

80-01003A  
Box 1 7/12

ODP  
COMPUTER INSTALLATION PLAN

FY 77

15 September 1976

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I. INTRODUCTION

This paper describes the plan developed by Engineering Division for existing and projected computer systems and networks within the General and Special Centers over the Fiscal Year 77 time frame. The basis for this plan is threefold:

- A) Acceptance by the Agency of the OJCS Five Year Plan of January 1975 calling for the acquisition of 4 IBM 370/168s.
- B) Policy guidance from the DD/P/ODP concerning the use of CPUs over this time period, and
- C) A three day planning session held at [REDACTED] on 8 through 10 September 1976.

25X1A

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This plan represents the first attempt to address both ODP Computer Centers as a single processing entity. It is felt that taking initial steps in this direction now will aid the planning effort in the future. The period covered by this plan is September 1976 until November 1977. It superceeds the existing 18 Month Plan and the draft GC-03 Computer Installation plan dated 27 May 1976.

The major points of interest during this time frame are the arrival of the 168-3 and a fourth large scale machine, the conversion of ASP to JES3 and MVT to MVS, an enhanced VM processing capability, and an improvement in GIM availability. As of November 1977, ODP will have the full capability to back up all major systems with limited impact on other systems in the General Center. A T-bar switch will be installed in the Special Center to permit sharing a pool of unit record devices among up to four CPUs at a time.

The concept of a "single system image" for the General Center was reviewed in light of the increasing complexity and found to be still viable. The primary reasons for this assessment are that any disadvantages wrought by adding CPUs to the network are offset procedurally by the greatly simplified switching configuration and the economies of scale that are realized in a large spooling environment. The single system image allows CPUs to be added to a network without a linear increase in number of operators, RJE links and printers required.

This plan is divided into four phases with Phase I ending 30 September 1976, Phase II ending 31 January 1977, Phase III ending 30 June 1977 and Phase IV completing the plan on 1 November 1977.

Appendix A contains plans for Teleprocessing support during this time frame. Appendix B contains workload projections for the major systems which will be supported by this plan. Appendix C represents the implementation schedule of this plan in terms of a Management by Objectives (MBO) approach. Appendix C also contains the initial and terminal CPU configuration for the General Center together with the design for the 3350 disk implementation, and a Gantt chart of machine utilization in the General Center during FY77.



## II OBJECTIVES AND DIRECTION

The plan presented in this paper is designed to meet our projected requirements in the General and Special Centers through Fiscal Year 1977 and to improve the level of service to the user community in terms of response, throughput and availability. Specific objectives are outlined below with respect to each Center:

### General Center

- A. Conversion of ASP to JES and of MVT to MVS.
- B. Smooth transitional period while new hardware and software are introduced.
- C. Installation of a fourth large scale CPU as a single enhanced VM processor. *changed from 2 VM processors Backup*
- D. Backup capability for each major system with limited impact on other production systems.
- E. Data Security and Integrity.
- F. Degree of isolation for the GIM Production system.

### Special Center

- A. Obtain specific requirements for CPU power through coordination with DDO personnel.
- B. Perform feasibility study which surfaces issues impacting on the installation of a larger CPU in GC47.
- C. Install a T-bar switch which permits unit record equipment and terminal controllers to be accessed by any CPU in the center. Knowledge gained from this experience will be a basis for improved switching configurations in both centers. *GC47 in lieu of ASP*
- D. Install Comten 5 to support the CRS DRS project and migration to a fourth CPU. *DRS*

*ASP 5/11/78  
Prefer approach  
for expansion  
to new CPDs*

### III PLAN DETAILS

The implementation of this plan is divided into four phases. Each phase is summarized in a paragraph below. Key milestone dates are enumerated by each center in the charts that follow.

Phase I is largely preparatory in nature as the General Center is made ready for the arrival of the 168-3. A study will be conducted to inform management of issues concerning processing of Z tapes or non-labeled tapes under MVS.

Phase II addresses the period beginning roughly, with the arrival of the 168-3 and ends as it completes its role as the MVS/JES3 Production Test machine. During this phase most batch work will be moved to the 168-2 and GIM Production to the 195 to provide a backup capability for the MVS Global machine. A study will be conducted to determine the feasibility of interfacing VM/370 with TMS. Another study will be undertaken to surface the logistical constraints associated with an addition of a fourth large-scale machine in GC47. The tradeoff between HASP or ASP for the Special Center will be analyzed. A benchmark study and an RFP for the fourth large-scale CPU for the General Center will be prepared.

Phase III begins with the implementation of an MVS/JES3 Global as the production-status replacement for the ASP Support system. The GIM Production will be provided with an enhanced degree of isolation from other major systems in the General Center. A plan for the installation of an Uninterruptable Power Source (UPS) in GC47 will be completed. The Special Center will implement the TMS-4 Tape Management System.

