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J. H. SALTZER

FORUM LIST

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Prof. J. Saltzer ✓

J. R. Steinberg

R. Shoemaker



Honeywell

TO: List of Attendees

cc: List

SUBJECT: Forum Minutes for February 25, 1976

ATTENDEES: W. Burner
R. A. Roach
R. J. Chevalier
E. D. Kleinow
W. J. Flaherty
G. Ackerman-Lewis
E. B. Kelley

HARDWARE - E. D. Kleinow

- DSU190A . Disk head crash (A-3). pack moved to another unit (B-5) and crashed again. FED replaced servo head in B-5 and power amp in A-3.
- DN355 . Memory timing board (ZJ Board) failed and was replaced by FED.
- Memory . SCU A - St. A having intermittent parity errors. FED will monitor this problem and swap boards between memory controllers. FED will coordinate with operations before swapping boards.
- BOS Console . Spring broke and locked console in position 1.
- MTH505 . Unit 3, hub assembly jammed. FED repaired.

SOFTWARE - G. Ackerman-Lewis

- . NSS installed 28.0.
- . NSS installation is causing high volume of head motion on the DSU190's. FED will monitor this closely for mechanical failures and CISL is aware of potential problems.







Massachusetts Institute of Technology
Programming Development Office
Cambridge, Massachusetts 02139

To: Forum Attendants
From: Grace E. Ackerman-Lewis
Date: February 25, 1976
Subject: Multics availability February 9 - 22

Summary of Lost Time

	# of Crashes -----	Crashes -----	Time Lost Other -----	Total -----
Hardware:	7	19:10	0:00	19:10
Hardware Suspected:	1	00:10	0:00	00:10
Software:	7	02:00	0:00	02:00
Software Suspected:	1	00:04	0:00	00:04
Not yet analyzed:	5	01:18	0:00	01:18
Not analyzable:	2	02:24	0:00	02:24
Hardware/Software:	3	16:55	0:00	16:55
Other:	2	00:45	0:00	00:45
NSS Installation:	0	00:00	28:56	28:56
-----	-----	-----	-----	-----
Total:	28	47:36	28:56	76:32

#	sys.	date	time	type	brief explanation
61	28.0	02/20/76	13:53 15:44	NA	Return to BUS, no message
60	28.0	02/19/76	16:22	H/S	vloc write error 20 buffer 28
59	28.0	02/20/76 02/19/76	08:07 01:18	H	355 failure, dropped all bits but one
58	28.0	02/19/76	08:54 00:35 01:16	H	emergency interrupt from 355, parity err
57	28.0	02/18/76	20:01	H	Parity error, CPU-A
57a	28.0	02/18/76	20:21 15:17	S	Problem with system_low card processing
56	28.0	02/18/76	16:10 14:00	H	BOS console locked in position 1
55	28.0	02/18/76	15:14 13:44	S	Problem with the network (corrected)
54	28.0	02/18/76	13:15 13:26	S	Directory became bad at ERF 52
53	28.0	02/18/76	12:52 13:09	S	Directory became bad at ERF 52
52	28.0	02/18/76	10:26 11:35	NYA	0 PVTX in paging device map entry detected RMS time
51	28.0	02/17/76	21:33 21:56	H/S	Diska 3 went down
50	28.0	02/17/76	12:57	S	Inconsistent pdmap threading due to disk control locking bug
49	28.0	02/17/76	13:08 12:44 12:53	S	Network locking problem
48	28.0	02/16/76	15:45	S?	Possible network locking problem
47	28.0	02/16/76	15:49 15:22	S	Software problem in page_control
46	28.0	02/16/76	15:30 12:17 13:15	P/S	Shutdown to install new version of system
45	27.0cs	02/15/76 02/16/76	00:52 12:17	H	Parity error, CPU-0
44	27.0c	02/14/76	09:04	NYA	FATAL ERROR IN PAGE_FAJLT AT LOC 134 during metering run (CPU A, MEM 4,8)
44	27.0cs	2/14/76	00:59 00:58	E	Power surge (no dump)
43	27.0cs	2/13/76	23:50	NA	Attempt to terminate initializer (dump destroyed)
42	27.6cs	2/13/76	00:23 09:00 09:26	FE/H	MPC (E191) was not properly initialized when system brought up
	27.6cs	2/12/76			NO CRASHES
41	27.6c	02/11/76	12:35	NYA	FATAL ERROR IN PAGE_FAJLT AT LOC 134
40	27.6c	02/11/76	13:13 11:15	H	parity error in SCU-A
39	27.6c	02/11/76	12:16 07:30	O?	possible error shutting system down (no dump taken)

