

*NATIONAL CREDIT UNION ADMINISTRATION
OFFICE OF INSPECTOR GENERAL*

**NOTEBOOK PROCUREMENT AND
WINDOWS 2000 MIGRATION
REVIEW**

Report #OIG-01-07

July 10, 2001



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EXECUTIVE SUMMARY

NCUA's January 2000 notebook computer procurement and migration to Windows 2000 Professional (Windows 2000) required significant agency resources. NCUA senior management was interested in a review of the notebook procurement and Windows 2000 migration risks, and the OIG viewed this as an opportunity to present lessons learned and provide recommendations for improvement in a recurring event.

The OIG's review focused on the activities surrounding the 2000 notebook procurement process and Windows 2000 migration decisions. The review included inquiry of personnel, document review and analysis, and limited testing.

This review contained two major objectives. The first was to determine what methodology was used to acquire new computers and Windows 2000 and whether this methodology was followed; and the second objective was to determine if the agency was exposed to unreasonable risks by implementing an operating system before it was commercially available.

NCUA COMPLIED WITH AGREED UPON METHODOLOGY FOR PURCHASING NOTEBOOK COMPUTERS AND WINDOWS 2000

The Board approved Simplified Procurement Procedures for the notebook procurement. The OIG determined that the agency substantially complied with Simplified Procurement Procedures, as well as NCUA policies and procedures and NCUA's unofficial Methodology for Acquisition of New Computers & Printers. The agency purchased Windows 2000 off GSA schedule, which was deemed compliant with NCUA policies and procedures. It is important to emphasize that actual costs incurred for the notebooks and associated hardware were approximately \$2 million less than budgeted. The OIG identified many other strengths including NCUA's evaluation of equipment and vendors; and obtaining quotes from several sources. In addition, the Information Systems Oversight Committee (ISOC) was heavily involved in the notebook procurement process, including approval and presentation to the Board. This report also notes some areas where NCUA needs to strengthen planning and documentation.

NCUA WAS NOT EXPOSED TO UNREASONABLE RISKS BY IMPLEMENTING WINDOWS 2000 EARLY

The OIG determined that the agency implemented an early copy of Windows 2000 that was obtained directly from Microsoft in December 1999 and was the same release placed on store shelves in February 2000. There were risks with implementing Windows 2000 prior to its general use in the industry. However, those risks were not unreasonable and many steps were taken to mitigate some of the risks.

Although the CIO is responsible for the agency's architecture as defined in the Clinger-Cohen Act of 1996 and the CIO's position description, NCUA's CIO informed the ISOC and the Office of Executive Director (OED) of his impending decision to migrate from Windows NT 4.0 to Windows 2000. The CIO identified the benefits of Windows 2000 and took action to mitigate some of the risks of early adoption. The upgrade to Windows 2000 was inevitable, so the CIO weighed the options of adopting Windows 2000 with our new hardware, upgraded office automation software and examination system versus waiting to a later date. The OIG was informed that if Windows 2000 was not available to meet our training schedule, our contingency plan was to continue with the NT platform. There was insufficient evidence to support that NT was a viable contingency plan. In addition, there was insufficient documentation to determine the level of testing performed. However, the post implementation results indicate that there were no significant issues with our migration to Windows 2000.

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The OIG made 22 specific recommendations regarding lease analysis, budget estimates, shopping GSA schedule, improvements in vendor listing, compressed time frames, improved project planning and documentation.

INTRODUCTION

The National Credit Union Administration (NCUA) Office of Inspector General (OIG) performed a review of the Compaq notebook computer (notebook) procurement and Windows 2000 implementation for the following reasons:

1. The notebook computer procurement required extensive agency monetary resources.
2. The implementation of new agency computers, upgraded operating system, upgraded Office suite, and upgraded automated credit union examination program was a major effort requiring extensive agency resources.
3. NCUA senior management informed the OIG of their interest in such a review.
4. Technology is always evolving, and a review would offer the opportunity to present lessons learned and provide recommendations for improvement in a recurring event.

BACKGROUND

HISTORY

In 1987, NCUA first purchased personal computers for examiner staff. These were Toshiba T3100 portable computers running DOS based programs and ACES, the agency's first generation automated examination program. In 1988, the agency purchased IBM PS/2 desktop computers for staff working in an office setting. The agency kept these respective computers in service for eight years. These machines were upgraded at least once during this time frame.

In 1995, the agency purchased IBM ThinkPad 755C notebooks to replace the Toshibas. The DOS operating system was also replaced by Microsoft Windows 3.11 and ACES was replaced by the agency's second-generation automated examination program, AIREs. The agency kept these respective computers in service for five years. These computers were upgraded at least once during this time frame. The agency purchased Hewlett-Packard desktop computers with Windows NT 4.0 in 1996, and the remaining ThinkPads were upgraded to NT 4.0 by the end of 1997. The agency kept these machines in service for four years.

On June 8, 1999 the NCUA former Executive Director (ED) reestablished the ISOC. The ISOC was charged with developing a charter consistent with an Information Technology (IT) strategic planning process. On August 12, 1999, the ISOC held their first meeting. New agency computers and commercial off the shelf software (including the Windows 2000 operating system) were discussed at this meeting.

On October 6, 1999 the NCUA Board approved the leasing of notebooks for all agency staff and participating state examiners. On December 17, 1999 the agency initiated a purchase order in the amount of \$6,544,224 for a three-year lease of notebooks. In 2000, the agency implemented Compaq Armada M700 notebooks running Windows 2000 operating system, Office 2000, and loaded with the agency's third generation automated examination program, AIREs. For more information representing the significant events surrounding the notebook procurement and Windows 2000 migration you will find a detailed timeline in the Scope and Methodology section.

PROCUREMENT POLICY AND PROCEDURES

According to the NCUA Rules and Regulations, Part 790, the following is a description of the NCUA organization as it relates to IT procurements:

- The NCUA is managed by the NCUA Board;
- The Office of Executive Director (OED) translates Board policy into workable programs, delegates responsibility for these programs to appropriate staff members, and coordinates activities of senior executive staff. The ED is otherwise to be privy to all matters within senior executive staff's responsibility;
- The Office of Administration (OA) is responsible for contract management, contracting and procurement;
- The Office of Chief Financial Officer (OCFO) is responsible for budgetary matters;
- The Office of Examination and Insurance (E&I) formulates standards and procedures for the examination and supervision of Federally Insured Credit Unions;
- The Office of General Counsel (OGC) has overall responsibility for all legal matters affecting NCUA;
- The Office of Training and Development (OTD) is responsible for the training and development of NCUA staff;
- The Office of Chief Information Officer (OCIO) manages and administers NCUA information resources; develops, maintains, operates and supports information systems, which directly support the agency's mission.

NCUA procurement policies and procedures are provided via NCUA Instruction 1770.11 dated August 9, 1994. Instruction 1770.13, dated May 28, 1999 modifies and clarifies Instruction 1770.11 regarding procurement planning. Below is a synopsis of NCUA's procurement policies and procedures:

- The Director of the Office of Administration is the agency's contracting officer. The OA Director signs all agency procurement documents, manages and implements the agency procurement program. The ED has overall responsibility for the agency's procurement program;

- The agency will establish streamlined acquisition procedures and obtain goods and services necessary to accomplish the agency's mission at fair and reasonable prices;
- The goal is to obtain the "best value";
- GSA mandatory supply schedules will be the agency's primary source for supplies;
- The agency is not subject to the Federal Acquisition Regulations (FAR) and Federal Information Resource Management Regulation (FIRMR);
- The agency will use competitive acquisition procedures to the maximum extent practical;
- Needs will be stated in functional terms and solicitation will clearly disclose evaluation factors other than price;
- Advanced acquisition planning means coordinating efforts of all personnel responsible for an acquisition through a comprehensive plan for fulfilling NCUA's needs in a timely manner and at a reasonable cost;
- Acquisition planning formally begins with a purchase requisition of statement of work, but must begin far in advance of that in order to obtain proper funding approval, determine contract requirements obtain proper clearances and coordinate with other affected offices. Acquisition planning is required for procurements over \$100,000 unless an emergency or written justification;
- A request for quotation (RFQ) means an informal bidding procedure for specifically described supplies, services or property;
- Brand name procurements require written justification and if over \$100,000 require Executive Director approval;
- Special items approvals required for IT acquisitions over \$100,000 are: Ethics Officer for long term contracts; OGC for legal sufficiency; OCIO for hardware or software; OTD for training; ISOC to ensure goods are appropriate for the agency's strategic plan;
- The general procurement process is advance planning; purchase requisition preparation by office of primary interest (OPI), special items approval, OPI coordination, RFQ, contract officer preparation time, technical evaluation, negotiations, preparation of contract;
- The two major procurement methods used by NCUA are: Simplified Procurement Procedures and Formal Procedures.

Simplified Procurement Procedures (as defined by NCUA and referred to in the FAR Part 13) are used for limited open market competition or existing government contracts for non-complex procurements under \$100,000 or for Commercial Off The Shelf (COTS) supplies which cost less than \$5 million. Procurement planning is still required for procurements over \$100,000.

Simplified Procurement Procedures as described in the FAR, Part 13 were established as a test program to reduce administrative cost, improve opportunities for small and disadvantaged vendors, promote economy and efficiency in contracting and avoid unnecessary burdens on agencies and

contractors. Procurements from \$2,500 to \$100,000 are set aside for small business concerns. Simplified procurement procedures are not to be used for procurements over \$5 million. There are no specific mandatory procedures described in order to implement simplified procurement procedures. Contracting officers will promote competition to the maximum extent possible, establish deadlines for submission of responses to solicitations that afford suppliers a reasonable opportunity to respond, consider all timely quotations, inspect items received, include related items such as small hardware items in one solicitation, evaluate quotes impartially and on the basis established in the solicitation. Contracting officers are given broad discretion in evaluation procedures, formal evaluation plans, establishing competitive ranges, conducting vendor discussions, and scoring quotes. Documentation is to be kept to a minimum.

According to the General Services Administration (GSA), GSA Federal supply schedule items are considered to be fair and reasonable. Best value is determined as a trade-off between cost and technical requirements. Using GSA Schedule is considered to be full competition.

