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To: Members of the Committee on
          Executive Board Administrative Matters

From: The Committee Secretary

Subject: Electronic Data Processing (EDP) - FY 1991
          Budget for Offices of Executive Directors

          The attached paper is circulated to members of the Committee at
the request of the Chairman. It will be taken up at the meeting of the
Committee scheduled for Thursday, April 5, 1990.

Att: (1)

Other Distribution:
Members of the Executive Board

Financial Year 1991 Budget Request for EDP Equipment
in Offices of Executive Directors

Prepared by the Staff
March 28, 1990

I. Introduction

This report is submitted in accordance with the procedures for
handling EDP support for the offices of Executive Directors, as set forth
in EBAP/87/136 (June 15, 1987), which provides that each Executive
Director's office formulates an EDP budget request with the technical
assistance of the staff. These requests then are consolidated into a
single budget, to be submitted to the Committee on Executive Board
Administrative Matters for review and recommendation to the Executive
Board.

II. Status of EDP in FY 1990

To place the proposal for FY 1991 in context, there follows a brief
review of the current status of EDP in offices of Executive Directors.

The FY 1990 EDP budget for offices of Executive Directors totals
$648,376. Of this sum, $354,491 was allocated for equipment, $277,645 for
manpower, $15,440 for the Reuters Monitor Service and $800 for mainframe
computer time.

To date, there is a balance of $98,296 remaining in the FY 1990 EDP
budget. This underrun is primarily attributable to the following:

a.   The requirement that departmental budgets and the budget for
Executive Directors include $1,500 for data communications services for
each new microcomputer was abolished Fund-wide shortly after the
Committee's discussion of the proposed EDP budget for FY 1990. A sum of
$61,500 allocated for this purpose therefore has not been used.

b. $15,440 was included for renewal of the lease on the Reuters
Monitor. However, funding for renewal of all lease agreements was
subsequently consolidated under a single Fund-wide project instead of
under separate budgets. It therefore ceased being charged to the
Executive Directors' EDP budget.

c.   One personal computer ($4,827) funded on a contingency basis was
not required.

d.   The AREMOS software license renewal fee per copy was not charged
to EDP departmental budgets or to the EDP budget for Executive Directors,
yielding savings of $4,500.

e.   The new release of JOLIS (the Joint Library Information System) did not require the purchase of a full version of the MicroSoft Windows software ($3,139).

f.   Chinese word processing requirements were satisfied without resort to the purchase of non-standard word-processing hardware ($6,205).

g.   Price Differentials - Hardware and software costs for personal computers (based on FY 1989 actuals) declined by 5.6 percent in the aggregate.

In the financial year that is coming to a close, 41 personal computers will have been installed (40 new machines plus a net transfer of 1 portable machine from the loan pool to the office configuration). Together with systems procured in years prior to FY 1990, the OED inventory now includes a total of 166 machines (plus three Bank computers in dual offices). Excluding the five computers located with the Support Facility Staff and two machines available for loan, there now is an average of one personal computer per 1.27 persons (1.7 at the end of FY 1989) in offices of Executive Directors, although actual distribution varies greatly between offices. These figures do not include nine IBM Displaywriter word processing machines which have been retained by a few offices as additional equipment.

In addition to hardware and software installations, training and support was provided for staff of OED in FY 1990. Training has also been provided on an individual basis in WordPerfect and other subjects, such as DOS, DMF, AREMOS, LOTUS 1-2-3, the Calendar package, etc.

Further activities in FY 1990 included:

a.   Development of customized seminars which are, at present, being offered to members of Executive Director's offices in the use of the WordPerfect upgrade to Version 5.1. (This activity will continue into early FY 1991.)

b.   Technical evaluation of word processors and enhancements for Arabic, Chinese, and Japanese; of revisable file transfer technologies; and of commercial systems for access to real-time economic and financial data.

c.   Support during the period of the Annual Meetings, including "trouble shooting" and moving and installation of equipment at the Sheraton Washington Hotel and upon return to Headquarters.

d.   Completion of a physical inventory of EDP equipment in OED.

The equipment procured in FY 1990 under the Office System Project is itemized in Attachment I.

