FORUM LIST

D. Clark

W. Burner

C. Clingen

R. Daley

J. Gintell

G. Lundberg

J. Regester

Prof. J. Saltzer

R. Shoemaker

J. R. Steinberg

Honeywell

TO; List of Attendees cc: List

SUBJECT: Forum Minutes for September 10, 1975

ATTENDEES:
G. Ackerman-Lewis
R. J. Chevalier
D. M. Jordan
E. D. Kleinow
W. McFall
R. A. Roach
L. J. Ryan

Hardware - E. D. Kleinow

* Processors
  Start up fault from CPU-B crashed system. Fault Board found to have faulty chip which is being replaced.

  Add-CPU problem appears to be processor board. FED will monitor to see if it is related to start-up fault.

* MTH500's
  Heads replaced in two units last week. One of these is still giving problems.

* PRT301
  Stacker motor replaced last week. This unit's operating statistics over a 21 week period show an average weekly downtime of 2.2 hours. Over 36 weeks the average is 3.5 hours down per week. Two major interruptions were:
  - image alert problem 48 hours
  - power supply problem 24 hours

  Remainder of problems were common.

Software - D. M. Jordan

* 7 crashes resulted from Buffer Allocation Problem. Software fix installed in BOS 146A, MSS26.4

* MSS26.5 ready for installation.

* Bug list getting smaller.

* Unable to execute save. BOS hung. No dump taken. D. Jordan will talk with Noel Morris.

Billerica Hardware

* MPC with 2 190-B's ready for use.

* Reconfiguration deck ready.

* Installation will occur after successful save.

Massachusetts Institute of Technology
Programming Development Office
Cambridge, Massachusetts 02139

To: Forum Attendants

From: Grace E. Ackerman-Lewis

Date: September 10, 1975

Subject: Multics Availability August 25 - September 7

Summary of Lost Time

	# of Crashes	Crashes	Time Lost Other	Total
Software:	8	2:36	0:00	2:36
Hardware:	2	0:40	0:00	0:40
Hardware Suspected:	4	2:57	0:00	2:57
Not Yet Analyzed:	1	0:22	0:00	0:22
Total:	15	6:35	0:00	6:35

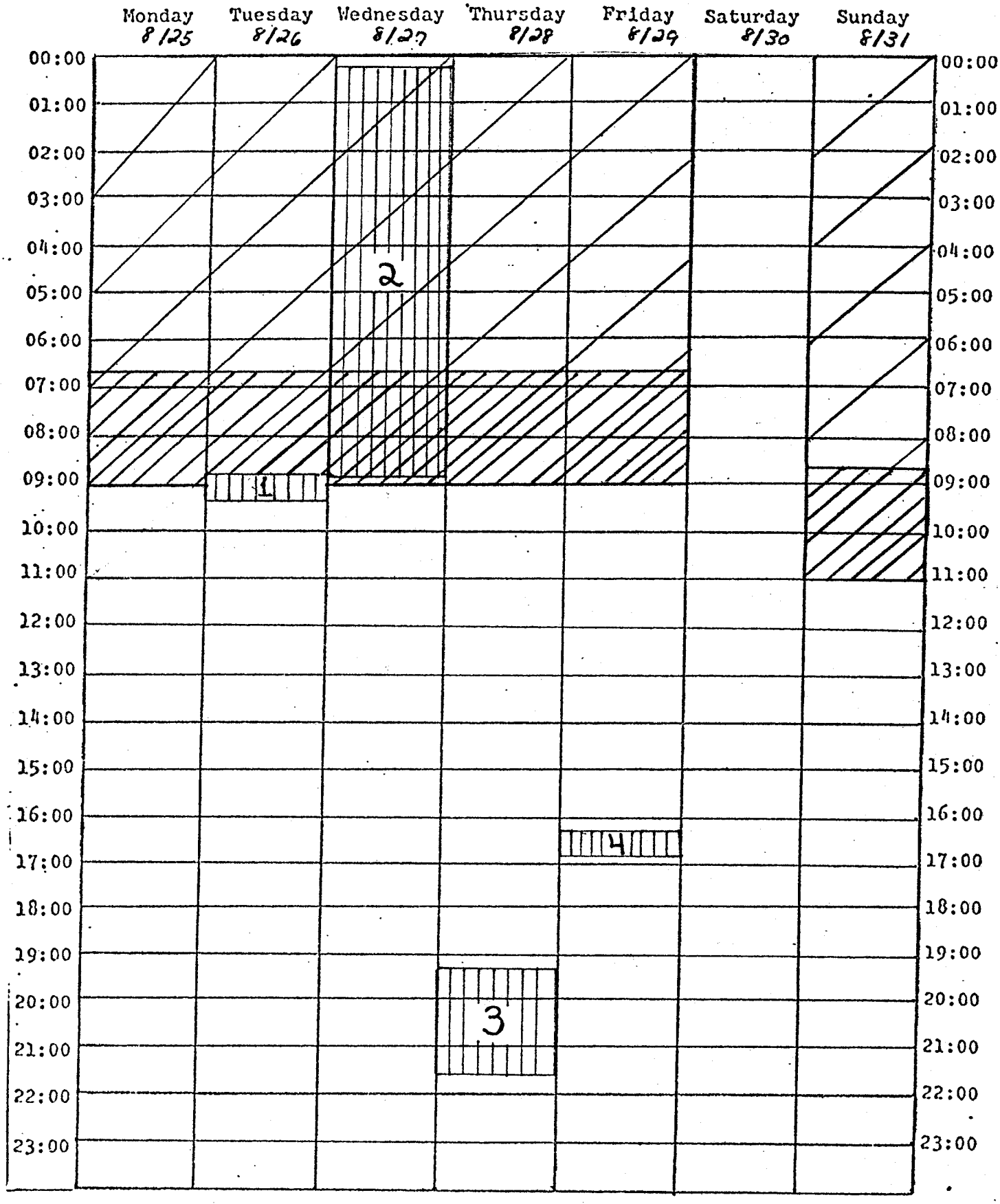
Total lost time/Scheduled up time = 6:35/196:00 = .033 (96.7% up time)

Total lost time/Unattended time = 6:32/115:00 = .056 (94.4% up time)

August lost time = 10:57/25:27 (Scheduled up/Unattended time)

September month-to-date lost time = 3:19/0:02 (Scheduled up/Unattended time)