BUDGET IMPACT

During the 1999 Budget cycle, a request for notebooks for all agency staff was denied for several reasons, including Y2K considerations. On February 23, 1999, as a result of the denied funding, OCIO put in a special request for funding in the amount of \$225,000 for new machines to test AIRES.

On October 6, 1999, the Board approved \$9.38 million for a 36-month lease for 1570 portable computers, 100 desktop computers, 400 docking stations, and 1570 printers/scanners via a Board Action Memorandum (BAM).

On November 18, 1999, the Board approved the 2000/2001 budget, which included new notebooks, printer/scanners, docking stations as previously approved on October 6, 1999, with a total estimated cost of \$9.38 million and an annual cost of \$2,612,500. Additional costs directly and indirectly related to the computer upgrade were:

- Regional conferences and AIRES training at a cost of \$1,186,000;
- Purchase of 80 computer monitors at a cost of \$40,000;
- Contract staff for computer configuration distribution at a cost of \$100,000;
- IBM notebook maintenance of \$125,000;
- Microsoft licenses with an estimated cost of \$600,000 to be depreciated over two years with an annual cost of \$300,000.

On November 16, 2000, the Board approved the budget for 2001/2002, which included the annual lease costs for the notebooks, printer/scanners and docking stations in the amount of \$1,843,547. The 2001/2002 budget also included an annual expense of \$380,000 for Microsoft licenses.

OBJECTIVES

The objectives of the Office of Inspector General's review were to:

- Determine what methodology was used to acquire new computers and Windows 2000 and whether this methodology was followed; and
- Determine if the agency was exposed to unreasonable risks by implementing a new operating system platform before it was commercially available.

SCOPE AND METHODOLOGY

Our review focused on the activities surrounding the 2000 notebook procurement process and Windows 2000 migration decisions. Our review included inquiry of personnel, document review and analysis, and limited testing.

Below is a listing of some of the review procedures we performed:

- Prepared a timeline of significant related events from 1998 through 2000;
- Interviewed over 30 people, including NCUA board members, Regional Directors (RD), Associate Regional Directors (ARD), managers, ISOC, staff, Microsoft, GSA, and vendors;
- Reviewed management reports;
- Reviewed documents provided by ISOC Chair and ISOC Members;
- Reviewed project plans;
- Reviewed status reports;
- Reviewed AIRES test database;
- Reviewed procurement files;
- Reviewed BAM, October 6, 1999;
- Reviewed agency procurement policy and procedures;
- Reviewed FAR and GSA schedule guidelines;
- Reviewed RFQ, Best and Final Offer (BAFO) and related vendor proposals;
- Reviewed contracts;
- Reviewed purchase orders;
- Reviewed industry articles and literature;
- Reviewed Microsoft license types;
- Reviewed budgets;
- Reviewed OTD documentation;
- Reviewed project post mortems;
- Reviewed agency inventory records; and
- Performed limited testing of machine specifications.

This review was a challenge because we had to go back in time to a point where decisions were made without the benefit of today's hindsight. We used as much information that was available at the time of the decision. Due to limited documentation, we had to place greater reliance upon testimonial evidence to form our conclusions. In some instances, different opinions, lack of memory, or inconsistent responses complicated our analysis and conclusions.

We performed this review from September 2000 through April 2001.

The Office of Inspector General conducted this review in compliance with generally accepted government auditing standards.

MAJOR EVENTS SURROUNDING THE NOTEBOOK PROCUREMENT AND WINDOWS 2000 MIGRATION

11/98:	Notebook unapproved for 1999 budget
3/22/99:	Procure IBM test machines
6/99	OCIO became aware that Windows 2000 could be an option for new hardware in 2000
8/2/99	ADT begins Aires 2000/Windows 2000 beta/Office 2000 testing
8/5/99	OTIS Update reflected Windows 2000/AIRES testing
Late Aug/Early Sep 1999	OCIO begins testing Windows 2000 beta
Sep 1999	Mgmt Report noted testing of Windows 2000 beta with AIRES for possible use in next generation notebook
9/3/99	Notebook specifications approved
10/1/99:	Procure four differing test notebooks
10/6/99:	Board authorized notebook procurement/leasing
10/6/99:	OTD issues RFP for notebook/AIRES training
10/29/99	Hotel proposals due
11/8/99:	Executive Director approves training hotel/site selection
11/9/99:	Notebook test machine evaluation
11/10/99	TDG notebook evaluation results provided to ISOC
11/16/99:	Training hotel contract signed
11/16/99:	Notebook RFQ issued
11/18/99:	2000 budget approved, including lease for notebooks
11/22/99:	First response date for notebook RFQ
11/24/99:	Notebook RFQ response date extension
Late Nov/Early Dec 99	Firm decision to go with Windows 2000
Dec 1999	Windows 2000 more stable than NT
12/1/99:	Began discussions with final three competing vendors for notebooks
12/6/99:	BAFO proposal issued
12/7/99:	BAFO responses due
12/7/99:	Purchase order issued for training hotel
12/10/99	All applications must be modified and ready for NT 4/Office 2000
12/13/99:	Technical capability evaluation of final three notebook vendors
12/15/99	Windows 2000 RTM Available
12/16/99:	Notebook procurement legal and ethical reviews performed
12/16/99:	Executive Director approval for notebook procurement
12/17/99:	Purchase order issued for notebooks
12/24/99	NCUA received Windows 2000 RTM
Jan 00:	Notebook receipt begins
Jan 00	Compaq notebooks, AIRES, Windows 2000 (final platform) tested
1/18/00:	Purchase order issued for leasing of printers/scanners
Jan/Feb 00	Notebook distribution begins
2/7/00-2/18	Final user testing with lock down
2/17/00	Windows 2000 available on store shelves
2/20/00:	Train the trainers session held
2/23/00:	Purchase order issued for desktop computers
3/16/00	Purchase order issued for Microsoft Licenses
3/16/00:	Notebook and AIRES training begins
6/9/00:	Notebook and AIRES training ends
6/19/00	First Regional Conference – San Antonio

Section 1: NOTEBOOK PROCUREMENT OBSERVATIONS & RECOMMENDATIONS

NCUA COMPLIED WITH AGREED UPON METHODOLOGY FOR PURCHASING NOTEBOOK COMPUTERS AND WINDOWS 2000

Our first objective was to determine what methodology was used to acquire new computers and Windows 2000 and whether this methodology was followed. The Board approved Simplified Procurement Procedures for the notebook procurement. We determined that the agency substantially complied with Simplified Procurement Procedures, as well as NCUA policies and procedures and NCUA's unofficial Methodology for Acquisition of New Computers & Printers. The agency purchased Windows 2000 off GSA schedule, which was deemed compliant with NCUA policies and procedures. See Section II for a detailed discussion of NCUA's migration to Windows 2000. It is important to emphasize that actual costs incurred for the notebooks and associated hardware were approximately \$2 million less than budgeted. We identified many other strengths including NCUA's evaluation of equipment and vendors.

We also noted some areas where NCUA needs to strengthen planning and documentation. We made specific recommendations regarding lease analysis, budget estimates, shopping schedule, improvements in vendor listing, and compressed time frame.

NCUA Complied with Simplified Procurement Procedures in the procurement of notebook computers

AUTHORIZATION of PROCUREMENT METHODOLOGY

On October 6, 1999 the NCUA Board approved the procurement of Tier 1 notebooks for all agency staff to be leased over a three-year time frame. The Board also approved the use of simplified acquisition procedures for this project. In addition, the Board waived the \$5 million threshold ceiling for simplified procurement procedures, per the FAR.

According to the October 6, 1999 Board Action Memorandum approved by the Board, the **justification** for use of simplified procurement procedures stated:

- There is no development or customization involved in this procurement since the agency was acquiring commercial, off the shelf products on a fixed price basis

- The agency planned to place an order against an existing government contract, thus offering no risk for protest
- The agency will compare several different contracts to determine best value and offer an element of competition
- If the agency did not approve these procedures, the agency may not be able to meet the projected schedule for implementation

The agency procured commercial off the shelf notebooks on a fixed priced basis. However, there was some customization to the standard lease entered into via the SEWP evidenced by an NCUA initiated lease addendum for OEM memory, custom inventory tagging, NCUA's delivery schedule, on-site next-day-turnaround warranty, and return of leased equipment.



The agency placed an order against an existing government contract via a NASA SEWP contract. However, the request for quotes did not list this as a requirement. And, while two vendors submitted open market quotes, neither of these vendors was selected for contract award.

The agency compared several vendors' government contract proposals via the RFQ process. In addition, the agency asked for Best and Final Offers from the three lowest quotes per the RFQ process.

The agency proposed to establish a fixed deadline for notebook distribution of June 2000.

In addition to following simplified procurement procedures, ***additional procurement policy and procedures*** were listed as part of the October 6, 1999 BAM and accompanying package:

- ISOC reviewed types of hardware available on the market;
- Methods of paying for machines;
- Maintenance and support options;
- Expectations for length of service for new hardware; and
- Options for delivering and training staff on a new computing platform.
- Machines will be distributed to staff prior to June 2000.
- AIREs test group will test machines.
- Hotel contracts (for delivery and training) cannot be signed until we are certain about computer and software delivery.

The ISOC reviewed the results of testing for four types of notebooks on the market on November 9, 1999. The ISOC reviewed lease vs. purchase options. We were unable to determine conclusively what maintenance and support options were reviewed. A life cycle analysis was performed by a third party and

reviewed by the ISOC. Options for delivery and training of staff were prepared by OTD and communicated to the ISOC. An AIRES test group tested four sample test machines on November 9, 1999 and communicated its results to the ISOC. The hotel contract for notebook and AIRES training was signed on November 16, 1999. On that same date, the first Request for Quotes for the notebooks was mailed. However, a decision of which operating system to install had not been finalized, and the agency automated examination program to be installed on the new notebooks was still undergoing testing.

SIMPLIFIED PROCUREMENT PROCEDURES

Simplified Procurement Procedures impose a ***ceiling for the acquisition*** of supplies with an aggregate amount not exceeding \$5 million. In addition, simplified procurement policy does not apply if the agency can meet its procurement requirements using required sources of supply and Federal Supply Schedule contracts.