09:50

39	27.6c	02/10/76	15:25	H/S	0191 errors resulting in lost IOM interrupt
37	27.6c	02/10/76	16:07	NYA	Mylock on global lock
36	27.6c	02/10/76	12:50	NYA	Mylock on global lock
			13:10		
			11:02		
			11:13		
35	27.6c	02/09/76	18:14	H	Parity error, CPU-A
			18:46		
34	27.6c	02/09/76	12:06	H?	Possible bad match logic in cache, CPU-A
			12:17		

Multics Software Bugs List as of 14:26 Tuesday, February 24, 1976

386 11/14/75 1 VSS Salvager should question clock values earlier than today (ie, 01/01/01, etc.)
 384 09/17/75 1 IPT IPT can overflow very easily, leading to system crashes
 356 02/21/75 1 dmw Bug(s) exist in Network locking software -> pxss timeouts

385 11/14/75 2 Problems exist with channel definition table (password suppress, etc.)
 383 09/21/75 2 copyright_archive fails if archive longer than 64K
 381 08/21/75 2 shw shutdown with 2 CPUs may not work (depends on which CPU is used for shutdown)
 350 01/02/75 2 mjq users who hangup may not be logged out
 348 12/03/74 2 tac security problems in the automatic creating of home directories

382 08/21/75 3 add_convright will not work with several recent source types
 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 *** qcdx won't edit same long (>64K) segments (MPRF 8591)
 375 05/22/75 3 nin printer dim does not raise hood when out of paper (if in nep 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 tying 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 cname_\$file)
 359 03/02/75 3 bsg initialize_peek_limits leaves old (possibly dangerous) limit table on an error (missing seg)
 358 02/27/75 3 rab EYL compiler faults if used for 1st time after debug has listed object code (fixed with prelinking)
 354 02/12/75 3 bsg initialize_peek_limits fails if any error is encountered while processing (security problem?)
 338 09/26/74 3 restarted printer requests indicate a zero charge (\$0.00)
 324 08/27/74 3 tvv message coordinator can lose a wakenb 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 qcdx fails to find expressions like /a.bc.*a.b/d/ in strings like "a.bc a.h a.bd"
 240 01/10/74 3 VSS lock does not handle directory deletions well. (may result in seg fault -> crawlout)
 141 07/22/73 3 *** >svsystem_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.

084					
085	05/13/75	***	2	CSL causes 2-bit shift at boundsfault boundary (PHAZ-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	CMPN sometimes fails	
079	10/14/74	ENG	2	Bounds faults not being recognized on decimal instructions (PHAZ-PE036, PHAZ-PG060)	
078	10/14/74	Inst	2	Ring alarm faults are only sampled at RICO time (PHAZ-PE052)	
077	10/14/74	***	2	Packed pointer load faults (FCO released)	
076	09/05/74	Inst		CMPN sometimes fails at page boundaries.	
075	08/26/74	Inst		MLR sometimes stores extra fill characters.	
074	09/05/74	Inst		CMPN sometimes fails with multiple page faults.	
073	05/02/74	***	1	MLR (CMPN, 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	CMPD fails with certain bit offsets not on character boundaries.	
070	03/25/74	Inst		XED's instructions fail to do indexing correctly (PHAZ-PE052)	
069	03/18/74	Inst		MLR and CMPN 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 0 zeros near page boundary.	
066	02/14/74	Inst		MLR 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 0 characters extra at page boundary.	
063	02/06/74	Inst		CMPN fails at connect fault time processing fill chars.	
062	12/14/74	Inst		CSL instruction fails across boundfault boundaries.	
061	01/24/74	Inst		MVI 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 ISR.	
058	01/12/74	Inst		CMPN sometimes gives wrong results.	
057	01/03/74	Inst		MLR instruction fails across boundfault 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)