III.   <u>EDP Budget Request for FY 1991</u>

<u>General Information</u>

Between December 1989 and March 1990 the staff met with representatives of all Executive Directors' offices to ascertain individual EDP requirements for hardware, software and other services for the next financial year. As expected, after three years in which substantial resources have been allocated for the office automation project, most offices have reached their desired level of automation. Requests for additional IBM personal computing workstations, printers and accessories in FY 1991 therefore have fallen significantly.

On the other hand, a number of offices have expressed interest, though with a varying degree of urgency, in satisfying requirements for data communications in one or more of the following areas:

a.   Exchange of documents, worksheets, data and computer files, etc., with national authorities.

b.   Exchange of documents and data files within the office and with other Fund Departments, such as the Secretary's Department.

c.   Access to external sources of current economic news and data.

<u>Components of the Consolidated EDP Budget Request for FY 1991</u>

The consolidated requests on which the EDP budget for FY 1991 would be based have been apportioned into a number of discrete components for consideration by the Committee. This has been done to facilitate the Committee's review of the merits of each component in light of technical solutions and estimated costs. It should be noted however that, for items other than the basic requests for equipment, actual costs would, to a large extent, be a function of usage and thus cannot be predicted with any degree of certainty. For purposes of the present proposal, three primary components have been summarized in Part III below, although, as indicated in Part II, Sections 4-6, interest has also been expressed, either generally or by individual Executive Directors, in a few other projects.

The "<u>FY 1991 Requests for Basic Hardware, Software and Support</u>" component provides funding to satisfy requests for all <u>basic</u> EDP equipment, as well as manpower to support the current and projected installed base. This portion of the budget would total $378,100, down 40 percent from FY 1990.

An "<u>External Communications</u>" pilot would provide funding for evaluating technology to establish electronic links between offices of Executive Directors and member country authorities for transmission of

revisable files. The projected cost of a study and proposed limited pilot (up to six Executive Director's offices) is estimated to be $23,800.

A "Global Reports" pilot would provide funding to replace the under-utilized Reuters Monitor with a financial information system accessible from personal computers in offices of Executive Directors. The projected cost of this pilot is expected to be $15,600, but might well be higher or lower depending on usage.

Each component is presented below for consideration by the Committee:

1. FY 1991 Requests for Basic Hardware, Software and Support

    a. Acquisition of Equipment

    Individual offices requested a total of 17 personal computers with associated software and 1 laser printer:

    - Eleven IBM PS/2 personal computers (including two "contingent" machines);

    - Four IBM PS/2 computers to replace obsolete PC/XT machines;

    - One NEC portable computer to replace an existing IBM PS/2. The displaced machine will be used to satisfy one of the FY 1991 requests for an IBM PS/2.

    - One additional NEC portable computer (and printer), to be added to the loan pool of machines;

    The net gain for FY 1991 would be 12 computers--11 allocated to office configurations and 1 to the loan pool.

    This portion of the budget would also provide for upgrade of the Netcommander sharing-device software. In addition to enhancing the current operation of the system's printer-sharing functions, the new version of the software would provide--for those offices wishing to activate this function--a means of transferring files between machines within an office. Only manpower costs would be incurred for this project component (4.5 manweeks for 22 offices).

    Requested hardware and software for FY 1991 is projected to cost $115,800. Based on the FY 1990 experience, the total estimate for hardware and software also includes $20,000 for miscellaneous requests and unforeseen requirements. Attachment II contains an itemization of the requested FY 1991 hardware and software.

    If the consolidated budget for equipment acquisition were to be approved as presented herein, by the end of FY 1991 offices of Executive

Directors would have at their disposal 170 Fund personal computing systems plus three Bank computers in the dual offices--i.e., an average of 7.9 computers per office or of one computer per 1.19 persons. In addition, five computers would continue to be part of the OED Support Facility, and three portable computers would be available for loan. Attachment III presents a summary of the anticipated end-FY 1991 personal computing configurations for each office.

b.   Manpower

Based on the consolidated requests, the manpower required to maintain the current scope and level of EDP support in FY 1991 would be anticipated to be 178 manweeks (191 in FY 1990) or about four full-time positions, an average of 8.1 manweeks per office. Of these resources, 31.5 percent would be for installation tasks and 44 percent for technical support and training. This would represent a decrease in cost to $262,200, a 5.6 percent decline in nominal terms compared to the $277,645 allocated in FY 1990. Manpower requirements would, however, increase to slightly over 190 manweeks, or about the level of FY 1990, were the pilots described below to be included in the budget.