The NCUA Board waived the simplified procurement ceiling of \$5 million via the October 6, 1999 BAM, due to the justification of time and scheduling constraints for notebook and AIRES training. If the agency had to cancel training, which was scheduled to begin in March 2000 for field staff, the cancellation penalty could have been as high as \$495,698 (per the November 16, 1999 signed contract).

The purchase orders for the BAM approved desktop computers and printers/scanners did not use simplified procurement procedures but did use Federal Supply Schedule Contracts (the same lease SEWP contract as the notebook procurement). Our review of these two purchase order files found no evidence that other Federal Supply Schedule contracts were reviewed for a lower cost alternative. While this is not a requirement, searching the supply schedule can sometimes produce a lower cost. In addition, we did not review and could not ascertain, how the brand name product was determined for the printer/scanners other than it is OCIO policy to procure same brand equipment and this brand was the previous brand printer used by field staff.

Basically, Simplified Procurement Procedures allow the contracting officer broad discretion in fashioning suitable evaluation procedures and encourage a minimum of documentation. Nonetheless, the contracting officer must determine that the proposed price is fair and reasonable. See Appendix A for a more detailed review of Simplified Procurement Policy and Procedures.

The NCUA Office of General Counsel opined to us verbally that the agency complied with Simplified Procurement Procedures for the notebook procurement. Additionally, the NCUA Ethics Officer found no improprieties and the OGC found the procurement to be legally sufficient.

We concur with OGC's conclusions and offer the following observations on our review of the notebook procurement.

The agency established an evaluation plan whereby technical and pricing issues were considered. In addition, a competitive range was used, vendor discussions were held, and vendor quotations were scored.

The agency determined that the awarded contract was fair and reasonable by using an existing SEWP government contract. The procurement file demonstrated that technical and cost considerations were used in awarding the contract, showed the number of offers received and demonstrated the basis of the award decision.

There was no evidence to indicate that the agency solicited quotations on the basis of personal preference or restricted solicitations to suppliers of well-known and widely distributed makes or brands.

The agency promoted competition by issuing an RFQ and BAFO. Through this process, the agency used an effective innovative process and obtained a quantity discount. Transportation charges were included in the solicitation and quotations appeared to be evaluated in an impartial manner. The equipment was inspected upon receipt. We corroborated this via an independent analysis of the computer components received and verified the receipt of quantity of items ordered. We found evidence that no reasonable offer was rejected.

The original RFQ and subsequent amendments did not notify the vendors that the award was being evaluated on technical and price considerations. However the BAFO did notify the final three bidding vendors that the agency had a slight preference (technical) for the Compaqs over the IBMs solicited, but that this factor was less important than price. The RFQ was sent to twelve potential vendors and the BAFO was sent to the final three (based on competitive range) vendors. Per agency procurement files, the award was to be based upon 75% technical and 25% price. The agency established an original deadline for submission for the RFQ of six days. This deadline was extended two days, apparently at the request of one vendor. The BAFO response time was one day. According to agency senior staff, this time frame was considered reasonable. All vendor quotations received by the established due dates were considered. However, one RFQ proposal received five days after the stated response time was still considered. In addition, two of the three BAFO responses were received one day late and both were considered. In fact, the contract was awarded to one of these vendors who submitted a late proposal.

The agency did not include related computer items in the RFQ/BAFO solicitation. Desktop computers and printer/scanners for staff were approved for leasing along with the notebooks via the October 6, 1999 BAM. These items were procured later as an attachment to the awarded vendor lease. Since this leasing

contract was an already competed SEWP contract, the agency was in compliance with procurement policy and procedures.

The purchase order issued for the notebooks was on a fixed price basis, specified the quantity, and provided delivery dates. We also noted that NCUA inspected the goods upon acceptance.

OTHER PROCUREMENT PROCEDURES

Attached, as an addendum to the October 6, 1999 BAM was a document titled, **“Methodology for Acquisition of New Computers & Printers at NCUA”**. This document describes eleven steps that primarily relate to the strategic decision making process, but also apply to the procurement planning process. These eleven steps are as follows:

1. Analysis of Needs
2. ISOC Approval of Initiative
3. Market Survey of Product Offerings
4. Budget Approval
5. Testing/Evaluation of Top Tier Machines
6. Third Party Technical Review
7. Procurement Process
8. Analysis of Alternative Acquisition Strategies
9. Pre-procurement Review by ISOC
10. Implementation and Distribution
11. Post-implementation Review

To the best of our knowledge, the above referenced “Methodology for Acquisition of New Computers & Printers at NCUA” was never officially adopted as official IT procurement policy. In addition, it is unclear if this was the procurement methodology, which the NCUA Board approved as a description of the specific simplified procurement procedures to be followed. However, it appears that NCUA substantially complied with all of the eleven steps above with the following minor exceptions:

- There is no written documentation that a Third Party Technical Review was performed. However, senior management indicated that this review was performed via a telephone conversation with an independent IT consulting firm. Subsequent to this review, OCIO management provided us with handwritten notes from the third party review.
- Implementation costs and additional maintenance costs (additional warranty coverage) were not presented to the NCUA Board at the October 6, 1999 BAM meeting. However, implementation costs were provided during the 2000 budget process, which was approved in November 1999. In addition, the option of having additional warranty coverage may not have been known at the time of the October 6th BAM meeting.

Other NCUA prescribed procurement policies and procedures, per **NCUA Instructions 1770.11 and 1770.13:**

- Acquisition planning required for procurements over \$100,000.
- Brand name procurements require written justification and if over \$100,000 require Executive Director approval.
- IT acquisitions over \$100,000 require Ethics officer approval for long term contracts; OGC approval for legal sufficiency, OCIO approval, OTD approval for training, and ISOC approval to ensure appropriateness for agency's strategic plan.

Acquisition planning was performed, although it appeared to begin too late in the process and was hampered by self imposed time constraints (scheduled training). The former Executive Director approved the notebook procurement, approved a brand name waiver and approved a Commerce Business Daily advertising requirement waiver. The agency Ethics officer, OGC, OCIO, OTD and ISOC all approved the acquisition.

Recommendation:

1. Clearly define agency procurement policy and procedures. We suggest the NCUA procurement instruction(s) be merged with simplified procurement procedures that are applicable to NCUA. If the IT acquisition methodology is intended for all IT acquisitions, it should be incorporated into NCUA procurement policy and procedures.

OA and OED agreed with this recommendation. OA has been working with OGC rewriting NCUA Procurement Policies and Procedures manual. The draft manual will be distributed for comments, and OA anticipates finalizing the manual by October 31, 2001.

NCUA Complied with Proper Procurement Policy in the Procurement of the Windows 2000 Operating System

In March 2000, the agency purchased an enterprise agreement for Microsoft licenses (including Windows 2000, Office 2000, etc.) from a GSA schedule

vendor. By using a GSA schedule vendor for this procurement, the agency was in compliance with procurement policies and procedures of obtaining a fair and reasonable price and in compliance of obtaining full and open competition. Although NCUA was in compliance by purchasing licenses from the GSA schedule, we encourage the agency to shop the schedule for future purchases and support their decision to select a particular vendor.

Lease versus Purchase Analysis can be Improved

Per the BAM of October 6, 1999, the budget impact for a 36-month lease of equipment was:

1570 portable computers @\$4700	\$7,379,000
1570 printers/scanners @\$400	628,000
400 docking stations @\$500	200,000
100 desktop computers @\$2300	<u>230,000</u>
TOTAL	\$8,437,000
Interest	<u>941,362</u>
TOTAL (operating and Ins fund)	\$9,378,362

Lease versus purchase options were considered during the BAM presentation. Primary justifications were to even out cash flows and establish a three-year replacement cycle for notebooks. The dollar difference calculated was less than \$100,000 between a 36-month lease and a cash purchase of the notebooks. However, the BAM presented attachment did not provide for the interest rate assumptions used for the leasing imputed interest rate or the interest rate used for the time value of money. In addition, financing a purchase was not considered as an option during the BAM presentation. Information concerning the interest rate assumptions was not contained in the final BAM; however, it was documented and discussed with the ISOC and NCUA Board, according to OCFO and OED.

Per OED, since it was determined that an outright purchase of the laptops was not in the best interests of NCUA, no lengthy discussion of borrowing funds from a third party to purchase the laptops was considered.

We also determined that the estimated cost per notebook of \$4,700 was reasonable, based upon the prices paid for four test machines by the agency.

Recommendation:

2. Whenever leasing versus purchasing options are reviewed, all options (such as financing a purchase) should be considered. In addition, leasing versus purchase options should be considered at the point of solicitation of actual quotations in order to compare actual purchase versus actual leasing costs.

OED agreed with this recommendation.

Actual Costs were below Budget

The October 6, 1999 BAM provided an estimated budget impact of \$9,378,362 over a three-year period. The agency spent substantially less for the listed equipment, than was budgeted. The table below shows the

estimated equipment costs per the BAM (including interest assumed) and actual costs incurred.

ITEM	BUDGETED PER BAM	ACTUAL COSTS
Notebooks	\$8,202,315	\$6,367,920
Docking Stations	222,315	130,176
Portable Printers	698,069	554,268
Desktop Computers	255,663	187,980
Laser Jet Printers		73,662
Mice		13,248
Keyboards		32,880
Monitors		41,442
TOTAL	\$9,378,362	\$7,401,576

However, only the notebooks, docking stations, mice and keyboards were solicited for competition via the RFQ process with a purchase order being issued on December 17, 1999. These actual costs equated to \$6,544,224 of the \$7,401,576.

The portable printers and laser jet printers were not included in the RFQ solicitation. They were procured by attaching to the same awarded government contract as the notebooks with a purchase order issued on January 18, 2000 in the amount of \$627,930. We researched current costs for like printer scanners and discovered among four Federal Supply Schedule vendors that prices varied from \$195 to \$288 per machine. The agency only procured 1,300 portable printers versus the 1,570 that were budgeted after agency needs were reevaluated. In lieu of 270 portable printers, NCUA purchased 134 laser jets.

