluating our Y2K preparedness to-date and making recommendations for consideration by the University. The University will work with KPMG Peat Marwick to ensure that all mission-critical systems are ready for the year 2000 and where appropriate, take the necessary remediation activities (including development of any contingency plans) to safeguard continued delivery of our services.

Thank you for offering the University the opportunity to comment on your draft report. We share your view that the year 2000 is a priority and we will continue to cooperate with you in the months ahead to effectively meet this challenge.

Sincerely,


Louis Chiacchere

c: Interim Chancellor Christoph M. Kimmich
Interim Deputy Chancellor Patricia Hassett
Vice Chancellor Richard F. Rothbard
Dean Michael Ribaud
Mr. Les Jacobs
Mr. Anthony Hladek, Jr.
Mr. Victor Viggiano
Ms. Helen Woo
Ms. Shelley Reed
Mr. Jack Chen
Ms. Anne Reinhard
Mr. Charles Foster
Ms. Deirdre A. Taylor

The City University of New York



Vice Chancellor for Budget, Finance, and Information Services

*Office of Campus Services
555 West 57th Street, 16th floor, New York, NY 10019
(212) 541-0938 Fax: (212) 541-0379*

October 8, 1998

To: Lou Chiacchere, Office of Internal Audit
From: L. Anne Reinhard, CIS Office of Campus Services
RE: Responses to Auditor's Recommendations, items 2, 3, and 6

The second Task Force meeting, scheduled for 10/20/98, is a continuation of ongoing Listserv discussions revolving around Y2K campus issues and concerns.

We have provided testing procedures, sample spreadsheets, and organized relevant vendor web sites on the CUNY web site: <http://www.cuny.edu/y2k>

The following inventories have been completed: (or 90%)

- PC's BIOS testing completed
- OS 70% compliant, remainder being upgraded
- Application Software... currently being tested by departments
- Mainframe Hardware complete
- Mainframe OS in progress (completion expected Spring 99)
- Mainframe Applications ... all critical applications completed 96/97. Final testing awaits mainframe test partition; expected to complete by spring 1999.
- WAN inventories completed, upgrades in progress
- LAN and IVR inventories completed, upgrades in progress
- Upgrades have either been purchased or budgeting is in place.

Enc. Task Force Meeting Agenda
Selected Web Documents
Inventories

CUNY Y2K Task Force Meeting

October 20, 1998, 10:00am, Seminar Room

Auditing issues

- Auditor's status report
- Project Plans

David Rankert

Mainframe update

- Test environment schedule
 - VM (CMS 14)
 - MVS (OS 390)

Jack Chen

PC testing/LAN related issues

- Commercial testing software for PCs
- College experiences
- Need for subcommittee(s) involvement?

Steve Yoman

Wide Area Network (WAN)

- Cost update

Anil Khullar

Interactive Voice Registration (IVR)

- Application issues

Dave Kopel

Embedded systems

Charles Collins

Library

- Areas of responsibility
 - Central Office
 - Campus

Pat Young

Open Discussion

NB: Daphna Mitchell, Office of General Counsel, will be available at the meeting for legal questions you may have.

CUNY/CIS Y2K Toolkit for PC Inventory

Year 2000 Hardware Procedures for Intel and Intel-compatible Computers

At CUNY/CIS we are incorporating a re-inventory of our personal computers with regular problem visits and maintenance upgrades, i.e., technicians will bring inventory sheets with them on all desktop visits.

Before you begin:

1. Prepare a bootable DOS diskette.
2. Copy Year 2000 testing program(s) to diskette (see information about finding these below).
3. Establish consistent abbreviations and other conventions for use on Year 2000 PC/LAN Inventory List (MS Excel format - 41KB) to be used during data collection.

2100	CR	HIDE
BIOS	CPU	0 = Fail
		1 = Passed
		2 = Pass
1	1	0
2	1	1
3	1	2
4		
5		
6		
7		
8		

If you do not use MS Excel, you may use a Viewer to open and print this file.
 This file should be printed landscape on legal size paper.
 This file has been disinfected with the latest virus definitions (Virex and F-PROT) as of 07/23/98.

The Year 2000 Diskette:

Create a bootable DOS diskette. Copy a Year 2000 testing program to the diskette. Two programs for use in testing computer BIOS for year 2000 compliance were recommended to us by the auditors: test2000.exe and 2000.exe. You may use either program. Links to these programs are also available through CUNY's Year 2000 website at: <http://www.cuny.edu/y2k>.

Developing an Action Plan:

If we already had a complete and reliable online PC inventory, we could determine a "BIOS fix" strategy in advance of the desktop visits. As we do not have such an online inventory, the question of *which* BIOS fix to apply is not an issue at this stage. An advantage of this approach, as opposed to the fix-as-you-go strategy, is that it removes the decision (of which level of fix to use) from the technician and places it back with management.

There are several levels of fix that can be used for machines that are not Year 2000 compliant, but can be fixed or upgraded: replace ROM chip, flash update ROM chip, or various software fixes.

After 20-30% of the inventory is completed, the results will be treated as a statistical sample that generates a treatment profile for the most common types of machines. The remaining 70-80% of equipment will have the appropriate BIOS fix predetermined at the time the technician makes the

desktop visit.

1. Inventory 20-30% of PC equipment without performing BIOS fixes
2. Generate from above sample a diagnostic profile of the predominant machine types that are upgradeable
3. Download from vendor web sites, or purchase, the *optimal* BIOS fixes
4. Complete the remaining inventory survey and apply appropriate BIOS fixes during desktop visit

Data Collection and BIOS testing:

1. Before testing a particular PC, fill in all inventory information, including OS and memory.
2. With your bootable DOS diskette in the 'A: drive', power on the computer.
3. Run the Year 2000 test program(s) and indicate the results on the *Year 2000 PC/LAN Inventory List*: pass, fail or partial, including BIOS version date.
4. Affix colored sticker (pass=green, fail=red, partial=yellow) to computer and write BIOS version date on sticker.

[Return to top of page](#)

[Return to CUNY Y2K Home Page](#)

This Y2K Site was developed at **The City University of New York** by CUNY/CIS.
Please send any comments to the [CUNY Year 2000 Task Force](#).

Year 2000 (Y2K) Resources - Links

General Information

- George Girod's **annotated bookmarks** of Y2K resources, including: Training/Education/Awareness, Standards, governmental agencies, information, software engineering, product compliance, project management, diagnostics/fixes, etc.
- Detailed discussion of **Compliance Issues** from the **MITRE Corporation**
- **CPSR** - Computer Professionals for Social Responsibility/Y2K Working Group
- Extensive **Cyberlaw** topics and resources for the Year 2000
- **Mother of all Year 2000 (Y2K) Link Centers** has over 2600 links in 24 categories
- University of Texas **departmental action plan for Year 2000**
- **Yahoo's** list of Year 2000 links
- **The Year 2000 Information Center** and it's "**no frames**" version list information and many vendor links

[Return to top of page](#)

[Return to CUNY Y2K Home Page](#)

Government Information

- **New York State Government** - Year 2000 Coordination and Resources
- The **Federal Government's Year 2000 "Home Page"** is sponsored by the General Services Administration and the Chief Information Officers (CIO) Council Subcommittee on Year 2000
- The **Federal Government's General Services Administration (GSA)** has information regarding Year 2000 compliance and **telecommunications** products and services, including **vendor links**.

[Return to top of page](#)

[Return to CUNY Y2K Home Page](#)

Vendor Information

- **Hardware Vendors**
 - **Apple** - Macintosh hardware and operating systems have always been able to handle dates past the year 2000. Application software that uses the Mac OS Toolbox correctly

will also manage the transition to the next century. Details on what to look for at this site.

