

August 1990

# HHS ADP PROCUREMENT

## Contracting and Market Share Information



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**Information Management and  
Technology Division**

B-240600

August 30, 1990

The Honorable John Conyers, Jr.  
Chairman, Committee on Government  
Operations  
House of Representatives

The Honorable Frank Horton  
Ranking Minority Member, Committee  
on Government Operations  
House of Representatives

This report responds to your February 1989 requests for a comprehensive review of federal agencies' compatible computer procurements.<sup>1</sup> In your initial requests and in subsequent discussions with your offices, we were asked to answer several specific questions about agencies' procurements of mainframe computers and mainframe peripheral equipment. Your questions focused on identifying the extent to which agencies' procurements of mainframe computers and mainframe peripherals required compatibility with International Business Machines (IBM) or any other computer manufacturer. You were also interested in knowing details such as the identification of manufacturers whose equipment was acquired by each agency and the procurement methods used to obtain equipment.

This report focuses on the Department of Health and Human Services (HHS). The information we obtained from HHS shows that during the 3-1/2 fiscal years ending in March 1989, HHS had a total of 145 procurements for mainframe computers and mainframe peripherals and that 92 percent of these procurements (134) required some type of compatibility. HHS required IBM compatibility 98 percent of the time (131 of its 134 compatible procurements). When HHS' procurements required IBM compatibility, IBM equipment was supplied 79 percent of the time (103 of the 131 IBM-compatible procurements).

HHS obligated \$193.5 million for the 145 mainframe and mainframe peripheral procurements. When we used dollars for comparison—as opposed to the number of procurements—we found that overall HHS

<sup>1</sup> A compatible procurement requires hardware or software that functions like specified or existing hardware or software, with little or no modification. Competition in such procurements may occur between manufacturers and marketers—such as system developers and system integrators—to supply equipment that meets the compatible requirements. Since there is the potential for competition between manufacturers and marketers, a compatible procurement does not necessarily result in the award of a sole source contract.

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obligated more dollars for IBM equipment than for all other manufacturers' equipment (\$161.7 million for IBM versus \$31.8 million for all others), including both compatible and other procurements where no compatibility was required. Of the 134 compatible procurements, with total obligations of \$191.7 million, we found that HHS obligated \$190.6 million to the IBM-compatible procurements. HHS obligated \$161.7 million for the 103 IBM-compatible procurements that involved IBM equipment.

As requested in discussions with your offices, we also obtained information from HHS on the procurement methods it used, including HHS' use of contractors that participate in the Small Business Administration's program for small disadvantaged businesses—known as 8(a) contractors. The detailed questions you asked and our answers are summarized in appendix I. Appendix II contains tables with detailed statistics that are the basis for our answers to your questions. Also, because of your interest in the Health Care Financing Administration (HCFA), the National Institutes of Health (NIH), and the Social Security Administration (SSA), we have included separate tables in appendixes III, IV, and V respectively of detailed statistics on their procurements.

We are reporting information for the 3-1/2 fiscal years from October 1, 1985, through March 31, 1989. All the information is based on HHS' response to a questionnaire we devised and distributed to 35 agencies. We did not independently validate HHS' information, nor did we evaluate any documentation related to individual procurements. However, we checked the HHS data for consistency with the instructions for our questionnaire and made appropriate revisions. At your request, we did not solicit or obtain comments from HHS on this report. Appendix VI contains additional details on the objective, scope, and methodology of our work.

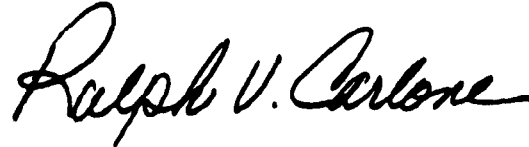
In addition to this report on HHS, we previously reported similar information on the Departments of Agriculture, Commerce, and Defense. We also reported on the Army, Navy, Air Force, and the National Aeronautics and Space Administration.

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As arranged with your offices, unless you publicly announce the report's contents earlier, we plan no further distribution until 30 days after the date of this letter. We will then send copies to HHS and will also make copies available to others upon request.

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This information was compiled under the direction of Jack L. Brock, Jr., Director, Government Information and Financial Management, who can be contacted at (202) 275-3195, should you require additional information. Other major contributors to this report are listed in appendix VII.



Ralph V. Carlone  
Assistant Comptroller General

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of Equipment

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**Abbreviations**

ADP	automated data processing
HHS	Department of Health and Human Services
HCFA	Health Care Financing Administration
GAO	General Accounting Office
GSA	General Services Administration
IBM	International Business Machines
IMTEC	Information Management and Technology Division
NIH	National Institutes of Health
SSA	Social Security Administration

# Questions and Answers About HHS Procurements

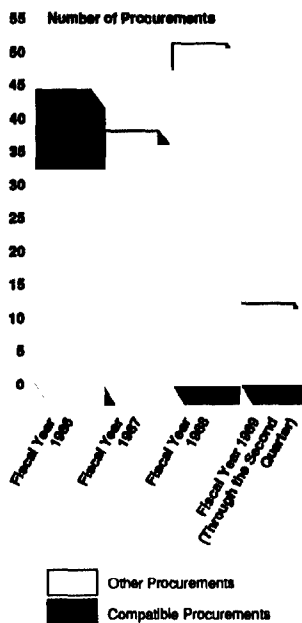
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**What are the numbers and dollar amounts of HHS mainframe and mainframe peripheral procurements requiring compatibility and is there any trend toward the increased use of compatible procurements?**

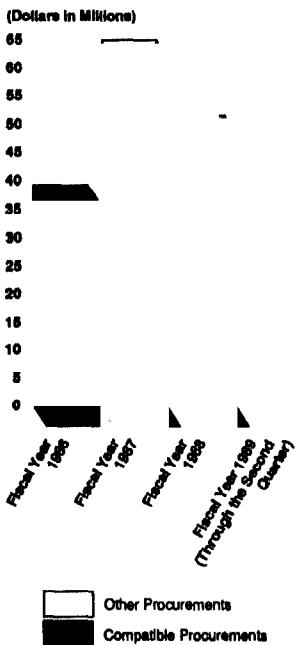
HHS had a total of 145 procurements and obligated a total of \$193.5 million for mainframe computers and mainframe peripherals during the 3-1/2 year period ending in March 1989. The HHS data showed that compatible procurements comprised 134 of their 145 total procurements, representing \$191.7 million of the \$193.5 million obligated. In each of the 3-1/2 fiscal years ending in March 1989—using the number of procurements as a measure—the percentage of compatible procurements was 84 percent or higher. Also, during the same period the percentage of dollars obligated to compatible procurements was 99 percent or higher. Because the HHS statistics indicate a consistently high percentage of compatible procurements, there was no trend toward increased compatible procurements.