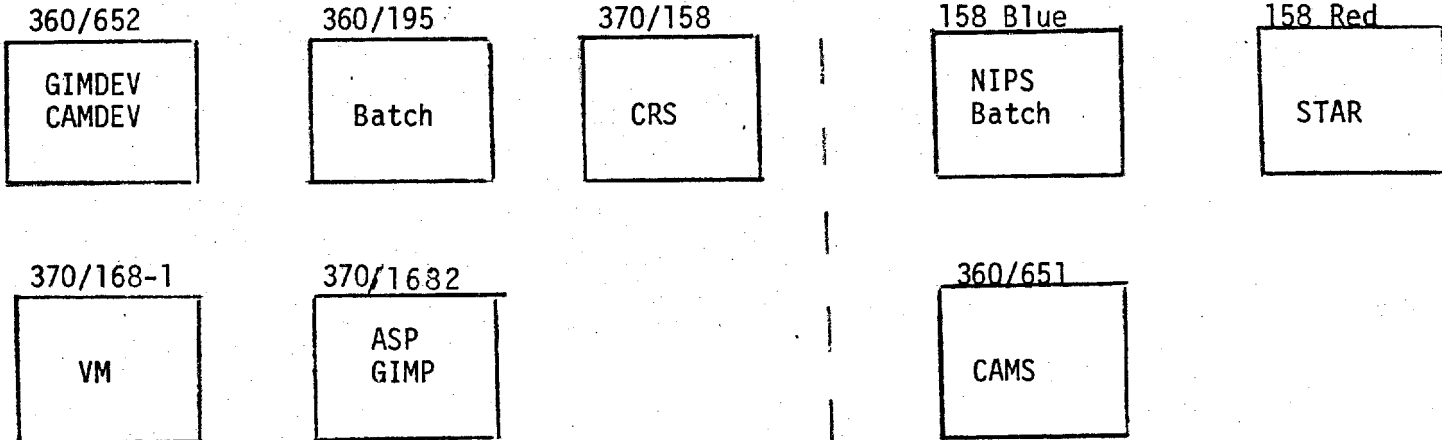
Phase IV includes the arrival of the fourth-scale machine and the implementation of an MVS Local Main in the General Center. VM/370 will migrate from the 168-1 to the fourth machine. Either HASP or ASP will be implemented in the Special Center Blue depending upon the decision made in Phase II.

PHASE I

Current - September 30, 1976

General Center

Special Center



TASKS:

General Center

1. Order 370/168-3
  - Establish firm ship date
2. Order Resource Manager for VM system
3. Complete ODP S/L Tape study
4. Complete 168-3 site preparation
5. MVS/JES3 Activities
  - Complete MODS 3
  - Complete initial operator training
  - Complete training guide/procedures
  - Complete MVS test plan

Special Center

1. Complete upgrade of tape drives to 6250 BPI.

01 October 76 - 31 January 77

General Center

31 October 76

31 January 77

360/652 GIMDEV CAMDEV 2250	360/195 Batch	370/158 CRS	360/652 GIMDEV CAMDEV	360/195 ASP GIMP	370/158 CRS
370/1681 VM	370/1682 ASP GIMP		370/1681 VM	370/1682 Batch	370/1683 MVS Prod/test

TASKS:

1. Implement TMS Release 4 (11 October 76)
  2. Implement Comten IV (26 October 76)
  3. Provide additional GIMP 3330 Disk (26 October 76)
  4. Update Master Addressing Plan (31 October 76)
  5. Complete 370/168-3 installation (01 November 76)
  6. Complete VM/TMS study (15 November 76)
  7. Implement 168-3 as full VM backup system (15 November 76)
  8. Implement 168-3 for MVS/JES3 Production/Test (15 November 76)
  9. Implement updated 168-2 I/O Gen (15 November 76)
  10. Complete installation of 2 PDP 11/45's (30 November 76)
  11. Update GIMP disk addressing (30 November 76)
  12. Implement updated 195 I/O Gen (06 December 76)
  13. ASP and GIMS to 195 (13 December 76)
  14. Implement VM Release 3 (13 December 76)
  15. Gould Plotter to 168-2 via 2914 switch (13 December 76)
  16. SIS complete 370/168-4 Bench Mark (MVS/VM) (03 January 77)
  17. CMB complete 370/168-4 RFP (03 January 77)
  18. Release 2250 (31 January 77)
  19. N/P hardware backup capabilities (31 January 77)
  20. Reconfigure tape pool (31 January 77)
  21. MVS/JES3 Activities (31 January 77)
- Batchmon RSCS test version (01 November 76)
  - MVS/MVT catalog solution (01 November 76)
  - MVSDEV 1581 blocktime (Oct. - 01 Nov. 76)
  - MVS/JES3 weekend full center testing (30 January 77)



PHASE II

01 October 76 - 31 January 77

Special Center

158 Blue

NIPS  
Batch

158 Red

STAR

360/65-1

CAMS

TASKS:

1. 370/168 or equivalent study (15 November 76)
2. SVS local level I (15 November 76)
3. Install new Patch Panel (01 December 76)
4. Install Comten IV (01 December 76)
5. HASP or ASP decision (03 January 77)
6. Complete 360/65-1 Contingency Plan (31 January 77)
7. Complete implementation of T-bar switching unit (31 January 77)

PHASE III

01 February 77 - 30 June 77

General Center

01 February 77

30 June 77

360/652	360/195	370/158	360/652	360/195	370/158
GIMDEV CAMDEV	ASP GIMP	CRS	GIMDEV CAMDEV	GIMP	CRS
370/1681	370/1682	370/1683	370/1681	370/1682	370/1683
VM	Batch	MVS Prod/test	VM	MVT Main	MVS Global Main

TASKS :