- **Award Software** - BIOS manufacturer
 - **Year 2000 Statements:** [Year 2000 Compliance](#)
 - **Year 2000 Evaluation tools:** [Survive 2000](#) - also lists information about why the NSTL program 2000.exe may give false readings for an Award BIOS.
- **Compaq**
 - **Year 2000 Statements:** [Warranty clarification](#)
 - **Year 2000 Evaluation tools:** [Testing methodologies](#)
 - **Year 2000 Fixes:** [Compaq Solution to Hardware and Firmware Issues](#)
 - **Product Listing:** [Product Tables](#)
- **Cisco** - Detailed table listing of hardware and software and their respective compliance/noncompliance. Also details what items will be tested and upgraded.
- **DEC** - Digital Equipment Corporation
 - **Year 2000 Statements:** [Digital's Hardware and Software Year 2000 Warranty - Overview](#)
 - **Product Listing:** [Product Readiness](#)
- **Dell**
 - **Year 2000 Statements:** [Year 2000 Statement of Compliance](#) on Dell Hardware Products
 - **Year 2000 Evaluation tools:** [Tools](#) for evaluating product readiness.
 - **Year 2000 Fixes:** Software [patch](#) for machines not already compliant
 - **Product Listing:** [Year 2000 Product Readiness Status](#)
- **Gateway**
 - **Year 2000 Statements:** [Gateway's Position on Year 2000](#), including status of their machines and how to [reset the clock](#) on older machines.
- **Hewlett Packard (HP)**
 - **Year 2000 Statements:** [Compliance Definition](#)
 - **Product Listing:** [Product Readiness Status](#)
- **IBM** lists general information at their [Year 2000 Home Page](#), in their [FAQ](#) and at their [technical support center](#).
IBM PCs - this site shows you how to evaluate your IBM PCs and their readiness for Year 2000. It includes solutions for machines going back to the PC/AT.
 - **Year 2000 Statements:** [IBM's Positions on Year 2000](#)
 - **Year 2000 Evaluation tools:** [IBM PC Evaluation Tools](#) and [Year 2000 Product Readiness Database](#).
- **Micron**
 - **Year 2000 Statements:** [Compliance Statement](#)
 - **Year 2000 Evaluation tools:** [Testing, Updating and Upgrading](#)
 - **Product Listing:** [Product Compliance](#)

- **NEC**
 - **Year 2000 Statements:** [NEC CSD Definition of Year 2000 Compliance](#)
 - **Year 2000 Evaluation tools:** [Year 2000 Test Utility](#)
 - **Product Listing:** [NEC Systems and Servers](#)

 - **Sun**
 - **Year 2000 Statements:** [Year 2000 Frequently Asked Questions](#)
 - **Year 2000 Fixes:** See "[Product Listing](#)" for pointers to Year 2000
 - **Product Listing:** [Year 2000 Compliant Product List](#)

 - **Timeplex**
- **Software Vendors**

PLEASE NOTE:

YOU ARE REMINDED THAT YOU DO **NOT** OWN ANY SOFTWARE

THE VENDOR/COPYRIGHT OWNER HAS GRANTED CUNY/YOU A LIMITED LICENSE TO USE THE SOFTWARE IN PARTICULAR WAYS

IN ALMOST EVERY CASE, CUNY/YOU HAVE **NOT** BEEN GIVEN THE RIGHT TO CHANGE CODE

- **Borland** (which has been renamed to **Inprise**) - This site has a table listing all current and past Inprise products. Any Year 2000 issues or database date ranges are also listed. Hyperlinks point to additional product information.

- **Claris** - Filemaker Pro 2.1 and older versions allow entry and manipulation of 2-digit and 4-digit years and always assume 2-digit years refer to the 20th century. Filemaker Pro versions 3 and later use certain rules to interpret 2-digit dates. Details at this site.

- **Corel** - Listings of all products and the upper date limits, for 2-digit or 4-digit dates, are on their [product listing](#) page.

- **IBM Year 2000 Home Page**
 - [Year 2000 FAQ](#)
 - [Year 2000 Technical Support Center](#)
 - [Product Readiness](#)

- **Macromedia**

- **Microsoft**

- **Netscape**

- **Novell**
 - [Year 2000 Status of Novell Products](#)
 - [Year 2000 updates](#)

- **Oracle**

- **SAS System Year 2000 Home Page**
 - Compliance levels for specific releases of the SAS System and specific SAS products
 - YEARCUTOFF= option which ensures that dates displayed with 2 digits are calculated correctly

- **SPSS and the Year 2000**
 - Technical Support and SPSS Inc.'s corporate readiness for the Year 2000

[Return to top of page](#)

[Return to CUNY Y2K Home Page](#)

Testing PC's for Year 2000 Compliance

Many PCs are not Year 2000 compliant; some can be fixed, others cannot be fixed. Below are pointers to sites that offer testing programs:

- **RighTime's** Y2K testing software (test2000.exe) and information.

- **NSTL's** YMARK2000 utility includes the 2000.exe program for testing compliance on some machines. A FAQ will answer most of your questions. (However, see caveat that this program may give false readings on machines with certain AwardBIOS source code.)

Macintosh computers (hardware and operating system) are Year 2000 compliant according to Apple.

[Return to top of page](#)

[Return to CUNY Y2K Home Page](#)

This Y2K Site was developed at **The City University of New York** by CUNY/CIS.
Please send any comments to the CUNY Year 2000 Task Force.

CUNY IVR Voice Registration: Year 2000 Compliance

green - Y2K compliant	SOFTWARE				HARDWARE				Y2K Compliance	
	Vendor	Software	Version	Y2K Compliance	Hardware	OS	No. Nodes	Location		Cost
yellow - in progress										
red - non-compliant										
Campus										
Baruch College 151 E 125th St, New York, NY 10010	SynTellect	Vocalpoint	2.01	Vendor officially supports version 2.1 for Y2K	486-66	OS2v3	3	College	\$18,000	ROM BIOS compliant, but vendor officially requires Pentium
Bronx Comm. College W 181 St. & Univ. Ave., Bronx NY 10453										
Brooklyn College Bedford Ave & Ave. H, Brooklyn NY 11210	SynTellect	Vocalpoint	2.01	Vendor officially supports version 2.1 for Y2K	486-66	OS2v3	2	57th St.	\$9,000	ROM BIOS compliant, but vendor officially requires Pentium
City College Convent Ave & 138 St., New York NY 10031										
College of Staten Island 2800 Victory Blvd, Staten Is., NY 10314	Periphonics	VPS	5.3.1	Compliant	Sparc 5	Solaris	1	57th St.	No charge	Compliant

CUNY/CIS 555 West 57th Street, 16th floor, NY, NY 10019										
CUNY Central 535 E 80th St., NY, NY 10021										
CUNY Law School 65-21 Main St., Flushing, NY 11365										
Graduate School 33 W 42nd St., NY, NY 10036										
Hunter College 695 Park Ave., NY, NY 10021	SynTellect	Vocalpoint	2.01	Vendor officially supports version 2.1 for Y2K	486-66	OS2v3	2	57th St.	\$9,000	ROM BIOS compliant, but vendor officially requires Pentium
Hostos Comm. College 500 Grand Concourse, Bronx, NY 10451										
John Jay College 445 W 59th St., NY, NY 10019	SynTellect	Vocalpoint	2.01	Vendor officially supports version 2.1 for Y2K	P-100	OS2v3	2	57th St.	\$3,600	Compliant
Kingsborough Comm. College 2001 Oriental Blvd., Brooklyn, NY 11235										
LaGuardia Comm. College 31-10 Thomson Ave., LIC, NY 11101										