**Appendix I  
Questions and Answers About  
HHS Procurements**

**Figure I.1: Number of HHS Mainframe and Mainframe Peripheral Procurements**



**Figure I.2: Dollars for HHS Mainframe and Mainframe Peripheral Procurements**

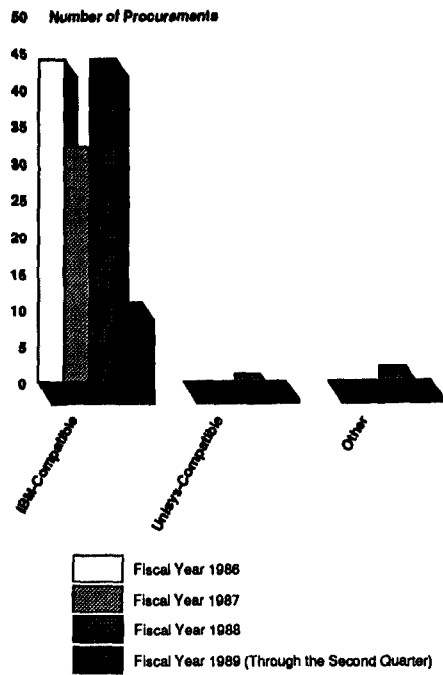


**What is the distribution of HHS's compatible mainframe and mainframe peripheral procurements according to type of compatibility?**

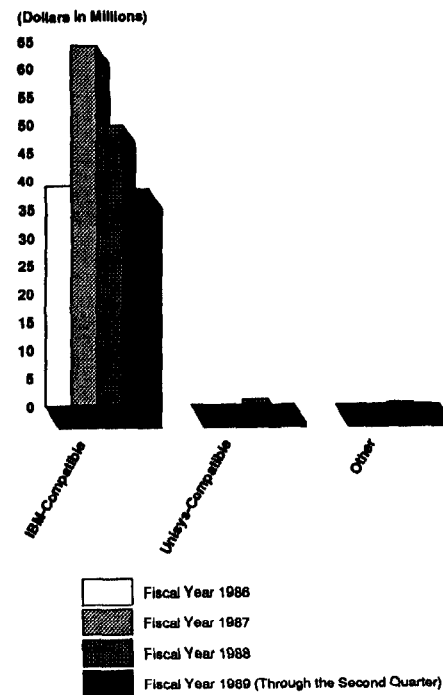
Those procurements that HHS identified as having a requirement for compatibility were primarily for IBM compatibility. Specifically, 131 (98 percent) of the 134 procurements were to satisfy IBM-compatible requirements representing \$190.6 million (99 percent) of the \$191.7 million obligated for all compatible procurements. The remaining three procurements, representing \$1.1 million were to satisfy one Unisys-compatibility requirement, representing \$900,000 of the obligations, and two other compatible procurements representing \$200,000.