The desktop computers and monitors also were not solicited via the RFQ process with the notebooks. They too, were procured by attaching to the awarded SEWP contract by issuing a purchase order on February 23, 2000 in the amount of \$229,422. Monitors were budgeted in the 2000 budget for a cash purchase of \$40,000 for 80 monitors. The agency actually procured 23 monitors with a 36-month lease cost of \$41,442. Although these acquisitions were in compliance with procurement policy and procedures, the agency may have been able to get further price reductions via the RFQ process as was done with the notebooks.

The following are additional items listed in the 2000 Capital Acquisition Budget, which were not present in the BAM.

Printer, copier, fax scanner	\$ 7,302	annual lease exp
Contract staff configuration	100,000	cash exp, depr 3 yrs
80 computer monitors @ \$500	40,000	cash exp, depr 3 yrs

The 2000 budget included additional leased printers/copier/fax (number of items were not listed in the budget), contract staff configuration for computer implementation and monitors, which were not presented to the Board at the October 6, 1999 BAM, in the annual amount of \$147,302. This equates to a three-year total cost of \$161,906.

Recommendations:

3. Whenever a procurement is solicited for bid, all related goods or services should be part of that solicitation to take advantage of solicitation price discounts.

OED and OA agreed with this recommendation. The contracting officer will ensure that this is done in future acquisitions of this nature.

4. Although not required, we suggest that whenever the agency procures goods or services via federal government schedule or contract, that at least three federal government schedule/contract vendors be reviewed for "best value".

OED and OA agreed with this recommendation. According to OA, this will be incorporated in the revised procurement manual.

2000 Budget did not Accurately Reflect the Cost of Microsoft Licenses

OCIO's 2000 budget submission did not accurately reflect the total costs of MS licenses. OCIO presented \$600,000 as a one-time fee for MS license renewal in the FY 2000 budget. OCIO incorrectly presented their 2000 budget for these licenses and it was subsequently corrected in 2001. When we discussed this issue with OCIO managers, they did not recall the specific events around the 2000 budget item, nor could they provide support for those estimates. In the fiscal year 2000 capitalized acquisitions budget, OCIO presented software licenses for 1000 employees as a one-time fee of \$600,000 cash outlay to be depreciated over 2 years, with an annual cost of \$300,000. There was no budget item in the insurance fund for these licenses. In the FY 2001 budget, OCIO presented \$380,000 as an annual expense for licenses.

In March 2000, the agency purchased an enterprise agreement from a GSA schedule vendor. The purchase order presented was for 1500 licenses with a total cost of \$379,680. The purchase order did not disclose that the enterprise agreement was a three-year commitment with equal annual payments. Actual expenses were \$379,680 per year, with a three-year commitment totaling \$1,139,040. Since the licenses were purchased off GSA schedule this was considered fair, reasonable and competed.

Recommendation:

5. NCUA Offices should fully document all items presented in their budget proposals and maintain this documentation for future reference.

OED and OCIO agreed with this recommendation. According to OCIO, after submission of OCIO's budget request, they identified a more beneficial licensing strategy for the agency. Since it was within the overall budget for the project, and in consultation with OCFO, OCIO recommended purchase of a three-year license to run concurrent with the notebook lease. This license provided more benefits to the agency at a lower overall cost. OCIO will provide better documentation during the next licensing cycle.

Although Equipment Specifications Evolved during the Procurement Process, they were Reasonable

The October 6, 1999 BAM had as an attachment a September 3, 1999 document providing minimum computer specifications. We

believe that these specifications appear thorough and reasonable for staff usage over a three-year term. However, it is somewhat unclear how these minimum specifications were derived.

In interviews with OCIO staff, they indicated they were consulted on the specification requirements. It was unclear if this was a minimum specification list or a "wish list". There is no documented evidence that an analysis was performed to determine minimum equipment requirements. However, the CIO told us he developed the specifications based on his experience and knowledge.

One of the requirements was to select Tier 1 equipment. Tier 1 is referred to as high quality equipment. Interviews with OCIO staff disclosed varying definitions of Tier 1 manufacturers. Although not all Tier 1 machines were selected for testing, the four machines selected by OCIO were considered Tier 1.

The RFQ was amended at least three times. The types of changes to specifications included such things as notebook weight, hard drive size, type of diskette drive, evolving definition of "identical components", and type of warranty. Because two months elapsed between the BAM and the RFQ, it is possible that some changes to specifications resulted from more current research of equipment needs, and/or discussions on availability of equipment, and options with vendors. While the changes in the specifications appear reasonable, there is no documentation in the procurement file to support these changes.

Technical Evaluation was Sound

The agency procured four different models of test machines. A user test group evaluated each of these

four test machines based on pre-established criteria developed by OCIO. The machines were tested using test scripts and scoring was performed. The scores were combined and ratings provided on each machine. These results were provided to the ISOC. Two makes were close in scoring but clearly ahead of other two makes. It was these two makes, which were solicited via the RFQ process and used as the basis for the solicitations technical evaluation. This process was well documented and provided an excellent source for procurement technical evaluation scoring.

During the solicitation process, three vendors were selected to compete via the BAFO process. Prior to that process, OCIO staff visited the sites of all three final vendors to determine, their capabilities to meet our needs. A written report of these observations was prepared and presented to the ISOC. It was determined that all three vendors could meet our requirements but there were distinct differences of that ability described in the report. We believe that this evaluation was an excellent idea and presented well. However, we were unable to ascertain, how it was used in the evaluation process of vendors.

Agency staff met with the final three vendors to gain further clarification of the requirements of the procurement and capabilities of the vendors. NCUA staff in attendance, included OGC, ISOC, OA, OCFO, and OCIO. The use of a consistent list of questions and topics for all three vendors was an excellent way to conduct the discussions. Various NCUA attendees were asked for comments or additional questions on December 1, 1999 for the meetings held that day and the next. Questions from NCUA staff regarded mostly leasing terms. The prepared list of topics discussed were:

- How vendors will meet the requirement of identical machines;
- Guarantee of delivery schedule with loading of custom NCUA software;
- Experience of vendor;
- Explain how maintenance support will work, what is available, cost, and non-performing machines;
- Windows 2000 license rebate.

Recommendation:

6. When vendor capability is a factor in selection, clearly determine how the weight of the equipment evaluation and vendor capability evaluation will be scored for the technical evaluation portion of the award determination.

OA agreed with this recommendation. The contracting officer will ensure that this is documented in future acquisitions of this nature.

Vendor Solicitation Selection Complied with Policies and Procedures, but Solicited Vendor List was *ad hoc*

The agency obtained a sufficient number of vendors to solicit and the process was in compliance with

procurement policy and procedures. However, the selection of vendors to solicit was *ad hoc*. OA and OCIO staff were asked to provide vendor names to solicit. In response to this request, 12 vendors were identified for the RFQ process.

According to the October 6, 1999 BAM it was stated that NCUA was to procure using Federal supply schedule or existing government contracts for the notebook procurement. At least two vendors submitted open market quotes. Although, there is a GSA schedule search for leasing companies in the procurement file, it appears that this list was not used. In addition, this GSA search list was generated on November 16, 1999, the day of the apparent first RFQ release. There is no evidence that the agency performed a search for “equipment” vendors via a GSA schedule or existing government contract.

Recommendation:

7. Whenever the agency plans to procure from a federal schedule or federal contract, appropriate vendor listings should be obtained from a search of GSA schedule and contract vendors.

OED and OA agreed with this recommendation. The contracting officer will ensure that this is documented in plans for acquisitions of this nature in the future.

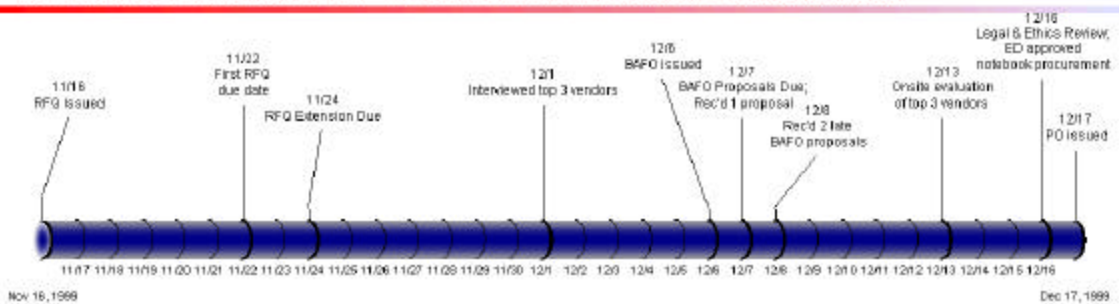
Multiple Amendments to RFQ were Issued

While there is nothing wrong with having multiple amendments in the RFQ process, this could be a

reflection of the compressed time frame that the agency was operating within to meet its self-imposed deadline for training. Multiple amendments also increase the risk of providing inconsistent information to all eligible vendors.

The agency obtained a listing of twelve vendors to solicit for quotes on both IBM and Compaq notebooks. The RFQ asked for business classification (small, disadvantaged, etc.) and type of quote (open market, GSA schedule, etc.).

NOTEBOOK PROCUREMENT TIMELINE: From RFQ thru Purchase Order



The first RFQ noted in the file was dated November 16, 1999. However there is no evidence to indicate that this version was sent to any vendors. The next RFQ in the file was dated November 17, 1999 with response date of November 22,

1999. The file indicates it was sent to ten vendors. A second RFQ dated November 17, 1999 was in the file with a response date of November 22, 1999. The file indicates that this version was sent to nine vendors. A third RFQ dated November 17, 1999 with a response date of November 24, 1999 (apparently to meet the request of one vendor) was sent to twelve vendors, per the procurement file documentation. One response was received on November 29, 1999. This vendor was selected as one of the final three vendors to solicit for further competition via the BAFO process.

In one amendment, the OCIO sent RFQ changes to OA on November 19, 1999. Quotes on leasing terms came to NCUA in various forms: per machine, monthly payments, quarterly payments, and leasing factor to use on purchase price. Two vendors had noted in their quotations, "still working on operating system rebate". We found no evidence in the procurement file or upon inquiry as to whether NCUA received or did not receive a rebate. However, it does appear that the final three vendors selected for BAFO solicitation were reasonable.