Lehman College
Bedford Park Blvd W.,
Bronx, NY 10468

Manhattan Comm. College
199 Chambers St.,
NY, NY 10007

Medgar Evers College
1127 Carroll St,
Brooklyn, NY 11225

New York City Tech
300 Jay St.,
Brooklyn, NY 11225

Queensborough Comm. College
Springfield Blvd & 56 Ave.,
Bayside, NY 11364

Queens College
65-30 Kissena Blvd.,
Flushing, NY 11361

OAS
31st St.,
NY, NY

York College
94-20 Guy Brewer Blvd.,
Jamaica, NY 11451

Peripherals	VPS	Software to be upgraded to 5.3.1	Sparc 5	Solaris	1	57th St.	No charge	Compliant
Synellect	Vocalpoint	Vendor delivered back level software and agreed to upgrade at no charge	P-200	OS2v3	2	57th St.	No charge	Compliant
Synellect	Infobot	Compliant per Acct Exec	Proprietary	Proprietary	10	College		Compliant
Synellect	Vocalpoint	Vendor officially supports version 2.1 for Y2K	486-66	OS2v3	2	31st St.	\$12,000	ROM BIOS compliant, but vendor officially requires Pentium

CISCO & TIMEPLEX TDM's - Y2K Certification

	CISCO			TIMEPLEX			Y2K Compliance		
	Hardware Model	Software Version	Location /Service	Hardware Model	Firmware Eprom	Memory		Location /Service	Comments
green - Y2K compliant									
yellow - in progress									
red - non-compliant									
CUNY Campus									
Baruch College									
151 E 25th St, 9th Fl New York, NY 10010									
	AGS+	9.1		MINILINK2					
	AGS+	9.1							
Bronx Comm. College									
Colston Hall Rm 800 W 181 St Univ. Ave Bronx NY 10453									
	4000	11.0		MINILINK2					
	4500	11.2							
Brooklyn College									
Bedford Ave H Brooklyn NY 11210									
	4000	9.1		MINILINK2					
	4500	11.2							
City College									
NAC Bldg Rm 1508 Convent Ave 138 St New York NY 10031									
				MINILINK2					
College of Staten Island									
	4500	11.2							

<http://www.cuny.edu/y2k/test/timeplex.html>

2800 Victory Blvd
 Bldg 2ARm 314
 Staten Is. NY 10314

MINILINK2

CUNY/CIS

555 West 57th Street, 16th floor
 New York, NY 10019

7000 11.1

LINK2

7500 11.2

7000 11.2

CUNY Central

535 E 80th St, Basement
 New York, NY 10021

4000 10.0

LINK2

Series

CUNY Law School

65-21 Main St.
 Flushing NY 11365

4500 11.2

MINILINK2

Graduate School

33 W 42nd St. 306
 New York, NY 10036

2500 10.2

MINILINK2

Hunter College

North Bldg 10th Floor
 695 Park Ave/ 68th St
 New York NY 10021

7000 11.1

MINILINK2

**Hostos
 Community College**

500 Grand Concourse
 Bronx NY 10451

4000 10.2

MINILINK2

John Jay College
 445 W 59th T Bldg Library
 New York, NY 10019

4000 11.2

MINILINK2

**Kingsborough
 Community College**

Library L117
 2001 Oriental Blvd
 Brooklyn NY 11235

T4500 11.2

MINILINK2

**LaGuardia
 Community College**

E Bldg Lib Mdf
 31-10 Thomson Avenue
 LIC NY 11101

4500 11.2

MINILINK2

Lehman College

Carmen Hall Rm B21
 Bedford Park Blvd
 Bronx NY 10468

MGS 9.1

MINILINK2

**Manhattan
 Community College**

Room S160 199 Chambers St
 New York NY 10007

T4000 11.0

MINILINK2

Medgar Evers College

Rm C-13 1127 Carroll St
 Brooklyn NY 11225

4000 10.2

MINILINK2

New York City Tech

4000 T 11.2

MINILINK2

Project Leader:

Action
 Plan
 Replace
 DUMP
 Upgrade
 No Action

3 1/2" CD BIOS
 Disk Drive 0 = Fail
 Yes Yes 1 = Partial
 No No 2 = Pass

Item #	Location	Condition	Computer Model #	Computer Serial #	OS	Memory	3 1/2" Disk	CD Drive	BIOS	BIOS Ver	Hardware	Software	Comments			
1	UPG	Normal	INTERM #5	18th Fl	OPTIPLEX KM 590	4P0B5	D17285 HS	09655A160328	Windows NT	133.60 KB	Yes	Yes	0	03-15-95		
2	NA	Normal	INTERM #3	18th Fl	OPTIPLEX SXL 5100	6G0V4	D17281XAS	703771	Windows NT	133.60 KB	Yes	Yes	2	02-08-96		
3	UPG	Normal	INTERM #4	18th Fl	OPTIPLEX KM 590	4P0B6	D1287XHS	703787	Windows NT	133.60 KB	Yes	Yes	0	03-15-95		
4	UPG	Normal	INTERM #7	18th Fl	PS VALUE POINT	251.YPLC	6314.001	2374216	Windows NT	164.06 KB	Yes	Yes	0	01-08-93		
5	UPG	Normal	INTERM #1	18th Fl	OPTIPLEX KM 590	4P0B9	D1287XHS	708869	Windows NT	133.60 KB	Yes	Yes	0	03-15-95		
6	UPG	Normal	INTERM #2	18th Fl	OPTIPLEX KM 590	4P0B0	D1580 XHS	8134080	Windows NT	133.60 KB	Yes	Yes	0	03-15-95		
7	UPG	Normal	HELD DESK #3	18th Fl	PS VALUE POINT	221.DHS7	6314.001	2394956	Windows NT	17.88 KB	Yes	Yes	0	0-05-92		
8	NA	Normal	ALPER	18th Fl	OPTIPLEX CXA	FNKC	D10221M	604551A	Windows NT	64.612 KB	Yes	Yes	2	02-08-96		
9	NA	Normal	AKONOSKY	18th Fl	PRECISION XPS PRO 2000	6A6Z	D17285 HS	151620JVTXX	Windows NT	31744 KB	Yes	Yes	2	12-12-86		
10	NA	Normal	BARONE	18th Fl	MAC 9600 132	X8590M190Z	D17285 HS	M1298	Apple OS 8.1		Yes	Yes	2			
11	NA	Normal	BAILEY #1	18th Fl	MAC 81000110	X8590MXX	M1298	54218102007	Apple OS 8.1		Yes	Yes	2			
12	NA	Normal	BAILEY #7	18th Fl	9590132	X8590M954Z	M284	S152112L1XX	Apple OS 8.1		Yes	Yes	2	02-08-96		
13	NA	Normal	BEHNSTEIN	18th Fl	OPTIPLEX GMA 5186	G12866	D1581XHS	B134085	Windows NT		Yes	Yes	2			
14	NA	Normal	BIZJOU	18th Fl	MAC 9500132	XP2960NT42	D17285 HS	S15211201XX	Apple OS 8.1		Yes	Yes	2			
15	NA	Normal	BOURDES	18th Fl	OPTIPLEX CAX PRO	6SG7C	D17285 HS	04088A744817	Windows NT	31744 KB	Yes	Yes	2	01-28-97		
16	NA	Normal	BREZIL	18th Fl	OPTIPLEX CAX	ETN12	D10281	66746.S155Z.87	Windows NT	64.572 KB	Yes	Yes	2	01-28-97		
17	NA	Normal	BRUNAI	18th Fl	DIMENSION XPS PRO 2000	650H	D17281LS	04088A18FC6	Windows NT	31744 KB	Yes	Yes	2	12-12-96		
18	NA	Normal	BRONSTEIN	18th Fl	9500132	X8590M751Z	M284	S1514471XX	Apple OS 8.1		Yes	Yes	2			