**Appendix I  
Questions and Answers About  
HHS Procurements**

**Figure I.3: Number of HHS Compatible Procurements According to Type of Compatibility**



**Figure I.4: Dollars for HHS Compatible Procurements According to Type of Compatibility**

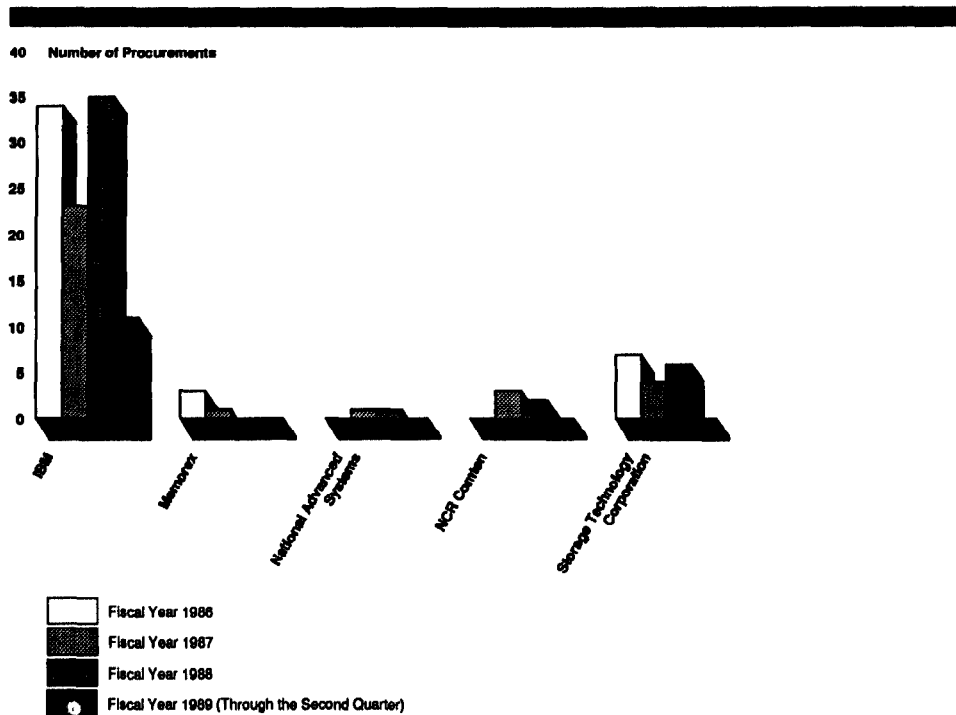


**What equipment manufacturers are involved in HHS' IBM compatible mainframe and mainframe peripheral procurements?**

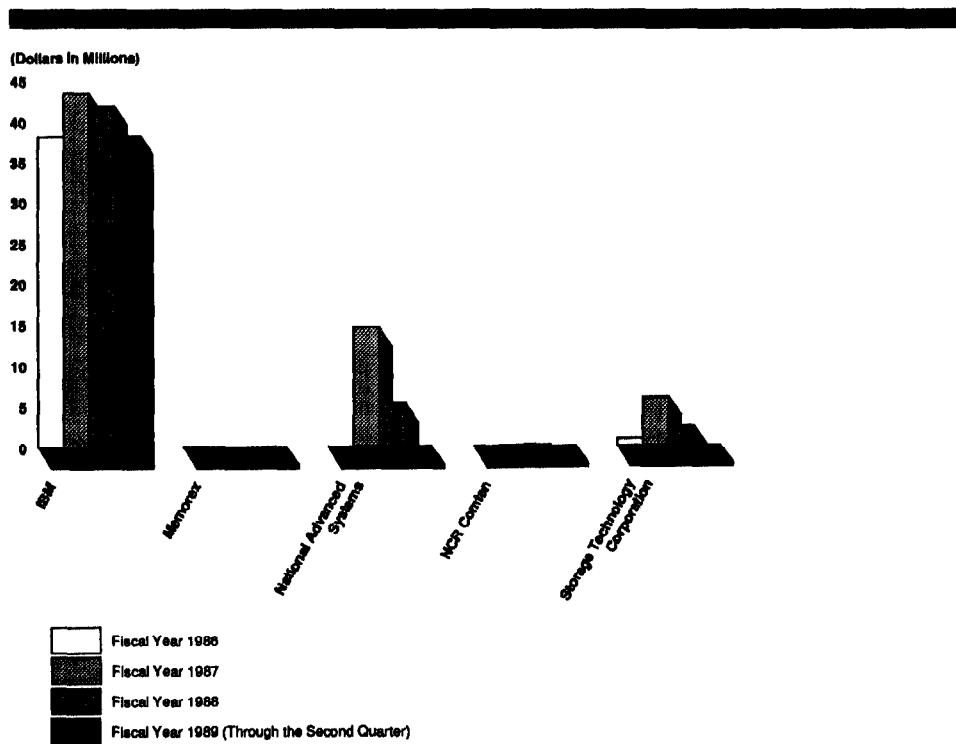
HHS obtained IBM equipment in the majority of its IBM-compatible procurements in each of fiscal years 1986 through 1989 (through the second quarter). Of the 131 IBM-compatible procurements, 103 (79 percent) resulted in HHS obtaining IBM equipment. Similarly, of the \$190.6 million obligated to IBM-compatible procurements, \$161.7 million (85 percent) was for procurements involving IBM equipment. In addition to IBM, other manufacturers involved in HHS's IBM-compatible procurements included Memorex, National Advanced Systems, NCR Comten, and Storage Technology Corporation.

**Appendix I  
Questions and Answers About  
HHS Procurements**

**Figure I.5: Number of HHS IBM-  
Compatible Procurements According to  
Manufacturer of Equipment**



**Figure I.6: Dollars for HHS IBM-  
Compatible Procurements According to  
Manufacturer of Equipment**



**What procurement methods were used to obtain all types of compatible mainframe computers and mainframe peripheral equipment? And, did HHS frequently use new contracts with 8(a) contractors to obtain compatible mainframes and mainframe peripherals?**

Using the number of procurements as a measure, General Services Administration (GSA) schedule purchases was the most frequently used method of obtaining equipment when HHS identified compatible requirements. This method accounted for 88 of the 134 compatible procurements. However, when measured using obligated dollars, HHS obligated the most dollars for procurements that required compatibility by modifying existing contracts. These contract modifications accounted for 24 of the 134 compatible procurements and \$97.5 million of the \$191.7 million obligated. New contracts with 8(a) firms were not used by HHS in any of the 134 compatible procurements.



Appendix I  
 Questions and Answers About  
 HHS Procurements

Figure I.7: Number of HHS Compatible Procurements According to Procurement Method

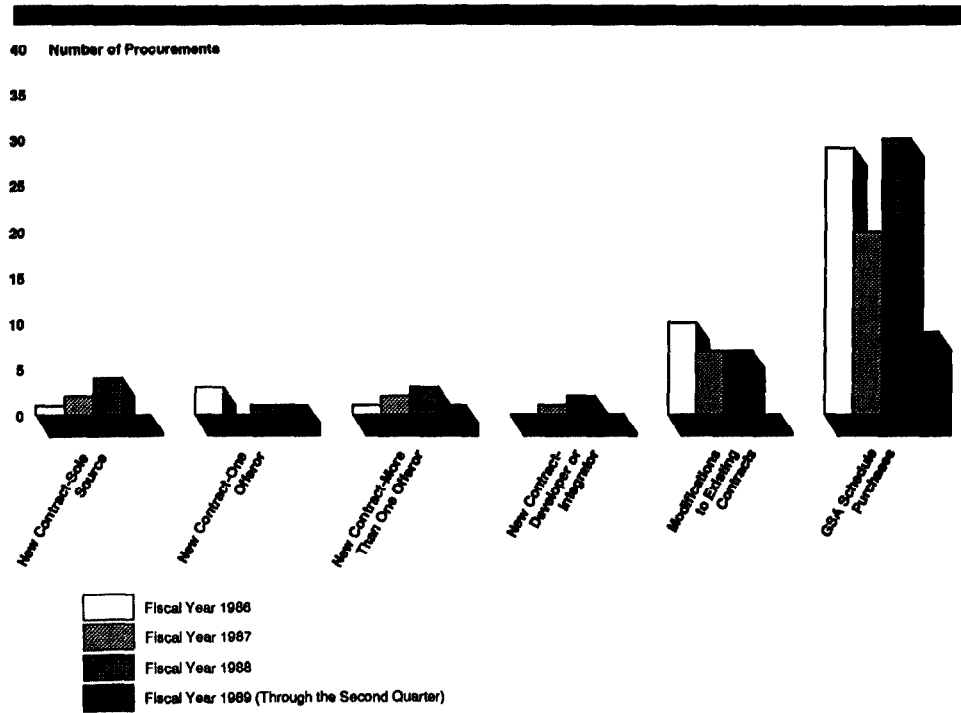
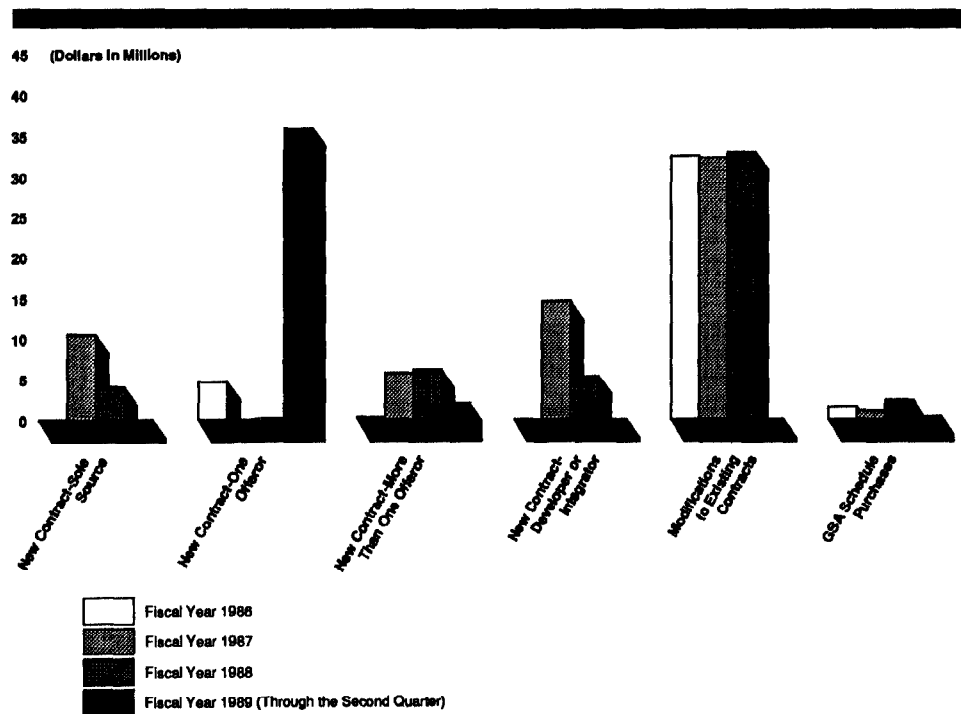