The procurement file contained three Excel spreadsheets listing vendor quotations. We were unsure of the use of each spreadsheet. However it is apparent that they were used to compare vendor quotations to arrive at the final three vendors for the BAFO solicitation. Each spreadsheet contained some price quote differences. One spreadsheet had eight vendors listed. We were unable to trace five of the quotes listed to vendor documentation in the file for the Compaq PIII. The second spreadsheet also had eight vendors listed, yet we were unable to trace six vendor quotes to vendor documentation in the file for the Compaq PIII. The third spreadsheet listed seven vendor quotations and four of these quotes could not be traced to the vendor documentation in the PO file for the Compaq PIII.

Vendor responses were inconsistent in format and response to requirements. As stated earlier, two vendors did not have government pricing but had open market quotations, and two vendors had delivery terms as FOB origin, while the remaining vendors quoted via FOB destination.

Recommendation:

8. NCUA should document support for modifications to RFQs and maintain accurate records identifying dates and destinations of all procurement correspondence to ensure that all vendors receive the same information.

OED and OA agreed with this recommendation. According to OA, the tight time frames cause haste, which resulted in incomplete documentation. However the ISOC should and the contracting officer will ensure adequate time frames are established for future acquisitions of this nature.

One Day Response Time for BAFO

The BAFO was sent to the final three vendors on December 6, 1999 with a response date of

December 7, 1999. However, it should be noted that vendor discussions were held on December 1st and 2nd. Two responses to the BAFO were received on December 8, 1999, with one of those vendors being awarded the contract. Two of three vendors had a “BAFO” letter in file with no documentation in the file that third vendor was sent a BAFO letter. The lowest bidder was awarded the contract.

Of the three BAFO quotes received, the awarded vendor’s quote went down slightly, the other two increased significantly. Per one vendor, they were unsure of the cause, other than stating that some specifications changed. This same vendor also stated that RFQ response time frame was tight but reasonable.

Recommendation:

- 9. If an extension is granted on response time, all vendors should be notified of this extension.

OED and OA agreed with this recommendation. The contracting officer will ensure that this is done in future acquisitions of this nature.

Internal Controls over the Purchase Requisition Process were Weak

An OCIO staff person who, by coincidence, offered three vendor names that ended up being the final three vendors in the BAFO competition prepared the purchase requisition for the notebooks. In addition, the “ship to” instructions on the purchase order provided this staff person’s name as the person to receive the goods (notebooks).

RECOMMENDATION:

- 10. We recommend that NCUA ensure appropriate segregation of duties is maintained during major procurements.

OED, OA, and OCIO agreed with this recommendation. According to OA and OCIO, the subject employee did not have any involvement in establishing the competitive range or making vendor selection.

Acquisition Planning Hampered by Time Constraints

Although there was significant planning involved in the procurement of the notebooks, we

believe that it was hampered by training schedule time constraints.

Originally, the OCIO proposed to procure notebooks in 1999, via the 1999 budget process. Partial justification for the disapproval of this request was Y2K issues.

However, the OCIO did obtain permission in March of 1999, to obtain computers for the testing of the ARIES program and pending notebook replacement sometime in the future.

Per the October 6, 1999 BAM, justification was provided to support the use of simplified procurement procedures and the waiver of the \$5 million ceiling of “the agency may not be able to meet the projected schedule for implementation”. Attached to the BAM, was an OTD memo discussing training issues and the need to procure training facilities as soon as possible. On November 16, 1999 (the date of the first notebook RFQ), the OTD signed a contract for training facilities. Training for field staff was to begin in March 2000. This in effect imposed a deadline for the notebook and related computer training. If the training had to be canceled, it could have resulted in as much as a \$495,000 penalty.

During the procurement process there were other indications of compressed planning, due primarily to the self imposed training time frame. For instance, not all of the BAM approved equipment was listed in the RFQ solicitation process; contract specifications evolved during the process (although these specification changes appeared minor); vendor quotations came in various forms (primarily leasing terms); there was at least one error noted on one RFQ that was sent to vendors (requirement of 300 docking stations versus 400 docking stations – at least one vendor responded with a 300 docking station quote); RFQ and BAFO response times were relatively short; OGC’s review was late in the process; the request for name brand and CBD advertising waivers were obtained late in the process; and the procurement file was not well organized.

Considerations for Future Replacement of Notebooks

The current lease expires on April 30, 2003. This next notebook procurement will differ from the previous one. Unlike the previous

procurement, the next procurement will require all equipment to be returned as of a particular date or risk paying two concurrent lease payments. NCUA must return the equipment to the NCUA central office by April 30, 2003 for lessor pick up. If equipment is returned late, the agency will be liable to make prorated lease payments.

Moving from the current lease into another lease in 2003 will require extensive upfront planning to minimize costs and confusion. NCUA should start planning for the next lease in sufficient time to address all future requirements and risks. We have listed below a preliminary list of some of the considerations that NCUA needs to consider in planning for its next lease:

- How is the agency going to remove computer hard drives and store data and/or software?
- How is the agency going to transfer such information to new procured equipment?

- How is the agency going to arrange erasing of leased hard drives?
- How will the agency arrange the logistics of returning all leased equipment (notebooks, docking stations, printers, desktops) to the central office, procure new equipment, and keep examiners working?
- Does the agency have adequate storage capacity at the central office for all returned equipment?
- How will the agency handle removing leased equipment from the inventory system and entering new equipment in the inventory system?
- How will the agency ensure compatibility with existing SuperDisk if new hardware does not have SuperDisk drives?

Recommendations:

11. NCUA should prepare a definitive plan for the eventual replacement of the current leased computers with a new lease. This will require substantial upfront planning prior to April 2003.

OED, OA, and OCIO agreed with this recommendation. According to OA, the tight time frames cause haste, which resulted in incomplete documentation. However the ISOC should and the contracting officer will ensure adequate time frames are established for future acquisitions of this nature. According to OCIO, planning has already begun for the next rollout.

12. NCUA should consider developing a checklist to ensure compliance with relevant policies and procedures.

OED, OA, and OCIO agreed with this recommendation. According to OA, the tight time frames cause haste, which resulted in incomplete documentation. However the ISOC should and the contracting officer will ensure adequate time frames are established for future acquisitions of this nature. OCIO will work with OA to develop a checklist.

Section II: WINDOWS 2000 MIGRATION OBSERVATIONS & RECOMMENDATIONS

NCUA WAS NOT EXPOSED TO UNREASONABLE RISKS BY IMPLEMENTING WINDOWS 2000 EARLY

Our second objective was to determine if the agency was exposed to unreasonable risks by implementing Windows 2000 prior to its general release and use by the IT community. We determined that the agency implemented an early copy of Windows 2000 that was obtained directly from Microsoft in December 1999 and was the same release placed on store shelves in February 2000. We determined that there were risks with implementing Windows 2000 prior to its general use in the industry, however, those risks were not unreasonable and many steps were taken to mitigate some of the risks.

Although the CIO is responsible for the agency's architecture as defined in the Clinger-Cohen Act of 1996, NCUA's CIO informed the ISOC and OED of his impending decision to migrate from Windows NT 4.0 to Windows 2000. The CIO identified the benefits of Windows 2000 and took action to mitigate some of the risks of early adoption. The upgrade to Windows 2000 was inevitable, so the CIO weighed the options of adopting Windows 2000 with our new hardware or waiting. Although there was insufficient documentation to determine the level of testing performed, the post implementation results indicate that there were no significant issues with our migration to Windows 2000.

As a result of our review, we identified several areas where the OCIO should improve project planning and documentation and made appropriate recommendations.

CIO has Authority to Make Decisions about Architecture

Both the Clinger-Cohen Act of 1996 and NCUA's CIO position description indicate that the CIO

has the authority to make decisions about the agency's architecture. Clinger-Cohen mandated the position of chief information officer (CIO) in executive agencies and departments and defined the general responsibilities of the CIO. These responsibilities included designing and managing the agency's architecture and determining any changes necessary. Clinger-Cohen defines architecture as "...an integrated framework for evolving or maintaining existing information technology and acquiring new information technology..." In addition, NCUA's CIO position description states the CIO is responsible for the information resources management program, and determining which aspects of available and emerging technology best fit the needs of the agency. The General Accounting Office's Executive Guide GAO-01-376G, *Maximizing the Success of Chief Information Officers*, describes the responsibilities of effective CIOs. CIOs

“...also centrally manage architectures and a core set of infrastructure components to provide common IT services to the entire corporation. The corporate CIO works with ... other information managers in each of the business units to ensure efficient, reliable, and interoperable technology for the entire corporation.”¹

As stated above, the Clinger-Cohen Act of 1996 invests the CIO with responsibility for implementing a sound and integrated information technology architecture for the agency. The position description for what is now designated the CIO position within NCUA², which was amended on November 11, 1996, to include CIO duties as a result of Clinger Cohen, reiterates this responsibility. Although Clinger-Cohen’s reach does not, in a strictly legal sense, extend to NCUA, the observance of the “best practices”³ principle makes it incumbent upon NCUA to consider the responsibilities set forth under Clinger-Cohen. In implementing Windows 2000, the CIO abided by both the responsibilities set forth in the Act, as well as in his position description. Moreover, in accordance with Part 790 of NCUA rules and regulations, the CIO informed the ISOC and the Office of the Executive Director (OED) of his impending decision to migrate from Windows NT 4.0 to Windows 2000.

The ISOC was reestablished on July 15, 1999, without a charter, and their responsibilities were not clearly defined. Interviews of the former ED and former DED indicated that the intent of the reestablished ISOC was to have oversight of major IT investments. The ISOC’s main focus from July 1999 through March 2000 was to oversee the \$9.38 million purchase of hardware that included notebooks for all agency employees. There was a consensus among most ISOC members that although the CIO is ultimately responsible for the architecture, major technology decisions impacting the agency should be presented to the ISOC. ISOC members agreed that they wanted to be informed about any major IT decisions. However, they had differing opinions on who should make the decision about technical issues such as the agency’s architecture, including the operating system. Many of the ISOC members did not feel comfortable making these types of decisions due to their lack of technical knowledge and felt the CIO was better positioned for this type of decision. Most board members and the former OED felt decisions regarding operating systems should be made by either by the ISOC or CIO.