1. Implement 6250 BP1 drives for VM Bkup & GIM DDUMP (01 February 77)
2. Implement MVS/JES3 Global on 168-3 (28 February 77)
3. Implement MVS/JES3 Global Backup on 168-2 (28 February 77)
4. Isolate GIMS Production on 360/195 (28 February 77)
  - With GIMS batch work
  - With stand-alone capabilities
5. Implement GIMS Release 4.0 (07 March 77)
6. Install 415 UPS (28 March 77)
7. Install IBM 3350's for MVS/JES spools (28 March 77)
8. Complete MVS conversion plan (17 April 77)
9. Implement VM Resource Manager (30 May 77)
10. Upgrade patch panel (30 May 77)
11. Expand Comten I and Comten IV (27 June 77)
12. Complete VM/VSAM requirement study (30 June 77)
13. Implement Mini computer base hardware monitor system (30 June 77)

PHASE III

01 February 77 - 30 June 77

Special Center

158 Blue

NIPS  
Batch

158 Red

STAR

360/65-1

CAMS

TASKS:

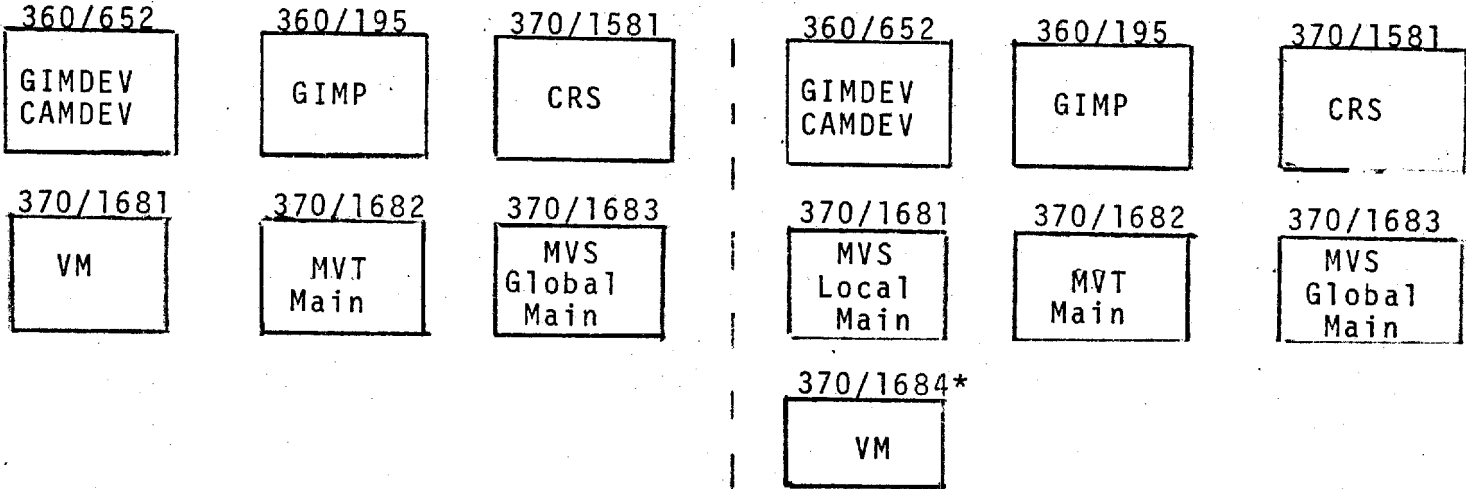
1. Complete UPS Conversion Plan (28 February 77)  
- Provide support to CAMS
2. Implement TMS on Red/Blue systems (25 April 77)
3. Complete user TMS Conversion Plan (25 April 77)

01 July 77 - 01 November 77

General Center

01 July 77

01 November 77

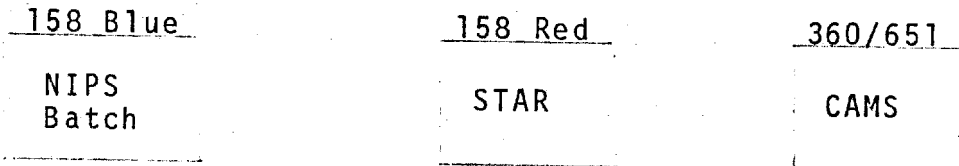


\*or equivalent

TASKS:

1. Install IBM 3350's for VM mini disk space (25 July 77)
2. Install 370/168-4 or equivalent (01 October 77)
3. Install IBM 3350's for VM/VSAM space (31 October 77)
4. Complete move of VM to 370/168-4 (01 November 77)
5. Implement 370/168-1 as MVS local main and online global backup (01 November 77)

Special Center



TASKS:

1. Implement ASP or HASP on Blue system

## Teleprocessing Support Plan

At present all GC03 Comtens access our major systems - VM, GIM production, and GIM development. Comten 1 and Comten 4 provide RJP support for ASP. Comten 2 and Comten 3 provide support for CRS.

As of August, 1976 the Comtens supported 544 terminals (excluding RJP devices). The Comten 1 expansion which went production in September added 48 terminal ports for a total of 592. In October, when Comten 4 goes production, an additional 144 terminal positions will be added. This will bring our total to 736 ports in GC03. In June 1977 Comten 1 and Comten 4 will each be upgraded to add 64 ports. This will increase to 864 the number of asynchronous ports. This number represents an increase of 320 ports over our August 1976 configuration.

There are approximately 80 terminal requests outstanding. The expected rate of terminal requests is 130 per year. We therefore project that terminal growth well into FY78 will be covered.

Comten 4 will be a backup for ASP/JES RJP. OC has to relocate or eliminate the analog line drivers used on the Northrop-Page circuits for Comten 4 to provide backup for these lines.

