For LKST 1.5	Appendix. List of	events which Linux Kernel State	e Tracer records on IA32						Convright ((C) Hitachi, Ltd., 2002. All rights	recerved
Event type [hex]	Categoly	Mnemonic	Descript	ion of events	where to hook	filename	data recorded as "log_arg1"	data recorded as "log_arg2"	data recorded as "log_arg3"	data recorded as "log arg4"	remarks
							address of the task_struct	address of the task struct	prev. process state (value after	prev. process count (value before	from log_arg3, log_arg4, can determain
01		PROCESS_CONTEXTSWITC	Process context switching		schedule()	./kernel/sched.c	of "prev"	of "next"	switch)	switch)	why processes were switched
02	Process management	PROCESS_WAKEUP	WAKEUP		try_to_wake_up()		value of "p" in the function	synchronous			
03	management	PROCESS_SIGSEND	sending signal		send_sig_info()	./kernel/signal.c	value of "sig" in the function	value of "t" in the function	pointer to info (info)		!
04			creating a kernel thread		kernel_thread()	./arch/i386/kernel/process.c	value of "fn" in the function	pointer to argument of kernel thread (ar			<u> </u>
<u> </u>		INT_HARDWARE_ENTRY	hardware	entrance entrance	do_IRQ() tasklet_hi_action()	./arch/i386/kernel/irq.c	value of "irq" in the function value of "t->func" in the function	interrupt status (status)	pointer to register stack		<u> </u>
12		INT_TASKLETHI_ENTRY INT_TASKLET_ENTRY	software	entrance	tasklet action()	./kernel/softirq.c	value of "t->func" in the function				·
16		INT_BH_ENTRY	Soltware	entrance	bh action()	-	value of "nr" in the function	address of action (bh base)			
			de					, _ ,			1 1
			int3								· · · · · · · · · · · · · · · · · · ·
			overflow								
			bounds								
	Exceptions	EXCEPTION_ENTRY	invalid_op		error_code	./arch/i386/kernel/entry.S					
			double_fault	entrance			handler address (edi)				
			coprocessor_segment_overrun invalid TSS					error code (esi)			
			segment_not_present								
			stack_segment						exception occurred address (eip)		
20			alignment_check								
			coprocessor_error								
			simd_coprocessor_error								
			debug								
		ļ	general_protection								
			page_fault	_							
			machine_check		device_not_available	-	the number of this exception				
			sprious_interrupt_bug device not available							4	
		1	nmi	-1	nmi	1			1	1	
	1		device not available	1	device not available	1	handler address		1	1	
21		EXCEPTION_EXIT	nmi	exit	nmi	1	the number of this exception	1	1	1	
			exceptions other than above tw	0	error_code	1	handler address (edi)		<u> </u>	1	
30		SYSCALL_ENTRY									recording arguments of system calls is
	System cans		entrance		beginning of system_call()	./arch/i386/kernel/entry.S	the number of this system call				optional feature
31		SYSCALL_EXIT	exit		ending of system_call()	./arch/i386/kernel/entry.S	the number of this system call				
40	Filesurter	FS_DEVRW	device IO	creation of request for device	II_rw_block()	./drivers/block/ll_rw_blk.c	buffer (bh)	READ/WRITE (rw)	num of blocks to transfer (nr)		+
41 42	Filesystems	FS_DEVEND FS_BUFBUSY	4	completion of request for device buffer busy wait		./fs/buffer.c ./fs/buffer.c	buffer (bh) buffer (bh)	uptodate			+
42 50		MEM SWAPOUT	owen out	exit	wait_on_buffer() try_to_swap_out()	./ns/duffer.c ./mm/vmscan.c	pointer to page swapped out (page)				