#	Down At	Up At	Time Lost Due to		
1	08:53 08/26	09:17 08/26	Crash, ERF 371	00:24	H? Trouble fault adding CPU-B
2	00:12 08/27	08:55 08/27	Crash, ERF 372	08:43	H Select lock D191 area 11
3	19:17 08/28	21:43 08/28	Crash, ERF 373	02:26	H? Probable parity error MEM-A Stor A&B
4	16:14 08/29	16:47 08/29	Crash, ERF 374	00:33	S Buffer allocation problem (fixed in 26-4a)
5	09:07 09/02	09:29 09/02	Crash, ERF 375	00:22	NYA System loop trying to write on operator's console
6	08:55 09/03	09:13 09/03	Crash, ERF 376	00:18	H? Crashed trying to add CPU-B to MEM-C
7	11:29 09/03	11:37 09/03	Crash, ERF 377	00:08	S Buffer allocation problem (fixed in 26-4a)
8	13:09 09/03	13:18 09/03	Crash, ERF 378	00:09	S Buffer allocation problem (fixed in 26-4a)
9	19:47 09/03	20:19 09/03	Crash, ERF 379	00:32	S Problem with pool_manager_
10	06:43 09/04	09:01 09/04	Crash, ERF 380	02:18	H? Trouble fault CPU-A
11	13:39 09/04	14:01 09/04	Crash, ERF 381	00:42	S Buffer allocation problem (fixed in 26-4a)
12	16:53 09/04	17:01 09/04	Crash, ERF 382	00:08	S Buffer allocation problem (fixed in 26-4a)
13	10:34 09/05	10:44 09/05	Crash, ERF 383	00:10	S Buffer allocation problem (fixed in 26-4a)
14	11:40 09/05	11:54 09/05	Crash, ERF 384	00:14	S Buffer allocation problem (fixed in 26-4a)
15	14:24 09/05	15:04 09/05	Crash, ERF 385	00:40	H Processor parity error CPU-B


Monday 8/25
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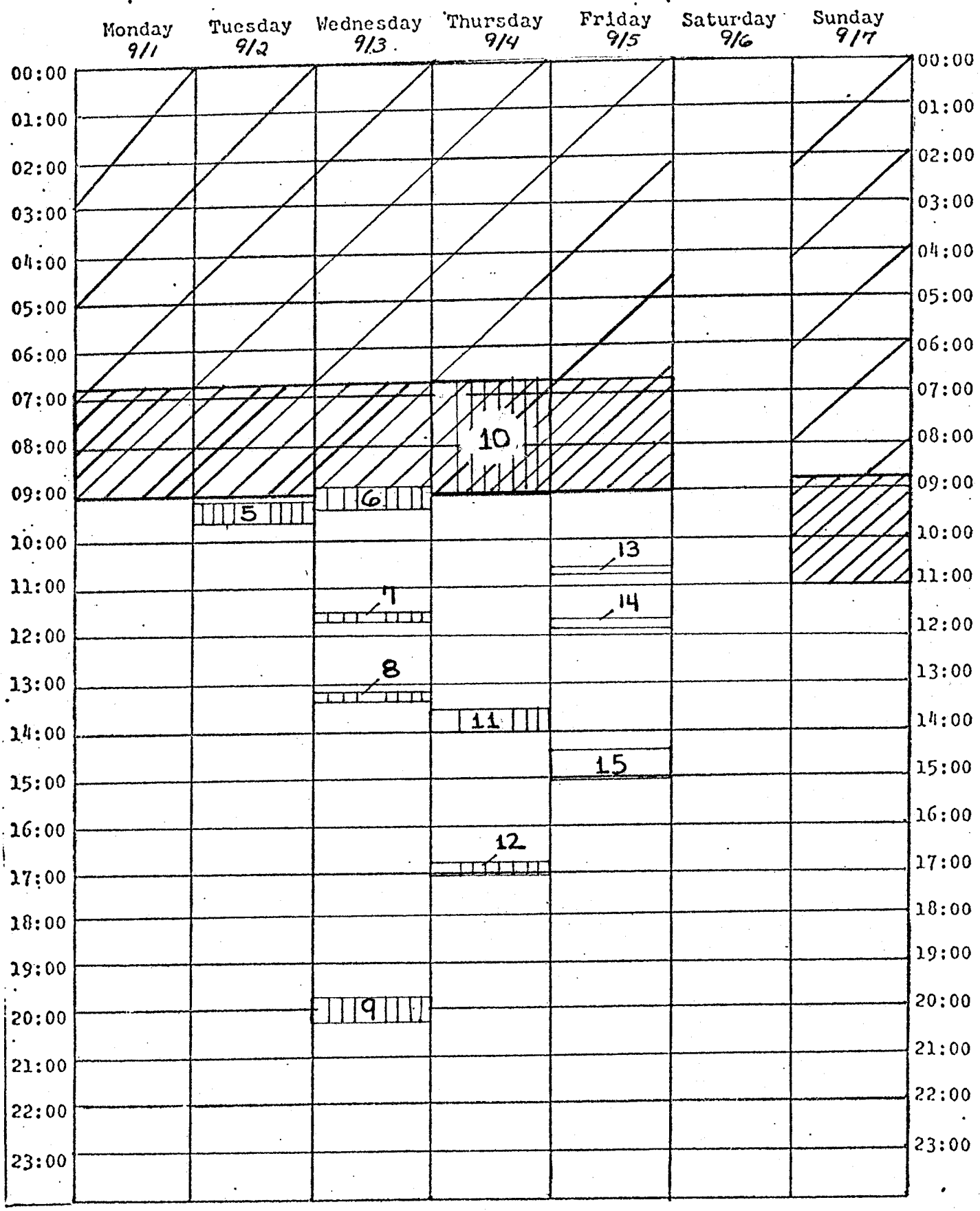
Monday 9/1
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To: Administrative Distribution

From: Grace Ackerman-Lewis

Date: September 10, 1975

Subject: Multics Crash Analysis for August 25 - September 7

Total number of crashes = 15 (ERFs 371 - 385)

Hardware:		
Select lcok on D191 area 11		1
Processor parity error CPU-B		1
	Total	2
Hardware Suspected:		
Trouble fault CPU-B		2
Trouble fault CPU-A		1
Probable parity error MEM-A Stor A&B		1
	Total	4
Software:		
Buffer allocation problem (fixed)		7
Bug in pool_manager_ (fixed)		1
	Total	8
Not Yet Analyzed:		
System looping trying to write on operator's console		1
	Total	1

#	sys.	date	time	type	brief explanation
	26.4ax	09/07/75			NO CRASHES
	26.4ax	09/06/75			NO CRASHES
385	26.4	09/05/75	14:24	H	Processor parity error CPU-B
384	26.4	09/05/75	11:40	S	tty buffer allocation problem (fix installed)
383	26.4	09/05/75	10:34	S	tty buffer allocation problem (fix installed)
382	26.4	09/04/75	16:52	S	tty buffer allocation problem (fix installed)
381	26.4	09/04/75	13:38	S	tty buffer allocation problem (fix installed)
380	26.4	09/04/75	06:43	H?	Trouble fault CPU-A
379	26.4	09/03/75	19:46	S	Problem with pool_manager_ referencing an invalid location
378	26.4	09/03/75	13:08	S	tty buffer allocation problem (fix installed)
377	26.4	09/03/75	11:28	S	tty buffer allocation problem (fix found)
376	26.4	09/03/75	08:55	H?	System trouble fault CPB-B
375	26.4	09/02/75	09:05	NYA	System looping trying to write on operator's console
	26.4	09/01/75			NO CRASHES
	26.4	08/31/75			NO CRASHES
	26.4	08/30/75			NO CRASHES
374	26.4x	08/29/75	16:15	S	tty buffer allocation problem (fix installed)
373	26.3	08/28/75	19:32	H?	System in solid wait state - parity MEM-A Stor A&B
372	26.3	08/27/75	00:12	H	Select lock 0191 Area 11
371	26.3	08/26/75	08:53	H?	Trouble fault adding CPU-B