The June 1977 Comten 1 and 4 expansion will utilize the new Comten DLC MIM. This MIM (Modem Interface Module), provides expanded capabilities.

JES3/MVS testing will be supported by Memorex 3. Eight bisynch lines will be available for testing.

Comten 5 will be received in November for support of the CRS DRS project. Comten 5 will have 3 channel interfaces. This will allow for easy installation of an additional CPU in GC47.

### Computer Usage Projections

To insure that sufficient processing power will be available to meet ODP requirements during FY77 each of the major categories of service were analyzed. The major ODP categories of service are:

- 1) The STAR system in the Special Center.
- 2) NIPS and Batch Processing in the Special Center.
- 3) CAMS in the Special Center.
- 4) GIMS production in the General Center.
- 5) GIMS Development in the General Center.
- 6) VM in the General Center.
- 7) Batch Processing in the General Center.

The STAR system is currently run on the Red 158 in the Special Center. This on-line system has recently been the subject of an optimization study which resulted in improved response time characteristics. Although additional functions are planned for this system, its' requirements will not exceed the capacity of the Red 158 in FY77.

The Blue 158 in the Special Center is used for NIPS, Batch Processing and as backup for both the STAR and CAMS on-line systems. This machine will be sufficient to satisfy these requirements through FY77.

The 360/65-1 in the Special Center is dedicated to the CAMS on-line system. Both the 65-1 and the Blue 158, in the backup mode, provide sufficient processing power for this requirement.

The 360/65-2 in the General Center provides service for the GIM Development System and some small on-line functions (SANCA, MILTEL, 2250, etc.). This machine is capable of meeting the processing requirements of these applications through FY77.

The remaining applications, VM, GIMS production and Batch Processing are run in the General Center. These service categories are characterized as growth applications with significant increases in processing power requirements over time. Attachments X1, X2 and X3 present, graphically, CMB's projections of requirement growth for these applications through FY77.

The VM projection is presented in terms of the number of concurrent users logged on during peak periods. These period are typically, mid-morning and mid-afternoon of each working day. The ODP FY77 plan calls for this requirement to be satisfied by the 168-1. This machine, with the added software enhancement of the Wheeler Scheduler, should be able to provide good service for up to 160 concurrent users. Should demand rise to the 180 concurrent user level projected in this plan, some degradation in response time may be expected near the end of FY77.

The GIMS Production Projection is presented in terms of number of transactions per day. The GIMS on-line transaction day is measured from 0800 hours to 1800 hours with weekends excluded. The 360/195 will be more than sufficient to process the maximum projected demand through FY77.

The final service category, Batch Processing in the General Center, will be run initially under the ASP scheduling supervisor. When the MVS system is ready for production use, in the spring of 1977, this work will be run in the MVS/JES3 environment.

Batch Processing in the General Center is measured in terms of 360/65 equivalent hours. The 370/168 is rated as capable of producing 4 360/65 CPU equivalent hours per hour while the 360/195 is rated at 7 360/65 CPU equivalent hours per hour. The 168-2 and 168-3 in the General Center will be capable of meeting the projected demands for this service in FY77 and allow for some MVS development time as well.

OBJECTIVE AND ACTION PLAN

OBJECTIVE NO.	Approved For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1	OFFICE	RESPONSIBLE OFFICER	BY	RESOURCE ESTIMATE	PERIOD	STATUS
					MYR DOLLARS	JUL - AUG	
OBJECTIVE	Increase ODP computer processing capacity, availability and reliability.					SEP - OCT	
						NOV - DEC	
						JAN - FEB	
						MAR - APR	
						MAY - JUN	
						+ EXCEEDING PLAN = MEETING PLAN < BEHIND PLAN	

ACTION PLAN (Milestones)	COMPLETION MONTH: SCHEDULED O; ACTUAL X											
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1. Implement TMS Release 4 in General Center	0											
2. Implement Comten IV in General Center to provide RJP backup and additional VM and GIM lines	0											
3. Update General Center Master Addressing Plan	0											
4. Complete 370/168-3 site preparation	0											
5. Complete 370/168 or equivalent study for Special Center.		0										
6. Implement Update system software SVS Local Level I in Special Center		0										
7. Complete VM/TMS study in General Center		0										
8. Complete 370/168-3 installation in General Center		0										
9. Implement updated software system for the 370/168-2 in the General Center		0										
10. Implement updated software system for the 360/195 in the General Center			0									
11. Move ASP Support and the GIMS Production system in the General Center to the 195			0									

APPENDIX C

14



OBJECTIVE AND ACTION PLAN

OBJECTIVE NO.	Approved For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1	RESPONSIBLE OFFICER	FY RESOURCE ESTIMATE		PERIOD	STATUS
OBJECTIVE			MYR	DOLLARS	JUL - AUG	
					SEP - OCT	
					NOV - DEC	
					JAN - FEB	
					MAR - APR	
					MAY - JUN	
						F EXCEEDING PLAN = MEETING PLAN < BEHIND PLAN