While the smaller number of new systems to be installed is expected to reduce the installation manpower requirements by more than 18 manweeks, this reduction will be partly offset by the need to support and train a larger user base, substantially increased OED-wide upgrades of software for WordPerfect 5.1, JOLIS, AREMOS, and the Netcommander software.

c.   Computer Time for Access to Fund Economic Databases

This category represents an estimate of the cost for mainframe processing services, communications, and centralized printing furnished by the BCS Computer Facilities and Operations Division. Based on FY 1990 usage, a nominal amount of $100 would be required for this purpose.

2.   External Communications Pilot

A number of offices have requested or inquired about the possibility of establishing electronic communications links with personal computers in member countries, principally for use in sending and receiving computer-generated files (e.g., WordPerfect, LOTUS, etc.). A proposed pilot would provide funding for two tasks:

a.   A 6-8 week evaluation of two widely available technologies (point-to-point and electronic mail via a value-added network vendor);

b.   A pilot implementation of the selected technology in up to six offices which have a strong interest in testing such a capability (five other offices, however, have mentioned the possible use of such technology in more general terms).

The study and pilot could provide a practical basis for determining the technical feasibility, usefulness, and potential costs of implementing such technology on an operational basis.

The estimated cost for this pilot implementation would be $23,800 for up to six offices, including additional manpower requirements of 8.5 manweeks. This figure is derived from staff models of value-added network vendor solutions whose major variables are assumptions about levels of usage over a pilot period of ten months. The scenario employed for purposes of this estimate assumes six offices transmitting about 120 total pages of text files per month (five pages per office per week). A greater or lesser level of participation and usage would alter this estimated cost. Were usage by the six offices to be 240 pages per month (ten pages per office per week) on the average, the estimated cost for ten months would be $27,000. Similarly, a pilot comprised of the 11 users who inquired about such link would be roughly estimated to cost $33,300 for five pages per office per week and $39,200 for double that usage level.

It should also be noted that the participation of member country authorities would be a prerequisite for the pilot to function, in that compatible technology and, possibly, vendor services at their end would be required. No funding would be provided by the Fund for costs to be incurred by member countries. Efforts by member countries to acquire the necessary technology could affect the timing and duration of the pilot phase, should this pilot be approved.

The guidance of the Committee will help determine the scope and eventual cost of this project.

3. Citicorp Global Reports Pilot

In FY 1989 the staff conducted a pilot of a centralized Reuters Monitor service for access to real-time economic and financial data. In FY 1990 this service was introduced on an operational basis at a cost to the Fund of approximately $15,440 per year. After a year of operation, however, the evidence points to very limited use of the Reuters facility, perhaps on the order of only a few minutes a week. Some staff of OED have indicated that this may be attributable, in part, to the inconvenience of having the Reuters system in a centralized location.

If the Committee determines that access to real-time economic and financial data merits continuation, it may wish to consider replacing the Reuters system with the Global Reports service offered by CitiCorp. This service provides data comparable to those now available from Reuters and would be accessible from individual computers.

The cost of the Global Reports service would, at a minimum of up to six hours per month (i.e., about 16 minutes per office per month), be $11,100. Actual costs, however, would be a function of usage and, in

addition to manpower requirements of some 3.7 manweeks, could thus be noticeably higher. For instance, with each office accessing the service for 30 minutes per month, (i.e., 11 hours total usage per month), the cost would rise to $15,600--based on a rate of $75 per hour. Should the Committee wish to pursue this alternative to Reuters while also ensuring that the costs are contained within the budgetary resources, it could define the upper level of expenditure to be incurred during the financial year and, should that level be reached, determine that the service should be discontinued and/or revert to the present centralized arrangement.