31NA	Normal	BUROV	18th FI	PS VALUE POINT	02BWDKO	9527-011	2358671	Windows NT	64512 KB	Yes	Yes	2	11-25-97
20NA	Normal	CAMRST	18th FI	OPTIPLX GX PRO	GR878	D1726S-HS	0956CA1GON	Windows NT	64512 KB	Yes	Yes	2	02-08-98
21NA	Normal	CAMAGILLO	18th FI	OPTIPLX GX PRO	EM7H	D1023TM	8045512	Windows NT		Yes	Yes	2	02-08-98
22NA	Normal	CARNEY #1	18th FI	9600132	X8526M0342	BCG82942	SC0172213SH	Apple OS 8.1		Yes	Yes	2	
23NA	Normal	CARNEY #2	18th FI	610086	X851602M17Z	AAK42494	S15109K11X	Apple OS 8.1		Yes	Yes	2	
24NA	Normal	CASAZZA	18th FI	OPTIPLX GX PRO	DM4F	D1726S-HS	7042891	Windows NT		Yes	Yes	2	12-15-97
25NA	Normal	CHEN	18th FI	DIMENSION XPS PRO 200N	8018N	D1726S-HS	04028AGS10CS	Windows NT	64512 KB	Yes	Yes	2	12-12-96
26NA	Normal	CHRISTOLM	18th FI	PS VALUE POINT	Z8V933	9527-011	04038A71E1D8	Windows NT	48128 KB	Yes	Yes	2	08-22-95
27NA	Normal	CLARK	18th FI	OPTIPLX GX PRO	RC0FP	D1726D-US	04038A712C17	Windows NT	31744 KB	Yes	Yes	2	01-28-97
28NA	Normal	COHEN	18th FI	DIMENSION XPS PRO 200N	BR8M4	D1726D-US	04038A6C1J56	Windows NT	31744 KB	Yes	Yes	2	12-12-96
29JPG	Normal	COMCU	18th FI	PS VALUE POINT	Z8KTDV1	6235-001	Z8S5565	Windows NT		Yes	Yes	0	03-30-95
30JPG	Normal	COMCU #2	18th FI	PS VALUE POINT	Z8S NOK	6235-001	Z8A5557	Windows NT	31744 KB	Yes	Yes	0	01-25-95
31NA	Normal	COMCU #3	18th FI	9500132	X8526M0341U2	M1738	SA1181P2D07	Apple OS 8.1		Yes	Yes	2	
32JPG	Normal	COMCU #4	18th FI	PROLINEAR M1 4168	PA19HHC1723	4414P	41145GUD170	Windows NT	11264 KB	Yes	Yes	0	04-12-94
33NA	Normal	COOK	18th FI	DIMENSION XPS PRO 200N	BR8LV	D1726S-HS	04038A6E1B25	Windows NT		Yes	Yes	2	12-12-96
34JPG	Normal	CRUC	18th FI	PROLINEAR 5133	D17049	D1726S-HS	5514M1AGS8	Windows NT	15360 KB	Yes	Yes	0	04-25-96
35JPG	Normal	DEINER	18th FI	OPTIPLX GX PRO	4P89F	D1726S-HS	65523A01M835	Windows NT		Yes	Yes	0	03-15-95
36NA	Normal	DVAZ	18th FI	OPTIPLX GX PRO	5068R	D1726S-HS	00941CA1BC56	Windows NT	48128 KB	Yes	Yes	2	02-08-96
37JPG	Normal	DYMONRE	18th FI	PROLINEAR 5133	D170944	D1726D-US	04038A648D0C	Windows NT		Yes	Yes	0	04-25-96
38JPG	Normal	DUNDEL	18th FI	DIMENSION XPS PRO 200N	5A28F	D1726S-HS	04038A71F5C4	Windows NT	64512 KB	Yes	Yes	1	12/12/96
39NA	Normal	EISENBERG	18th FI	OPTIPLX GX PRO 200 N	5018H	D1508TX-HS	B188847	Windows NT	23552 KB	Yes	Yes	2	02-08-96
40NA	Normal	EISENBERG	18th FI	OPTIPLX GX PRO 200 N	X81798S9465	M2494	515271271X	Apple OS 8.1		Yes	Yes	2	04-02-97
41NA	Normal	EISENBERG	18th FI	96002020MP	X81798S9465	M2494	515271271X	Apple OS 8.1		Yes	Yes	2	
42NA	Normal	FALVEY #2	18th FI	8500150	X82130E174	M2494	515271271X	Apple OS 8.1		Yes	Yes	2	
43JPG	Normal	FERNANDO	18th FI	PS VALUE POINT	6575-15H	D1726S-HS	Z23444P	Windows NT	31744 KB	Yes	Yes	0	12-14-94
44NA	Normal	FINN	18th FI	MAC 81100110	X85190131X	M2494	515162V11X	Apple OS 8.1		Yes	Yes	2	12/14/94
45NA	Normal	FITZGERALD	18th FI	OPTIPLX GX PRO	806FPN	D1726D-US	04038A6C1727	Windows NT	31744 KB	Yes	Yes	2	01-28-97
46JPG	Normal	FOND	18th FI	OPTIPLX GX PRO	6565	D1508TX-HS	08941CB8G56	Windows NT	31744 KB	Yes	Yes	1	2/9/96
47NA	Normal	FRANCAVIGLIA	18th FI	PS VALUE POINT	Z8K74N	6314-001	Z235491	Windows NT	7168 KB	Yes	Yes	2	11-11-92
48NA	Normal	FURIED	18th FI	DIMENSION XPS PRO 200N	88193	D1726D-US	0438A619B0C	Windows NT	64512 KB	Yes	Yes	2	12-12-96
49NA	Normal	FURKANSKI	18th FI	OPTIPLX GX PRO	98KHA	D1726D-US	04038A658B0C	Windows NT	31744 KB	Yes	Yes	2	12-12-96
49NA	Normal	FURKANSKI	18th FI	OPTIPLX GX PRO	98K4G	D1726S-HS	04038A467H76	Windows NT	31744 KB	Yes	Yes	2	01-28-97
49NA	Normal	GEORFREY #2	18th FI	DESK PRO	6708BR10333	622	702300EC201	Windows NT	64512 KB	Yes	Yes	2	01-28-97
50NA	Normal	GEORFREY #2	18th FI	DESK PRO	6708BR10333	622	64ECA10M8369	Windows NT		Yes	Yes	2	01-28-97
51NA	Normal	GEORFREY #3	18th FI	9600132	X8526M0442	M2494	5152122X1X	Apple OS 8.1		Yes	Yes	2	
52NA	Normal	GESTEN	18th FI	DIMENSION XPS PRO 200N	8XC7	D1726D-US	04038A715A05	Windows NT	31744 KB	Yes	Yes	2	12-12-96
53NA	Normal	GIANANTI	18th FI	DIMENSION PRO 200 N	821V	9527-011	04038A6B1866	Windows NT	31744 KB	Yes	Yes	2	12-12-96
54JPG	Normal	GILBER	18th FI	DIMENSION XPS PRO 200N	821V	9527-011	Z288289	Windows NT	64512 KB	Yes	Yes	2	12-12-96
55NA	Normal	HELDOSEK #1	18th FI	PS VALUE POINT	Z2A862	9527-011	Z288270	Windows NT	15360 KB	Yes	Yes	2	01-28-97
56NA	Normal	HELDOSEK #2	18th FI	OPTIPLX GX PRO	82FH	D1726S-HS	04038A714417	Windows NT	31744 KB	Yes	Yes	2	01-28-97
57JPG	Normal	HELDOSEK #4	18th FI	MAC 81100110	X851900M3X	M2494	51562421X	Apple OS 8.1		Yes	Yes	2	01-28-97
58JPG	Normal	HICKS	18th FI	OPTIPLX GX PRO	8HK17	D1726D-US	04038A710R27	Windows NT	31744 KB	Yes	Yes	2	06-16-96
59NA	Normal	HOLHELMK	18th FI	DIMENSION XPS PRO 200N	6565Q	D1508TX-HS	8134070	Windows NT	64512 KB	Yes	Yes	2	06-16-96
60NA	Normal	HOLHELMK	18th FI	OPTIPLX GX PRO	86TKK	D1726S-HS	64036A6D177	Windows NT	31744 KB	Yes	Yes	2	01-28-97
61NA	Normal	HOWELL	18th FI	OPTIPLX GX PRO	F12L	D1726S-HS	8140177	Windows NT	31744 KB	Yes	Yes	2	06-11-98
62JPG	Normal	JONES	18th FI	PS VALUE POINT	Z2880731	9527-011	Z2A0422	Windows NT	31744 KB	Yes	Yes	1	08-22-95
63JPG	Normal	JONES	18th FI	PS VALUE POINT	Z2CXB1	D1726S-HS	Z203825	Windows NT		Yes	Yes	0	04-02-94
64NA	Normal	RICOZO	18th FI	OPTIPLX GX PRO	98K7M	D1726D-US	04038A6D1747	Windows NT	64512 KB	Yes	Yes	2	01-28-97