For a list of known hardware bugs type "help hardware_bugs".

```
384
383 08/21/75 2       copyright_archive fails if archive longer than 64K
382 08/21/75 3       add_copyright will not work with several recent source types
381 08/21/75 2 shw   shutdown with 2 CPUs may not work (depends on which CPU is used for shutdown)
380 07/30/75 3 srh   delete_acl with no args deletes user's access to working dir (MPRF 8588)
378 07/30/75 3 mam   qedx won't edit some long (>64K) segments (MPRF 8591)
376 05/22/75 3 inst  printer dim does not indent lines containing tabs correctly
375 05/22/75 3 nim   printer dim does not raise hood when out of paper (if in nap mode or printing head sheet)
369 04/10/75 3       Shutdown with 3 CPUs may result in a loop (stz used to clear lock, should be stac)
366 03/22/75 3 shw   user can get into loop creating/destroying processes thus tieing up system.
364 03/02/75 3 srh   msla does not handle star convention properly (MPRF 8010)
362 03/02/75 3 srh   delete_name gives incorrect error message on a mseg (bug in chname_$file)
359 03/02/75 3 bsq   initialize_peek_limits leaves old (possibly dangerous) limit table on an error (missing seg)
358 02/27/75 3 rab   PXL compiler faults if used for 1st time after debug has listed object code (fixed with prelinking)
356 02/21/75 1 dmw   Bug(s) exist in Network locking software -> pxss timeouts
354 02/12/75 3 bsq   initialize_peek_limits fails if any error is encountered while processing (security problem?)
350 01/02/75 2 mjg   Users who hangup may not be logged out
348 12/03/74 2 tac   security problems in the automatic creating of home directories
347 12/03/74 3 inst  I/O driver ignores -in option when -pl is used
338 09/26/74 3       restarted printer requests indicate a zero charge ($0.00)
337 09/26/74 3 inst  IO Daemon restarts can start at wrong request if more than one cycle is being saved
336 09/26/74 4 inst  IO Daemon's save request does an automatic start
324 08/27/74 3 tvv   message coordinator can lose a wakeup and then stops printing
322 08/21/74 3 srh   command_processor_ can get fatal process errors (with some cases of iteration)
315 07/24/74 3 amk   Long salvager (after clean shutdown) is detecting bad filemap checksums
282 05/05/74 3 mam   qedx fails to find expressions like /a.bc.*a.b/ in strings like "a.bc a.b a.bd"
268 03/05/74 3 inst  IO Daemon prints an lengthy error message when request deleted from under it
240 01/10/74 3 NSS   lock does not handle directory deletions well. (May result in seg fault -> crawlout)
141 07/22/73 3 ***   >system_library_tools should be removed from default search rules
129 07/07/73 3 rgb   renaming directories does not terminate them and can cause serious problems
```

*** - fix completed (to be installed)

inst - fix installed

(END)

This segment contains a list of known CPU hardware bugs/deficiencies.

```
C84
083 06/13/75 ***     2        CSL causes 2-bit shift at boundsfault boundary (PHAØ-PG070)
082 04/19/75 ***     2        IPR faults occur if target string of move (etc) is zero length.
081 01/15/75 inst             CMPN does not always work
080 01/15/75 ENG     2        CMPC sometimes fails
079 10/14/74 ENG     2        Bounds faults not being recognized on decimal instructions (PHAØ-PE036, PHAØ-PG050)
078 10/14/74 inst             Ring alarm faults are only sampled at RTCD time (PHAØ-PE052)
077 10/14/74 ***     2        Packed pointer load faults (FCO released)
076 09/05/74 inst             CMPC sometimes fails at page boundaries.
075 08/26/74 inst             MLR sometimes stores extra fill characters.
074 08/05/74 inst             CMPC sometimes fails with multiple page faults.
073 05/02/74 ***     1        MLR (CMPC, etc) will not work with 1048576 characters.
072 05/02/74 inst             ADWP sometimes fetches operand from even word instead of odd.
071 05/02/74 ***     2        CMPB fails with certain bit offsets not on character boundaries.
070 03/25/74 inst             XED'd instructions fail to do indexing correctly (PHA7-PE052)
069 03/18/74 inst             MLR and CMPC place fill characters in last few words at page bdry
068 03/11/74 inst             MPY gets overflow on -2**35 inst -2**35.
067 02/14/74 inst             MLR sometimes places 8 zeros near page boundary.
066 02/14/74 inst             MVN gets fixedoverflow when moving 02.
065 02/13/74 inst             MLR sometimes changes a single character to fill character at page boundary.
064 02/12/74 inst             MLR moves 8 characters extra at page boundary.
063 02/06/74 inst             CMPC fails at connect fault time processing fill chars.
062 02/04/74 inst             CSL instruction fails across boundfault boundaries.
061 01/24/74 inst             MVT sometimes fails if take page fault on table.
060 01/12/74 inst             MLR gets op-not-completes.
059 01/12/74 inst             MLR get no-write-permission by miscalculating TSR.
058 01/12/74 inst             CMPC sometimes gives wrong results.
057 01/03/74 inst             MLR instruction fails across bounifault boundaries.
056 01/03/74 inst             SREG gets op-not-complete if at end of page.
042 10/13/73 inst             CI and/or SC modification does not always work.
```

The severity of the problem is interpreted as follows:

1. Severe, the problem is holding up system progress.
2. Medium, the problem is annoying but can be circumvented.
3. Slight, the problem is not very serious.

***. Fix known, awaiting installation.

(END)