Recommendation:

13. The agency head should clearly define the roles and responsibilities of all key personnel in relation to information systems. All key personnel should be informed of their responsibilities and have sufficient authority to

¹ GAO Report #GAO-01-376G, Maximizing the Success of Chief Information Officers

² Agency Position No. 9774.

³ In the area of information technology, “best practices” are defined as techniques that agencies, as well as private industry, may use to ensure reliable, timely access to information as well as effective management of information technology resources.

exercise the role and responsibility assigned to them. Specifically, the ISOC needs a charter with clearly defined responsibilities and accountabilities, and the CIO's responsibilities and accountabilities need to be clearly defined to help manage expectations and performance. All key personnel should indicate their acknowledgement of such responsibilities and accountabilities.

Although the CIO agreed with this recommendation, it was noted that defined responsibilities must be consistent with the legal constraints of Clinger-Cohen.

ISOC and OED were Informed of Impending Decision to Migrate to Windows 2000

Regardless of who has the authority to make decisions to change or upgrade operating systems, the decision regarding the migration to Windows 2000

was made after informing the ISOC and OED. The ISOC and OED were aware of the discussions to upgrade to Windows 2000, and there were **no dissenting opinions**. Although we determined that the ISOC and OED were informed of the impending decision to migrate to Windows 2000 through management reports and meetings, it was not clear what level of information was presented.

The ISOC was informed in late Summer/Early Fall 1999 about the possibility of proceeding with Windows 2000 and that testing results would determine whether we go with Windows 2000 or stay with NT. We interviewed all ISOC members and they had differing recollections of specific discussions surrounding Windows 2000. The ISOC Chairman and Director of E&I stated that the Director of E&I had considerable influence in



the decision to migrate to Windows 2000 due to his responsibility for AIREs. The Director of E&I felt it was a good decision to go with Windows 2000 with our new hardware rather than wait. Some ISOC members felt they were fully informed of the risks and benefits, while other members would have preferred more information. Unfortunately, the minutes of ISOC meetings were not adequate to determine what specific information was presented. Further discussion with former OED and some ISOC members revealed that they did not ask enough questions or relied on the CIO to make the appropriate decision.

Documentation in the management and quarterly reports issued by the CIO show that there was a possibility of migrating to Windows 2000, but they did not indicate specific reasons for our potential upgrade. The OTIS Update August 5, 1999, reflected that we were testing AIREs with Windows 2000 and Office 2000. The management report distributed in September 1999, noted we were testing Windows 2000, Office 2000, and Outlook for possible use in our next generation

notebook and performing controlled testing of AIREs on a beta version of Windows 2000. The management report distributed in October 1999 stated that parallel exams were performed using upgraded computers and a beta version of Windows 2000. However, the documentation prepared did not reveal the specific risks and benefits of migrating to Windows 2000.

Recommendations:

14. The ISOC Chairman should ensure that detailed minutes of all ISOC meetings are maintained and distributed timely to ISOC members, OCIO, OED, and OIG.

OED and OCIO agreed with this recommendation.

15. To ensure the ISOC and OED are adequately informed of major IT decisions affecting the agency, the CIO should prepare a business case analysis of all major information technology decisions for the ISOC and OED. This documented analysis could include any of the following:
- o Statement of the problem to be remedied or process to be improved, and how it will enhance NCUA's ability to achieve its goals;
 - o Risk assessment;
 - o Cost/benefit analysis;
 - o Options available;
 - o Resources required,
 - o And estimated schedule of implementation milestones.

OED and OCIO agreed with this recommendation. OCIO will improve documentation during the next acquisition cycle.

The Benefits of Migrating to Windows 2000 Early Outweighed the Risks

Although there were risks to early adoption of Windows 2000, the benefits outweighed the level of risk. Windows 2000 had many improvements over Windows NT 4 such as better stability, enhanced security, mobile user benefits, and many other operational improvements. The risk of migrating to Windows 2000 before the general population was also mitigated by Microsoft's level of beta testing as well as NCUA's involvement in beta testing, the timing of our hardware replacement, and training/contractor support with Windows 2000 experience.



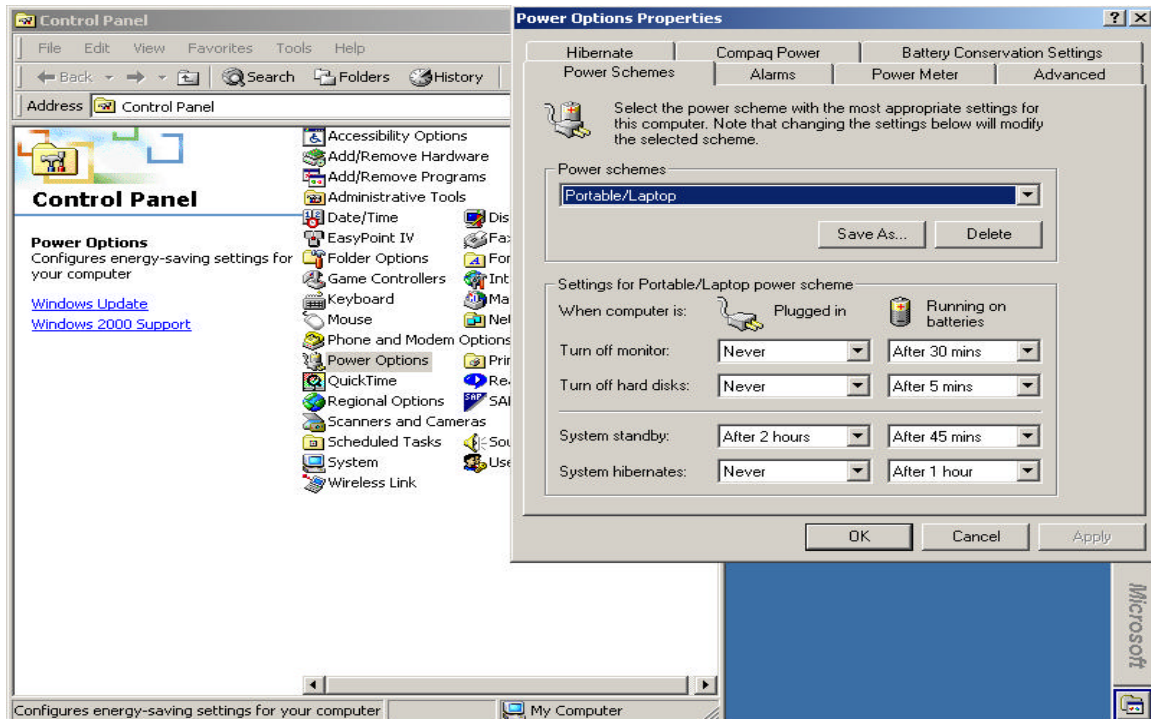
Windows 2000 was beta tested by more organizations than previous versions of Windows, and beta testers generally opined that Windows 2000 was more stable and secure than NT prior to its official release in February 2000. Many independent reviews and tests performed by the industry support these statements. Although there was much debate in the industry of when to

migrate to Windows 2000, there was a consensus that the timing of migration depends on the hardware replacement strategy. In December 1999, a well-respected, independent information technology consulting firm recommended deployment of Windows 2000, as part of the hardware replacement strategy and organizations should “begin deploying new systems that ship with Windows 2000 without waiting for Service Pack 1”. In addition, several other industry experts had similar views.

During NCUA’s beta testing, several OCIO staff indicated they felt confident with Windows 2000 late fall 1999. Most OCIO staff opined that by the end of 1999 the beta was more stable and provided many enhanced features over NT. The ADT/TDG testers we interviewed also opined that the AIRE platform was pretty stable at the end of 1999. However, they revealed that unforeseen problems were encountered in January 2000 when we received the final AIRE platform.

Improved security features include stronger out of the box security. Microsoft has configured Windows 2000 so when it is installed out of the box without “flipping any switches” it is more secure than NT. NT required you to “flip the switches” to enhance the security. This required system administrators to have knowledge of these configuration switches and physically “check the box”. In addition, Windows 2000 supports encryption, virtual private networks, SecurID token, and strong authentication. Virtual private networks are a secure way of allowing a remote user to connect to the network. NCUA plans to support virtual private networks in the future to increase the security of our platform and systems. SecurID token is a feature that provides for secure remote access. NCUA implemented this feature with the rollout of new hardware and migration to Windows 2000. Windows 2000 has a feature that allows administrators to increase the security of local machines by preventing users from installing software and changing important system files. This feature also prevents users from viruses that attempt to change system settings and important system files. The CIO made a policy to “lock down” all agency computers with this feature.

Mobile user advantages in Windows 2000 include the power management feature, offline files feature, and encryption. The power management feature allows you to conserve power when the computer has been inactive by turning off the monitor and/or hard disk. In addition, power management will put your computer in hibernation or standby after a specified period of time. You can also set an alarm when your battery power is getting low.



The offline feature allows a user to download files from the network to their workstation so they can view these files while not connected to the network. This feature also allows users to make changes to these documents and synchronize the document when they reconnect to the network.

Encryption provides for a secure method of protecting files and data on the workstation. The inherent walk-away ability of a notebook makes it highly susceptible to theft. Encryption protects the data on the hard drive so unauthorized users cannot gain access to sensitive files and data.

Some of the operational benefits include better stability, more robustness, less maintenance, better control of user workstations that minimizes accidental configuration or system file changes, easier distribution of software to staff, and a consistent platform across the agency.

Some of the risks migrating to Windows 2000 in early 2000 were the immaturity of this version of the operating system, vendor compatibility, uncertainty of delivery date, and staff's lack of knowledge in the new features of the operating system. Any potential problems with a new operating system would be revealed during the first year after release. Since we implemented early, we would be subject to these potential problems.