Multics availability for last week to 02/21/76 2359.0

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Site
100001	45	shutdown	19.0 1 384 2.01	18.0 1 334 2.01	21.0 1 384 2.01	crash		
100001	45	shutdown	18.0 1 384 2.01	20.0 1 384 2.01	15.0 1 384 2.01	crash	16.0 2 384 2.01	100001
100001	45	shutdown	14.0 1 384 2.01	20.0 1 334 2.01	crash	crash	17.0 2 384 2.01	100001
101001	45	13.0 1 334 2.01	14.0 1 384 2.01	20.0 1 334 2.01	crash	crash	17.0 2 384 2.01	100001
101001	45	16.0 1 334 2.01	13.0 1 334 2.01	19.0 1 334 2.01	crash	crash	16.0 2 384 2.01	100001
101301	45	16.0 1 334 2.01	13.0 1 334 2.01	12.0 1 384 2.01	crash	crash	11.0 2 384 2.01	100001
101301	45	18.0 1 334 2.01	18.0 1 334 2.01	9.0 1 334 2.01	crash	crash	11.0 2 384 2.01	100001
102001	45	19.0 1 334 2.01	14.0 1 384 2.01	11.0 1 334 2.01	crash	crash	13.0 2 384 2.01	100001
102001	45	16.0 1 334 2.01	22.0 1 384 2.01	10.0 1 334 2.01	crash	crash	11.0 2 384 2.01	100001
102301	45	16.0 1 334 2.01	13.0 1 384 2.01	16.0 1 334 2.01	crash	crash	9.0 2 384 2.01	100001
103001	45	15.0 1 334 2.01	13.0 1 384 2.01	9.0 1 334 2.01	crash	crash	11.0 2 384 2.01	100001
103001	45	12.0 1 384 2.01	12.0 1 384 2.01	9.0 1 334 2.01	crash	crash	9.0 2 384 2.01	100001
103301	45	13.0 1 334 2.01	10.0 1 384 2.01	9.0 1 334 2.01	crash	crash	8.0 2 384 2.01	100001
103301	45	10.0 1 334 2.01	9.0 1 384 2.01	8.0 1 334 2.01	crash	crash	9.0 2 384 2.01	100001
104001	45	9.0 1 334 2.01	7.0 1 384 2.01	8.0 1 334 2.01	crash	crash	9.0 2 334 2.01	100001
104001	45	9.0 1 334 2.01	8.0 1 384 2.01	8.0 1 334 2.01	crash	crash	9.0 2 384 2.01	100001
104501	45	9.0 1 334 2.01	8.0 1 384 2.01	8.0 1 334 2.01	crash	crash	8.0 2 384 2.01	100001
104501	45	6.0 1 384 2.01	6.0 1 384 2.01	8.0 1 334 2.01	crash	crash	8.0 2 384 2.01	100001
105001	45	6.0 1 384 2.01	6.0 1 384 2.01	7.0 1 384 2.01	crash	crash	6.0 2 384 2.01	100001
105001	45	6.0 1 384 2.01	6.0 1 384 2.01	7.0 1 384 2.01	crash	crash	6.0 2 384 2.01	100001
105301	45	8.0 1 384 2.01	7.0 1 384 2.01	8.0 1 334 2.01	crash	crash	7.0 2 384 2.01	100001
105301	45	8.0 1 384 2.01	7.0 1 384 2.01	9.0 1 334 2.01	crash	crash	7.0 2 384 2.01	100001
106001	45	8.0 1 384 2.01	8.0 1 384 2.01	9.0 1 384 2.01	crash	crash	7.0 2 384 2.01	100001
106001	45	8.0 1 384 2.01	7.0 1 384 2.01	9.0 1 384 2.01	crash	crash	7.0 2 384 2.01	100001