Figure I.8: Dollars for HHS Compatible Procurements According to Procurement Method

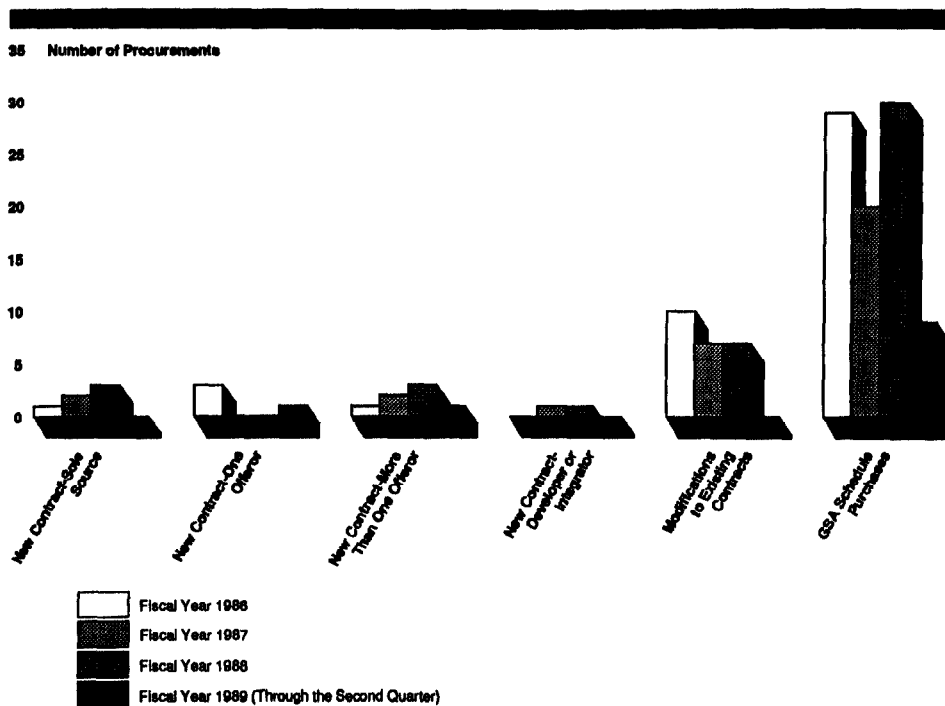


**What procurement methods were used to obtain IBM-compatible mainframe computers and mainframe peripheral equipment? And, did HHS frequently use new contracts with 8(a) contractors to obtain IBM-compatible mainframes and mainframe peripherals?**

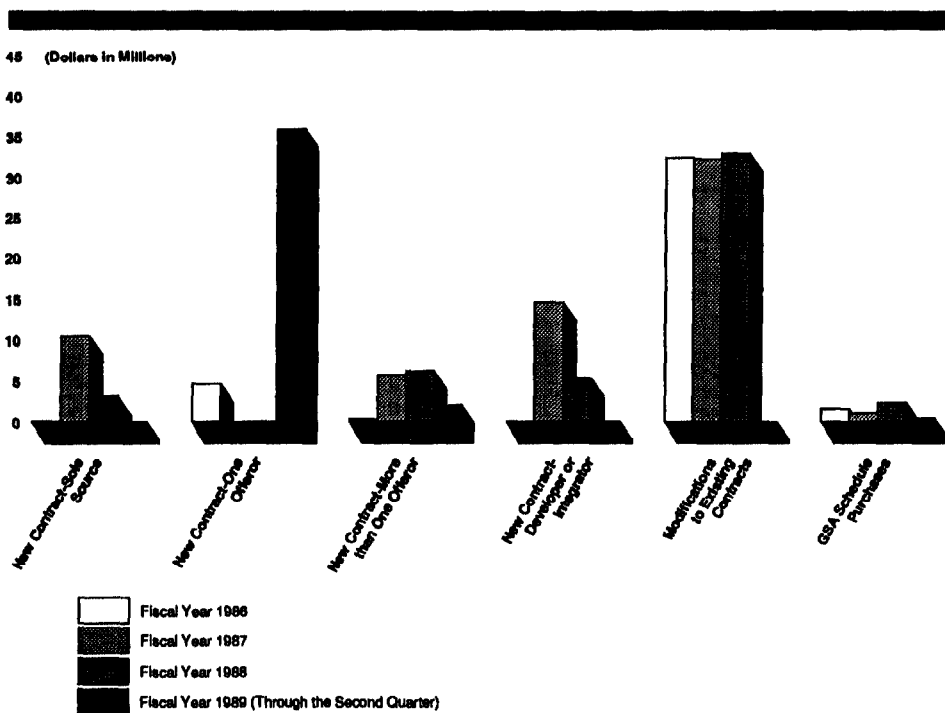
HHS most frequently used GSA schedule purchases as the procurement method for obtaining IBM-compatible equipment (88 of the 131 procurements). However, modifications to existing contracts accounted for more dollar obligations (\$97.5 million of the \$190.6 million obligated) than any other procurement method. New contracts with 8(a) firms were not used by HHS for any of the 131 IBM-compatible procurements during the 3-1/2 year period.