61VA	Normal	KAYSHAL	18th Fl	OPTI-EX GXA	DMV'S	D17251M	559414X2628	Windows NT	Yes	Yes	2	12-18-97
62VA	Normal	KAYSHAL	18th Fl	OPTI-EX GXA PRO	RBHNY	D17250LS	54088ADCCX727	Windows NT	Yes	Yes	2	1-28-97
63VA	Normal	KIDBH142	18th Fl	OPTI-EX GXL 5100	60NDX	D17255MS	55528A01KX65	Windows NT	Yes	Yes	2	02-28-96
64VA	Normal	KIDBH143	18th Fl	OPTI-EX XM 590	54MM4	D17255MS	55528A01M855	Windows NT	Yes	Yes	2	05-25-95
65VA	Normal	KIDBH143	18th Fl	9500A132	XBS250P7750	D17255MS	5453820585A	Apple OS 8.1	Yes	Yes	2	12-05-97
70VA	Normal	KOMEL	18th Fl	OPTI-EX GXA	CMZ 96	D1028L	66746-44C1A7	Windows NT	Yes	Yes	2	02-28-96
71VA	Normal	KOVATH	18th Fl	OPTI-EX GXM 5166	GGG5FF	D17255MS	297FA1	Windows NT	Yes	Yes	2	02-28-96
72VA	Normal	LAB 402	18th Fl	9600Z33	XE78NIBXAS	D1028L	WM7231B5447	Apple OS 8.1	Yes	Yes	2	05-21-97
73VA	Normal	LAB 403	18th Fl	9600Z33	XE78NIBXAS	D1028L	6746-40JL1647	Windows OS 8.1	Yes	Yes	2	05-21-97
74VA	Normal	LAB 404	18th Fl	9600Z33	XE78NIBXAS	D1028L	6746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
75VA	Normal	LAB 405	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
76VA	Normal	LAB 406	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
77VA	Normal	LAB 407	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
78VA	Normal	LAB 408	18th Fl	OPTI-EX GXA PRO	96AC9	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
79VA	Normal	LAB 409	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Apple OS 8.1	Yes	Yes	2	05-21-97
80VA	Normal	LAB 410	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
81VA	Normal	LAB 411	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Apple OS 8.1	Yes	Yes	2	05-21-97
82VA	Normal	LAB 412	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Apple OS 8.1	Yes	Yes	2	05-21-97
83VA	Normal	LAB 413	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Windows OS 8.1	Yes	Yes	2	05-21-97
84VA	Normal	LAB 414	18th Fl	1720ZLS	XE78NIBXAS	D1028L	66746-40JL1647	Apple OS 8.1	Yes	Yes	2	05-21-97
85VA	Normal	LAB 415	18th Fl	9600Z33	XE78NIBXAS	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
86VA	Normal	LAB 416	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
87VA	Normal	LAB 417	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
88VA	Normal	LARGO	18th Fl	OPTI-EX GXA PRO	9AJ94	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
89VA	Normal	LAVIN	18th Fl	PS VALUE POINT	32CUD4	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	05-21-97
90VA	Normal	LEKER	18th Fl	DIMENSION XPS PRO 2000	CMZ8C	D1028C	66746-40JL1647	Windows NT	Yes	Yes	2	12-05-97
91VA	Normal	LESKO	18th Fl	OPTI-EX GXA	CMZ8C	D1028C	66746-40JL1647	Windows NT	Yes	Yes	2	12-05-97
92VA	Normal	LIBRARY	18th Fl	OPTI-EX GXA PRO	9600P1W	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-21-97
93VA	Normal	MAKNOI	18th Fl	PROLINEAR 5133	070987	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	04-25-96
94VA	Normal	MARAVAKA	18th Fl	OPTI-EX GXA PRO	64960	D17250LS	64058A01A017	Windows NT	Yes	Yes	1	12/29/97
95VA	Normal	MARTINEZ	18th Fl	PS VALUE POINT	23C2W49	D17250LS	64058A01A017	Windows NT	Yes	Yes	0	01-25-95
96VA	Normal	MATHIS	18th Fl	PS VALUE POINT	23C2W49	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-28-97
97VA	Normal	MACTE	18th Fl	OPTI-EX GXA PRO	603AT	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-28-97
98VA	Normal	MCLEAN	18th Fl	9500A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	07-25-96
99VA	Normal	MORALEZ H	18th Fl	OPTI-EX XM 590	519FC	D10281MS	6188832	Windows NT	Yes	Yes	2	12-12-96
100VA	Normal	MORALEZ H	18th Fl	DIMENSION XPS PRO 2000	9BKL7	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-28-97
101VA	Normal	MORALEZ F	18th Fl	OPTI-EX GXA PRO	9BKL7	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-28-97
102VA	Normal	MORALEZ F	18th Fl	9500A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	01-28-97
103VA	Normal	MACHAMIE	18th Fl	OPTI-EX GXA PRO	603FD	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	01-28-97
104VA	Normal	MORALEZ	18th Fl	OPTI-EX GXA PRO	9600P1W	D10281MS	6188832	Windows NT	Yes	Yes	2	01-28-97
105VA	Normal	MORALEZ	18th Fl	OPTI-EX GXA PRO	9600P1W	D10281MS	6188832	Windows NT	Yes	Yes	2	01-28-97
106VA	Normal	PERSAUD	18th Fl	DESX PRO	91088BN70307	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	04-25-96
107VA	Normal	PICKARD-FISHMAN	18th Fl	PROLINEAR 5133	D170956	D17250LS	64058A01A017	Windows NT	Yes	Yes	0	12-12-96
108VA	Normal	KA	18th Fl	OPTI-EX GXA	LEJNDY	D10281MS	7087185	Windows NT	Yes	Yes	2	02-08-96
109VA	Normal	REED	18th Fl	OPTI-EX GXA	LEJNDY	D10281MS	353112Z2K48	Windows NT	Yes	Yes	1	02-08-96
110VA	Normal	REYNOLDS	18th Fl	OPTI-EX GXA	LEJNDY	D10281MS	353112Z2K48	Windows NT	Yes	Yes	1	02-08-96
111VA	Normal	REYNOLDS	18th Fl	OPTI-EX GXA	LEJNDY	D10281MS	353112Z2K48	Windows NT	Yes	Yes	1	02-08-96
112VA	Normal	REYNOLDS	18th Fl	9600A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	02-08-96
113VA	Normal	REYNOLDS	18th Fl	9600A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	02-08-96
114VA	Normal	REYNOLDS	18th Fl	9600A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	02-08-96
115VA	Normal	REYNOLDS	18th Fl	9600A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	02-08-96
116VA	Normal	REYNOLDS	18th Fl	9600A132	XBS250P7750	D17250LS	64058A01A017	Apple OS 8.1	Yes	Yes	2	02-08-96
117VA	Normal	SANCHEZ	18th Fl	DIMENSION XPS PRO 2000	6509V	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	04-02-97
118VA	Normal	SANTOS	18th Fl	OPTI-EX GXA 5166	9165A	D10281MS	8154086	Windows NT	Yes	Yes	2	02-08-96
119VA	Normal	SCORSO	18th Fl	PS VALUE POINT	23S495T	D10281MS	2347396	Windows NT	Yes	Yes	0	12/29/97
120VA	Normal	SEABROOKS	18th Fl	PS VALUE POINT	23S495T	D10281MS	2347396	Windows NT	Yes	Yes	2	07-21-96
121VA	Normal	SECRET	18th Fl	DIMENSION XPS PRO 2000	23MLNCA	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	12-12-96
122VA	Normal	SEVATIZMAN	18th Fl	DIMENSION XPS PRO 2000	881BL	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	12-12-96
123VA	Normal	SIMON	18th Fl	PS VALUE POINT	23W1388AS	D17250LS	64058A01A017	Windows NT	Yes	Yes	2	08-22-95
124VA	Normal	SOSEKEL	18th Fl	OPTI-EX GXA PRO	608BBA78102	D1028L	66746-40JL1647	Windows NT	Yes	Yes	2	02-06-96
125VA	Normal	SPENCER	18th Fl	QUADRA 550	920061	D1028L	66746-40JL1647	Apple OS 8.1	Yes	Yes	2	02-08-96
126VA	Normal	STERNBERG	18th Fl	OPTI-EX GXA 5166	6166K	D10281MS	8154083	Windows NT	Yes	Yes	2	02-08-96
127VA	Normal	TANKEL	18th Fl	DIMENSION XPS PRO 2000	9318N	D10281MS	8154083	Windows NT	Yes	Yes	2	12-12-96