Were the Committee to recommend replacing the Reuters system, one office has suggested that the latter be phased out over a two-month period in FY 1991 in order to provide OED staff with an opportunity to learn how to access the new system. The costs of this extension would not appear in the OED budget but would involve expenses of $2,575, to be borne by the Fund under the budget for renewal of lease and maintenance agreements.

Alternatively, if the Committee were to determine that the present Reuters system should be retained, the cost to the Fund under the budget for renewal of lease agreements would be $15,440.

4. News Information Services

a. News information services are available on the market. In addition to an account fee, an hourly connect rate, and other charges, each "service", such as Business Wire, McGraw Hill News, Associated Press, UPI News Service, etc., has its own premium charge ranging from $8-$45 per hour. Given the potentially high costs for such usage-based services, the availability of information elsewhere in the Fund, the manpower required to set up a service (3.7 manweeks), and the fact that only a few Executive Directors have expressed an interest in such services, the present proposal does not address these capabilities. They are, however, for the consideration of the Committee.

b. A specific request, however, has been made by one Executive Director for a system that provides access to an external network of news and information services, electronic mail, etc., based primarily in France. This system is marketed in the United States by Minitelnet, Inc. and is accessible through a dial-up connection in New York. This request is for the consideration of the Committee and, if accepted, would require funding for (a) the purchase and installation of a dedicated Minitel workstation ($500) in one office, and (b) access to the Minitel system for an assumed average of five hours per week. The estimated FY 1991 cost of the system would be $4,300. Usage, however, would govern the actual cost, growing by about $10-$20 per additional hour of usage depending upon the type of service accessed. The Committee may wish to include this request in its recommendation to the Executive Board.

5. <u>Networking</u>

Several Executive Directors have inquired about the status of
connectivity, or networking, for their offices, and possibly with the
Secretary's Department. Office networking is seen to be a desirable
objective over the medium term. After an initial start based on DEC
technology (four Departments), the Fund's networking strategy was
reassessed, and only a few units or operations (i.e., WEO, TRE) have been
networked recently. Once a firm, institution-wide networking strategy has
been finalized, and assuming that funds become available, it would be
envisaged that Executive Directors would be networked at an appropriate,
early stage. A major factor is that the current cost of implementation
for 22 offices would be of the order of $300,000. Unless the Committee
saw an urgent need for moving toward networking, it would not be proposed
to take action in FY 1991.

6. <u>Other</u>

In a few offices, inquiry was made about forms-printing capability
in connection with the upgraded version of Wordperfect. In light of the
limited number of multipart forms used by offices of Executive Directors,
such capability with its attendant manpower requirements plus acquisition
of additional impact printers, does not appear, at a cost of over $25,000,
to be a first priority capability and it is not included in the present
proposal. The Committee, however, also may want to discuss this
application.

IV. Summary of EDP Budget Request for FY 1991

Should the Committee wish to recommend an EDP budget for the Offices of Executive Directors incorporating the basic requests and pilot components, the FY 1991 budget would cost some $417,500 including 190.2 weeks of manpower, on the basis of the usage assumed in the descriptions of the components. (This estimate would rise to $421,800 were the Minitel request to be recommended.)

1. **Basic Hardware, Software and Support**

a.	16 Personal Computers, Software & Printers	$ 95,800
b.	Miscellaneous Requests for HW/SW	$ 20,000
c.	Manpower (178 manweeks)	$262,200
d.	Computer Time	100
	Component Total	$378,100

2. **External Communications Pilot**

a.	Hardware and Software	$ 5,700
b.	External Processing (Usage level of six users and 120 text pages per month)	$ 5,800
c.	Manpower (8.5 manweeks)	$ 12,300
	Component Total	$ 23,800

3. **CitiCorp Global Reports Pilot and Reuters Monitor**

   Citicorp Global Reports

a.	External Processing (Usage level defined at 11 hours per month)	$ 10,300
b.	Manpower (3.7 manweeks)	$ 5,300
	Component Total	$ 15,600

   Reuters

   Lease renewal for two months ($ 2,575) 1/

1/ If Reuters Monitor were renewed to provide a two-month overlap, cost incurred would be borne by the Fund in the budget for renewal of lease agreements. Alternatively, if Reuters were to be retained as at present, expenses of $15,440 would be incurred under that same budget.