Massachusetts Institute of Technology

Information Processing Center

Multics availability for last week to 08/30/75 2359.0

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Time
00001	10.0 2 384 2.01	7.0 2 384 2.01	12.0 2 384 2.01	crash	13.0 2 384 2.01	10.0 2 384 2.01	9.0 2 384 2.01	00001
00301	10.0 2 384 2.01	7.0 2 384 2.01	12.0 2 384 2.01	crash	11.0 2 384 2.01	10.0 2 384 2.01	12.0 2 384 2.01	00301
01001	12.0 2 384 2.01	8.0 2 384 2.01	10.0 2 384 2.01	crash	10.0 2 384 2.01	8.0 2 384 2.01	14.0 2 384 2.01	01001
01301	11.0 2 384 2.01	9.0 2 384 2.01	9.0 2 384 2.01	crash	10.0 2 384 2.01	8.0 2 384 2.01	13.0 2 384 2.01	01301
02001	10.0 2 384 2.01	9.0 2 384 2.01	9.0 2 384 2.01	crash	11.0 2 384 2.01	7.0 2 384 2.01	12.0 2 384 2.01	02001
02301	10.0 2 384 2.01	8.0 2 384 2.01	7.0 2 384 2.01	crash	11.0 2 384 2.01	8.0 2 384 2.01	12.0 2 384 2.01	02301
03001	10.0 2 384 2.01	8.0 2 384 2.01	8.0 2 384 2.01	crash	10.0 2 384 2.01	8.0 2 384 2.01	12.0 2 384 2.01	03001
03301	8.0 2 384 2.01	8.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	8.0 2 384 2.01	12.0 2 384 2.01	03301
04001	8.0 2 384 2.01	8.0 2 384 2.01	7.0 2 384 2.01	crash	8.0 2 384 2.01	9.0 2 384 2.01	12.0 2 384 2.01	04001
04301	8.0 2 384 2.01	8.0 2 384 2.01	7.0 2 384 2.01	crash	8.0 2 384 2.01	9.0 2 384 2.01	11.0 2 384 2.01	04301
05001	8.0 2 384 2.01	6.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	8.0 2 384 2.01	10.0 2 384 2.01	05001
05301	7.0 2 384 2.01	6.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	9.0 2 384 2.01	10.0 2 384 2.01	05301
06001	6.0 2 384 2.01	6.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	8.0 2 384 2.01	10.0 2 384 2.01	06001
06301	6.0 2 384 2.01	6.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	8.0 2 384 2.01	8.0 2 384 2.01	06301
07001	5.0 2 384 2.01	7.0 2 384 2.01	7.0 2 384 2.01	crash	8.0 2 384 2.01	9.0 2 384 2.01	7.0 2 384 2.01	07001
07301	5.0 2 384 2.01	7.0 2 384 2.01	7.0 2 384 2.01	crash	9.0 2 384 2.01	9.0 2 384 2.01	7.0 2 384 2.01	07301
08001	5.0 2 384 2.01	6.0 2 384 2.01	6.0 2 384 2.01	crash	9.0 2 384 2.01	10.0 2 384 2.01	8.0 2 384 2.01	08001
08301	5.0 2 384 2.01	7.0 2 384 2.01	6.0 2 384 2.01	crash	9.0 2 384 2.01	9.0 2 384 2.01	7.0 2 384 2.01	08301
09001	5.0 2 384 2.01	7.0 2 384 2.01	7.0 2 384 2.01	crash	8.0 2 384 2.01	8.0 2 384 2.01	7.0 2 384 2.01	09001
09301	5.0 2 384 2.01	7.0 2 384 2.01	7.0 2 384 2.01	crash	8.0 2 384 2.01	5.0 2 384 2.01	7.0 2 384 2.01	09301
10001	5.0 2 384 2.01	6.0 2 384 2.01	6.0 2 384 2.01	crash	8.0 2 384 2.01	5.0 2 384 2.01	7.0 2 384 2.01	10001
10301	5.0 2 384 2.01	6.0 2 384 2.01	5.0 2 384 2.01	crash	6.0 2 384 2.01	0.0 1 384 2.01	7.0 2 384 2.01	10301
11001	5.0 2 384 2.01	6.0 2 384 2.01	371	crash	999	shutdown	7.0 2 384 2.01	11001
11301	5.0 2 384 2.01	8.0 2 384 2.01	shutdown	crash	shutdown	shutdown	8.0 2 384 2.01	11301
12001	5.0 2 384 2.01	8.0 2 384 2.01	shutdown	crash	shutdown	shutdown	8.0 1 384 2.01	12001
12301	5.0 2 384 2.01	8.0 2 384 2.01	shutdown	crash	shutdown	shutdown	7.0 1 256 2.01	12301
13001	5.0 2 384 2.01	9.0 2 384 2.01	shutdown	crash	8.0 2 384 2.01	shutdown	crash	13001
13301	0.0 1 384 2.01	9.0 2 384 2.01	shutdown	crash	9.0 2 384 2.01	shutdown	crash	13301
14001	shutdown	9.0 2 384 2.01	shutdown	crash	9.0 2 384 2.01	shutdown	41.0 1 256 2.01	14001
14301	shutdown	12.0 2 384 2.01	shutdown	crash	13.0 2 384 2.01	shutdown	41.0 1 256 2.01	14301
15001	shutdown	13.0 2 384 2.01	shutdown	11.0 2 384 2.01	18.0 2 384 2.01	shutdown	41.0 1 256 2.01	15001
15301	shutdown	16.0 2 384 2.01	shutdown	17.0 2 384 2.01	23.0 2 384 2.01	shutdown	33.0 1 256 2.01	15301
