

F O R U M A T T E N D E E S

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Honeywell

TO: List of Attendees cc: List

SUBJECT: FORUM Minutes for 29 April 1975

ATTENDEES: WJ Burner ED Kleinow
RJ Chevalier RA Roach
RM Gross LJ Ryan
DM Jordan

Hardware - Ed Kleinow

- DSU 190 Bad disk pack caused what appeared to be a unit problem. Chevalier will get the pack replaced.
- MTH 505 FED located and replaced failing read AMP board. Gains adjusted on one other unit.
- Proc-B Associative memory board failing. FED replaced.
- PRT 301 Ribbon Tracking switch had to be adjusted on Saturday. Roger Roach says hood doesn't rise when paper is out. FED will monitor.

Software - DM Jordan

- MSS 25.5 installed.
- Hardcore changes not installed last week as expected. Very few of changes are ready to install.

Other

- Unattended service running very well. first unattended crash occurred last Friday. (Select Lock 191)



RJC/jmn





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To: Forum Attendants
From: Peter B. Kelley
Date: April 29, 1975
Subject: Multics Availability, April 19 - 25

Summary of Lost Time

| | # of Crashes | Crashes | Time Lost Other | Total |
|---------------------|-----------------|---------|--------------------|-------|
| | ----- | ----- | ----- | ----- |
| Hardware: | 2 | 0:37 | 0:00 | 0:37 |
| Hardware Suspected: | 1 | 0:09 | 0:00 | 0:09 |
| Software: | 1 | 0:07 | 0:00 | 0:07 |
| Not Yet Analyzed: | 1 | 0:41 | 0:00 | 0:41 |
| ----- | ----- | ----- | ----- | ----- |
| Total: | 5 | 1:34 | 0:00 | 1:34 |

Total lost time/Scheduled up time = 1:34/100:30 = .012 (98.8% up time)

April month-to-date lost time = 3:08

| # | Time Lost | | Up At | Explanation | Time Due Lost To |
|---|-------------|---------------|----------------|-------------|---------------------------|
| | Down At | Up At | | | |
| 1 | 10:03 04/23 | - 10:44 04/23 | Crash, ERF 280 | 0:41 NVA | initializer process hung |
| 2 | 11:26 04/23 | - 12:03 04/23 | Crash, ERF 290 | 0:37 P | d191: lost IO interrupt |
| 3 | 10:39 04/24 | - 10:46 04/24 | Crash, ERF 291 | 0:07 S | bug in IO code |
| 4 | 2:24 04/25 | - 0:00 04/25 | Crash, ERF 292 | 0:00 P | select lock d191 |
| 5 | 9:10 04/25 | - 9:19 04/25 | Crash, ERF 293 | 0:09 P? | attempting to add 2nd CPU |

Saturday
4/19

Sunday
4/20

Monday
4/21

Tuesday
4/22

Wednesday
4/23

Thursday
4/24

Friday
4/25

| Time | Saturday 4/19 | Sunday 4/20 | Monday 4/21 | Tuesday 4/22 | Wednesday 4/23 | Thursday 4/24 | Friday 4/25 |
|-------|---------------|-------------|-------------|--------------|----------------|---------------|-------------|
| 00:00 | Diagonal | Diagonal | | | | | |
| 01:00 | Diagonal | Diagonal | | | | | |
| 02:00 | Diagonal | Diagonal | | | | | |
| 03:00 | Diagonal | Diagonal | | | | | 4 |
| 04:00 | Diagonal | Diagonal | | | | | |
| 05:00 | Diagonal | Diagonal | | | | | |
| 06:00 | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal |
| 07:00 | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal |
| 08:00 | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal | Diagonal |
| 09:00 | Diagonal | Diagonal | | | | | |
| 10:00 | | | | | 1 | 3 | 5 |
| 11:00 | | | | | | | |
| 12:00 | | | | | 2 | | |
| 13:00 | | | | | | | |
| 14:00 | | | | | | | |
| 15:00 | | | | | | | |
| 16:00 | | | | | | | |
| 17:00 | | | | | | | |
| 18:00 | Diagonal | Diagonal | | | | | |
| 19:00 | Diagonal | Diagonal | | | | | |
| 20:00 | Diagonal | Diagonal | | | | | |
| 21:00 | Diagonal | Diagonal | | | | | |
| 22:00 | Diagonal | Diagonal | | | | | |
| 23:00 | Diagonal | Diagonal | | | | | |

| | | | | | |
|-----|------|----------|-------|-----|----------------------------------|
| 293 | 25.5 | 04/25/75 | 9:10 | P? | attempting to add 2nd CPU |
| 292 | 25.5 | 04/25/75 | 2:24 | H | select lock d101 |
| 291 | 25.5 | 04/24/75 | 10:30 | S | bug in IOL code |
| 290 | 25.5 | 04/23/75 | 11:20 | F | d101 control: lost IOM interrupt |
| 289 | 25.5 | 04/23/75 | 10:03 | N/A | initializer process hung |
| | 25.5 | 04/22/75 | | | NO CRASHES |
| | 25.5 | 04/21/75 | | | NO CRASHES |
| | 25.5 | 04/20/75 | | | NO CRASHES |
| | 25.5 | 04/19/75 | | | NO CRASHES |