When a new version of an operating system is released, most of the old features have been streamlined and integrated with new features such as Active Directory. The inherent risks found in a new operating system will primarily be found within new features resulting in "bug" reporting and needed patches. The

risks in the new operating system will decline as the general use and reporting of issues increases. As users identify “bugs”, they will be fixed and applicable patches will be made available. Service Pack 1 was issued in July 2000 and contained several patches that fixed minor issues with Windows 2000. This service pack was “designed to ensure Windows 2000 platform compatibility with newly released software and drivers, and contains updates that fix issues discovered by customers or via internal testing.”⁴

Just as the operating system is new and has inherent risks, hardware vendors must create new drivers for the new operating system to work with their devices. Because the product is so new, it is possible that the hardware vendor has not created the drivers for your specific equipment. However, if you are buying new equipment the odds are greater that the hardware vendor has created such a driver. Also, many of the large hardware vendors work with Microsoft and have advance knowledge of the new operating system, so they are ahead of the curve in creating the necessary drivers. Compaq worked closely with Microsoft since 1996, and a majority of Windows 2000 code was developed and tested on Compaq equipment.

Software vendors must also modify their software to take advantage of the new features of the operating system. Just like hardware vendors, most large software vendors work with Microsoft in the early stages of development to create software that is compatible with the operating system. If the hardware and software vendors did not work with Microsoft, they would be behind other leading companies and would lose significant market share of their product. One example of where we were affected by a software vendor not ready for the new operating systems is virus protection. As a result, we rolled out the notebooks without desktop virus protection. Although there was no virus protection on the desktop, OCIO incorporated several mitigating controls to protect us from potential viruses. These controls included the lockdown, network virus protection, and real-time virus scanning on the mail server.

We received Windows 2000 on December 24, 1999, the notebooks arrived in January 2000, and the training was scheduled for March 2000. There was no room for slippage in the schedule. If we did not meet the schedule in Denver, the agency would have lost up to \$495,698 for the hotel training facility. However, if we did not receive Windows 2000 by the end of the year, we would have quickly reverted to our contingency plan using NT so we would not forfeit the hotel penalty. This contingency plan is discussed further below.

There were fundamental changes in Windows 2000 that required training and education to learn the new features and how to implement them effectively. Due to OCIO’s lack of Windows 2000 knowledge and experience, the OCIO hired a contractor to train OCIO staff and assist in setting up the configuration. This

⁴ [Windows 2000 Service Pack 1 Market Bulletin](#), July 31, 2000, Microsoft web site

contractor also reviewed our configuration to ensure of its viability and make improvements before we rolled out the system.

There were other risks that were not Windows 2000 related. These risks included the computers not ready; AIRES not ready; the hotel not ready; incompatibility between the new notebooks, Windows 2000, Office 2000, and AIRES 2000; a snowstorm in Denver preventing delivery of the equipment; key OCIO staff becoming ill or incapacitated before the final platform was complete.

The Best Long Term Option Available was to Migrate to Windows 2000 with NCUA's New Hardware

We had three options for migrating to Windows 2000 and the least disruptive and most beneficial option to the agency was to

migrate to Windows 2000 in connection with our notebook replacement. Industry literature indicated your migration to Windows 2000 should coincide with your hardware replacement strategy. In addition, interviews of agency staff and managers disclosed important details that support our early migration to Windows 2000. As a result of our early migration, the agency has saved significant resources and will benefit from the many enhanced features of Windows 2000.

The three options NCUA had with regard to migrating to Windows 2000 were:

- We could migrate to Windows 2000 when we received our new hardware
- Rollout NT with the new hardware, and upgrade to Windows 2000 a year or so later
- Rollout NT with the new hardware, and wait for our next hardware replacement three years later.



If we waited a year to upgrade to Windows 2000, it would have required significant resources, both time and money, to upgrade the machines later for our remote population. To upgrade a computer from NT to Windows 2000, it would have required an OCIO staff person to touch every computer. Upgrading an operating system on existing hardware is not a simple task that can be delegated to a user. In addition, we would have delayed the benefits of Windows 2000 including better security and control. If we waited three years to migrate to Windows 2000, the agency would have incurred higher IT maintenance costs and Microsoft probably would not be supporting NT.

Project Management and Planning Need to be Enhanced

There was no one project manager assigned to oversee the entire effort from development through

distribution. Staff personnel and contractors assumed many of the

responsibilities. There was a project manager that managed the logistics and distribution. One key OCIO manager delegated much of their responsibility to a contractor. Another key OCIO manager delegated much of their responsibility to staff. The CIO was heavily involved in overseeing the entire process from planning through implementation, and the Deputy CIO was involved in the acquisition and procurement process. A contractor and staff employee assumed many of the responsibilities of the project, and without their efforts, the outcome of the project would have been at risk. A mitigating control was frequent meetings within OCIO to discuss issues encountered and their resolution.

Although there was a project plan for our rollout and distribution of our new platform, this project plan was not detailed. The plan was missing critical steps, deliverables, milestones, and identification of dependencies. We were not presented with any analysis of minimum requirements for Windows 2000 migration, analysis of each application to determine what effort was required to ensure compliance with Windows 2000, or analysis of resources required to perform the various migration tasks for compliance with Windows 2000. It appeared that NCUA applications were not migrated to Windows 2000 until late 1999 due to the lack of a detailed project plan. The CIO later informed us that limited resources and internal resistance also were key factors.

Although some staff had concerns about the timing of the migration to Windows 2000, most staff felt confident they could meet the schedule. However, there was resistance from a key OCIO staff member regarding the migration to Windows 2000 with the notebook rollout. This resistance was presented with arguments of why NCUA should wait. Although many reasons were presented for staying with NT, very little was offered for consideration for the anticipated Windows 2000 migration. This internal resistance appeared to have a negative impact in the migration and deployment of Windows 2000.

Although the final configuration was documented, there was insufficient documentation regarding the control over the changing configuration and multiple versions on the different test machines. Since there was a lack of documentation regarding the configuration process, we had to rely on interviews that indicated user privileges were configured inconsistently. The software version control for Windows 2000 had an impact on the testers in the field. These conditions included testers having different releases of Windows 2000 and different security levels. Although some of this inconsistency could be attributed to timing differences with our remote staff, there was inadequate version control to ensure all testers and developers were using the same platform and version of applications. It is critical in a test environment to ensure everyone is on the same version with the same configuration. Otherwise, a tester could be identifying bugs in an old version, or miss testing features that may be inadvertently broke in a new version.

Recommendations:

16. Assign a Project Manager to major projects that has authority and responsibility to ensure all critical tasks are performed, keep everyone on schedule, make modifications in the plan if required, make critical decisions, and resolve problems. The role of a project manager should be given to a key individual with responsibility for coordinating all efforts: notebook acquisitions and distribution, software development and testing schedules, configuration and migration, contingency planning, and delivery schedules.

OED and OCIO agreed with this recommendation. OCIO will formally designate an overall project manager to the next computer renewal project.

17. Develop project plans that include the steps and resources required, allocation of responsibilities and authorities, priority level of each step, dependency relationship between steps, critical milestones, test documentation, and approval procedures. A project plan can assist in estimating the effort involved and resources required to ensure the successful outcome of a project, ensure all critical tasks are performed, as well as give indicators when a project is slipping and needs to be modified or killed.

OED and OCIO agreed with this recommendation. OCIO will enhance large-scale project planning with a comprehensive project plan to include these items during the next computer renewal project.

18. Monitor budgeted versus actual project milestones and costs and report to senior management throughout every major project phase.

OED and OCIO agreed with this recommendation. According to OCIO, they monitored project milestones and informed ISOC and agency senior managers through meetings and management reports. OCIO will formally report milestones to the ISOC and OED during the next computer renewal project.

19. Develop procedures to ensure adequate version control and configuration from the development and testing process through production.

OED and OCIO agreed with this recommendation. OCIO will formally document version control and the configuration management process during the next computer renewal project.

Insufficient Evidence to Determine the Amount and Level of Testing Performed

We were repeatedly told extensive testing was performed on Windows

2000, however we were unable to determine the level of testing that was performed because of the lack of documentation and various memory recollection. Although we cannot conclude whether sufficient testing was performed on the Windows 2000 platform, with a project of this magnitude the post rollout problems would have been more significant and frequent than we had encountered if there was insufficient testing. This is not to say that we didn't have any problems, because we did. However, the problems encountered had simple workarounds or were not significant to stop work. Some of the problems were difficult to isolate since we changed the hardware, operating system, Office version, and AIRES simultaneously. To say the problems were primarily due to the operating system would be a presumptive statement. For further discussion of the post rollout issues see below.

There is indication that we started field-testing the Windows 2000 beta in August 1999. Field-testing provides many benefits because users in their environment use real world examples in testing. Management reports and OCIO staff indicate ADT/TDG were provided with new IBMs with Windows 2000 beta, Office 97, and AIRES 2000. Although some testers do not recall seeing Windows 2000 until January 2000, when prompted to identify the differences in the operating system they were not certain how to tell the difference between Windows NT and Windows 2000. There was no test documentation that indicated the platform tested, when it was tested, what items were tested, etc. Although E&I maintained a database with the test results of bugs found in Aires 2000, there was no documentation that demonstrated the features that worked properly. In addition, there is no documentation to support testing of other custom NCUA applications. Interviews indicate that developers tested the other applications, but we have not seen any evidence to show what was tested, when, how, or who.

In mid January 2000, testers received the new Compaqs with the final release of Windows 2000 and Office 2000 for final testing. All major areas of AIRES 2000 were working prior to the issuance of the Compaqs with the Windows 2000 RTM to field testers. New problems started occurring with AIRES 2000 and AIRES 16 on these computers that were not occurring on the IBM 600E test computers using the Windows 2000 platform, beta version 3.

Recommendations:

20. Test documentation needs to be strengthened by the OCIO and the Office of Primary Interest. The key aspects of testing include development of an adequate test plan, execution of the test plan, and the analysis and reporting of test results. The test plan should indicate the system functions and cross reference them to tests designed to validate the correct operation of those functions. Test results should indicate the actual results and pass/fail status of those tests and relate the results to the function, indicating whether it performs correctly. There should be a tracking mechanism to ensure that all issues reported are resolved and

retested. The test report should indicate what works and does not work, as well as the test group's opinion on the adequacy and acceptance of the system. Testers must be independent of the development process. Attempting to test 100% of an application or system should never be a goal, because not every feature or function of a system is worth testing. Testing should be risk based and focus on all critical features of the system, areas whose failure would cause the most damage and disruption to the organization.