51		MEM_SWAPIO	swap out swap in	exit	do_swap_page()	./mm/memory.c	pointer to page swapped out (page)				+
52	_	MEM DO NOPAGE	mem_do_nopage	exit	do_no_page()	./mm/memory.c	pointer to page allocated (new_page)				
53		MEM DO WPPAGE	mem_do_wppage		do_wp_page()	./mm/memory.c	pointer to page (new page)				
54		MEM WAIT PAGE	mem_wait_page	entrance	wait_on_page()	./mm/filemap.c	pointer to page (page)				
55		MEM_GET_FREEPAGE	mem_get_freepage	exit	get_free_page()	./mm/page_alloc.c	pointer to page (paddr)	type of page (gfp_mask)	the number of page (order)	call address	
56	Memory	MEM_GET_ZEROPAGE	mem_get_zeropage	exit	get_zeroed_page()	./mm/page_alloc.c	pointer to page (address)	type of page (gfp_mask)	call address		
57	Management	MEM_FREEPAGE	mem_freepage	entrance	free_pages()	./mm/page_alloc.c	pointer to (addr)	the number of page (order)	call address		
58	Management	MEM_VMALLOC	mem_vmalloc	exit	vmalloc()	./mm/vmalloc.h	address (addr)	size	call address		
59	_	MEM_VFREE	mem_vfree	entrance	vfree()	./mm/vmalloc.c	address (addr)	•			
5a		MEM_CACHE_CREATE	mem_cache_create	exit	kmem_cache_create()	./mm/slab.c	name	size	cachep		
5b 5c	_	MEM_CACHE_ALLOC MEM MALLOC	mem_cache_alloc mem_malloc	exit exit	kmem_cache_alloc() kmalloc()	./mm/slab.c ./mm/slab.c	cachep cachep	flags flags	objp objp	call address call address	
5d		MEM CACHE FREE	mem cache free	entrance	kmem cache free()	./mm/slab.c	cachep	objp	call address		+
5e		MEM_GAGHE_HEE	mem free	entrance	kfree()	./mm/slab.c	objp	call address			
60		NET_PKTSEND	sending packets	entrance	dev queue xmit()	./net/core/dev.c	skb				1
61		NET PKTSENDI	interrupt on sending packets	entrance	net_tx_action()	./net/core/dev.c	h				
62		NET_PKTRECV	receiving packets	entrance	netif_rx()	./net/core/dev.c	skb				
63		NET_PKTRECVI	interrupt on receiving packets	entrance	net_rx_action()	./net/core/dev.c	h				
64		NET_SOCKETIF	socket()	entrance	sys_socketcall	./net/socket.c	call	args			exit is recorded as exit of system call.
70		SYSV_IPC_SEMOP	GET CTL SEND RCV GET CTL AT		sys_semop()	/ipc/sem.c /ipc/msg.c	semid	tsops	nsops		<u></u>
71		SYSV_IPC_SEMGET		entrance	sys_semget()		key	nsems	semflg	argument for the function	-
72	SysV IPC	SYSV_IPC_SEMCTL SYSV_IPC_MSGSEND			sys_semctl() sys_msgsend()		semid msqid	semnum msgp	cmd msgsz	argument for the function msgflg	+
74		SYSV_IPC_MSGRCV			sys_msgrcv()		msqid/msgflg	msgp	msgsz	msgtyp	+
75					sys_msgget()		key	msgflg			
76		SYSV_IPC_MSGCTL			sys_msgctl()		msqid	cmd	buf		
77		SYSV_IPC_SHMAT			sys_shmat()		shmid	shmaddr	shmflg	raddr	
78	_	SYSV_IPC_SHMDT SYSV_IPC_SHMGET	4		sys_shmdt()	./ipc/shm.c	shmaddr				
79			4		sys_shmget()	4	key shmid	size	shmflg buf		+
7a			1	lock	sys_shmctl() spin_lock()		address where it was called	cmd lock			inline
<u>80</u> 81	-	LK_SPINLOCK LK SPINTRYLOCK	spin lock	try lock (exit)	spin_lock()	1	address where it was called	lock	return value	1	inline
82	1	LK_SPINUNLOCK		unlock	spin_unlock()	1	address where it was called	lock		1	inline
83	Looks	LK WRLOCK	1	write lock	write_lock()	(include/east iOOO/s i t t t	address where it was called	rwlock	1	1	inline
84	Locks	LK_WRTRYLOCK]	write try lock (exit)	write_trylock()	./include/asm-i386/spinlock.h	address where it was called	rwlock	return value		inline
85		LK_WRUNLOCK	read/write lock	write unlock	write_unlock()	1	address where it was called	rwlock			define
86	4	LK_RDLOCK	4	read lock	read_lock()	4	address where it was called	rwlock			inline