**Appendix I  
Questions and Answers About  
HHS Procurements**

**Figure I.9: Number of HHS IBM-Compatible Procurements According to Procurement Method**



**Figure I.10: Dollars for HHS IBM-Compatible Procurements According to Procurement Method**



**What equipment manufacturers are involved in HHS' mainframe and mainframe peripheral procurements, including both procurements where compatibility is required and procurements with no compatibility requirement?**

IBM equipment was most frequently supplied to HHS for mainframe and mainframe peripheral procurements in each of fiscal years 1986 through 1988 and the first half of 1989, with 103 (71 percent) out of 145 total procurements. Additionally, using obligated dollars as the measure, HHS' obligations for IBM equipment during the same 3-1/2 year period were \$161.7 million (84 percent) of a total of \$193.5 million. Memorex, National Advanced Systems, NCR Comten, Storage Technology Corporation, Unisys, and others supplied equipment to HHS during the 3-1/2 year period.

Appendix I  
 Questions and Answers About  
 HHS Procurements

Figure I.11: Number of HHS Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment

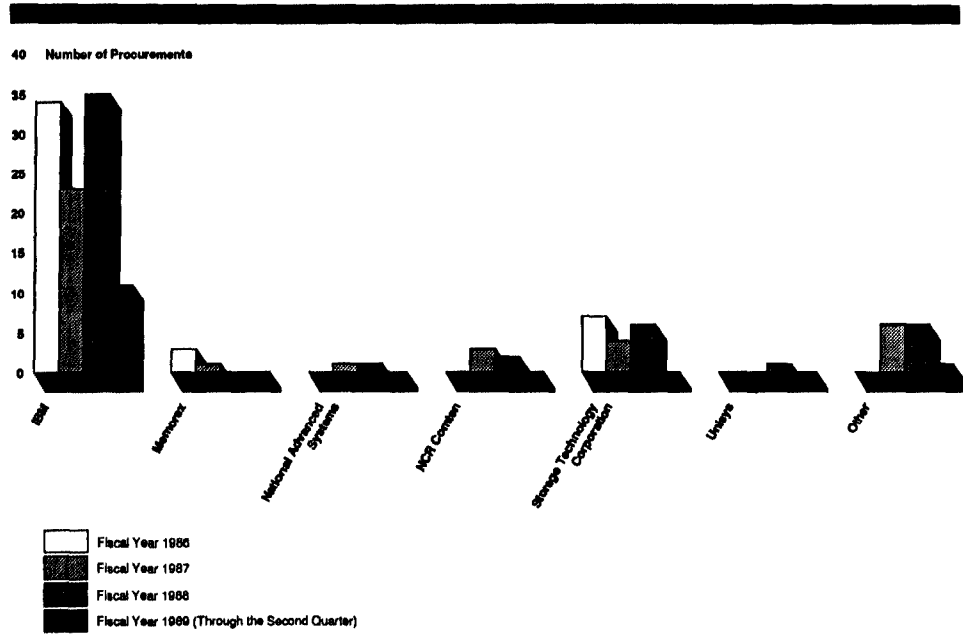
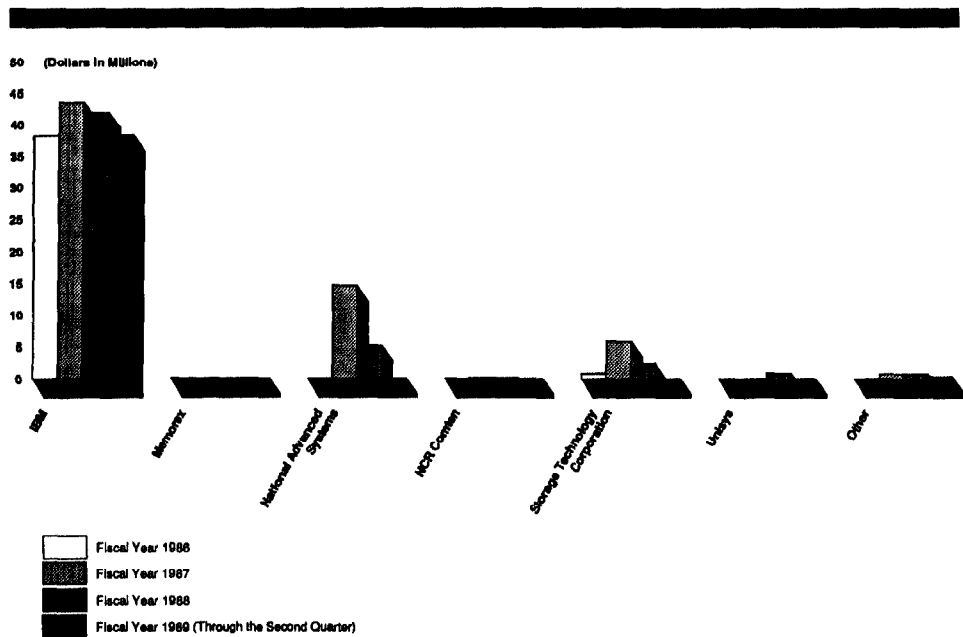


Figure I.12: Dollars for HHS Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment



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**How much mainframe computer operating system software did HHS procure during the 3-1/2 year period ending March 31, 1989, and what types of mainframe computers was the software for?**

HHS had 55 contracts for operating system software totaling \$3.5 million in obligations during the 3-1/2 year period. Fifty-two of these, accounting for \$3.4 million in obligations, were for IBM-compatible mainframes, with the remainder divided among others.