106301	45	9.0 1 334 2.01	7.0 1 384 2.01	9.0 1 334 2.01	crash	crash	6.0 1 384 2.01	100001
106301	45	8.0 1 384 2.01	5.0 1 334 2.01	8.0 1 384 2.01	crash	crash	6.0 1 384 2.01	100001
107001	45	8.0 1 384 2.01	3.0 1 384 2.01	8.0 1 334 2.01	crash	shutdown	7.0 2 384 2.01	100001
107001	45	8.0 1 384 2.01	8.0 1 384 2.01	8.0 1 384 2.01	crash	shutdown	8.0 2 384 2.01	100001
107301	8.0 1 384 2.01	9.0 1 384 2.01	shutdown	crash	crash	shutdown	7.0 2 384 2.01	100001
107301	crash	9.0 1 384 2.01	shutdown	crash	crash	shutdown	7.0 2 384 2.01	100001
108001	crash	10.0 1 384 2.01	shutdown	crash	crash	shutdown	7.0 2 384 2.01	100001
108001	crash	12.0 1 384 2.01	333	crash	crash	9.0 1 384 2.01	7.0 2 384 2.01	100001
108301	crash	6.0 1 384 2.01	shutdown	crash	crash	9.0 1 384 2.01	7.0 2 384 2.01	100001
109001	crash	shutdown	9.0 1 384 2.01	337	crash	9.0 1 384 2.01	6.0 2 384 2.01	100001
109001	crash	shutdown	1.0 1 384 2.01	shutdown	8.0 1 384 2.01	15.0 2 384 2.01	6.0 2 384 2.01	100001
109301	crash	shutdown	9.0 1 384 2.01	8.0 2 334 2.01	11.0 2 334 2.01	40.0 2 384 2.01	8.0 2 384 2.01	100001
109301	crash	shutdown	9.0 1 384 2.01	14.0 2 334 2.01	31.0 2 384 2.01	47.0 2 384 2.01	9.0 2 384 2.01	100001
110001	crash	shutdown	3.0 1 384 2.01	36.0 2 384 2.01	49.0 2 384 2.01	52.0 2 384 2.01	12.0 2 384 2.01	100001
110001	crash	shutdown	13.0 1 384 2.01	44.0 2 334 2.01	58.0 2 384 2.01	67.0 2 384 2.01	13.0 2 384 2.01	100001
110301	crash	shutdown	35.0 1 384 2.01	333	60.0 2 384 2.01	71.0 2 384 2.01	15.0 2 384 2.01	100001
110301	crash	shutdown	45.0 1 384 2.01	333	61.0 2 384 2.01	69.0 2 384 2.01	15.0 2 384 2.01	100001
110301	crash	shutdown	52.0 1 384 2.01	333	62.0 2 384 2.01	66.0 2 384 2.01	17.0 2 384 2.01	100001
110301	crash	19.0 1 384 2.01	57.0 1 384 2.01	333	55.0 2 384 2.01	66.0 2 384 2.01	18.0 2 384 2.01	100001
110301	crash	24.0 1 384 2.01	54.0 1 384 2.01	crash	56.0 2 384 2.01	57.0 2 384 2.01	18.0 2 384 2.01	100001
111301	crash	31.0 1 384 2.01	56.0 1 384 2.01	9.0 1 334 2.01	56.0 2 384 2.01	57.0 2 384 2.01	13.0 2 384 2.01	100001
111301	crash	34.0 1 384 2.01	55.0 1 384 2.01	17.0 2 384 2.01	55.0 2 384 2.01	55.0 2 384 2.01	19.0 2 384 2.01	100001
112001	crash	32.0 1 384 2.01	53.0 1 384 2.01	28.0 2 384 2.01	52.0 2 384 2.01	55.0 2 384 2.01	19.0 2 384 2.01	100001