87		LK_RDUNLOCK		read unlock	read_unlock()		address where it was called	rwlock			define
90		O_PORTIN	ia aamman-t-	n ant autout	OUT() or betweenOUT1() and	(include /corr iCCC/in t	nort oddroop //: : to		address where it was 10		inline
	Others		io commands	port output port input	OUT2() tail of IN()	./include/asm-i386/io.h	port address/byte width port address/byte width	value to output value to input	address where it was called address where it was called	+	inline inline
<u>91</u> 92	Others	O_PORTOUT O_PANIC	panic	portinput		./kernel/panic.c	address of argument	address where it was called	address where it was called	+	
92	-	O_PANIC O PRINTK	printk		1	./kernel/printk.c	address of argument	address where it was called	1		ł'
a0		TIMER RUN	run timer list add to timer list		run_timer_list()		function address(fn)	argument for the function(data)	1	1	1
a1	Т	TIMER_ADD			add_timer()	1	pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)	argument for the function (timer-	
a2	Timer	TIMER_MOD	modify timer list		mod_timer()	./kernel/timer.c	pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)		
		TIMER_DEL	delete from timer list		del_timer()	1	pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)		
a3		TIMER_DEL_SYNC	delete from timer list with synch		del_timer_sync()		pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)	argument for the function (timer-	
a4		OOPS_PGFAULT	oops in page fault handler		do_page_fault()	./arch/i386/mm/fault.c	address where it was accessed	address where exception occurred	exception error code		<u> </u>
a4 b0	Oops	OOPS NMIWDOG	oops in nmi watchdog timer		nmi_watchdog_tick()	./arch/i386/kernel/nmi.c	address where it was running				+
a4 b0 b1	Oops		Progress of LKST initialization p	100855	lkst_init_stage[0-1]()	./driver/lkst/lkst.c	initialization status				This event is embeded in LKST. User
a4 b0 b1 f00	Oops					./driver/lkst/lkst.c	dump state	dump device	1	1	can't handle it.
a4 b0 b1	-	LKST_INIT	kernel dump event		lkst dump notify bandlor()						Contract Contraction Contraction
a4 b0 b1 f00 f01	-	LKST_INIT LKST_KERNEL_DUMP	kernel dump event		lkst_dump_notify_handler()				pointer to old maskset	poniter to new maskset	
a4 b0 b1 f00 f01 f08		LKST_INIT LKST_KERNEL_DUMP LKST_MSET_XCHG	LKST switches the masksets		lkst_evhandlerprim_maskset_xchg_inli	./driver/lkst/lkst.c	old maskset ID	new maskset ID	pointer to old maskset	poniter to new maskset	Recorded 2 times; before/after
a4 b0 b1 f00 f01 f08 f10	LKST	LKST_INIT LKST_KERNEL_DUMP				./driver/lkst/lkst.c			pointer to old maskset pointer to old buffer	poniter to new maskset pointer to new buffer	Recorded 2 times; before/after Recorded 2 times; before/after
a4 b0 b1 f00 f01 f08		LKST_INIT LKST_KERNEL_DUMP LKST_MSET_XCHG	LKST switches the masksets	buffer.	lkst_evhandlerprim_maskset_xchg_inli	./driver/lkst/lkst.c	old maskset ID	new maskset ID			Recorded 2 times; before/after
a4 b0 b1 f00 f01 f08 f10	LKST internal event	LKST_INIT LKST_KERNEL_DUMP LKST_MSET_XCHG LKST_BUFF_SHIFT	LKST switches the masksets LKST shifts the buffers		Ikst_evhandlerprim_maskset_xchg_inli Ikst_evhandlerprim_buffer_shift_inline(r./driver/lkst/lkst.c)./driver/lkst/lkst.c	old maskset ID old buffer ID	new maskset ID			Recorded 2 times; before/after Recorded 2 times; before/after Used for automatically shifting buffer.