# Detailed Statistics on HHS Procurements

**Table II.1: HHS Mainframe and Mainframe Peripheral Procurements**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Compatible	44	\$38.9	32	\$63.9	47	\$50.7	11	\$38.2	134	\$191.7
Other	0	0.0	6	0.8	4	0.6	1	0.4	11	1.8
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>38</b>	<b>\$64.7</b>	<b>51</b>	<b>\$51.3</b>	<b>12</b>	<b>\$38.6</b>	<b>145</b>	<b>\$193.5</b>
<b>Compatible Percent of Total</b>	<b>100%</b>	<b>100%</b>	<b>84%</b>	<b>99%</b>	<b>92%</b>	<b>99%</b>	<b>92%</b>	<b>99%</b>	<b>92%</b>	<b>99%</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table II.2: HHS Compatible Procurements According to Type of Compatibility**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM-Compatible	44	\$38.9	32	\$63.9	44	\$49.6	11	\$38.2	131	\$190.6
Unisys-Compatible	0	0.0	0	0.0	1	0.9	0	0.0	1	0.9
Other	0	0.0	0	0.0	2	0.2	0	0.0	2	0.2
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>32</b>	<b>\$63.9</b>	<b>47</b>	<b>\$50.7</b>	<b>11</b>	<b>\$38.2</b>	<b>134</b>	<b>\$191.7</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table II.3: HHS IBM-Compatible Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	34	\$38.1	23	\$43.5	35	\$41.9	11	\$38.2	103	\$161.7
Memorex	3	b	1	b	0	0.0	0	0.0	4	b
National Advanced Systems	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
NCR Comten	0	0.0	3	0.1	2	0.2	0	0.0	5	0.3
Storage Technology Corporation	7	0.8	4	5.8	6	2.3	0	0.0	17	8.9
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>32</b>	<b>\$63.9</b>	<b>44</b>	<b>\$49.6</b>	<b>11</b>	<b>\$38.2</b>	<b>131</b>	<b>\$190.6</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.<sup>b</sup>Less than \$50,000.

**Appendix II  
Detailed Statistics on HHS Procurements**

**Table II.4: HHS Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	1	\$0.1	2	\$10.5	4	\$4.0	0	\$0.0	7	\$14.6
New Contract—One Offeror	3	4.6	0	0.0	1	0.1	1	35.8	5	40.5
New Contract—More Than One Offeror	1	0.3	2	5.7	3	6.1	1	2.0	7	14.1
New Contract—Developer or Integrator	0	0.0	1	14.5	2	5.3	0	0.0	3	19.8
Modifications to Existing Contracts	10	32.4	7	32.2	7	32.9	0	0.0	24	97.5
GSA Schedule Purchases	29	1.5	20	1.0	30	2.3	9	0.4	88	5.2
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>32</b>	<b>\$63.9</b>	<b>47</b>	<b>\$50.7</b>	<b>11</b>	<b>\$38.2</b>	<b>134</b>	<b>\$191.7</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table II.5: HHS IBM-Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	1	\$0.1	2	\$10.5	3	\$3.1	0	\$0.0	6	\$13.7
New Contract—One Offeror	3	4.6	0	0.0	0	0.0	1	35.8	4	40.4
New Contract—More Than One Offeror	1	0.3	2	5.7	3	6.1	1	2.0	7	14.1
New Contract—Developer or Integrator	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
Modifications to Existing Contracts	10	32.4	7	32.2	7	32.9	0	0.0	24	97.5
GSA Schedule Purchases	29	1.5	20	1.0	30	2.3	9	0.4	88	5.2
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>32</b>	<b>\$63.9</b>	<b>44</b>	<b>\$49.6</b>	<b>11</b>	<b>\$38.2</b>	<b>131</b>	<b>\$190.6</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.



**Appendix II  
Detailed Statistics on HHS Procurements**

**Table II.6: HHS Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	34	\$38.1	23	\$43.5	35	\$41.9	11	\$38.2	103	\$161.7
Memorex	3	b	1	b	0	0.0	0	0.0	4	b
National Advanced Systems	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
NCR Comten	0	0.0	3	0.1	2	0.2	0	0.0	5	0.3
Storage Technology Corporation	7	0.8	4	5.8	6	2.3	0	0.0	17	8.9
Unisys	0	0.0	0	0.0	1	0.9	0	0.0	1	0.9
Other	0	0.0	6	0.8	6	0.8	1	0.4	13	2.0
<b>Total</b>	<b>44</b>	<b>\$38.9</b>	<b>38</b>	<b>\$64.7</b>	<b>51</b>	<b>\$51.3</b>	<b>12</b>	<b>\$38.6</b>	<b>145</b>	<b>\$193.5</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

<sup>b</sup>Less than \$50,000.

**Table II.7: HHS Operating System Software Contracts According to Type of Mainframe**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM-Compatible	15	\$0.8	9	\$0.8	17	\$1.0	11	\$0.8	52	\$3.4
Other	1	b	0	0.0	2	0.1	0	0.0	3	0.1
<b>Total</b>	<b>16</b>	<b>\$0.8</b>	<b>9</b>	<b>\$0.8</b>	<b>19</b>	<b>\$1.1</b>	<b>11</b>	<b>\$0.8</b>	<b>55</b>	<b>\$3.5</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

<sup>b</sup>Less than \$50,000.

# Detailed Statistics on HCFA Procurements

**Table III.1: HCFA Mainframe and Mainframe Peripheral Procurements**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Compatible	9	\$1.0	8	\$5.4	18	\$10.9	0	\$0.0	35	\$17.3
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>
<b>Compatible Percent of Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table III.2: HCFA Compatible Procurements According to Type of Compatibility**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM-Compatible	9	\$1.0	8	\$5.4	18	\$10.9	0	\$0.0	35	\$17.3
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table III.3: HCFA IBM-Compatible Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	6	\$0.4	4	\$5.1	11	\$8.5	0	\$0.0	21	\$14.0
NCR Comten	0	0.0	2	b	1	0.1	0	0.0	3	0.1
Storage Technology Corporation	3	0.6	2	0.3	6	2.3	0	0.0	11	3.2
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.<sup>b</sup>Less than \$50,000.

**Appendix III  
Detailed Statistics on HCFA Procurements**

**Table III.4: HCFA Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	0	\$0.0	0	\$0.0	2	\$3.0	0	\$0.0	2	\$3.0
New Contract—More Than One Offeror	1	0.3	0	0.0	1	5.9	0	0.0	2	6.2
Modifications to Existing Contracts	1	0.1	3	5.2	1	0.1	0	0.0	5	5.4
GSA Schedule Purchases	7	0.6	5	0.2	14	1.9	0	0.0	26	2.7
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table III.5: HCFA IBM-Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	0	\$0.0	0	\$0.0	2	\$3.0	0	\$0.0	2	\$3.0
New Contract—More Than One Offeror	1	0.3	0	0.0	1	5.9	0	0.0	2	6.2
Modifications to Existing Contracts	1	0.1	3	5.2	1	0.1	0	0.0	5	5.4
GSA Schedule Purchases	7	0.6	5	0.2	14	1.9	0	0.0	26	2.7
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table III.6: HCFA Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	6	\$0.4	4	\$5.1	11	\$8.5	0	\$0.0	21	\$14.0
NCR Comten	0	0.0	2	b	1	0.1	0	0.0	3	0.1
Storage Technology Corporation	3	0.6	2	0.3	6	2.3	0	0.0	11	3.2
<b>Total</b>	<b>9</b>	<b>\$1.0</b>	<b>8</b>	<b>\$5.4</b>	<b>18</b>	<b>\$10.9</b>	<b>0</b>	<b>\$0.0</b>	<b>35</b>	<b>\$17.3</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

<sup>b</sup>Less than \$50,000.