To: Administrative Distribution
From: Peter B. Kelley
Date: April 29, 1975
Subject: Multics Crash Analysis for April 19 - 25

Total number of crashes = 5 (ERF's 289 - 293)

Software:

| | |
|----------------------------------|-----|
| Bug in IOI code (new IOI coming) | 1 |
| | --- |
| Total | 1 |

Hardware:

| | |
|--------------------------|-----|
| d191 select lock | 1 |
| d191: lost IOI interrupt | 1 |
| | --- |
| Total | 2 |

Hardware Suspected:

| | |
|-----------------------------------|-----|
| problem attempting to add 2nd CPU | 1 |
| | --- |
| Total | 1 |

Not Yet Analyzed:

| | |
|--------------------------|-----|
| initializer process hung | 1 |
| | --- |
| Total | 1 |

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

| | | | | |
|-----|----------|------|---|---|
| 083 | 04/19/75 | ENG | 2 | IPR faults occur if target string of move (etc) is zero length. |
| 082 | 01/15/75 | Inst | | CMFN does not always work |
| 081 | 01/15/75 | FED | 2 | CMPC sometimes fails |
| 080 | 10/14/74 | *** | 2 | Bounds faults not being recognized on decimal instructions (PHAB-PE036, PHAB-PG060) |
| 079 | 10/14/74 | Inst | 2 | Ring alarm faults are only sampled at RTCD time (PHAD-PE052) |
| 078 | 10/14/74 | *** | 2 | Packed pointer load faults (FC0 not yet released) |
| 077 | 09/05/74 | Inst | | CMPC sometimes fails at page boundaries. |
| 076 | 08/26/74 | Inst | | MLR sometimes stores extra fill characters. |
| 075 | 08/05/74 | Inst | | CMPC sometimes fails with multiple page faults. |
| 074 | 05/02/74 | *** | 1 | MLR (CMPC, etc) will not work with 1048576 characters. |
| 073 | 05/02/74 | Inst | 2 | ADWP sometimes fetches operand from even word instead of odd. |
| 072 | 05/02/74 | Inst | | CMPC fails with certain bit offsets not on character boundaries. |
| 071 | 03/25/74 | Inst | | XED'd instructions fail to go indexin. correctly (PHAB-PE052) |
| 070 | 03/18/74 | Inst | | MLR and CMPC place fill characters in last few words at page bdry |
| 069 | 03/11/74 | Inst | | MPY gets overflow on -2**35 inst -2**35. |
| 068 | 02/14/74 | Inst | | MLR sometimes places 8 zeros near page boundary. |
| 067 | 02/13/74 | Inst | | MVN gets fixedoverflow when moving 02. |
| 066 | 02/12/74 | Inst | | MLR sometimes changes a single character to fill character at page boundary. |
| 065 | 02/12/74 | Inst | | MLR moves 8 characters extra at page boundary. |
| 064 | 02/06/74 | Inst | | CMPC fails at connect fault time processing fill chars. |
| 063 | 02/04/74 | Inst | | CSL instruction fails across boundfault boundaries. |
| 062 | 01/24/74 | Inst | | MVT sometimes fails if take page fault on table. |
| 061 | 01/12/74 | Inst | | MLR gets op-not-completes. |
| 060 | 01/12/74 | Inst | | MLR get no-write-permission by miscalculating TSR. |
| 059 | 01/12/74 | Inst | | CMPC sometimes gives wrong results. |
| 058 | 01/03/74 | Inst | | MLR instruction fails across boundfault boundaries. |
| 057 | 01/03/74 | Inst | | SREG gets op-not-complete if at end of page. |
| 056 | 10/13/73 | Inst | | CI and/or SC modification does not always work. |
| 042 | | | | |

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)

This segment lists some of the known bugs in 6180 Multics.