Project Leader:

128)NA	Normal	TAYLOR	168 FI	9500132	X85260NY-512	MZ294	S15162W1X	Apple OS 8.1		yes	yes	2	
129)JPG	Normal	TELEPROCESSING	168 FI	PS VALUE POINT	235N00K	D17265-HS	Z263665	Windows NT	64128 KB	yes	yes	0	03-30-95
130)JPG	Normal	THOMAS	168 FI	OPTI-LEX GMA 5166	65R40	D15267A-HS	06941C1W486	Windows NT	64512 KB	yes	yes	1	01/8/96
131)NA	Normal	THOMPSON	168 FI	DIMENSION PRO 200 N	8819L	D17280-L5	040384A38035	Windows NT	64512 KB	yes	yes	2	12-12-96
132)NA	Normal	THOMAS	168 FI	OPTI-LEX GXA	ETNOM	D10237M	8045318	Windows NT	64512 KB	yes	yes	2	02-06-96
133)NA	Normal	TORRES	168 FI	PS VALUE POINT	Z30W103	5272411	Z242443	Windows NT	31744 KB	yes	yes	2	11-02-95
134)NA	Normal	TORR	168 FI	DIMENSION MPS PRO 200N	EAJ288	D17280-L5	040384A78035	Windows NT	64512 KB	yes	yes	2	12-12-96
135)NA	Normal	VALENTI	168 FI	OPTI-LEX GX PRO	9AJ9P	D1028L	66745109167	Windows NT	64512 KB	yes	yes	2	05-21-97
136)NA	Normal	YANGAS	168 FI	9500132	X85260P294	MZ294	515212P1XX	Apple OS 8.1		yes	yes	2	
137)NA	Normal	YANGAS 92	168 FI	DIMENSION MPS PRO 200N	6566H	491	610038026460	Windows NT	64512 KB	yes	yes	2	04-02-97
138)JPG	Normal	VELJKOVIC	168 FI	PS VALUE POINT	Z3KFLH	6325-001	Z3122419	Windows NT	15360 KB	yes	yes	0	11-11-92
139)NA	Normal	VIGZANO	168 FI	OPTI-LEX GXA	D4HKX	D1028L	66746-448F-A7	Windows NT	64512 KB	yes	yes	2	12-18-97
140)NA	Normal	VANCKER	168 FI	9500132	X85260A512	MZ294	S152112P1XX	Apple OS 8.1		yes	yes	2	
141)NA	Normal	WASHINGTON	168 FI	DIMENSION PRO 200 N	6AJC3	D17280-L5	040384A7EUC6	Windows NT	64512 KB	yes	yes	2	12-12-96
142)NA	Normal	WEINCKER	168 FI	DIMENSION MPS PRO 200N	66N1X	D17280-L5	04038469C7B6	Windows NT	31744 KB	yes	yes	2	12-12-96
143)NA	Normal	WOOTEN	168 FI	MAC 81100110	X85190K231X	M129	S4318101007	Apple OS 8.1		yes	yes	2	
144)NA	Normal	YOMAY	168 FI	OPTI-LEX GXA	ETM07	D10237M	533414A2431948	Windows NT	64512 KB	yes	yes	2	02-06-96
145)NA	Normal	YOUNG	168 FI	OPTI-LEX GMA 5166	68666	D10267A-HS	8134004	Windows NT	64512 KB	yes	yes	2	02-08-96
146)JPG	Normal	ZATBBI	168 FI	PS VALUE POINT	Z83427	D17265-HS	Z263669	Windows NT	31744 KB	yes	yes	0	03-17-97



UNIVERSITY APPLICATION PROCESSING CENTER
Box 350284
Brooklyn, NY 11235 0005

1998 October 8

Mr. Lou Chiacchere
Director of Internal Audit
City University of New York
535 E 80 Street, Room M-525
New York, NY

Re: State Comptroller's Draft Audit Report on CUNY Y2K Efforts

Dear Mr. ^{Chiacchere} Chiacchere:

We have reviewed the September 18, 1998 draft of the State Comptroller's Office's preliminary report on CUNY's year-2000 preparedness.

UAPC has continued implementing the plans described in our letter of 1998 May 28. We expect that all systems developed in-house will be year-2000 compliant by the end of 1998 with the exception of the SARK system. By this we mean that all systems will at least continue to correctly provide current functionality. In some cases, as noted, two-digit years may continue to be used, but they will produce correct results when sorted and compared. The status of the SARK system is discussed in detail below.

I've attached an updated response indicating the current status of our year-2000 plan as it affects the issues discussed in the section of the report about UAPC.

Sincerely Yours,

Lester Jacobs
Director

¶1 - "Work remains to be done on four critical applications: the Student Automated Record Keeping (SARK), Direct Loan, CUNY Admissions, and the Tuition Assistance Program (TAP) Certification systems."

SARK still needs considerable work. The Direct Loan system is compliant. A compliant version of the CUNY Admissions system is ready for installation during 1998 October. The TAP and TAP Certification systems as they exist will work past 1999, but will require changes to conform to record-layout changes planned by the State Higher Education Services Corporation as part of its Y2K compliance modifications.

¶2 - "The UAPC data center director indicated to us that the major system at risk is SARK,.... We believe that it is incumbent on CUNY (as well as the Board of Education) to reach agreement as soon as possible on the need to make SARK Year-2000 compliant. After our audit field work was completed, UAPC officials reported to us that they plan to keep SARK functional through June 30, 2000."

UAPC met with officials of the Board of Education on 1998 July 8. At that meeting we indicated that we expected to keep SARK operating with its present functionality through the end of the contract on 2000 June 30. "Present functionality" means that input and output files and reports will continue to use 2-digit years wherever they do so now, with "00" representing 2000, etc. We indicated that in the absence of additional negotiated agreements, we did not intend to expand the fields that contain 2-digit years.

We expect to achieve this extension of present functionality to 2000 June by the end of 1998. As we pointed out in the meeting, and as acknowledged by the Board in a memorandum summarizing their understanding of the outcome of the meeting, these modifications will not enable the system to function properly beyond the end of the contract period because of a problem with term designations. As indicated in this memo, UAPC has made no commitment at this time to adjust the system to work beyond the end of the contract period.