# Detailed Statistics on NIH Procurements

**Table IV.1: NIH Mainframe and Mainframe Peripheral Procurements**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Compatible	15	\$33.0	8	\$36.1	7	\$32.3	1	\$35.8	31	\$137.2
Other	0	0.0	6	0.8	4	0.6	1	0.4	11	1.8
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>14</b>	<b>\$36.9</b>	<b>11</b>	<b>\$32.9</b>	<b>2</b>	<b>\$36.2</b>	<b>42</b>	<b>\$139.0</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table IV.2: NIH Compatible Procurements According to Type of Compatibility**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM-Compatible	15	\$33.0	8	\$36.1	5	\$32.1	1	\$35.8	29	\$137.0
Other	0	0.0	0	0.0	2	0.2	0	0.0	2	0.2
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>8</b>	<b>\$36.1</b>	<b>7</b>	<b>\$32.3</b>	<b>1</b>	<b>\$35.8</b>	<b>31</b>	<b>\$137.2</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table IV.3: NIH IBM-Compatible Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	15	\$33.0	8	\$36.1	5	\$32.1	1	\$35.8	29	\$137.0
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>8</b>	<b>\$36.1</b>	<b>5</b>	<b>\$32.1</b>	<b>1</b>	<b>\$35.8</b>	<b>29</b>	<b>\$137.0</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Appendix IV  
Detailed Statistics on NIH Procurements**

**Table IV.4: NIH Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	1	\$0.1	1	\$9.0	0	\$0.0	0	\$0.0	2	\$9.1
New Contract—One Offeror	1	0.4	0	0.0	1	0.1	1	35.8	3	36.3
New Contract—Developer or Integrator	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1
Modifications to Existing Contracts	9	32.3	3	26.9	5	32.1	0	0.0	17	91.3
GSA Schedule Purchases	4	0.2	4	0.2	0	0.0	0	0.0	8	0.4
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>8</b>	<b>\$36.1</b>	<b>7</b>	<b>\$32.3</b>	<b>1</b>	<b>\$35.8</b>	<b>31</b>	<b>\$137.2</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table IV.5: NIH IBM-Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	1	\$0.1	1	\$9.0	0	\$0.0	0	\$0.0	2	\$9.1
New Contract—One Offeror	1	0.4	0	0.0	0	0.0	1	35.8	2	36.2
Modifications to Existing Contracts	9	32.3	3	26.9	5	32.1	0	0.0	17	91.3
GSA Schedule Purchases	4	0.2	4	0.2	0	0.0	0	0.0	8	0.4
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>8</b>	<b>\$36.1</b>	<b>5</b>	<b>\$32.1</b>	<b>1</b>	<b>\$35.8</b>	<b>29</b>	<b>\$137.0</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table IV.6: NIH Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	15	\$33.0	8	\$36.1	5	\$32.1	1	\$35.8	29	\$137.0
Other	0	0.0	6	0.8	6	0.8	1	0.4	13	2.0
<b>Total</b>	<b>15</b>	<b>\$33.0</b>	<b>14</b>	<b>\$36.9</b>	<b>11</b>	<b>\$32.9</b>	<b>2</b>	<b>\$36.2</b>	<b>42</b>	<b>\$139.0</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

# Detailed Statistics on SSA Procurements

**Table V.1: SSA Mainframe and Mainframe Peripheral Procurements**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Compatible	1	\$3.9	3	\$21.4	3	\$6.2	1	\$0.2	8	\$31.7
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>3</b>	<b>\$6.2</b>	<b>1</b>	<b>\$0.2</b>	<b>8</b>	<b>\$31.7</b>
<b>Compatible Percent of Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table V.2: SSA Compatible Procurements According to Type of Compatibility**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM-Compatible	1	\$3.9	3	\$21.4	2	\$5.3	1	\$0.2	7	\$30.8
Unisys-Compatible	0	0.0	0	0.0	1	0.9	0	0.0	1	0.9
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>3</b>	<b>\$6.2</b>	<b>1</b>	<b>\$0.2</b>	<b>8</b>	<b>\$31.7</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.
**Table V.3: SSA IBM-Compatible Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	1	\$3.9	1	\$1.5	1	\$0.1	1	\$0.2	4	\$5.7
National Advanced Systems	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
Storage Technology Corporation	0	0.0	1	5.4	0	0.0	0	0.0	1	5.4
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>2</b>	<b>\$5.3</b>	<b>1</b>	<b>\$0.2</b>	<b>7</b>	<b>\$30.8</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Appendix V  
Detailed Statistics on SSA Procurements**

**Table V.4: SSA Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	0	\$0.0	1	\$1.5	1	\$0.9	0	\$0.0	2	\$2.4
New Contract—One Offeror	1	3.9	0	0.0	0	0.0	0	0.0	1	3.9
New Contract—More Than One Offeror	0	0.0	1	5.4	1	0.1	0	0.0	2	5.5
New Contract—Developer or Integrator	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
GSA Schedule Purchases	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>3</b>	<b>\$6.2</b>	<b>1</b>	<b>\$0.2</b>	<b>8</b>	<b>\$31.7</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table V.5: SSA IBM-Compatible Procurements According to Procurement Method**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
New Contract—Sole Source	0	\$0.0	1	\$1.5	0	\$0.0	0	\$0.0	1	\$1.5
New Contract—One Offeror	1	3.9	0	0.0	0	0.0	0	0.0	1	3.9
New Contract—More Than One Offeror	0	0.0	1	5.4	1	0.1	0	0.0	2	5.5
New Contract—Developer or Integrator	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
GSA Schedule Purchases	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>2</b>	<b>\$5.3</b>	<b>1</b>	<b>\$0.2</b>	<b>7</b>	<b>\$30.8</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

**Table V.6: SSA Mainframe and Mainframe Peripheral Procurements According to Manufacturer of Equipment**

Dollars in millions

	Fiscal Year 1986		Fiscal Year 1987		Fiscal Year 1988		Fiscal Year 1989 <sup>a</sup>		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
IBM	1	\$3.9	1	\$1.5	1	\$0.1	1	\$0.2	4	\$5.7
National Advanced Systems	0	0.0	1	14.5	1	5.2	0	0.0	2	19.7
Storage Technology Corporation	0	0.0	1	5.4	0	0.0	0	0.0	1	5.4
Unisys	0	0.0	0	0.0	1	0.9	0	0.0	1	0.9
<b>Total</b>	<b>1</b>	<b>\$3.9</b>	<b>3</b>	<b>\$21.4</b>	<b>3</b>	<b>\$6.2</b>	<b>1</b>	<b>\$0.2</b>	<b>8</b>	<b>\$31.7</b>

<sup>a</sup>Fiscal year 1989 through the second quarter.