ACTION PLAN (Milestones)	COMPLETION MONTH: SCHEDULED O; ACTUAL X												
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
FY 77 Cont													
12. Install additional Patch Panel in the Special Center			0										
13. Install Comten V in the Special Center			0										
14. SIS complete 370/168-4 Bench mark (MVS/VM)				0									
15. CMB complete 370/168-4 RFP				0									
16. Provide backup hardware capabilities for the N/P area				0									
17. Reconfigure the General Center tape pool to add the 6250 BPI drives and as required by updated functions.				0									
18. Complete study for HASP or ASP decision in the Special Center				0									
19. Complete 360/65-1 contingency plan for the Special Center				0									
20. Implement 6250 BPI tape drives for the VM and GIMS system					0								
21. Implement MVS/JES3 Global system software on the 370/168-3 in the General Center						0							

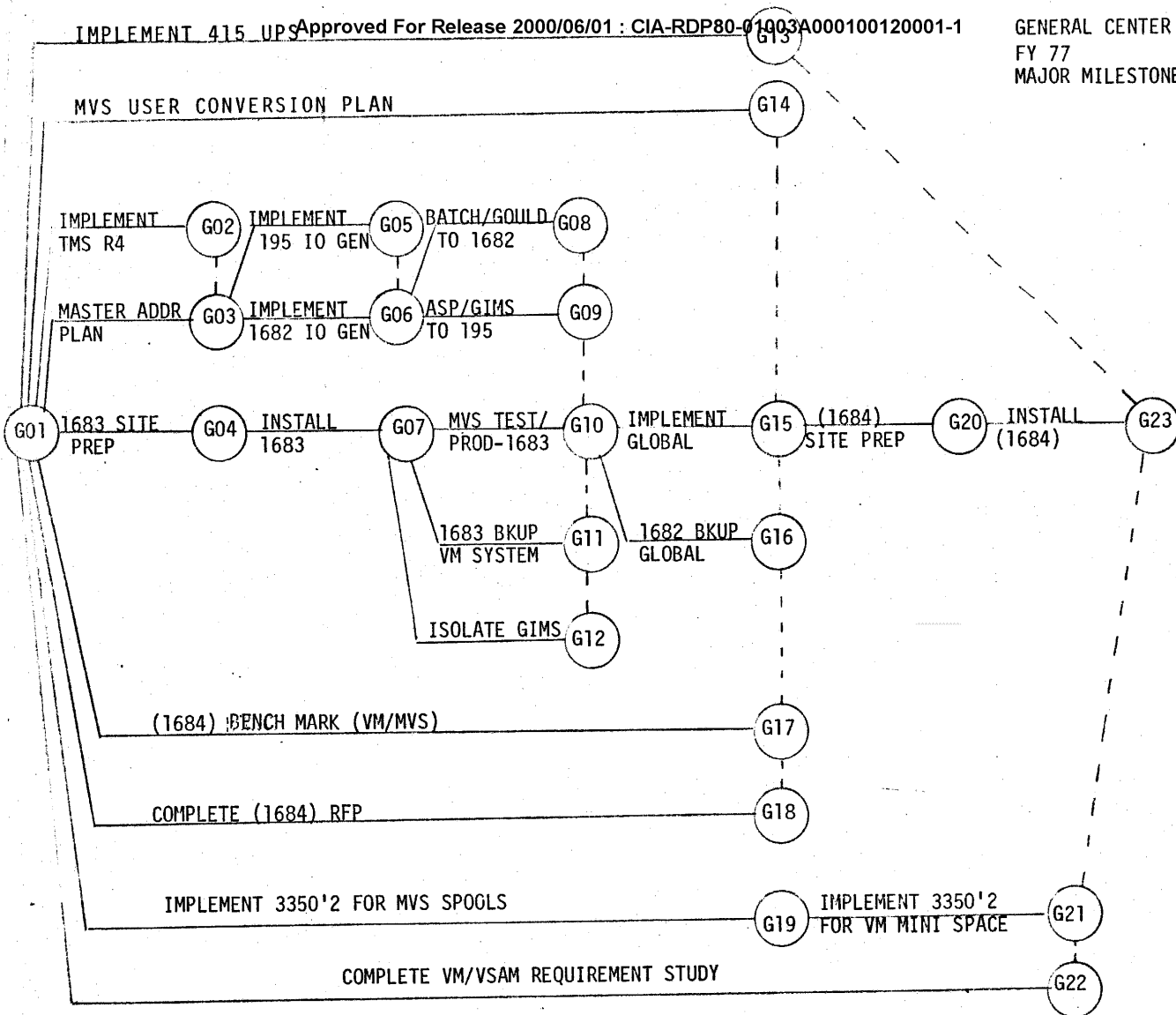
OBJECTIVE AND ACTION PLAN

OBJECTIVE NO.	Approved	OFFICE	RESPONSIBLE OFFICER	FY RESOURCE ESTIMATE		PLP (P)		STATUS							
OBJECTIVE	For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1			RTR	DOLLARS	JUL - AUG									
						SEP - OCT									
						NOV - DEC									
						JAN - FEB									
						MAR - APR									
						MAY - JUN									
						F EXCEEDING PLAN = MEETING PLAN < BEHIND PLAN									
ACTION PLAN (Milestones)				COMPLETION MONTH: SCHEDULED O; ACTUAL X											
				JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
				OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
FY 77 Cont															
22. Implement MVS/JES3 Global backup capabilities on the 370/168-2								0							
23. Isolate GIMS production system on the 195 in the General Center								0							
24. Complete plan for installation of UPS in the Special Center								0							
25. Implement updated GIMS software Release 4.0									0						
26. Install 415 UPS in the General Center									0						
27. Install upgraded disk, 3350 for MVS spools and additional VM mini space									0						
28. Implement TMS in the Special Center for the Red/Blue systems and complete conversion plan										0					
29. Implement VM resource manager											0				
30. Upgrade Patch Panel in the General Center											0				
31. Expand Comten I and Comten IV												0			
32. Complete VM/VSAM study													0		