a4 b0 b1 f00 f01 f08 f10 f11	LKST internal event	LKST_INIT LKST_KERNEL_DUMP LKST_MSET_XCHG LKST_BUFF_SHIFT LKST_BUFF_OVFLOW	LKST switches the masksets LKST shifts the buffers overrun occurred in the current Synchronization with UID Synchronization with GID		Ikst_evhandlerprim_maskset_xchg_inli Ikst_evhandlerprim_buffer_shift_inline(Ikst_evhandlerprim_entry_next()	./driver/lkst/lkst.c)/driver/lkst/lkst.c ./inlude/linux/lkst_private.h	old maskset ID old buffer ID pointer to the buffer UID GID	new maskset ID new buffer ID	pointer to old buffer		Recorded 2 times; before/after Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it.
a4 b0 f00 f01 f08 f10 f11 f19	LKST internal event	LKST_INIT LKST_KERNEL_DUMP LKST_MSET_XCHG LKST_BUFF_SHIFT LKST_BUFF_OVFLOW LKST_SYNC_UID	LKST switches the masksets LKST shifts the buffers overrun occurred in the current Synchronization with UID		Ikst_evhandlerprim_maskset_xchg_inli Ikst_evhandlerprim_buffer_shift_inline(Ikst_evhandlerprim_entry_next() sys_*uid(), set_user()	./driver/lkst/lkst.c ./driver/lkst/lkst.c ./inlude/linux/lkst_private.h ./kernel/timer.c, sys.c	old maskset ID old buffer ID pointer to the buffer UID	new maskset ID	pointer to old buffer pointer to the process table		Recorded 2 times; before/after Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it. for compensation of dropped log data

Appendix: List of events which Linux Kernel State Tracer records on IA32

Appendix: List of events which Linux Kernel State Tracer records on IA64

For LKST 1.5	Appendix: List of	events which Linux Kernel Stat	te Tracer records on 1A64						Convright /	C) Hitachi, Ltd., 2002. All rights	reserved
Event type [hex]	Categoly	Mnemonic	Descriptio	on of events	where to hook	filename	data recorded as "log_arg1"	data recorded as "log_arg2"	data recorded as "log_arg3"	data recorded as "log_arg4"	remarks
01		PROCESS CONTEXTSWITC			schedule()	./kernel/sched.c	address of the task_struct	address of the task_struct	prev. process state (value after	prev. process count (value before	from log_arg3, log_arg4, can determain
01	Process	PROCESS_CONTEXTSWITC	>		Ŭ		of "prev" value of "p" in the function	of "next" synchronous	switch)	switch)	why processes were switched
02	management	PROCESS_WAREUP	sending signal		try_to_wake_up() send sig info()	./kernel/signal.c	value of "sig" in the function	value of "t" in the function	pointer to info (info)		
03		PROCESS LTHREADGEN			kernel thread()	./arch/ia64/kernel/process.c	value of "fn" in the function	pointer to argument of kernel thread	flag		
10		INT_HARDWARE_ENTRY	hardware	entrance	do_IRQ()	./arch/ia64/kernel/irq.c	value of "irq" in the function	interrupt status (status)	pointer to register stack		
12	Interrupts	INT TASKLETHI ENTRY		entrance	tasklet_hi_action()	./kernel/softirq.c	value of "t->func" in the function				
14 16	_	INT_TASKLET_ENTRY INT_BH_ENTRY	software	entrance entrance	tasklet_action() bh_action()	-	value of "t->func" in the function value of "nr" in the function	address of action (bh base)			
10		INI_BH_ENIRY	vhpt miss	entrance							
20		EXCEPT_PGFLT_ENTRY	itlb miss	entrance							
	_		dtlb miss		-ia64_do_page_fault()	./arch/ia64/mm/fault.c	fault address(ifa)	isr	ipsr	iip	
21		EXCEPT PGFLT EXIT	alt itlb miss alt dtlb miss	exit					ipsr	iin	