# Objective, Scope, and Methodology

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In February 1989 we were requested by the Chairman and the Ranking Minority Member, House Committee on Government Operations, to perform a comprehensive review of the government's use of IBM-compatible automated data processing (ADP) procurements. In response to the requests and in discussions with the Chairman's and the Ranking Minority Member's offices, we agreed that procurements of mainframes and mainframe peripherals would be included in our review, with emphasis on compatible procurements. Our review covered procurements during the 3-1/2 fiscal years ending in March 1989, at 35 federal agencies.

Our primary objective was to obtain and analyze information on specific aspects of each agency's ADP-related procurements. This report focuses on HHS and includes the number and aggregate dollar value of HHS' mainframe-related contracts, distribution of procurements among equipment manufacturers, and breakdown of the various procurement methods HHS used to obtain mainframe-related equipment.

Additionally, we are reporting on the various procurement methods HHS used to obtain mainframe-related equipment. We used the following mutually exclusive procurement methods to group the procurements. The first three methods represent specific types of new contracts with mainframe and peripheral equipment manufacturers. These consist of sole source new contracts, new contracts that resulted from competitive procedures where only one offeror remained in the procurement at the time the awardee was selected, and new contracts that resulted from competitive procedures where the awardee was selected from among multiple competitors. We also included a category for new contracts with system developers and integrators—except any contracts separately categorized as awarded to 8(a) firms. We also obtained and analyzed data on HHS' modifications to existing contracts, use of GSA's multiple award schedule contracts, and other miscellaneous procurement methods.

To accomplish our objective and facilitate HHS' information gathering, we designed a questionnaire which, when properly completed, provided us with the necessary information. Our questionnaire included several charts and provided detailed instructions, with definitions and examples, to help HHS identify and report the relevant information. Our questionnaire instructions cited pertinent federal regulations to ensure consistency in understanding of the terms used and to identify key definitions.



In preparing instructions for our questionnaire, we recognized the need to clearly and consistently identify mainframe computers, as opposed to superminicomputers and supercomputers. Because technology changes, criteria such as storage capacity, processing speed, physical size, cooling requirements, and cost do not provide an adequate basis for clear and consistent identification of mainframes. Therefore, after consulting with computer vendors, GSA, other federal agency officials, and Datapro<sup>2</sup>, we considered vendor marketing strategy—in addition to computer architecture and performance—as the basis for classifying particular computers as superminicomputers, mainframes, or supercomputers. Like Datapro, we classified as mainframes some smaller and less expensive models if they belong to a product line, or family, of mainframes sharing a common architecture or operating system. However, models with similar performance characteristics that do not belong to a mainframe family and are manufactured by companies that are not traditionally recognized as mainframe manufacturers were not classified as mainframes. We provided a list of mainframe manufacturers and models in the instructions for our questionnaire as examples of computers that agencies should include in completing the questionnaire.

We obtained comments on preliminary copies of our questionnaire from information resources management officials at the Departments of Agriculture and Transportation, to aid in ensuring the questionnaire's clarity. After modifying the questionnaire based on comments received from officials at the Departments of Agriculture and Transportation, we asked the senior information resources management officials at HHS and other federal agencies to complete the questionnaire.

Our questionnaire was furnished to HHS in mid-April 1989. Upon receiving HHS' response in June 1989, followed by additional information in November 1989 and June 1990, the response was reviewed to determine if the instructions were followed correctly and if the information was clear and consistent. Although we did not independently validate the information supplied in the HHS response, our questionnaire contained several internal checks to determine if inconsistencies were present. In some situations we modified the data on the basis of discussions with HHS officials. In other cases we excluded inappropriate data. For example, we directed HHS to include only procurement data for mainframe-related equipment. However, in a few instances HHS included

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<sup>2</sup>Datapro is a trade publication that provides detailed information on computers, peripheral equipment, and software.

procurements for computers other than mainframes. In order to maintain consistency in the statistics across the 35 federal agencies, any procurements reported by HHS for equipment other than mainframes and related peripherals were deleted from our analysis. Our work did not include solicitation or evaluation of documents related to HHS' individual procurements. The figures and tables in appendixes I, II, III, IV and V were developed from our analysis.

We did not solicit or obtain comments from HHS officials about this report. Our review was conducted from February 1989 through July 1990, in accordance with generally accepted government auditing standards.

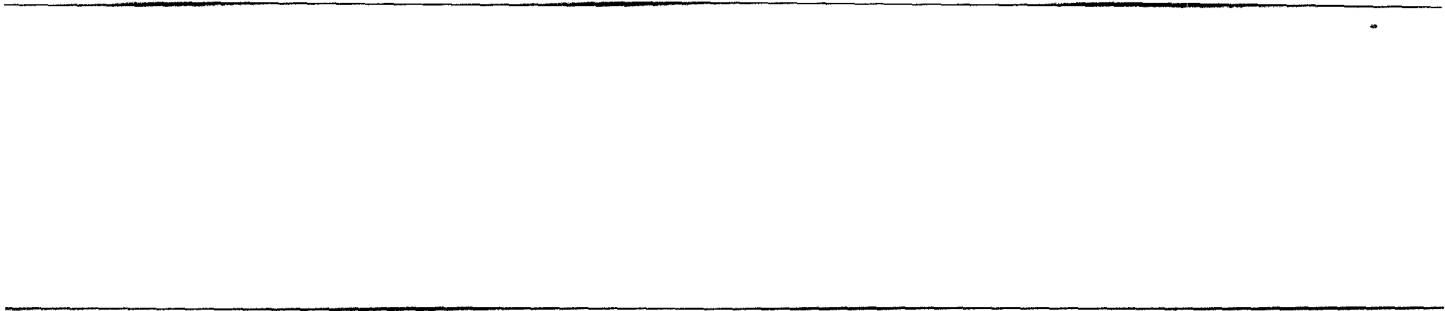
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