16001	shutdown	21.0 2 384 2.01	24.0 2 384 2.01	27.0 2 384 2.01	28.0 2 384 2.01	20.0 1 384 2.01	0.0 1 256 2.01	16001
16301	shutdown	28.0 2 384 2.01	32.0 2 384 2.01	30.0 2 384 2.01	35.0 2 384 2.01	26.0 1 384 2.01	10.0 1 384 2.01	16301
17001	shutdown	32.0 2 384 2.01	37.0 2 384 2.01	33.0 2 384 2.01	39.0 2 384 2.01	36.0 1 384 2.01	10.0 2 384 2.01	17001
17301	shutdown	30.0 2 384 2.01	43.0 2 384 2.01	39.0 2 384 2.01	37.0 2 384 2.01	38.0 1 384 2.01	10.0 2 384 2.01	17301
18001	shutdown	33.0 2 384 2.01	47.0 2 384 2.01	44.0 2 384 2.01	43.0 2 384 2.01	35.0 2 384 2.01	11.0 2 384 2.01	18001
18301	9.0 2 384 2.01	38.0 2 384 2.01	49.0 2 384 2.01	42.0 2 384 2.01	44.0 2 384 2.01	46.0 2 384 2.01	11.0 2 384 2.01	18301
19001	10.0 2 384 2.01	51.0 2 384 2.01	51.0 2 384 2.01	42.0 2 384 2.01	46.0 2 384 2.01	50.0 2 384 2.01	12.0 2 384 2.01	19001
19301	12.0 2 384 2.01	45.0 2 384 2.01	45.0 2 384 2.01	47.0 2 384 2.01	48.0 2 384 2.01	53.0 2 384 2.01	15.0 2 384 2.01	19301
20001	13.0 2 384 2.01	44.0 2 384 2.01	51.0 2 384 2.01	47.0 2 384 2.01	46.0 2 384 2.01	54.0 2 384 2.01	15.0 2 384 2.01	20001
20301	14.0 2 384 2.01	51.0 2 384 2.01	47.0 2 384 2.01	47.0 2 384 2.01	47.0 2 384 2.01	49.0 2 384 2.01	18.0 2 384 2.01	20301
21001	14.0 2 384 2.01	55.0 2 384 2.01	45.0 2 384 2.01	38.0 2 384 2.01	41.0 2 384 2.01	47.0 2 384 2.01	18.0 2 384 2.01	21001
21301	14.0 2 384 2.01	53.0 2 384 2.01	41.0 2 384 2.01	40.0 2 384 2.01	40.0 2 384 2.01	45.0 2 384 2.01	17.0 2 384 2.01	21301
22001	15.0 2 384 2.01	41.0 2 384 2.01	42.0 2 384 2.01	39.0 2 384 2.01	36.0 2 384 2.01	43.0 2 384 2.01	19.0 2 384 2.01	22001
22301	15.0 2 384 2.01	42.0 2 384 2.01	41.0 2 384 2.01	38.0 2 384 2.01	34.0 2 384 2.01	42.0 2 384 2.01	20.0 2 384 2.01	22301
23001	16.0 2 384 2.01	40.0 2 384 2.01	38.0 2 384 2.01	38.0 2 384 2.01	35.0 2 384 2.01	43.0 2 384 2.01	21.0 2 384 2.01	23001
23301	16.0 2 384 2.01	41.0 2 384 2.01	42.0 2 384 2.01	39.0 2 384 2.01	36.0 2 384 2.01	46.0 2 384 2.01	22.0 2 384 2.01	23301
00001	15.0 2 384 2.01	40.0 2 384 2.01	43.0 2 384 2.01	37.0 2 384 2.01	35.0 2 384 2.01	48.0 2 384 2.01	19.0 2 384 2.01	00001
00301	17.0 2 384 2.01	42.0 2 384 2.01	46.0 2 384 2.01	41.0 2 384 2.01	40.0 2 384 2.01	49.0 2 384 2.01	19.0 2 384 2.01	00301
01001	17.0 2 384 2.01	41.0 2 384 2.01	47.0 2 384 2.01	52.0 2 384 2.01	39.0 2 384 2.01	49.0 2 384 2.01	19.0 2 384 2.01	01001
01301	16.0 2 384 2.01	43.0 2 384 2.01	56.0 2 384 2.01	50.0 2 384 2.01	46.0 2 384 2.01	55.0 2 384 2.01	19.0 2 384 2.01	01301
02001	18.0 2 384 2.01	51.0 2 384 2.01	52.0 2 384 2.01	55.0 2 384 2.01	52.0 2 384 2.01	56.0 2 384 2.01	20.0 2 384 2.01	02001
02301	18.0 2 384 2.01	48.0 2 384 2.01	52.0 2 384 2.01	54.0 2 384 2.01	51.0 2 384 2.01	58.0 2 384 2.01	19.0 2 384 2.01	02301
03001	20.0 2 384 2.01	53.0 2 384 2.01	55.0 2 384 2.01	50.0 2 384 2.01	54.0 2 384 2.01	57.0 2 384 2.01	18.0 2 384 2.01	03001
03301	19.0 2 384 2.01	53.0 2 384 2.01	53.0 2 384 2.01	51.0 2 384 2.01	52.0 2 384 2.01	56.0 2 384 2.01	18.0 2 384 2.01	03301
04001	20.0 2 384 2.01	52.0 2 384 2.01	51.0 2 384 2.01	49.0 2 384 2.01	55.0 2 384 2.01	50.0 2 384 2.01	18.0 2 384 2.01	04001
04301	22.0 2 384 2.01	58.0 2 384 2.01	55.0 2 384 2.01	54.0 2 384 2.01	54.0 2 384 2.01	48.0 2 384 2.01	20.0 2 384 2.01	04301
05001	22.0 2 384 2.01	59.0 2 384 2.01	57.0 2 384 2.01	59.0 2 384 2.01	54.0 2 384 2.01	374	16.0 2 384 2.01	05001
05301	21.0 2 384 2.01	57.0 2 384 2.01	53.0 2 384 2.01	55.0 2 384 2.01	55.0 2 384 2.01	374	16.0 2 384 2.01	05301
06001	20.0 2 384 2.01	57.0 2 384 2.01	52.0 2 384 2.01	59.0 2 384 2.01	54.0 2 384 2.01	374	16.0 2 384 2.01	06001