21			nested dtlb miss								
22		EXCEPT_ILLOP_ENTRY		entrance	ia64_illegal_op_fault()						
23	_	EXCEPT_ILLOP_EXIT	general_exception	exit					ipai	ιþ	
24 25	_	EXCEPT_BADBRK_ENTRY EXCEPT_BADBRK_EXIT	break_instruction	entrance exit	ia64_bad_break()		break number(iim)		- ipsr	iip	
20	_	EACEPT_BADBRK_EATT	general exception	exit							
			disabled fp reg	entrance							
		ins	instruction key miss								
26	Exceptions	EXCEPT_FAULT_ENTRY	T_FAULT_ENTRY nat consumption debug vector								
			unsupported data reference			./arch/ia64/kernel/traps.c	fault vector number				-
			fp fault		—ia64_fault()			isr	ipsr	iin	
			fp trap						1951	lip	
			lower privilege transfer trap taken branch trap								
			single step trap								
27		EXCEPT_FAULT_EXIT	ia32 exception	exit							
			ia32 intercept								
			ia32 interrupt								
28		EXCEPT UNALIGN ENTRY	and the second se	entrance		(· • -		•		
29		EXCEPT_UNALIGN_EXIT	unaligned_access	exit	ia64_handle_unaligned()	./arch/ia64/kernel/unaligned.c	ITA		– ipsr	lib	
30	System calls	SYSCALL_ENTRY	entrance		beginning of system_call()	./arch/ia64/kernel/ivt.S	system call function address	the number of this system call			recording arguments of system calls is
<u>31</u> 40		SYSCALL_EXIT FS_DEVRW	exit device IO	creation of request for device	ending of system_call() II_rw_block()	./drivers/block/ll_rw_blk.c	system call function address buffer (bh)	errno READ/WRITE (rw)	num of blocks to transfer (nr)		optional feature
40	Filesystems	FS_DEVRW FS_DEVEND		completion of request for device	end buffer io svnc()	./drivers/block/ll_rw_blk.c	buffer (bh)	uptodate			
42		FS_BUFBUSY	1	buffer busy wait	wait_on_buffer()	./fs/buffer.c	buffer (bh)				
50		MEM_SWAPOUT	swap out	exit	try_to_swap_out()	./mm/vmscan.c	pointer to page swapped out (page)				
51	_	MEM_SWAPIN	swap in	exit	do_swap_page()	./mm/memory.c	pointer to page swapped in (page)	<u></u>			
52	-	MEM_DO_NOPAGE	mem_do_nopage	exit	do_no_page()	./mm/memory.c	pointer to page allocated (new_page)				
53 54		MEM_DO_WPPAGE MEM_WAIT_PAGE	mem_do_wppage mem_wait_page	entrance	do_wp_page() wait_on_page()	./mm/memory.c ./mm/filemap.c	pointer to page (new page) pointer to page (page)	1	1	+	<u> </u>
55	1	MEM_WAIT_PAGE MEM_GET_FREEPAGE	mem_wait_page mem get freepage	exit	wait_on_page() get free page()	./mm/niemap.c ./mm/page_alloc.c	pointer to page (page)	type of page (gfp_mask)	the number of page (order)	call address	
56	Memory	MEM_GET_ZEROPAGE	mem_get_zeropage	exit	get_zeroed_page()	./mm/page_alloc.c	pointer to page (address)	type of page (gfp_mask)	call address		
57	Memory Management	MEM_FREEPAGE	mem_freepage	entrance	free_pages()	./mm/page_alloc.c	pointer to (addr)	the number of page (order)	call address		
58	Management	MEM_VMALLOC	mem_vmalloc	exit	vmalloc()	./mm/vmalloc.h	address (addr)	size	call address		<u></u>
59	-	MEM_VFREE	mem_vfree	entrance	vfree()	./mm/vmalloc.c	address (addr)	sizo	leachap		
5a 5b	-	MEM_CACHE_CREATE MEM_CACHE_ALLOC	mem_cache_create mem cache alloc	exit exit	kmem_cache_create() kmem_cache_alloc()	./mm/slab.c ./mm/slab.c	name cachep	size flags	cachep objp	call address	<u> </u>
50	1	MEM_CACHE_ALLOC	mem_malloc	exit	kmalloc()	./mm/slab.c	cachep	flags	objp	call address	