FY 1991 OED PROJECT 004
BUDGET RECONCILIATION BY CATEGORY

NO.	CATEGORY	ITEM	NO	TOTAL TO DATE	NO	BUDGET	REMAINING FUNDS
1	WORK-STATION	IBM PS/2 8560 Model 041 Base unit with: 80286 microprocessor; 1 mb RAM; one 3.5"/1.44mb diskette; drive/controller; one 44 mb fixed disk/controller; VGA and display port; serial port; parallel port; pointing device port; keyboard support; enhanced keyboard.	40	$120,080.00	41	$125,460.00	$5,380.00
2		IBM 80287 Math Co-Processor	32	$9,536.00	31	$11,067.00	$1,531.00
3		Dual Asynchronous Adapter/A	40	$6,120.00	41	$6,273.00	$153.00
4		Mouse	41	$2,460.00	44	$2,640.00	$180.00
5		Data Communication Services	0	$0.00	41	$61,500.00	$61,500.00
6		5.25"/360kb External Diskette Drive	40	$10,600.00	41	$11,234.00	$634.00
7		5.25" External Diskette Drive Adapter/A	40	$1,400.00	41	$1,681.00	$281.00
8		Serial Adapter Cable	40	$1,560.00	41	$1,599.00	$39.00
				$151,756.00		$221,454.00	$69,698.00
9	DISPLAY	PS/2 Color Display	40	$15,960.00	41	$20,910.00	$4,950.00
				$15,960.00		$20,910.00	$4,950.00
10	PRINTER	HP Laser Jet series II; 512Kb RAM;one EP (toner) Cartridge; one st. paper tray; power cord.	11	$18,158.00	9	$14,947.20	($3,210.80)
11		Legal Size Paper Tray	10	$458.90	9	$413.01	($45.89)
12		Math Elite Font Cartridge	14	$2,327.50	9	$1,496.25	($831.25)
13		OCRB Font Cartridge	15	$2,493.75	9	$1,496.25	($997.50)
				$23,438.15		$18,352.71	-5085.44
14	SOFTWARE	IBM DOS 3.3	43	$3,268.00	43	$3,268.00	$0.00
15		LOTUS 1-2-3 V2.1	38	$11,060.00	35	$10,115.00	($945.00)
16		Crosstalk XVI (IBM PC Version)	43	$3,999.00	43	$5,977.00	$1,978.00
17		Word Perfect Word Processor 4.2	42	$8,316.00	43	$8,514.00	$198.00
18		Microsoft Windows	0	$0.00	43	$3,139.00	$3,139.00
19		Word Perfect Library	43	$2,322.00	43	$2,322.00	$0.00
20		Automenu	0	$0.00	43	$645.00	$645.00
21		Aremos II; (Annual License) 1.01	0	$0.00	30	$4,500.00	$4,500.00
22		IBM Arabic Displaywrite	1	$1,200.00	1	$1,200.00	$0.00
23		T.S.P. (Econometrics, statistics)	1	$595.00	1	$595.00	$0.00
				$30,760.00		$40,275.00	$9,515.00
24		Reuters Information Service	0	$0.00	1	$15,440.00	$15,440.00
25		Non-standard Word Processing Systems	1	$6,295.00	1	$12,500.00	$6,205.00
26		Miscellaneous requests for HW/SW	107	$22,976.58	1	$14,000.00	($8,976.58)
27		Net Commander	7	$20,450.00	9	$27,000.00	$6,550.00
				$49,721.58		$68,940.00	$19,218.42
	TOTAL ALL CATEGORIES			$271,635.73		$369,931.71	$98,295.98