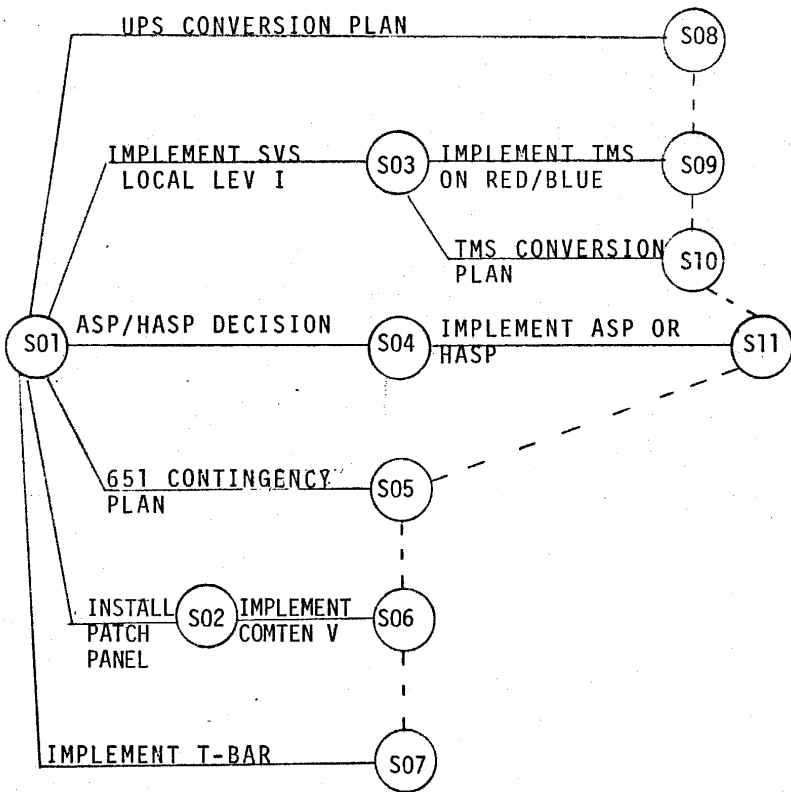
OBJECTIVE AND ACTION PLAN

OBJECTIVE NO.	Approved For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1	OFFICE	RESPONSIBLE OFFICER	FY	RESOURCE ESTIMATE	PERIOD	STATUS											
OBJECTIVE				MYR	DOLLARS	JUL - AUG												
						SEP - OCT												
						NOV - DEC												
						JAN - FEB												
						MAR - APR												
						MAY - JUN												
							+ EXCEEDING PLAN = MEETING PLAN < BEHIND PLAN											
ACTION PLAN (Milestones)				COMPLETION MONTH: SCHEDULED O; ACTUAL X														
				JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
				OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
FY 77 Cont																		
33. Install IBM 3350's for additional VM mini space																0		
34. Complete 370/168-4 or equivalent site preparation in the General Center																		0

MVS USER CONVERSION PLAN



(18)



Configuration and Backup Capabilities

Current (PHASE I)

360/652

GIMDEV  
CAMDEV  
2250  
SANCA  
SHOEBOX

360/195

Batch  
SIM

ASP Bkup  
GIMP Bkup  
C.C. Bkup

370/158

CRS

Night VM

370/1681

VM

Night Batch  
C.C. Bkup

370/1682

ASP  
GIMP

SIM Bkup

01 November (PHASE IV)

360/652

GIMDEV  
CAMDEV  
SANCA  
SHOEBOX

360/195

GIMP  
GIM Batch  
SIM

370/158

CRS

Night VM

370/1681

MVS  
Local  
Main

VM Bkup  
Global Bkup  
CRS Bkup

370/1682

MVT  
Main

SIM Bkup  
C.C. Bkup  
Global Bkup  
GIMP Bkup

370/1683

MVS  
Global  
Main

370/1684

VM

Night Batch

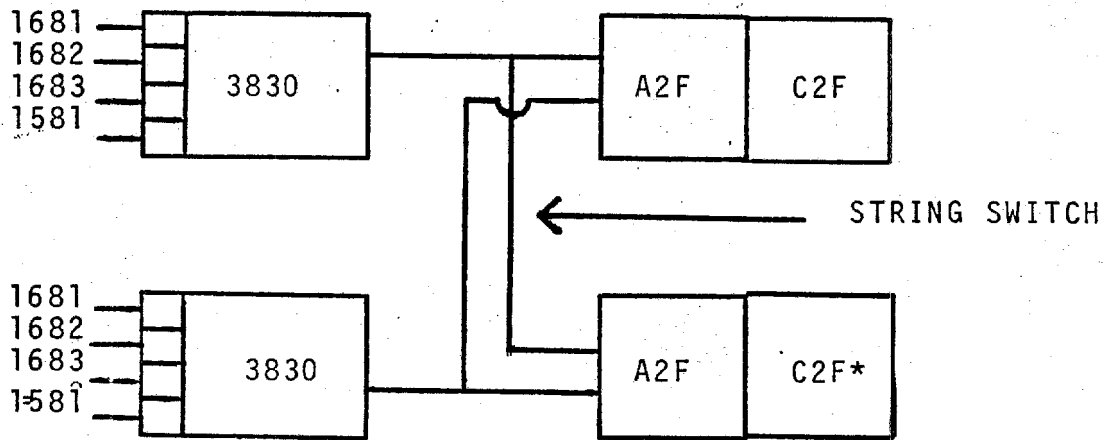
GENERAL CENTER  
 Approved For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1