5d]	MEM_CACHE_FREE	mem_cache_free	entrance	kmem_cache_free()	./mm/slab.c	cachep	objp	call address		
5e		MEM_FREE	mem_free	entrance	kfree()	./mm/slab.c	objp	call address			
60		NET_PKTSEND	sending packets	entrance	dev_queue_xmit()	./net/core/dev.c	skb				
61 62	Networking	NET_PKTSENDI NET_PKTRECV	interrupt on sending packets receiving packets	entrance entrance	net_tx_action()	./net/core/dev.c ./net/core/dev.c	n skb				
63		NET_PKTRECV	interrupt on receiving packets	entrance	net rx action()	./net/core/dev.c	h				
64		NET_SOCKETIF	socket()	entrance	sys_socketcall	./net/socket.c	call	args			exit is recorded as exit of system call.
70		SYSV_IPC_SEMOP	IPC functions		sys_semop()	./ipc/sem.c ./ipc/msg.c	semid	tsops	nsops		
71		SYSV_IPC_SEMGET		entrance	sys_semget()		key	nsems	semflg		
72 73	SysV IPC	SYSV_IPC_SEMCTL SYSV_IPC_MSGSEND			sys_semctl() sys_msgsend()		semid msqid	semnum msgp	cmd msgsz	argument for the function msgflg	
74		SYSV IPC MSGRCV			sys_msgrcv()		msqid/msgflg		msgsz	msgtyp	
75		SYSV_IPC_MSGGET			sys_msgget()			msgp msgflg cmd			
76		SYSV_IPC_MSGCTL			sys_msgctl()		key msqid		buf		
77	-	SYSV_IPC_SHMAT			sys_shmat()	4	shmid	shmaddr	shmflg	raddr	
78 79	-	SYSV_IPC_SHMDT SYSV IPC SHMGET			sys_shmdt() sys_shmget()	/ipc/shm.c	shmaddr key	size	shmflg	1	<u> </u>
79 7a	1	SYSV IPC SHMCTL			sys_shmctl()		shmid	cmd	buf		
80	_	LK_SPINLOCK		lock	spin_lock()		address where it was called	lock			inline
81	_	LK_SPINTRYLOCK	spin lock	try lock (exit)		address where it was called	lock	return value		inline	
82	Locks	LK_SPINUNLOCK LK WRLOCK		unlock write lock	spin_unlock() write lock()	./include/asm-ia64/spinlock.h	address where it was called address where it was called	lock rwlock			inline
83 85	LUCKS	LK_WRLOCK		write unlock	write unlock()	moluce/asmila04/spiniock.n	address where it was called	rwlock	1		define
86		LK_RDLOCK	read/write lock	read lock	read_lock()		address where it was called	rwlock			inline
87		LK RDUNLOCK		read unlock	read_unlock()		address where it was called	rwlock			define
a0	-	TIMER_RUN	run timer list		run_timer_list()	4	function address(fn)	argument for the function(data)	function address (times the start)	argument for the function (timer-	
a1 a2	Timer	TIMER_ADD TIMER_MOD	add to timer list modify timer list		add_timer() mod_timer()	./kernel/timer.c	pointer to timer list (timer) pointer to timer list (timer)	unexpired term (timer->expires) unexpired term (timer->expires)	function address (timer->function) function address (timer->function)		<u> </u>
a2 a3		TIMER_MOD	delete from timer list		del_timer()	., Komer, umer.c	pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)		
a3 a4		TIMER_DEL_SYNC	delete from timer list with synch	ronous	del_timer_sync()	1	pointer to timer list (timer)	unexpired term (timer->expires)	function address (timer->function)		
					ia64_inb()						
					ia64_inw()	1					
90		O_PORTIN		port input	ia64_inl() ia64_insb()	-	port address/byte width	value to input	address where it was called		inline
					ia64_insw()			value to output			
			ia aommondo		ia64_insl()	(include/com inC 4/in h					
			io commands		ia64_outb()	./include/asm-ia64/io.h					
	Others				ia64_outw()						
	Others			port input	ia64_oul() ia64_outsb()		port address/byte width		address where it was called		inline
91	Others	O_PORTOUT									