OED and OCIO agreed with this recommendation. According to OCIO, they will work jointly with E&I to strengthen testing documentation during the next computer renewal project.

21. All major system changes should be thoroughly tested and subject to an independent review by Quality Assurance before it is introduced into the production environment.

OCIO agreed with this recommendation. According to OCIO, they significantly increased the amount, and improved the quality of testing on this project, as demonstrated by the quality of the product distributed to end users and the overall success of the entire conversion. Although OCIO feels strongly about the QA process, this is a resource issue that will be addressed in the OCIO budget for the next computer renewal project.

The Contingency Plan to Revert Back to NT was Questionable

We do not have any evidence to support that NT was a viable contingency plan. We were

informed that if Windows 2000 was not ready for our use in time, our contingency plan was to continue with the NT platform. Although OCIO management and staff indicated this was the plan, they were unable to articulate what was involved to ensure this was a viable option. We were presented with varying opinions of the steps involved, as well as the time involved to activate the backup plan successfully. We were informed it would take anywhere from a few days to a few months to ensure sufficient testing of all applications on the NT platform. In addition, there was no firm date that would trigger our plan to go back to NT. Compounding the plan to revert to NT was that in Fall 1999 development had switched to a Windows 2000 development environment due to time constraints. Although, there was indication that all programs had to be ready for a Windows NT 4/Office 2000 environment, there were varying degrees of skepticism that AIREs could be quickly reverted back to NT with all subsequent changes since the switchover to Windows 2000 in Fall 1999.

In addition to the option of reverting back to NT, OCIO projected the regional conferences would be used for any issues that were encountered after the initial distribution. With any hardware or software upgrade, you can expect there to be

some issues that need to be tweaked. The timing of the regional conferences allowed a couple of months for identification and resolution of problems. Some of the issues identified after the initial rollout, such as power management, BIOS upgrades, and minor software upgrades, were patched and resolved during the regional conferences. Further discussion of the post rollout issues is discussed below.

Recommendation:

22. Prepare and document contingency plans for significant upgrades. Some of the items to be considered in the plan are critical steps to be performed, resources required, trigger dates, and dependencies. A well-supported contingency plan should also be tested to ensure its effectiveness. A contingency plan should be well documented to identify all the steps necessary to have a successful backup plan. When there is a need to use a contingency plan, often there is inadequate time to ensure all the necessary steps are performed, and as a result some things are overlooked. A well documented and communicated plan ensures that all critical steps are identified and performed.

OED and OCIO agreed with this recommendation. According to OCIO, the contingency plan was to stay with the current operating platform (Windows NT). However, OCIO will document a formal contingency plan for critical steps in the next computer renewal project.

NCUA Rolled Out an Early Release of a Commercial Version of Windows 2000 – This Early Release was the same as the Public Release on February 17, 2000

We determined that NCUA rolled out the first available non-beta version of Windows 2000, which is called the Release to Manufacturing (RTM) version, which had limited availability prior

to release on store shelves. The RTM was build 2195, which is the same build as the current commercially available product. We verified that the RTM is the same product that was released on store shelves in February 2000.

A beta version is a software product in process of being tested by the user community to put the product through real world testing and flush out any bugs. It is very common in the information technology field to obtain and test beta versions of software. This is not unique to NCUA. Many corporations and agencies evaluate betas in order to familiarize themselves with the product and determine whether they may want to upgrade in the future. The evaluation of a beta product aids IT shops in their decision making process.

We obtained our beta version thru a developers' software package that we subscribe to. We began testing Windows 2000 because there was a possibility

we could use this new and improved operating system with our approaching notebook purchase.

Although it was not certain when Windows 2000 would be released commercially (at the time, it was anticipated for release in October 1999), there was a strong possibility it would be released before we received our new hardware. Because of the many improvements and enhanced features in Windows 2000, the CIO recognized the benefits of implementing Windows 2000 as soon as possible. It was clear that the IT industry would be moving in this direction and that Windows 2000 would be the preferred operating system of the near future. At the time we started evaluating the Windows 2000 beta, the funding had not been requested, hardware had not been ordered, and training had not been scheduled. NCUA could not determine which operating system we would use without knowing the specific timeframe involved and internal testing results of the new operating system. The CIO's preference was to migrate to Windows 2000 if there were indications of stability and availability, rather than distribute Windows NT with our new hardware and a year later go through the extensive, as well as expensive, process of upgrading all the hardware to Windows 2000. The CIO had a vision of how Windows 2000's improvements would directly enhance NCUA's architecture and reduce costs in the long run, as well as the logistical nightmare of upgrading users machines (majority of them remote users) from Windows NT to Windows 2000. An informed decision regarding the operating system could not be made without evaluating the Windows 2000 beta. The beta evaluation gave us a head start on learning the enhancements and operations of this new operating system. It was late fall 1999 when the CIO felt confident that Microsoft would release Windows 2000 to manufacturing by the end of the year. It was late November, early December 1999 when Microsoft gave the CIO assurance that they would provide NCUA with the first available copy of Windows 2000 by the end of the year.

The first Windows 2000 version we placed in production was the RTM version. This is the first version available after beta. According to Microsoft, this was the same version that is packaged for commercial release and put on store shelves in Mid February. The fact that we received it two months before it hit store shelves does not indicate it was a different product. It takes about this long for the manufacturer to mass produce CDs and documentation, package, and distribute to stores. Due to the critical timing of our rollout, Microsoft provided NCUA with this early release at the end of December 1999. We also verified that the original version of Windows 2000 Professional on our computers is the same version after Service Pack 1.

**Post Implementation Results Show
No Major Issues**

There was an overwhelming consensus that the issues encountered after training and

implementation were either insignificant or minor with workarounds. We interviewed several Office Directors, RD and ARDs. Most were happy with the

final platform and indicated there were only minor problems. Most of the people we interviewed opined that the platform was more secure and stable than NT and more flexible for travelers. Service Pack 1 was issued in July 2000 and had minor impact on NCUA issues.

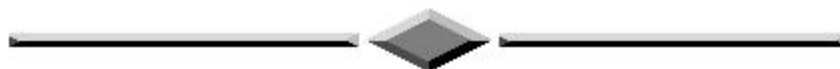
There was inconsistency in the perception of problems during the first training sessions. One ARD from the first training session in Denver indicated there were only minor problems, while other staff indicated there were more serious issues encountered during this training session. The AIREs project manager and AIREs developer indicated that most AIREs issues were resolved by the last training session in Denver.

OCIO and Help Desk staff indicated post rollout issues were minor. They indicated there were issues with the Bios, power management, drivers, and lockdown. The Bios issue caused problems with the battery and Superdisk. A chip in the battery conflicted with the bios causing the battery to die. The solution was to get a new battery or plug it in. The Superdisk would not work via the parallel port, however it would work in the MultiBay. There was an issue with the power management feature when the system was left idle. Some of the drivers were not available, but the effect on NCUA was insignificant. Although the DVD device driver was not available, the DVD could still be used as CD. There were some issues with printer drivers, but most of these issues were resolved by obtaining an alternative driver from the manufacturer. Although there was limited desktop virus protection with the new notebooks, this was mitigated by real-time scanning on the e-mail server and network. The help desk staff indicated there was a low incident rate of viruses during this period.

There has been controversy surrounding the policy to “lockdown” local user machines. The lockdown is recommended by Microsoft to increase the security of local machines. But with security, there is a price. That price is the inability of users to load software, add printer drivers, and change critical system files.

Service Pack 1 became available in July 2000 and repaired minor issues. “SP1 was designed to ensure Windows 2000 platform compatibility with newly released software and drivers, and contained updates that fixed issues discovered by customers or via internal testing. The main areas addressed by this service pack were:

- Application and hardware compatibility
- Windows 2000 setup
- Operating system reliability
- Security, including the latest updates for known Windows 2000 security issues.”⁵



⁵ Windows 2000 Service Pack 1 Market Bulletin, July 31, 2000

APPENDIX

Simplified Procurement Policy and Procedures

- Contracting officer has broad discretion in fashioning suitable evaluation procedures; and
- Formal evaluation plans and establishing a competitive range, conducting discussions, and scoring quotations or offers are not required.
- Contracting officer must determine that the proposed price is fair and reasonable; and
- Keep documentation to a minimum. For solicitation up to \$5million, a brief written description of the procedures used in awarding the contract, the number of offers received, and an explanation of the basis for the contract award decision; and
- Limit written records of solicitation or offers to note or abstracts to show prices, delivery, references to printed price lists used, the suppliers contacted and other pertinent data.
- Contracting officers shall not solicit quotations based on personal preference or restrict solicitation to suppliers of well-known and widely distributed makes or brands.
- Contracting officers shall promote competition to the maximum extent practicable;
- Notify potential quoters or offerors of the basis on which award will be made;
- Establish deadlines for the submission of responses to solicitations that afford suppliers a reasonable opportunity to respond;
- Consider all quotation or offers that are timely received;
- Evaluate quotations or offers in an impartial manner, inclusive of transportation charges, on the basis of established in the solicitation, and consider all quotations or offers;
- Use innovative approaches, to the maximum extent practicable, in awarding contracts using simplified acquisition procedures;
- Comply with policy relating to economic purchase of quantities, when practicable;
- Satisfy procedures with respect to Certificates of Competency before rejecting a quotation from a small business concern determined to be nonresponsible;
- Provide for the inspection of supplies.
- Contracting officers should include related items (such as small hardware items) in one solicitation;
- Make maximum effort to obtain trade and prompt payment discounts
- Maintain a source list of small businesses, small disadvantaged businesses and women-owned small businesses.
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APPENDIX

- Standing prices may be used if pricing is current and the agency obtains the benefit of maximum discounts before award.
- Purchase orders are generally on a fixed price basis for the acquisition of commercial items;
- Specify the quantity of supplies;
- Contain a determinable delivery date;
- Provide for inspection and acceptance of goods.