

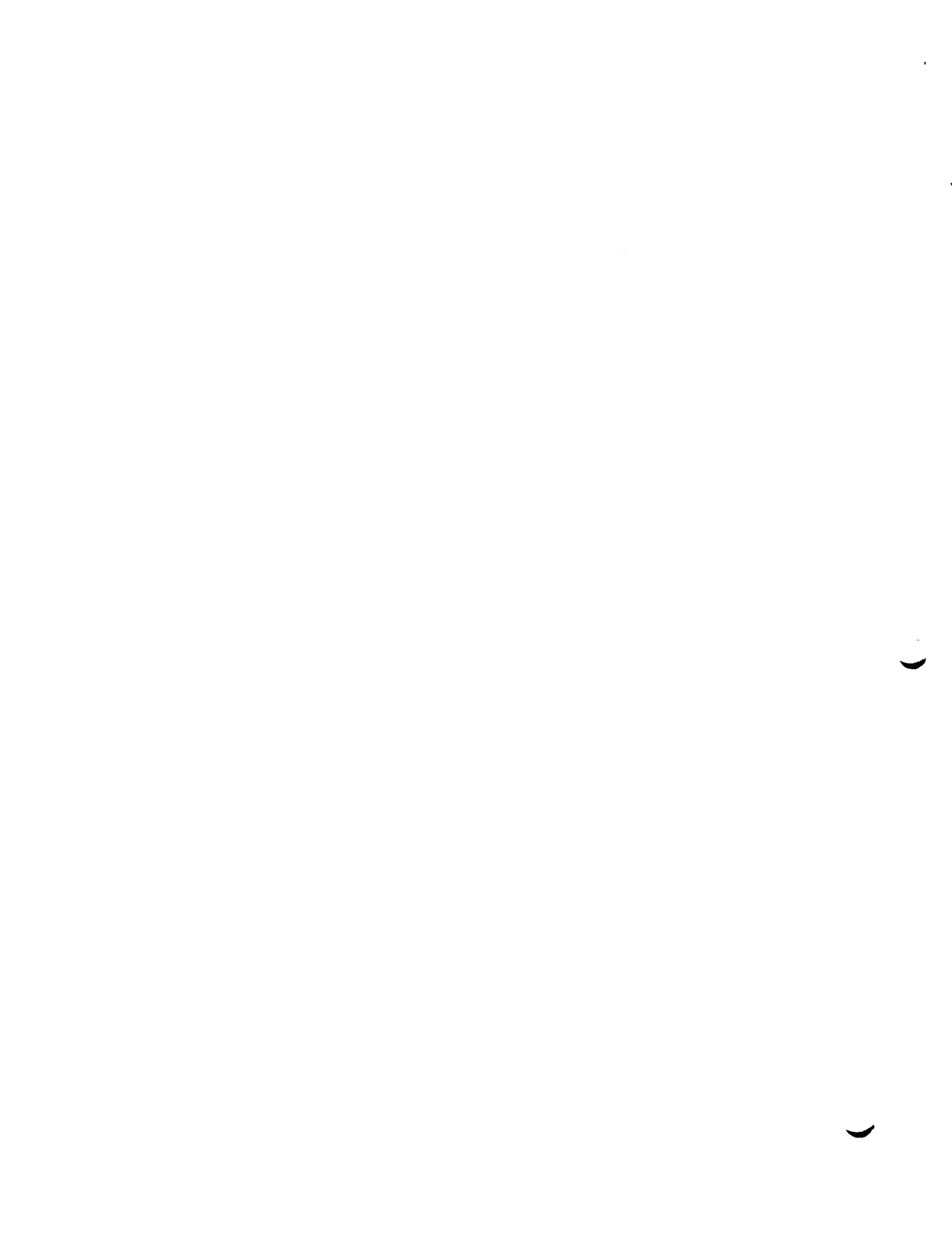
MULTICS STAFF BULLETIN-48

TO: Distribution

FROM: Steve Webber

DATE: May 19, 1972

SUBJECT: Follow-On Integration Task List



TASK AREA Currently Needed Task

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
New 645 F assembler. Document how to use.	RFM	C	2/7 2/21	3/1 4/1	Document being developed.	3
Document stack header and stack frame format.	SHW		12/1 12/1	2/22 3/10	Done.	1
Document call/push/return changeover strategy.	SHW		12/1 12/1	3/1 3/20	Done.	2
Document follow-on code compatibility. (For users.)	SHW		2/28 3/20	3/17 4/1	Done.	2
Document code sequences for call/push/ return.	SHW		2/21 2/21	2/28 3/10	Done.	1
Convert hardcore to version II PL/I. Convert include files for alignment.	ALL	M	3/15		Begin when compiler is ready.	
Estimate bulk store requirements. Will we have enough?	JHS	M				
Design new signalling and crawlout mechanism. Document giving changes.	RJF VLV		3/28 3/6	3/27 4/3	Done.	4
Scan system to find what changes with new ring hardware.	RJF		2/28 3/6	3/27 3/27	Done.	
New object segment format for ALM. (New macro names.)	RFM	H	3/6 3/27	3/27 5/15	In progress.	3

TASK AREA Currently Needed Tasks

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
Design ring alarm software; implement it.	WSS	M	3/13	4/24	Tabled.	6
Convert linker to check for new type ALM programs. (Optional control-call to turn it off.)	CLJ	M	3/27 4/24	4/17	In progress.	3
interpret_mc_ for 645 processor.	MBW	M	2/23 3/13	5/1	Begun. But shelved for lack of time.	2
Modify programs to use interpret_mc_	MBW	M	3/13	5/1	Debug, gecos, default_error handler, fiddle, Shelved.	6
Change interpret_mc_ to work on follow-on.	MBW	M	5/1	5/8	Shelved.	1
Remove alarm clock from system.	RJF		12/1 12/1	2/28 3/17	Done.	0
Figure out how we can get MST's to Phoenix.	RBS DMW (DRV)	C	3/6 4/15	4/3 5/19	Done.	
Do anything necessary to get MST's to Phoenix.	DMW	C	3/6 4/15	4/3 7/3	Work has begun.	8