06301	19.0 2 384 2.01	58.0 2 384 2.01	48.0 2 384 2.01	53.0 2 384 2.01	48.0 2 384 2.01	374	16.0 2 384 2.01	06301
07001	20.0 2 384 2.01	48.0 2 384 2.01	44.0 2 384 2.01	51.0 2 384 2.01	37.0 2 384 2.01	27.0 1 384 2.01	14.0 2 384 2.01	07001
07301	20.0 2 384 2.01	36.0 2 384 2.01	39.0 2 384 2.01	44.0 2 384 2.01	37.0 2 384 2.01	35.0 2 384 2.01	15.0 2 384 2.01	07301
08001	15.0 2 384 2.01	30.0 2 384 2.01	37.0 2 384 2.01	33.0 2 384 2.01	28.0 2 384 2.01	28.0 2 384 2.01	12.0 2 384 2.01	08001
08301	16.0 2 384 2.01	25.0 2 384 2.01	30.0 2 384 2.01	34.0 2 384 2.01	24.0 2 384 2.01	26.0 2 384 2.01	9.0 2 384 2.01	08301
09001	18.0 2 384 2.01	24.0 2 384 2.01	26.0 2 384 2.01	29.0 2 384 2.01	22.0 2 384 2.01	20.0 2 384 2.01	7.0 2 384 2.01	09001
09301	18.0 2 384 2.01	23.0 2 384 2.01	24.0 2 384 2.01	25.0 2 384 2.01	22.0 2 384 2.01	18.0 2 384 2.01	8.0 2 384 2.01	09301
10001	16.0 2 384 2.01	22.0 2 384 2.01	24.0 2 384 2.01	21.0 2 384 2.01	19.0 2 384 2.01	19.0 2 384 2.01	8.0 2 384 2.01	10001
10301	16.0 2 384 2.01	19.0 2 384 2.01	19.0 2 384 2.01	23.0 2 384 2.01	17.0 2 384 2.01	18.0 2 384 2.01	9.0 2 384 2.01	10301
11001	14.0 2 384 2.01	15.0 2 384 2.01	19.0 2 384 2.01	19.0 2 384 2.01	14.0 2 384 2.01	18.0 2 384 2.01	9.0 2 384 2.01	11001
11301	13.0 2 384 2.01	16.0 2 384 2.01	18.0 2 384 2.01	17.0 2 384 2.01	16.0 2 384 2.01	16.0 2 384 2.01	9.0 2 384 2.01	11301
12001	14.0 2 384 2.01	15.0 2 384 2.01	20.0 2 384 2.01	16.0 2 384 2.01	crash	13.0 2 384 2.01	8.0 2 384 2.01	12001
12301	12.0 2 384 2.01	18.0 2 384 2.01	17.0 2 384 2.01	18.0 2 384 2.01	crash	13.0 2 384 2.01	11.0 2 384 2.01	12301
13001	12.0 2 384 2.01	15.0 2 384 2.01	17.0 2 384 2.01	19.0 2 384 2.01	crash	14.0 2 384 2.01	11.0 2 384 2.01	13001
13301	11.0 2 384 2.01	16.0 2 384 2.01	17.0 2 384 2.01	21.0 2 384 2.01	crash	13.0 2 384 2.01	11.0 2 384 2.01	13301
14001	11.0 2 384 2.01	15.0 2 384 2.01	20.0 2 384 2.01	22.0 2 384 2.01	crash	16.0 2 384 2.01	11.0 2 384 2.01	14001
14301	12.0 2 384 2.01	14.0 2 384 2.01	20.0 2 384 2.01	24.0 2 384 2.01	crash	19.0 2 384 2.01	11.0 2 384 2.01	14301
15001	12.0 2 384 2.01	15.0 2 384 2.01	19.0 2 384 2.01	24.0 2 384 2.01	crash	16.0 2 384 2.01	13.0 2 384 2.01	15001
15301	12.0 2 384 2.01	18.0 2 384 2.01	20.0 2 384 2.01	25.0 2 384 2.01	crash	16.0 2 384 2.01	14.0 2 384 2.01	15301
16001	13.0 2 384 2.01	21.0 2 384 2.01	19.0 2 384 2.01	23.0 2 384 2.01	crash	17.0 2 384 2.01	12.0 2 384 2.01	16001
16301	13.0 2 384 2.01	21.0 2 384 2.01	17.0 2 384 2.01	24.0 2 384 2.01	8.0 2 384 2.01	16.0 2 384 2.01	12.0 2 384 2.01	16301
17001	10.0 2 384 2.01	21.0 2 384 2.01	19.0 2 384 2.01	25.0 2 384 2.01	7.0 2 384 2.01	16.0 2 384 2.01	11.0 2 384 2.01	17001
17301	11.0 2 384 2.01	18.0 2 384 2.01	19.0 2 384 2.01	24.0 2 384 2.01	10.0 2 384 2.01	15.0 2 384 2.01	12.0 2 384 2.01	17301
18001	11.0 2 384 2.01	19.0 2 384 2.01	19.0 2 384 2.01	23.0 2 384 2.01	15.0 2 384 2.01	12.0 2 384 2.01	13.0 2 384 2.01	18001
18301	9.0 2 384 2.01	17.0 2 384 2.01	15.0 2 384 2.01	23.0 2 384 2.01	17.0 2 384 2.01	12.0 2 384 2.01	14.0 2 384 2.01	18301
19001	9.0 2 384 2.01	19.0 2 384 2.01	18.0 2 384 2.01	22.0 2 384 2.01	14.0 2 384 2.01	14.0 2 384 2.01	14.0 2 384 2.01	19001
19301	8.0 2 384 2.01	19.0 2 384 2.01	18.0 2 384 2.01	22.0 2 384 2.01	17.0 2 384 2.01	14.0 2 384 2.01	13.0 2 384 2.01	19301
20001	8.0 2 384 2.01	17.0 2 384 2.01	17.0 2 384 2.01	18.0 2 384 2.01	16.0 2 384 2.01	13.0 2 384 2.01	12.0 2 384 2.01	20001
20301	7.0 2 384 2.01	14.0 2 384 2.01	17.0 2 384 2.01	16.0 2 384 2.01	17.0 2 384 2.01	11.0 2 384 2.01	12.0 2 384 2.01	20301