- 365 03/12/75 1 shw security bug allowing user to patch PDS
- 357 02/21/75 1 mjg Several timing loops for 355 timeouts are too short (with cache processors)
- 356 02/21/75 1 amw Bug(s) exist in Network locking software -> pxss timeouts

- 369 04/10/75 2 Shutdown with 2 CPUs may result in a loop (stz used to clear lock, should be stac)
- 367 03/25/75 2 Status with "-md" option also gives bit count, records used and max length
- 361 03/02/75 2 Output to one terminal can end up in another user's input buffers (MPRF 8035)
- 352 01/14/75 2 Deletion of CPU appears to result in clobbered words (ERFs 207 & 208)
- 350 01/02/75 2 mjg Users who hangup may not be logged out
- 348 12/03/74 2 Security problems in the automatic creating of home directories
- 346 11/25/74 2 Backup bombs when handling dir with msf indicator on but no inferior segments (See 11/23/74)
- 339 10/10/74 2 rem bug in traffic controller (-> idle loops)
- 318 07/25/74 2 mjg tty dlm seems to be able to go blocked for output and forgets to wakeup
- 261 02/19/74 2 Inst Salvager deletes ACLs, no way to let users know

- 371 04/12/75 3 delete_dir can not delete directories with lower ring segments (gives misleading message)
- 370 04/12/75 3 set_acl says "no match" if satisfying entry names all in lower rings
- 366 03/22/75 3 user can get into loop creating/destroying processes thus tying up system.
- 364 03/02/75 3 msla does not handle star convention properly (MPRF 8010)
- 362 03/02/75 3 sbh delete_name gives incorrect error message on a msg (bug in chname_ffff)
- 360 03/02/75 3 Salvager appears not to flush its logging buffer when finished (errors absent from log)
- 359 03/02/75 3 Initialize_peek_limits leaves old (possibly dangerous) limit table on an error (missing seg)
- 358 02/27/75 3 rab EXL compiler faults if used for 1st time after debug has listed object code (fixed with preflinking)
- 354 02/12/75 3 rfm Initialize_peek_limits fails if any error is encountered while processing (security problem?)
- 353 01/14/75 3 delete_dir fails if safety switch is on
- 347 12/03/74 3 I/O driver ignores -ln option when -pl is used
- 338 09/26/74 3 restarted printer requests indicate a zero charge (\$0.00)
- 337 03/26/74 3 IO Daemon restarts can start at wrong request if more than one cycle is being saved
- 325 08/27/74 3 tac IO-SysDaemon was charged for a large negative amount of cpu time (08/26/74)
- 324 08/27/74 3 tvv message coordinator can lose a wakeup and then stops printing
- 323 08/21/74 3 tac users can get logged out but entry in who table still remains
- 322 08/21/74 3 srh command_processor_ can get fatal process errors (with some cases of iteration)
- 320 07/26/74 3 tac Initialize's alarm clock can fail and doesn't resync properly. (see online for 07/26/74)
- 315 07/24/74 3 amk Long salvager (after clean shutdown) is detecting bad filemap checksums
- 305 07/02/74 3 mjg Logout messages get lost due to timing problems in tty dlm
- 302 06/29/74 3 cross directory retrievals sometimes fail (see QAR for details)
- 282 05/05/74 3 nam qedx falls to find expressions like /a.bc.*a.bg/ in strings like "a.bc a.b a.bd"
- 268 03/05/74 3 rsc IO Daemon prints an lengthy error message when request deleted from under it
- 258 02/11/74 3 shw Boot cold won't work if too much disk storage (dles on fsdct page fault)
- 240 01/10/74 3 eds lock does not handle directory deletions well. (May result in seg fault -> crawlout)
- 238 03/18/74 3 srh timer_manager_ may not properly reset alarm calls if called more than once from same loc (V1)
- 216 11/29/73 3 shw System crashes on attempts to wire a page in a RWS
- 180 09/01/73 3 *** retrieve does not accept control files with 50 names as documented (limit about 20) (Documentation change)
- 179 09/01/73 3 *** retrieve sometimes requires full primary path names (supposed to accept alternate names) (Documentation change)
- 148 07/26/73 3 jwg absentee or I/O message segments can get truncated by ms salvager with no messages
- 141 07/22/73 3 *** >system_library_tools should be removed from default search rules
- 129 07/07/73 3 jwg renaming directories does not terminate them and can cause serious problems

- 363 03/02/75 4 unbump fails to do its function completely (user logged out on new_proc - MPRF 8019)
- 336 09/26/74 4 IO Daemon's save request does an automatic start
- 307 07/02/74 4 mjg hardwired terminals do not get identified correctly when turned on after system is up (on 150 baud)
- 197 10/29/73 4 rar iss has not been updated for 6180 libraries

*** - fix completed (to be installed)

Inst - fix installed