Implement new stack header and virtual clock.	WSS		2/14 2/28	3/13 4/10	Done.	4

TASK AREA Currently Needed Tasks

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS	
Do we want to retain pre-paging with bulk store?	M				
How to use bulk store on service with 645 drum?	RBS	H 4/24	5/8		2
Write Multics bulk store dim; incorporate into page control.	RBS	C 4/17	5/8		3
Checkout Bulk Store DIM for Multics.	C	4/17 7/1	5/8	Wait for BS to arrive.	
Install Bulk Store on Multics.	C	9/1		Expected hardware problems incorporated in the schedule.	
Go thru system checking for RAR difficulties.	H			First scan complete. Few apparent problems.	
Define tasks for Performance Analysis.	SHW	C 3/1 3/1			
Reassemble system code.	ALL	C		When assembler is ready.	
Writeup rules for code generation of follow-on code.	SHW	4/17	5/1	Done.	2
Writeup rules and procedures for insuring code compatibility.	SHW	H 4/17	5/1	Nearly done.	2

TASK AREA Currently Needed Tasks

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
Generate program task list for tools/ DEV/SSS.	VLV	3/1 3/8	3/15 3/15	Done.
Fix MST generator to use new key words for access attributes.	M			

TASK AREA Peripheral I/O Development

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
Design the PIM.	NIM RFM	M	1/1 1/1	2/28	Initial draft ready for distribution. Not quite complete.	2
Code the PIM.	RBS MAM	M	3/13	4/3	Delayed for other jobs.	5
Modify printer DIM to use the PIM.	RBS MAM	M	3/27	4/10	Delayed for lack of personnel.	1
Modify punch DIM to use the PIM.	RBS MAM	M	3/27	4/10	Delayed for lack of personnel.	1
Modify card reader DIM to use the PIM.	RBS MAM	M	3/27	4/10	Delayed for lack of personnel.	1
Checkout of PIM and new DIM's.	RBS MAM	M	4/10	5/8	Delayed for lack of personnel.	4
Modify printer DCM for PRT-300 operation.	MAM	H	4/10	5/1		3
Modify IOM software to use address extension for extended IOM.		M				