112001	crash	1.0 1 384 2.01	49.0 1 384 2.01	39.0 2 384 2.01	50.0 2 384 2.01	47.0 2 384 2.01	20.0 2 384 2.01	100001
112301	crash	shutdown	53	40.0 2 384 2.01	48.0 2 384 2.01	47.0 2 384 2.01	15.0 2 384 2.01	100001
113001	crash	shutdown	333	45.0 2 384 2.01	45.0 2 384 2.01	48.0 2 384 2.01	17.0 2 384 2.01	100001
113001	crash	shutdown	339	44.0 2 384 2.01	43.0 2 384 2.01	59.0 2 384 2.01	21.0 2 384 2.01	100001
113301	crash	27.0 1 384 2.01	32.0 1 384 2.01	54	49.0 2 384 2.01	58.0 2 384 2.01	19.0 2 384 2.01	100001
113301	crash	34.0 1 384 2.01	51.0 1 384 2.01	55	47.0 2 384 2.01	60.0 2 384 2.01	21.0 2 384 2.01	100001
114001	crash	35.0 1 384 2.01	57.0 1 384 2.01	55	52.0 2 384 2.01	61	21.0 2 384 2.01	100001
114001	crash	42.0 1 384 2.01	61.0 1 384 2.01	55	crash	61	22.0 2 384 2.01	100001
114301	crash	44.0 1 384 2.01	59.0 1 384 2.01	55	crash	61	27.0 2 384 2.01	100001
114301	crash	47.0 1 384 2.01	64.0 1 384 2.01	55	crash	61	24.0 2 384 2.01	100001
115001	crash	42.0 1 384 2.01	59.0 1 384 2.01	55	crash	61	24.0 2 384 2.01	100001
115001	crash	46.0 1 384 2.01	63.0 1 384 2.01	55	crash	13.0 1 384 2.01	26.0 2 384 2.01	100001
115301	crash	43	60.0 1 384 2.01	crash	crash	2.0 1 384 2.01	27.0 2 384 2.01	100001
115301	crash	43	61.0 1 384 2.01	crash	crash	0.0 1 384 2.01	27.0 2 384 2.01	100001
115301	crash	43	53.0 1 384 2.01	7.0 1 384 2.01	crash	26.0 1 384 2.01	24.0 2 384 2.01	100001
116001	crash	24.0 1 384 2.01	59.0 1 384 2.01	0.0 1 384 2.01	crash	52.0 2 384 2.01	25.0 2 384 2.01	100001
116001	crash	27.0 1 384 2.01	59.0 1 384 2.01	10.0 1 334 2.01	crash	59.0 2 384 2.01	23.0 2 384 2.01	100001
116301	crash	33.0 1 384 2.01	53.0 1 384 2.01	28.0 2 384 2.01	crash	61.0 2 384 2.01	24.0 2 384 2.01	100001
116301	crash	27.0 1 384 2.01	58.0 1 384 2.01	37.0 2 384 2.01	crash	60.0 2 384 2.01	26.0 2 384 2.01	100001
117001	crash	28.0 1 384 2.01	52.0 1 384 2.01	45.0 2 384 2.01	crash	57.0 2 384 2.01	24.0 2 384 2.01	100001
117001	crash	26.0 1 384 2.01	48.0 1 384 2.01	37.0 2 384 2.01	crash	49.0 2 384 2.01	21.0 2 384 2.01	100001
117301	crash	26.0 1 384 2.01	46.0 1 384 2.01	35.0 2 384 2.01	crash	47.0 2 384 2.01	16.0 2 384 2.01	100001
117301	crash	21.0 1 384 2.01	42.0 1 384 2.01	30.0 2 384 2.01	crash	42.0 2 384 2.01	15.0 2 384 2.01	100001