PHASE I	PHASE II				PHASE III				PHASE IV				
S	O	N	D	J	F	M	A	M	J	J	A	S	O
652	GIMD/CAMD/2250/SANCA/SHOEBOX												
1581	CRS NIGHT VM												
195	BATCH/SIM		ASP/GIMS/SIM		GIMS/GIM BATCH/SIM								
	ASP/GIM BKUP		BATCH BKUP										
1682	ASP/GIMS		BATCH		MVT MAIN								
	SIM/BATCH BKUP		ASP/GIMS BKUP		GLOBAL/GIMS/SIM BKUP								
1681	VM												
1683	MVS PROD/TEST				MVS GLOBAL/MAIN								
	VM BKUP												
(1684)													

(21)

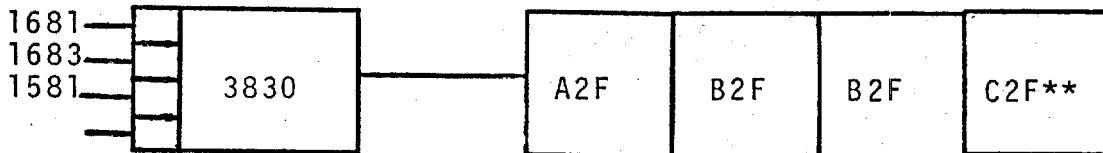
3350 Disk Configurations for FY77

MVS Spool Pack Configuration (March 1977)



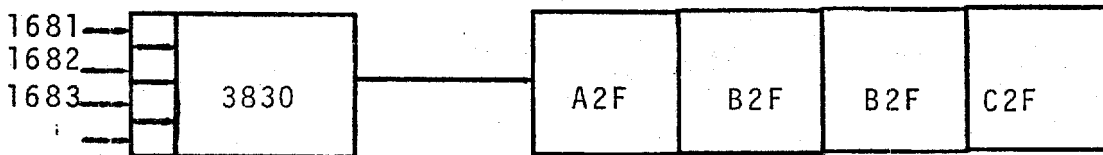
Equivalent of  
24 3330 Modls

VM Mini. Disk Configuration (July 1977)



Equivalent of  
24 3330 Modls

MVS VSAM Configuration (October 1977)



Equivalent of  
24 3330 Modls

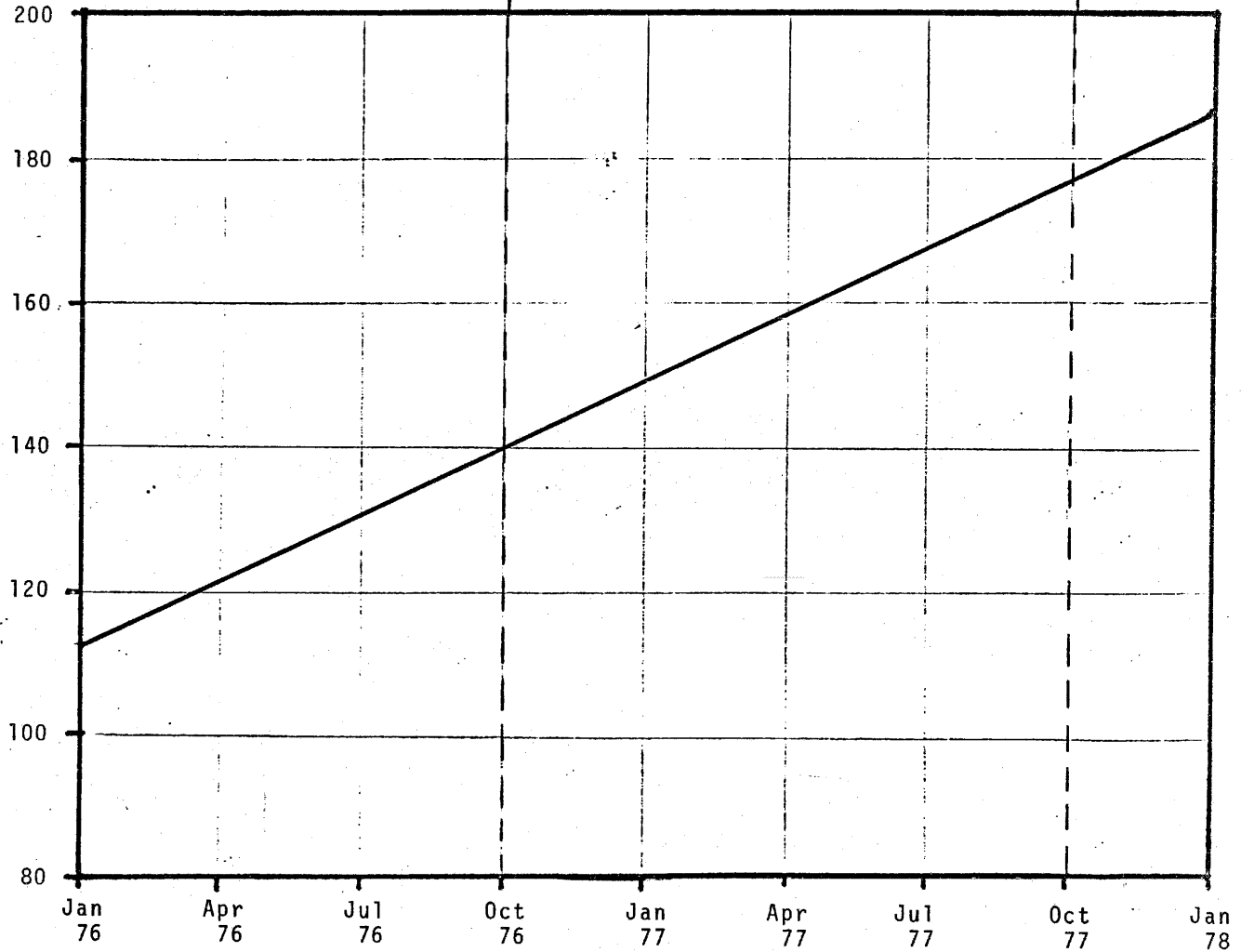
\*Used for VM until VM string is installed in July 1977