TASK AREA BOS Follow-On Tasks

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS		
Write and checkout BOS bulk store DIM.	RBS RFM	C	5/8 5/8	5/22 5/19	Begun writing.	2
Write BOS T&D for bulk store.	RBS RFM	C	5/22	6/12		?
Audit current BOS programs for base register usage.	DRV WSS		3/27 3/27	4/3	No problems. Done.	1
Modify BOS to shift interrupt vector to 0 absolute.	DRV RFM WSS (NIM)	C	3/27 5/1	4/10	In progress.	2
Lay out memory map for Multics bootloads.	SHW NIM		2/16	2/21	Redone. BOS map has been generated.	1
Modify BOS to understand new control unit format (intfault incl alm).	DRV WSS	C	3/27 5/1	4/17	In progress.	2
Modify BOS for use of new + privileged instructions. Clock reading.	DRV WSS	C	3/27 5/1	4/17	In progress.	1 2
Implement new LDAC/IMW strategy for IOM.	RFM	M	3/27	4/3		1
Modify "APND" to use new hardware SDW/PTW format.	WSS DRV	C	4/10	4/24		2
Write BOS T&D to checkout new follow-on CPU.	WSS DRV	H	4/24	6/12	With load (bulk store, disks) page faults in instructions.	

TASK AREA BOS Follow-On Task

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
Modify DESEG + SDW handling internal to BOS.	DRV WSS	C	3/27 5/1	4/10	In progress.	3
Modify BOS loader (1 card program) for MTS-500.		M				1
Modify BOS loading programs to read tape with MTS-500.		M				1
Checkout BOS bootloader with MTS-500 and DSU-181/190.		M				1
Modify BOS MST writing programs (ntape).		M				2
Checkout BOS ntape package.		M				1
Modify BOS disk DIMS for DSU-181/190.		M				2
Checkout BOS DSU-181/190 DIM.		M				1
Modify BOS to reside on DSU-181/190's.		M				2
Checkout BOS running on DSU-181/190's.		M				2
Write on 355 Dumper and Patcher for Multics core image.	RBS	C				1

TASK AREA New Software Development

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
Write programs to save and <u>interpret</u> the history reg's.	WSS DRV		6/12	To be incorporated into FIM and II, etc.
Write programs to use the mode register.	WSS DRV	M	6/12	To be incorporated into FIM and II, etc.
Write GECOS system simulator using BAR mode.		L		
Study MPC and PSIA Specs.	NIM RFM	C	3/13 3/20	1
Study DSS-181 and DSS-190 Specs.	NIM RFM	C	3/13 3/20	1
Study MTS-500 Specs.	NIM	C	3/13 3/20	1
Examine changes to iom_manager for new disk channel.	NIM RFM	C		1
Code changes to iom_manager for new disk channel.		C		2
Examine modification to PIM for DSS-181/190 and MTS-500.		C		1
Design and code DSS-181/190 DIM's (Version 1).		C		4

TASK AREA New Software Development

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
Checkout DSS-181/190 DIMS.	C	/	/	2
Design MTS-500 DCM to use PIM.	H	/	/	4
Extend PIM to handle channels with multiple devices.	H	/	/	2
Code MTS-500 DCM.	H	/	/	2
Checkout MTS-500 DCM.	H	/	/	2
Design DSS-190 DIM Version II.	M	/	/	
Code DSS-190 DIM Version II.	M	/	/	
Checkout DSS-190 DIM Version II.	M	/	/	
Change term_ to unsnap links in new way (new object segs).		/	/	
		/	/	

TASK AREA DataNet 355 Development

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
Add fast list service subroutine to 355.	RBS		2/8	2/28	Done.	3
Train Doug Wells on HSLA, TTY DIM, etc.	RBS DMW	H	2/21	5/1	Done.	?
Analyze Phoenix written HSLA init code.	DMW RBS		4/24	5/1	Done.	1
Design init code.	RBS DMW		5/1	5/8	Done.	1
Design main module code.	RBS DMW	H	5/8	5/15	Begun. Delayed for PHOENIX TAPES proposal.	1
Add HSLA simulation capability to 355 simulator.	RBS	H	5/15	5/22		1
Debugging under simulator.	DMW	H	5/22	6/19		4
Debugging on Development machine.	DMW	H	6/19	7/17		4
Dynamically reconfigure DN-355.	DRV (RBS)	H				6
Convert software to use IDA instead of ICA.	RBS	H				2

TASK AREA DataNet 355 Development

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS
Make test to see if GIOC simulation will be fast enough.	RBS	C	/	/	Paper analysis is complete.
			/	/	
			/	/	
			/	/	
			/	/	
			/	/	
			/	/	
			/	/	
			/	/	
			/	/	