Massachusetts Institute of Technology

Information Processing Center

Multics availability for last week to 09/06/75 2359.0

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Time
0000	11.0 2 384 2.0	11.0 2 384 2.0	12.0 2 384 2.0	10.0 2 384 2.0	16.0 2 384 2.0	12.0 2 384 2.0	11.0 2 384 2.0	0000
	14.0 2 384 2.0	11.0 2 384 2.0	11.0 2 384 2.0	11.0 2 384 2.0	15.0 2 384 2.0	10.0 2 384 2.0	11.0 2 384 2.0	
0030	13.0 2 384 2.0	11.0 2 384 2.0	10.0 2 384 2.0	9.0 2 384 2.0	14.0 2 384 2.0	10.0 2 384 2.0	10.0 2 384 2.0	0030
	12.0 2 384 2.0	9.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	16.0 2 384 2.0	10.0 2 384 2.0	10.0 2 384 2.0	
0100	11.0 2 384 2.0	7.0 2 384 2.0	10.0 2 384 2.0	8.0 2 384 2.0	15.0 2 384 2.0	11.0 2 384 2.0	11.0 2 384 2.0	0100
	9.0 2 384 2.0	7.0 2 384 2.0	11.0 2 384 2.0	7.0 2 384 2.0	14.0 2 384 2.0	12.0 2 384 2.0	10.0 2 384 2.0	
0130	9.0 2 384 2.0	7.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	12.0 2 384 2.0	12.0 2 384 2.0	10.0 2 384 2.0	0130
	8.0 2 384 2.0	8.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	12.0 2 384 2.0	10.0 2 384 2.0	9.0 2 384 2.0	
0200	8.0 2 384 2.0	7.0 2 384 2.0	10.0 2 384 2.0	9.0 2 384 2.0	11.0 2 384 2.0	9.0 2 384 2.0	10.0 2 384 2.0	0200
	9.0 2 384 2.0	7.0 2 384 2.0	10.0 2 384 2.0	8.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	11.0 2 384 2.0	
0230	10.0 2 384 2.0	8.0 2 384 2.0	10.0 2 384 2.0	7.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	12.0 2 384 2.0	0230
	10.0 2 384 2.0	7.0 2 384 2.0	11.0 2 384 2.0	7.0 2 384 2.0	11.0 2 384 2.0	8.0 2 384 2.0	11.0 2 384 2.0	
0300	10.0 2 384 2.0	8.0 2 384 2.0	10.0 2 384 2.0	7.0 2 384 2.0	10.0 2 384 2.0	8.0 2 384 2.0	12.0 2 384 2.0	0300
	10.0 2 384 2.0	8.0 2 384 2.0	10.0 2 384 2.0	7.0 2 384 2.0	8.0 2 384 2.0	9.0 2 384 2.0	12.0 2 384 2.0	
0330	9.0 2 384 2.0	10.0 2 384 2.0	9.0 2 384 2.0	7.0 2 384 2.0	8.0 2 384 2.0	6.0 2 384 2.0	11.0 2 384 2.0	0330
	8.0 2 384 2.0	10.0 2 384 2.0	9.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	6.0 2 384 2.0	9.0 2 384 2.0	
0400	9.0 2 384 2.0	10.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	6.0 2 384 2.0	7.0 2 384 2.0	0400
	10.0 2 384 2.0	8.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	6.0 2 384 2.0	7.0 2 384 2.0	
0430	10.0 2 384 2.0	8.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	5.0 2 384 2.0	7.0 2 384 2.0	0430
	7.0 2 384 2.0	8.0 2 384 2.0	7.0 2 384 2.0	7.0 2 384 2.0	7.0 2 384 2.0	5.0 2 384 2.0	7.0 2 384 2.0	
0500	6.0 2 384 2.0	8.0 2 384 2.0	7.0 2 384 2.0	8.0 2 384 2.0	8.0 2 384 2.0	5.0 2 384 2.0	7.0 2 384 2.0	0500
	6.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	7.0 2 384 2.0	7.0 2 384 2.0	5.0 2 384 2.0	6.0 2 384 2.0	
0530	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	5.0 2 384 2.0	6.0 2 384 2.0	0530
	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	8.0 2 384 2.0	5.0 2 384 2.0	6.0 2 384 2.0	
0600	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	5.0 2 384 2.0	6.0 2 384 2.0	0600
	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	5.0 2 384 2.0	7.0 2 384 2.0	
0630	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	6.0 2 384 2.0	380	5.0 2 384 2.0	7.0 2 384 2.0	0630
	7.0 2 384 2.0	7.0 2 384 2.0	6.0 2 384 2.0	376	380	0.0 1 384 2.0	7.0 2 384 2.0	
0700	6.0 2 384 2.0	7.0 2 384 2.0	375	shutdown	380	shutdown	6.0 2 384 2.0	0700
	6.0 2 384 2.0	7.0 2 384 2.0	shutdown	shutdown	380	shutdown	6.0 2 384 2.0	
0730	6.0 2 384 2.0	7.0 2 384 2.0	shutdown	shutdown	380	shutdown	7.0 2 384 2.0	0730
	6.0 2 384 2.0	7.0 2 384 2.0	shutdown	shutdown	380	shutdown	7.0 2 384 2.0	
0800	6.0 2 384 2.0	7.0 2 384 2.0	shutdown	shutdown	380	shutdown	0.0 1 384 2.0	0800
	6.0 2 384 2.0	7.0 2 384 2.0	shutdown	shutdown	380	shutdown	shutdown	
0830	6.0 2 384 2.0	8.0 2 384 2.0	shutdown	shutdown	380	shutdown	shutdown	0830
	0.0 1 384 2.0	8.0 2 384 2.0	shutdown	shutdown	380	shutdown	shutdown	
0900	shutdown	8.0 2 384 2.0	shutdown	shutdown	380	11.0 2 384 2.0	shutdown	0900
	shutdown	8.0 2 384 2.0	shutdown	11.0 1 384 2.0	13.0 2 384 2.0	16.0 2 384 2.0	shutdown	
0930	shutdown	9.0 2 384 2.0	7.0 2 384 2.0	20.0 2 384 2.0	21.0 2 384 2.0	23.0 2 384 2.0	shutdown	0930
	shutdown	9.0 2 384 2.0	22.0 2 384 2.0	23.0 2 384 2.0	26.0 2 384 2.0	30.0 2 384 2.0	shutdown	
1000	shutdown	9.0 2 384 2.0	32.0 2 384 2.0	26.0 2 384 2.0	33.0 2 384 2.0	40.0 2 384 2.0	shutdown	1000
	shutdown	10.0 2 384 2.0	39.0 2 384 2.0	36.0 2 384 2.0	35.0 2 384 2.0	43.0 2 384 2.0	shutdown	
1030	shutdown	7.0 2 384 2.0	41.0 2 384 2.0	36.0 2 384 2.0	38.0 2 384 2.0	383	11.0 1 384 2.0	1030
	shutdown	7.0 2 384 2.0	51.0 2 384 2.0	43.0 2 384 2.0	40.0 2 384 2.0	11.0 2 384 2.0	9.0 2 384 2.0	
1100	7.0 2 384 2.0	9.0 2 384 2.0	46.0 2 384 2.0	40.0 2 384 2.0	42.0 2 384 2.0	34.0 2 384 2.0	14.0 2 384 2.0	1100
	13.0 2 384 2.0	10.0 2 384 2.0	46.0 2 384 2.0	377	43.0 2 384 2.0	41.0 2 384 2.0	13.0 2 384 2.0	
1130	14.0 2 384 2.0	8.0 2 384 2.0	51.0 2 384 2.0	377	43.0 2 384 2.0	384	12.0 2 384 2.0	1130
	14.0 2 384 2.0	12.0 2 384 2.0	44.0 2 384 2.0	17.0 2 384 2.0	52.0 2 384 2.0	384	12.0 2 384 2.0	
1200	15.0 2 384 2.0	14.0 2 384 2.0	41.0 2 384 2.0	29.0 2 384 2.0	47.0 2 384 2.0	19.0 2 384 2.0	13.0 2 384 2.0	1200