¶2 - "Full SARK compliance with Year 2000 requirements is expected by July 1999."

UAPC has made no commitment for Year 2000 compliance with regard to SARK beyond the one stated in the previous item. If time permits, we will analyze the requirements for extending the viability of the system beyond 2000 June during early 1999.

¶3 - "The CUNY Admissions System ... was expected to be corrected by May 31, 1998."

All programs involved in both the undergraduate and advanced-standing admission systems have been modified and tested. The advanced-standing system modifications are in production and the undergraduate system modifications will be installed during 1998 October. All internal and external date fields have been changed to include four-digit years except for files transmitted from the SARK system, for which windowing logic has been provided.

¶4 - "...UAPC officials informed us that HESC will not be providing a new [TAP Certification] system. Accordingly, UAPC should proceed with its plans for correcting its TAP Certification System."

Our analysis of TAP Certification indicated that no changes were needed because UAPC's processing of this data did not involve any ordered comparison of date fields. The only year-2000 consideration involved in our data exchange with HESC was the need to truncate the newly-expanded four-digit year fields in our Financial Aid system to fit their record formats when transmitting data.

On September 3, HESC notified its users that some time in 1999 Spring, it will modify its record formats to include four-digit years. Since our process is already Y2K compliant, we will treat this change as an ordinary record format change rather than a year-2000 issue. Truncation on output will no longer be necessary. Any previously received data stored at UAPC will be converted to the new format, with "19" inserted in front of each year. This change affects TAP Financial Aid processing as well as TAP Certification.

¶5 - "The Direct Loan System is redeveloped for each academic year. Therefore, the correction for this application is to occur during its normal cyclical development and implementation process in the 1988-99 academic year."

The 1998 Direct Loan System currently in production is totally year-2000 compliant, using four-digit years in internal and external data formats, in data-entry, display, and reporting.

¶7 - "UAPC officials also have informed us that they are currently developing a plan for testing their mainframe system, vendor-supplied software, as well as applications that were developed in-house."

A compliant version of our security system was installed on our test system in late September. We expect to begin testing in 1998 October, starting with rollover and year-2000 IPL tests of the bare operating system. Increasingly more inclusive tests will be scheduled during the Fall and Winter.

¶7 - "They maintained that if their mainframe is upgraded they will assure that it is also Year-2000 compliant."

A new mainframe processor is being installed over the Columbus Day weekend (10-10/10-12). IBM certifies that it is year-2000 compliant.

¶7 - "UAPC officials added that all of their own systems are expected to be Year-2000 compliant by the end of 1998, except for the TAP application."

TAP and TAP Certification will be compliant (see ¶4 above). SARK is expected to be compliant only for use through the end of the contract period in 2000 June (see ¶2 above).

¶8 - "Since our field work ended, UAPC officials advised us that they have contacted vendors of all of the software installed on their mainframe regarding Year 2000 compliance. They have written guarantees of full compliance for all products except one, for which delivery of a fully-compliant version had been promised for June 1998. Three products for which a compliant version had not been installed were expected to be installed during the summer of 1998. UAPC officials expect compliant versions of all the products they use to be in production by September 1998."

UAPC's mainframe operating system and all vendor-supplied mainframe software currently in production have been certified by their vendors as year-2000 compliant with the following exceptions:

- CA-Top Secret (security system). Although CA's documentation had stated that Top Secret was compliant, closer questioning revealed that CA was referring to future release 5.0, not the then-current Version 4.4. UAPC is still running Version 4.4 in production at UAPC, but is testing Version 5.0. Version 5.0 will be in production by the end of 1998.
- Innovation Systems' FDR (backup, restore, archiving system). Innovation has not yet announced when a compliant version will be available.
- Candle's Supersession (VTAM session manager) and Omegamon (performance monitor). Compliant versions became available in 1998 September, but have proved difficult to install. They are currently being tested and should be installed by the end of 1998.
- ACS's WYLBUR (text editor and job-entry system). We have licensed access to the source code for this system and are running an extensively modified old version. We have certified this product as compliant by examining and repairing the source code as we would for a system written in-house.

¶8 - "They have also completed an inventory of PCs to determine software and hardware compliance and have collected PC software-compliance information from vendors. They expect to complete needed PC upgrades to achieve Year 2000 compliance by the end of 1998."

PCs will be compliant by 1999 March.



UNIVERSITY ACCOUNTING OFFICE
555 West 57 Street, New York, N.Y. 10019
(212) 397-5600 Fax (212) 397-5685

October 14, 1998

To: Lou Chiacchere
From: Tony Hladck *TH*
Subject: State Comptroller's Year 2000 Audit

Now that fiscal year 1997-98 is closed, UAO's efforts in bringing all systems to Y2K compliance has intensified dramatically. The six most senior programmer/analysts, under the supervision of the Director of Systems, are spending all their time on the major Y2K issues. The remainder of the programming staff is working on the less critical Y2K issues. The audit report indicates that a written test plan should be established. Please be advised that test files have already been established for the Accounting System (FAS), and Budget/Payroll System (FIS). The Student Financial Aid System (SFA) master file is already Y2K compliant.

The attached memo indicates the major tasks to be performed, time required and responsible personnel.

Attachment

u:\secbh\wpdocs\tony\y2000aud.mem



UNIVERSITY ACCOUNTING OFFICE
355 West 57 Street, New York, N.Y. 10019
(212) 397-5600

October 7, 1998

To: Helen Woo
From: Ray Tam
Re: Yr 2000 Systems Test Plan and Time line

Since completion of fiscal year-end 1998, we are currently devoting all our programming resources towards the year 2000 project. We are intensifying efforts in year 2000 modifications, testing, and implementation in all our systems (FAS, FIS, and SFA). Based on the December 3, 1997 memo regarding Year 2000 Systems Concerns, 11 major tasks were identified which needed to be completed relating to the year 2000 problem. This memo will address those tasks and their current status as well as establish a test plan and Time line for their completion.

FAS System:

A set of test files (GL, SL, OC, Etc.) with fiscal year 00 have been established on the VSAM batch side for D06 daily batch update testing, and year-end testing. These files have also been loaded into IDMS for online screen testing. We have taken the latest month-end files and copied them over into the test environment changing the fiscal year to 00 for testing purposes. Three programmer/analysts have been assigned to oversee the major functions of this system for year 2000 issues:

John Velazquez	Year-end testing simulating fiscal year-end 1999 rollover and D06 daily batch update testing, time required 1 month.
Sheryl Mesagno	Online F3x encumbrance screens, F27 journal entry screen, F28 accruals screen, and F37 suspense clearing screen testing to accept "H" for the state and "?" for the city for year 2000, time required 1 month.
Allan Rocque	OIPS interface between the state "H" in first digit of PO to indicate year 2000 and the city "?" for encumbrances and payments, time required 3 weeks.

FIS System:

A set of files (PS, Summary, and Table) with fiscal year 00 have been established on the VSAM batch side for FIS004 daily batch update testing. These files have also been loaded into IDMS for online screen testing. We have taken the latest month-end files and copied them over into the test environment changing the fiscal year to 00 for testing purposes. Four programmer/analysts have been assigned to oversee the major functions of this system for year 2000 issues:

Russ Larsen	FIS004 daily update testing for year 2000, time required 1 week.
John Velazquez	PAYSR State payroll year 2000 implementation, FIS payroll programs to be modified and implemented by December, time required 3 weeks.

Linda Lee Review and modification of all FIS online screens as needed for year 2000 compliance, time required 1 month.
Allan Rocque City payroll changes for year 2000 as it pertains to FIS, time required 3 weeks.