TASK AREA 645F Bootload Checkout - Program List

	TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
1	Bootstrap1.	NIM C	4/10	5/8	
			6/1	5/15	
2	Bootstrap2, initializer, absadr, clock_, clock_handler, clock_init, dn355, pre_link_1.	DRV WSS C	4/24	5/1	
			6/5	6/19	
	dn355_init, dn355_u, lot_maintainer, make_fw_code, master_mode_init.	CLJ C	5/3	5/8	
			5/29	6/12	
			5/8	5/15	
5/29	6/12				
scs, scs_init, slt_manager, sys_info, init_collections, initialize_faults, initializer.	DRV WSS C	5/1	5/15	4	
		6/19	7/3		
3	delete_segs, freecore, get_ptrs, ii, make_sdw, master_pxss_page.	CLJ C	5/8	5/22	4
			6/12	7/3	
	page_fault, free_store, page_error_, pc_trace, pd_util, pre_page.	RBS RFM C	5/15	5/29	4
			6/12	7/3	
device_control, pc, pc_wired, trace_rsw, update_sst_p&l.	DRV WSS C	5/15	5/22	3	
		7/3	7/17		
wire_stack, wired_fim, init_sst, initialize_dims.	CLJ C	5/22	5/29	2	
4	signal_, condition_, reversion_, tape_reader, unwinder_, segment_loader.	DRV WSS C	5/22	5/29	1
			7/17	7/24	

TASK AREA 645E Bootload Checkout - Program List

	TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS		
5	init_branches, init_root_sys_info, init_str_seg, initialize_kst, activate.	RBS RFM	C	5/29 7/3	6/5 7/10		1
	active_all_rings_data, active_hardcore_ data, appmode.	CLJ	C	5/29 7/17	6/5 7/24		1
	build_template_dsegs, deactivate, fim, find_, get_aste.	WSS DRV	C	5/29 7/24	6/12 8/7	FIM-history registers saved sometimes.	4
	get_proc_id, level, lock, makeunknown, seg_fault, setfaults.	RFM RBS	C	6/5 7/10	6/19 7/24		4
	signaller.	WSS (RJF)	C	6/12 7/24	6/19 7/31		1
6	init_proc, init_processor, boundfault, ioam_util, start_cpu, tc_init, pxss.	CLJ	C	6/5 7/24	6/12 8/7	86 modules. Call out to ring 1.	42 2
-9	init_admin_, init_admin_util_, gate, get_defname, hcs_, hphcs_, phcs_.	WSS DRV	C	6/19 8/7	7/3 8/21		3
	link_snap, linkage_error, makestack, ring_0_cleanup, validate_arg.	CLJ	C	6/19 8/7	6/26 8/15	Code simulated ring mechanism. Code to command level.	1
-10	emergency_shutdown, shutdown, shutdown_ switch, wired_shutdown.		C				

TASK AREA 645F Bootload Checkout - Program List

TASK DESCRIPTION	PERSONNEL	START	FINISH	CHANGES/STATUS
act_proc, activate_segs, add_memory, build_template_pds.	H	/	/	1
compate_trap, copy_fdump, deact_proc, deactivate_segs.	H	/	/	2
fault_error, find_operator_name, formline_, get_simple_names, get_tbr_.	H	/	/	3
imp_gioc, imp_status, move_device, parity_fault, pc_abs, plm.	H	/	/	3
reconfig, special_messages, stop_cpu.	H	/	/	3
terminate_proc, wired_plm, all_rings_util, default_error_handler.	H	/	/	2
get_pbr.	H	/	/	1
		/	/	
		/	/	
		/	/	

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TASK AREA User Ring System Code Changes

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS
Change SSS programs to run on follow-on.			/	/	Two programs in PL/I. One program in ALM.
Change development programs to run on follow-on.			/	/	
(A) Dartmouth system.			/	/	Five programs in PL/I. One program in ALM.
(B) Debug.			/	/	Four programs in PL/I. Two programs in ALM.
(C) Lisp.			/	/	26 programs in PL/I. One program in ALM.
(D) Miscellaneous.			/	/	Three programs in PL/I. One program in ALM.
Change tools to run on follow-on.			/	/	Seven programs in PL/I. Eight programs in ALM.
			/	/	
			/	/	
			/	/	

TASK AREA Miscellaneous

TASK DESCRIPTION	PERSONNEL		START	FINISH	CHANGES/STATUS	
Let linker make argument type checks (optional control).	CLJ	L	3/27	5/8		6
Change binder to make argument type checks (optional control).	MJS MAW	L				
Come up with new AIM manual - for users.		M				
Arrange for more TTY lines for follow-on configuration.		H				
Implement software for ARPA Net on follow-on hardware.		H				
Design dynamic reconfiguration of bulk store (paging device).	RBS	M				