91	Others	O_PORTOUT			ia64 outsw()						
91	Others	O_PORTOUT			ia64_outsw() ia64_outsl()						
92	Others	O_PANIC	panic		ia64_outsl() panic()	./kernel/panic.c	address of argument	address where it was called			
<u>92</u> 93		O PANIC O PRINTK	printk		ia64_outsl() panic() printk()	./kernel/printk.c	address of argument	address where it was called			
92 93 b0	Others Oops	O_PANIC O_PRINTK OOPS_PGFAULT	printk oops in page fault handler	just before the cops operation	ia64_outsl() panic() printk() do_page_fault()	./kernel/printk.c ./arch/ia64/mm/fault.c	address of argument address where it was accessed		exception error code		
92 93 b0 f00		O_PANIC O_PRINTK OOPS_PGFAULT LKST_INIT	printk oops in page fault handler Progress of LKST initialization p	just before the cops operation	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]()	./kernel/printk.c ./arch/ia64/mm/fault.c ./driver/lkst/lkst.c	address of argument address where it was accessed initialization status	address where it was called address where exception occurred		noniter to new masked	Recorded 2 times: hefore/offer
92 93 b0 f00 f08		O_PANIC O_PRINTK OOPS_PGFAULT LKST_INIT LKST_XSET_XCHG	printk oops in page fault handler Progress of LKST initialization p LKST switches the masksets	just before the cops operation	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]() lkst_enhandlerprim_maskset_xchg_inl	./kernel/printk.c ./arch/ia64/mm/fault.c ./driver/lkst/lkst.c i./driver/lkst/lkst.c	address of argument address where it was accessed initialization status old maskset ID	address where it was called address where exception occurred new maskset ID	pointer to old maskset	poniter to new maskset	Recorded 2 times; before/after Recorded 2 times: before/after
92 93 b0 f00 f08 f10	Oops	O PANIC O-PRINTK OOPS_PGFAULT LKST_INT LKST_MSET_XCHG LKST_BUFF_SHIFT	printk oops in page fault handler Progress of LKST initialization p	just before the cops operation	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]()	./kernel/printk.c ./arch/ia64/mm/fault.c ./driver/lkst/lkst.c ./driver/lkst/lkst.c ./driver/lkst/lkst.c	address of argument address where it was accessed initialization status	address where it was called address where exception occurred		poniter to new maskset pointer to new buffer	Recorded 2 times; before/after Used for automatically shifting buffer.
92 93 60 f00 f08 f10 f11	Oops LKST	O_PANIC O_PRINTK OOPS_PGFAULT LKST_INIT LKST_MSET_XCHG LKST_BUFF_SHIFT LKST_BUFF_SHIFT LKST_BUFF_OVFLOW	printk oops in page fault handler Progress of LKST initialization p LKST switches the masksets LKST shifts the buffers overrun occurred in the current 1	just before the cops operation rocess	ia64_outsl() panic() printk() do_page_fault() lkst_entandlerprim_maskset_xchg_inl lkst_evhandlerprim_buffer_shift_inline lkst_evhandlerprim_entry_next()	./kernel/printk.c ./arch/ia64/mm/fault.c ./driver/lkst/lkst.c ./driver/lkst/lkst.c ./driver/lkst/lkst.c ./inlude/linux/lkst_private.h	address of argument address where it was accessed initialization status old maskset ID old buffer ID pointer to the buffer	address where it was called address where exception occurred new maskset ID	pointer to old maskset pointer to old buffer		Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it.