SFA System:

The SFA master file has been modified to accommodate multiple fiscal years including year 2000 processing. The maintenance cycle and the pay cycle programs will process year 2000. These programs have been tested in simulations using live data (fiscal year 99 data replicated as fiscal year 00) and the results have been verified by the user. Furthermore, the online SFA screens have already also been tested for year 2000 compliance. In the area of Direct Loans work needs to be done as far as date checking for disbursements is concerned. Two programmer/analysts have been assigned to make this year 2000 compliant:

Russ Larsen SFA Direct Loan date checking for disbursements, time required 1 month.
George Glikzman Direct Loan program series, review and modify for year 2000, time required 3 weeks.

ALL Systems:

Approximately 147 programs have to be reviewed and modified as needed for sort sequences and report headings as it pertains to year 2000 issues. The rest of the programming staff is responsible for reviewing and making appropriate changes, time required 2 to 3 months.

**THE CITY COLLEGE
OF
THE CITY UNIVERSITY OF NEW YORK
CONVENT AVENUE AT 138th STREET
NEW YORK, NEW YORK 10031**

Attachment IV

Office of the
Vice President for
Finance & Management

(212) 650-6680
Fax (212) 650-5068

August 12, 1998

TO: Lou Chiacchere
FROM: Anne J. Ryan
SUBJECT: Y2K Compliance Plan

In reference to your memo of July 21st, 1998 a summary of our present Y2K effort is as follows:

In phase 1, we have tested and inventoried the hardware in various departments. In addition, we have also inventoried all software applications in each system. To test the hardware, we have been using the latest version of the freeware test2000, and other manual procedures from the Y2K Consortium. When we encounter a computer with bios or internal clock problem, the year 2000 patch is applied. The computer is then re-tested to evaluate the effectiveness of the patch.

In phase 2, we have tested and evaluated all the inventoried software applications. For commercial software applications, we have checked with the software manufacturers for Y2K readiness. For in-house software applications, we have reviewed each program module for Y2K compliance.

In phase 3, we will be reporting our inventory, findings, an estimate for any necessary upgrades, and a list of priorities and possible solutions to bring readiness to all our major operations.

In phase 4, we will be actively implementing various solutions to ensure Y2K compliance to all the computer systems and applications. This phase requires the replacement or upgrade to all antiquated hardware and software. Additional

programming may also be done for in-house applications. Each component will also be re-tested to ensure the proper execution and validity of any patches or upgrades upon completion.

We are currently at the end of phase 3 and in the middle of phase 4. All our hardware and software applications have been tested. All components that need fixing have also been identified. More importantly, almost all of the outdated hardware components have been replaced or upgraded to meet the Y2K requirements. Many of the commercial applications have also been upgraded or patched as well. We are currently looking at possible solutions or alternatives for several of our in-house applications. A more thorough report will be available in September.

I am also enclosing copy of letter sent to Charlie Collins on July 27th pertaining to embedded systems compliance.

Cc: Anne Reinhard

Borough of Manhattan Community College

BMCC YEAR 2000 ACTION PLAN:

A Steering Committee has been formed to coordinate the Year 2000 activities. It is understood that the problem is not just a Computer Center problem, but that it will involve cooperation and support of many of the Departments in the College. Each member of the Steering Committee is a member of an affected Department and will coordinate the activities of that Department in terms of the Year 2000 Problem.

The BMCC Action Plan consists of 4 phases as described below. It is clear that individual Systems may be at different stages during the process of remediation. The priority of the College will be to identify, fix and test the Student based mission Critical Systems before the others.

1. Inventory Phase: Identify all elements, Computer related or otherwise, that may get affected. The following is a list of the major items in BMCC:

- COMPUTER HARDWARE
 - SERVERS and WORKSTATIONS
- DESKTOP Machines
- NETWORKS (LAN)
 - COMMUNICATION DEVICES
 - ROUTERS
 - HUBS
 - SWITCHES, ETC.
- VENDOR SUPPLIED COMPLETE SYSTEMS
 - PHOTO ID SYSTEM
 - COOP ED REGISTRATION SYSTEM
 - GRADE & TEST SCANNERS
 - OTHERS
- COMPUTER SOFTWARE
 - VM(TIF) - Admin. Comp.
 - MVS (COBOL + MARK4) Admin. Comp.
 - ACADEMIC Comp. Software
 - NETWORK
 - VENDOR SUPPLIED
 - BIOS
 - OPERATING SYSTEMS
 - SOLARIS & AIX
 - WINDOWS(All Versions)
 - OS2
 - NOTES

- OTHER EQUIPMENT
 - PHONE SYSTEMS
 - FAX & COPIERS
- MEDIA CENTER FACILITIES

- FACILITIES
 - ELEVATORS & ESCALATORS
 - HEATING & A/C
- SECURITY SYSTEMS
- FIRE ALARMS
- BUILDING AUTOMATED SYSTEMS (POWER)

2. **Assessment Phase:** The above items will be investigated as to whether they should be retired, replaced, fixed or made compliant by either BMCC or by the Vendors themselves.

3. **Remediation Phase:** Fix the problem, or receive documentation from Vendor that Software/Hardware is compliant.

4. **Testing:**

- Testing of Each individual element, Hardware or Software
- Integrated Testing of Complete Systems.
- Testing of mission Critical Complete Systems using advanced Clock.

5. **Certification** by User or other Audit sources.



Hostos Community College
Office of Information Technology

Year 2000 Work Plan

Segment	Task	Description	Assigned to	Est. Hrs. Due of Effort	Date	Hours to Date	Est. Hrs. to Comp.	Over (Under)
I		Project Administration	Dean Lee	3	31-Oct	1	2	
	a	Convene Meeting with Project Team	Dean Lee/Project	40				
	b	Gather and Analyze data & Issues		12				
	c	Review Project Plan and Modify as needed		21				
	d	Prepare Draft Report and review w/mgmt		14				
	e	Issue Y2K Report						
II		Computer Hardware						
	a	Desktop	Gallardo/Lesperance	14		1		
	b	Network/LANS	Lesperance	14				
	c	Routers, Hubs, Switches	Lesperance	7				
	d	BIOS	Gallardo/Lesperance	14				
III		Computer Software						
	a	Mainframe	Lesperance/CIS	7				
	b	FAS, FIS, CUPS, IFMS, INSITE	CIS	4				
	c	Registration System	Santana	5				
	d	SIS/M	Santana	5				
	e	Licensed						
	f	Shareware	Lesperance	3				
	g	Operating Systems	Lesperance	3				
	h	User Applications	Lesperance	7				
	i	SIS/PC	Chen	4				
j	DRC/PC	Chen	3					
k	Other PC Based Apps	Chen	7					
l	E-mail	Brown/Lesperance	3					

Hostos Community College

Year 2000 Work Plan

Kingsborough Community College
2001 Oriental Boulevard
Brooklyn, New York 11235

Interoffice Memo

Date: August 18, 1998
To: David Rankert
From: Bill Correnti 
Subject: Y2K Project Plan

This is a copy of the letter that was E-mailed to me from Jim Anastasio.

Subject: Y2K Project Plan

Create a committee representing all members of the campus that must work with their constituents to inform and address the issue. The members of the committee that is currently defined are:

Jim Anastasio -- Y2K Local Coordinator
Mike Keany -- Telecommunications
Dave Berger -- Computer and Network Systems
Marc Wiskoff -- Academic Computing
Christine Beckner -- Continuing Education
Bill Correnti -- Business Office

Begin to analyze what the effort is to review each station/system/component and request information from the community as to what they are utilizing. Expect to begin the station by station analysis of administrative and student lab machines over the summer to determine the status of compliancy. The student labs and most administrative offices have been surveyed for hardware compliancy. We expect to complete this survey by the end of September 98. We plan on reviewing the academic offices during the Fall 98 semester. Create and distribute a questionnaire to gather information from the campus community as to current and future hardware/software needs and how this effects Y2K compliancy.

If you have any questions, please do not hesitate to contact me at (718) 368-5125.

T:\42computer\Y2Kemail.a