118001	crash	17.0 1 384 2.01	33.0 1 384 2.01	25.0 2 384 2.01	crash	42.0 2 384 2.01	17.0 2 384 2.01	100001
118301	crash	22.0 1 384 2.01	34.0 1 384 2.01	29.0 2 384 2.01	crash	37.0 2 384 2.01	29.0 2 384 2.01	100001
118301	crash	26.0 1 384 2.01	35.0 1 384 2.01	29.0 2 384 2.01	crash	36.0 2 384 2.01	19.0 2 384 2.01	100001
119001	crash	21.0 1 384 2.01	39.0 1 384 2.01	24.0 2 384 2.01	crash	31.0 2 384 2.01	17.0 2 384 2.01	100001
119301	crash	17.0 1 384 2.01	37.0 1 384 2.01	26.0 2 384 2.01	crash	25.0 2 384 2.01	15.0 2 384 2.01	100001
119301	crash	18.0 1 384 2.01	36.0 1 384 2.01	24.0 2 384 2.01	crash	23.0 2 384 2.01	16.0 2 384 2.01	100001
120001	crash	19.0 1 384 2.01	36.0 1 384 2.01	57	crash	26.0 2 384 2.01	15.0 2 384 2.01	100001
120001	crash	17.0 1 384 2.01	33.0 1 384 2.01	57	crash	24.0 2 384 2.01	17.0 2 384 2.01	100001
120301	crash	17.0 1 384 2.01	37.0 1 384 2.01	57	crash	25.0 2 384 2.01	15.0 2 384 2.01	100001
120301	crash	18.0 1 384 2.01	35.0 1 384 2.01	57	crash	23.0 2 384 2.01	14.0 2 384 2.01	100001
121001	crash	21.0 1 384 2.01	37.0 1 384 2.01	24.0 1 384 2.01	crash	21.0 2 384 2.01	16.0 2 384 2.01	100001
121001	crash	22.0 1 384 2.01	33.0 1 384 2.01	28.0 1 384 2.01	crash	21.0 2 384 2.01	16.0 2 384 2.01	100001
121301	crash	24.0 1 384 2.01	32.0 1 384 2.01	37.0 1 384 2.01	crash	21.0 2 384 2.01	20.0 2 384 2.01	100001
121301	crash	26.0 1 384 2.01	crash	37.0 1 384 2.01	crash	25.0 2 384 2.01	17.0 2 384 2.01	100001
122001	8.0 1 384 2.01	29.0 1 384 2.01	crash	41.0 1 384 2.01	crash	24.0 2 384 2.01	16.0 2 384 2.01	100001
122001	0.0 1 384 2.01	27.0 1 384 2.01	crash	37.0 1 384 2.01	crash	22.0 2 384 2.01	14.0 2 384 2.01	100001
122301	shutdown	25.0 1 384 2.01	13.0 1 384 2.01	40.0 1 384 2.01	crash	22.0 2 384 2.01	13.0 2 384 2.01	100001
122301	shutdown	21.0 1 384 2.01	23.0 1 384 2.01	31.0 1 384 2.01	crash	24.0 2 384 2.01	14.0 2 384 2.01	100001
123001	shutdown	21.0 1 384 2.01	23.0 1 384 2.01	30.0 1 384 2.01	crash	23.0 2 384 2.01	13.0 2 384 2.01	100001
123001	shutdown	17.0 1 384 2.01	29.0 1 384 2.01	36.0 1 384 2.01	crash	19.0 2 384 2.01	16.0 2 384 2.01	100001
123301	shutdown	19.0 1 384 2.01	24.0 1 384 2.01	33.0 1 384 2.01	crash	18.0 2 384 2.01	17.0 2 384 2.01	100001
123301	shutdown	18.0 1 384 2.01	23.0 1 384 2.01	27.0 1 384 2.01	crash	14.0 2 384 2.01	14.0 2 384 2.01	100001