92 93 b0 f00 f08 f10 f11 f11	Oops	O_PANIC O_PRINTK OOPS_PGFAULT LKST_INIT LKST_BUFF_SHIFT LKST_BUFF_OVFLOW LKST_SYNC_UID	printk oops in page fault handler Progress of LKST initialization p LKST switches the masksets LKST shifts the buffers overrun occurred in the current I Synchronization with UID	just before the cops operation rocess	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]() lkst_evhandlerprim_maskset_xchg_ini lkst_evhandlerprim_buffer_shift_inline lkst_evhandlerprim_entry_next() sys_*uid(), set_user()	./kernel/printk.c //arch/ia64/mm/fault.c //driver/lkst/lkst.c //driver/lkst/lkst.c //driver/lkst/lkst.c /inlude/linux/lkst_private.h //kernel/timer.c, sys.c	address of argument address where it was accessed initialization status old maskset ID old buffer ID pointer to the buffer UID	address where it was called address where exception occurred new maskset ID	pointer to old maskset pointer to old buffer pointer to the process table		Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it. for compensation of dropped log data
92 93 60 f00 f08 f10 f11 f11 f11 f12	Oops LKST	O PANIC O_PRINTK OOPS PGFAULT LKST INIT LKST_MSET_XCHG LKST_BUFF_SHIFT LKST_BUFF_OVFLOW LKST_SYNC_UID LKST_SYNC_GID	printk oops in page fault handler Progress of LKST initialization p LKST switches the masksets LKST shifts the buffers overrun occurred in the current i Synchronization with UID Synchronization with GID	just before the cops operation rocess	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]() lkst_evhandlerprim_maskset_xchg_inl lkst_evhandlerprim_buffer_shift_inline lkst_evhandlerprim_entry_next() sys_"yid(), set_user() sys_"gid()	/kernel/printk.c //arch/ia64/mm/fault.c //driver/lkst/lkst.c //driver/lkst/lkst.c //driver/lkst/lkst.c //inlude/linux/lkst_private.h /kernel/limer.c, sys.c	address of argument address where it was accessed initialization status old maskset ID old buffer ID pointer to the buffer UID GID	address where it was called address where exception occurred new maskset ID new buffer ID	pointer to old maskset pointer to old buffer pointer to the process table pointer to the process table	pointer to new buffer	Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it. for compensation of dropped log data for compensation of dropped log data
92 93 b0 f00 f08 f10 f11 f11	Oops LKST	O_PANIC O_PRINTK OOPS_PGFAULT LKST_INIT LKST_BUFF_SHIFT LKST_BUFF_OVFLOW LKST_SYNC_UID	printk oops in page fault handler Progress of LKST initialization p LKST switches the masksets LKST shifts the buffers overrun occurred in the current I Synchronization with UID	just before the cops operation rocess	ia64_outsl() panic() printk() do_page_fault() lkst_init_stage[0-1]() lkst_evhandlerprim_maskset_xchg_ini lkst_evhandlerprim_buffer_shift_inline lkst_evhandlerprim_entry_next() sys_*uid(), set_user()	./kernel/printk.c //arch/ia64/mm/fault.c //driver/lkst/lkst.c //driver/lkst/lkst.c //driver/lkst/lkst.c /inlude/linux/lkst_private.h //kernel/timer.c, sys.c	address of argument address where it was accessed initialization status old maskset ID old buffer ID pointer to the buffer UID	address where it was called address where exception occurred new maskset ID	pointer to old maskset pointer to old buffer pointer to the process table		Recorded 2 times; before/after Used for automatically shifting buffer. If masked, LKST stops it. for compensation of dropped log data