\*\*Used for VSAM Data Sets until VSAM string is installed in October 77



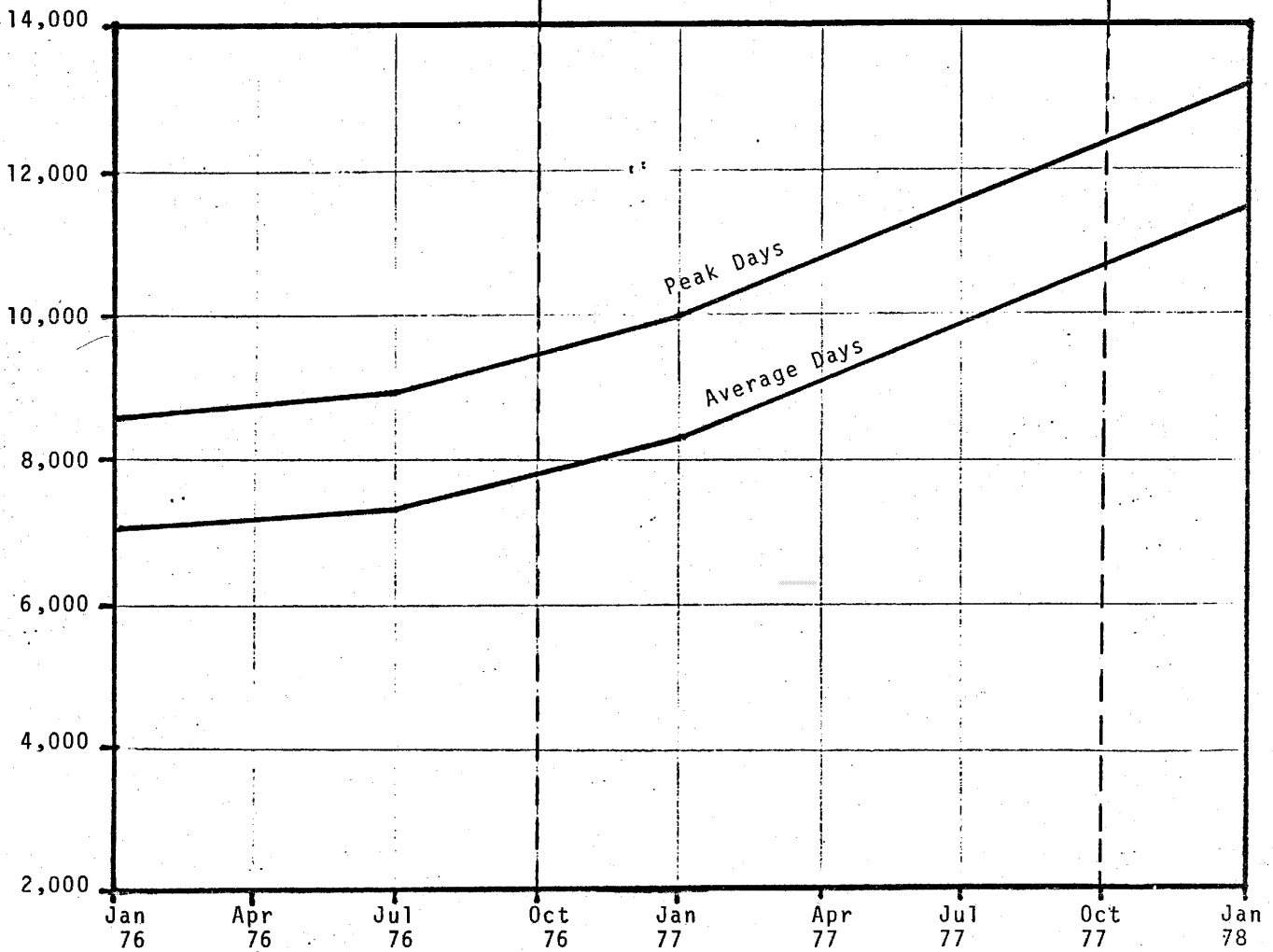
ATTACHMENT X1

Peak Load - Concurrent Users



ATTACHMENT X2

Number of GIMS Transactions Per Day



GENERAL CENTER BATCH PROJECTIONS

Approved For Release 2000/06/01 : CIA-RDP80-01003A000100120001-1

360/65 Equivalent CPU Hours Per Day