ITEMIZATION OF FY 1991 REQUEST FOR HARDWARE/SOFTWARE   ATTACHMENT II

NO.	CATEGORY	ITEM	NO	ESTIMATED COST
1	WORK-STATION	IBM PS/2 8560 Model 041 Base unit with: 80286 microprocessor; 1 mb RAM; one 3.5"/1.44mb diskette; drive/controller; one 44 mb fixed disk/controller; VGA and display port; serial port; parallel port; pointing device port; keyboard support; enhanced keyboard.	14	$41,900.00
2		PS/2 Accessories	14	$11,800.00
3	PORTABLE	NEC ProSpeed 286 Standard Configuration	2	$7,200.00
				$60,900.00
4	DISPLAY	PS/2 Color Display	14	$7,100.00
				$7,100.00
5	PRINTER	HP Laser Jet series II; 512Kb RAM;one EP (toner) Cartridge; one st. paper tray; power cord.	1	$1,700.00
6		HP Laser Jet II Accessories	1	$1,800.00
7		Net Commanders 32 w/300k memory	1	$2,300.00
8		Net Commander Ports	8	$800.00
				$6,600.00
9	SOFTWARE	IBM DOS 3.3	16	$1,200.00
10		LOTUS 1-2-3 V2.1	16	$4,600.00
11		Crosstalk XVI (IBM PC Version)	16	$2,200.00
12		Word Perfect Word Processor 4.2	16	$3,200.00
13		Word Perfect Library	16	$900.00
14		Automenu	16	$200.00
15		Aremos II; (Annual License) 1.01	6	$900.00
16		Requests for Miscellaneous Software	7	$8,000.00
				$21,200.00
17	OTHER	Miscellaneous HW/SW	1	$20,000.00
				$20,000.00

TOTAL ALL CATEGORIES $115,800.00
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SUMMARY OF ANTICIPATED FY 1991
FUND OFFICE SYSTEMS CONFIGURATIONS IN OED

| | OFFICE | Staff 1/ | Personal Computers | | | | |
			FY88	FY89	FY90	REQUESTED FY91	TOTAL FY91
Mr.	ARORA	7	2	5	7	0	7
Mr.	CASSELL	13	7	8	9	3 2/	10 3/
Mr.	CLARK	8	2	4	7	1	8
Mr.	DAI	8	2	6	7	0	7
Mr.	DAWSON	7.5	6	6	7	1	8
Mr.	DE GROOTE	16	2	5	11	2 4/	12 3/
Mr.	EL KOGALI	12	3	5	8	4	12
Mr.	EVANS	8	1	3	4	0	4
Mr.	FELDMAN	8	3	5	8	0	8
Mrs.	FILARDO	9	4	7	9	1 4/	9
Mr.	FILOSA	9	4	6	8	1 5/	8
Mr.	FINAISH	10	2	5	6	0	6
Mr.	FOGELHOLM	8	1	4	6	2	8
Mr.	GHASIMI	9	4	4	4	0	4
Mr.	GROSCHE	7	1	4	5	0	5
Mr.	ISMAEL	9	1	4	5	0	5
Mr.	KAFKA	9	3	8	9	0	9
Mr.	LANDAU	13	1	5	8	1	9 3/
Mr.	MAWAKANI	13	2	7	13	0	13
Mr.	NIMATALLAH	7	6	6	6	0	6
Mr.	POSTHUMUS	8	3	8	8	0	8
Mr.	YAMAZAKI	7	1	3	4	0	4
	SUB TOTAL	205.5	61	118	159	16 6/	170
	OED SUPPORT 7/	-	5	5	5	0	5
	LOANERS	-	3	3	2	1 8/	3
	TOTALS	205.5	69	126	166 9/	17 10/	178

1/ Executive Directors, Alternate Executive Directors, Advisors,
   Assistants and Bank staff in dual offices as of 3/1/90.
2/ Two PS/2 Workstations to upgrade two existing XT Workstations.
3/ Fund computers only; each dual office also has one Bank computer.
4/ One PS/2 Workstation to upgrade existing XT Workstation.
5/ One NEC portable Workstation in place of existing PS/2 Workstation.
   The displaced Workstation to be installed in another office to
   upgrade existing XT Workstation.
6/ Net increase of 11.
7/ Computers used for training purposes are also used as office
   equipment for the OED Support Facility Staff.
8/ One NEC portable requested by one office to be made part of loaner
   pool for mission use.
9/ 40 PCs purchased in FY 1990 plus one loan computer allocated to an
   an office.
10/ Net increase of 12.