	18.0 2 384 2.0	10.0 2 384 2.0	36.0 2 384 2.0	36.0 2 384 2.0	45.0 2 384 2.0	23.0 2 384 2.0	17.0 2 384 2.0	
1230	16.0 2 384 2.0	12.0 2 384 2.0	35.0 2 384 2.0	38.0 2 384 2.0	45.0 2 384 2.0	29.0 2 384 2.0	20.0 2 384 2.0	1230
	16.0 2 384 2.0	11.0 2 384 2.0	34.0 2 384 2.0	40.0 2 384 2.0	45.0 2 384 2.0	24.0 2 384 2.0	17.0 2 384 2.0	
1300	19.0 2 384 2.0	12.0 2 384 2.0	35.0 2 384 2.0	378	42.0 2 384 2.0	26.0 2 384 2.0	16.0 2 384 2.0	1300
	18.0 2 384 2.0	11.0 2 384 2.0	40.0 2 384 2.0	378	44.0 2 384 2.0	31.0 2 384 2.0	18.0 2 384 2.0	
1330	20.0 2 384 2.0	12.0 2 384 2.0	44.0 2 384 2.0	23.0 2 384 2.0	381	34.0 2 384 2.0	19.0 2 384 2.0	1330
	18.0 2 384 2.0	13.0 2 384 2.0	45.0 2 384 2.0	34.0 2 384 2.0	381	36.0 2 384 2.0	20.0 2 384 2.0	
1400	21.0 2 384 2.0	12.0 2 384 2.0	48.0 2 384 2.0	37.0 2 384 2.0	381	44.0 2 384 2.0	21.0 2 384 2.0	1400
	21.0 2 384 2.0	13.0 2 384 2.0	46.0 2 384 2.0	37.0 2 384 2.0	34.0 2 384 2.0	385	17.0 2 384 2.0	
1430	20.0 2 384 2.0	13.0 2 384 2.0	49.0 2 384 2.0	40.0 2 384 2.0	41.0 2 384 2.0	385	17.0 2 384 2.0	1430
	20.0 2 384 2.0	11.0 2 384 2.0	52.0 2 384 2.0	39.0 2 384 2.0	39.0 2 384 2.0	0.0 1 384 2.0	16.0 2 384 2.0	
1500	15.0 2 384 2.0	12.0 2 384 2.0	52.0 2 384 2.0	42.0 2 384 2.0	47.0 2 384 2.0	shutdown	16.0 2 384 2.0	1500
	15.0 2 384 2.0	12.0 2 384 2.0	52.0 2 384 2.0	42.0 2 384 2.0	41.0 2 384 2.0	31.0 2 384 2.0	16.0 2 384 2.0	
1530	16.0 2 384 2.0	12.0 2 384 2.0	47.0 2 384 2.0	41.0 2 384 2.0	46.0 2 384 2.0	42.0 2 384 2.0	14.0 2 384 2.0	1530
	17.0 2 384 2.0	13.0 2 384 2.0	49.0 2 384 2.0	42.0 2 384 2.0	47.0 2 384 2.0	34.0 2 384 2.0	12.0 2 384 2.0	
1600	17.0 2 384 2.0	13.0 2 384 2.0	49.0 2 384 2.0	41.0 2 384 2.0	50.0 2 384 2.0	42.0 2 384 2.0	12.0 2 384 2.0	1600
	16.0 2 384 2.0	13.0 2 384 2.0	49.0 2 384 2.0	40.0 2 384 2.0	51.0 2 384 2.0	37.0 2 384 2.0	12.0 2 384 2.0	
1630	15.0 2 384 2.0	11.0 2 384 2.0	49.0 2 384 2.0	41.0 2 384 2.0	49.0 2 384 2.0	44.0 2 384 2.0	12.0 2 384 2.0	1630
	14.0 2 384 2.0	10.0 2 384 2.0	49.0 2 384 2.0	41.0 2 384 2.0	382	41.0 2 384 2.0	9.0 2 384 2.0	
1700	13.0 2 384 2.0	9.0 2 384 2.0	42.0 2 384 2.0	40.0 2 384 2.0	382	39.0 2 384 2.0	9.0 2 384 2.0	1700
	14.0 2 384 2.0	9.0 2 384 2.0	42.0 2 384 2.0	32.0 2 384 2.0	25.0 2 384 2.0	32.0 2 384 2.0	10.0 2 384 2.0	
1730	11.0 2 384 2.0	8.0 2 384 2.0	32.0 2 384 2.0	30.0 2 384 2.0	25.0 2 384 2.0	29.0 2 384 2.0	4.0 2 384 2.0	1730
	10.0 2 384 2.0	9.0 2 384 2.0	29.0 2 384 2.0	27.0 2 384 2.0	26.0 2 384 2.0	21.0 2 384 2.0	4.0 1 384 2.0	
1800	8.0 2 384 2.0	9.0 2 384 2.0	27.0 2 384 2.0	22.0 2 384 2.0	31.0 2 384 2.0	21.0 2 384 2.0	2.0 1 384 2.0	1800
	9.0 2 384 2.0	11.0 2 384 2.0	23.0 2 384 2.0	21.0 2 384 2.0	26.0 2 384 2.0	23.0 2 384 2.0	2.0 1 384 2.0	
1830	8.0 2 384 2.0	10.0 2 384 2.0	20.0 2 384 2.0	19.0 2 384 2.0	23.0 2 384 2.0	17.0 2 384 2.0	3.0 1 384 2.0	1830
	10.0 2 384 2.0	11.0 2 384 2.0	19.0 2 384 2.0	20.0 2 384 2.0	20.0 2 384 2.0	15.0 2 384 2.0	1.0 1 384 2.0	
1900	11.0 2 384 2.0	13.0 2 384 2.0	20.0 2 384 2.0	22.0 2 384 2.0	20.0 2 384 2.0	11.0 2 384 2.0	3.0 1 384 2.0	1900
	9.0 2 384 2.0	12.0 2 384 2.0	20.0 2 384 2.0	23.0 2 384 2.0	18.0 2 384 2.0	11.0 2 384 2.0	2.0 1 384 2.0	
1930	10.0 2 384 2.0	10.0 2 384 2.0	21.0 2 384 2.0	25.0 2 384 2.0	15.0 2 384 2.0	12.0 2 384 2.0	2.0 1 384 2.0	1930
	9.0 2 384 2.0	11.0 2 384 2.0	21.0 2 384 2.0	379	17.0 2 384 2.0	12.0 2 384 2.0	2.0 1 384 2.0	
2000	8.0 2 384 2.0	12.0 2 384 2.0	20.0 2 384 2.0	379	15.0 2 384 2.0	10.0 2 384 2.0	3.0 1 384 2.0	2000
	9.0 2 384 2.0	11.0 2 384 2.0	24.0 2 384 2.0	379	16.0 2 384 2.0	9.0 2 384 2.0	4.0 1 384 2.0	
2030	9.0 2 384 2.0	11.0 2 384 2.0	21.0 2 384 2.0	16.0 2 384 2.0	16.0 2 384 2.0	10.0 2 384 2.0	4.0 1 384 2.0	2030
	10.0 2 384 2.0	10.0 2 384 2.0	21.0 2 384 2.0	18.0 2 384 2.0	18.0 2 384 2.0	11.0 2 384 2.0	4.0 1 384 2.0	
2100	10.0 2 384 2.0	8.0 2 384 2.0	18.0 2 384 2.0	21.0 2 384 2.0	19.0 2 384 2.0	14.0 2 384 2.0	3.0 1 384 2.0	2100
	10.0 2 384 2.0	9.0 2 384 2.0	19.0 2 384 2.0	21.0 2 384 2.0	17.0 2 384 2.0	16.0 2 384 2.0	5.0 1 384 2.0	
2130	8.0 2 384 2.0	8.0 2 384 2.0	21.0 2 384 2.0	24.0 2 384 2.0	19.0 2 384 2.0	16.0 2 384 2.0	5.0 1 384 2.0	2130
	8.0 2 384 2.0	12.0 2 384 2.0	19.0 2 384 2.0	25.0 2 384 2.0	21.0 2 384 2.0	15.0 2 384 2.0	4.0 1 384 2.0	
2200	10.0 2 384 2.0	11.0 2 384 2.0	19.0 2 384 2.0	26.0 2 384 2.0	23.0 2 384 2.0	14.0 2 384 2.0	6.0 1 384 2.0	2200
	9.0 2 384 2.0	11.0 2 384 2.0	20.0 2 384 2.0	29.0 2 384 2.0	22.0 2 384 2.0	13.0 2 384 2.0	4.0 1 384 2.0	
2230	9.0 2 384 2.0	12.0 2 384 2.0	17.0 2 384 2.0	26.0 2 384 2.0	24.0 2 384 2.0	16.0 2 384 2.0	5.0 1 384 2.0	2230
	9.0 2 384 2.0	12.0 2 384 2.0	17.0 2 384 2.0	29.0 2 384 2.0	25.0 2 384 2.0	13.0 2 384 2.0	3.0 1 384 2.0	
2300	9.0 2 384 2.0	12.0 2 384 2.0	14.0 2 384 2.0	26.0 2 384 2.0	25.0 2 384 2.0	13.0 2 384 2.0	3.0 1 384 2.0	2300
	10.0 2 384 2.0	15.0 2 384 2.0	11.0 2 384 2.0	27.0 2 384 2.0	25.0 2 384 2.0	13.0 2 384 2.0	1.0 1 384 2.0	
2330	9.0 2 384 2.0	12.0 2 384 2.0	11.0 2 384 2.0	22.0 2 384 2.0	22.0 2 384 2.0	14.0 2 384 2.0	2.0 1 384 2.0	2330
	10.0 2 384 2.0	12.0 2 384 2.0	12.0 2 384 2.0	15.0 2 384 2.0	15.0 2 384 2.0	13.0 2 384 2.0	1.0 1 384 2.0	