

POK(kernelpart)

Generated by Doxygen 1.8.1.2

Fri Jan 25 2013 11:46:25

Contents

- 1 Data Structure Index** **1**
- 1.1 Data Structures 1

- 2 File Index** **3**
- 2.1 File List 3

- 3 Data Structure Documentation** **7**
- 3.1 `__attribute__` Struct Reference 7
- 3.1.1 Detailed Description 8
- 3.1.2 Field Documentation 8
- 3.1.2.1 `available` 8
- 3.1.2.2 `back_link` 8
- 3.1.2.3 `base` 8
- 3.1.2.4 `base_high` 8
- 3.1.2.5 `base_low` 8
- 3.1.2.6 `cr3` 8
- 3.1.2.7 `cs` 8
- 3.1.2.8 `d` 9
- 3.1.2.9 `dpl` 9
- 3.1.2.10 `ds` 9
- 3.1.2.11 `eax` 9
- 3.1.2.12 `ebp` 9
- 3.1.2.13 `ebx` 9
- 3.1.2.14 `ecx` 9
- 3.1.2.15 `edi` 9
- 3.1.2.16 `edx` 9
- 3.1.2.17 `eflags` 9
- 3.1.2.18 `eip` 9
- 3.1.2.19 `es` 9
- 3.1.2.20 `esi` 10
- 3.1.2.21 `esp` 10
- 3.1.2.22 `esp0` 10

3.1.2.23	esp1	10
3.1.2.24	esp2	10
3.1.2.25	fs	10
3.1.2.26	granularity	10
3.1.2.27	gs	10
3.1.2.28	io_bit_map_offset	10
3.1.2.29	ldt	10
3.1.2.30	limit	10
3.1.2.31	limit_high	10
3.1.2.32	limit_low	11
3.1.2.33	offset_high	11
3.1.2.34	offset_low	11
3.1.2.35	op_size	11
3.1.2.36	padding	11
3.1.2.37	present	11
3.1.2.38	res0	11
3.1.2.39	res1	11
3.1.2.40	s	11
3.1.2.41	segsel	11
3.1.2.42	ss	11
3.1.2.43	ss0	11
3.1.2.44	ss1	12
3.1.2.45	ss2	12
3.1.2.46	trace_trap	12
3.1.2.47	type	12
3.2	context_t Struct Reference	12
3.2.1	Detailed Description	13
3.2.2	Field Documentation	13
3.2.2.1	__esp	13
3.2.2.2	back_chain	13
3.2.2.3	cr	13
3.2.2.4	cs	13
3.2.2.5	eax	13
3.2.2.6	ebp	13
3.2.2.7	ebx	13
3.2.2.8	ecx	14
3.2.2.9	edi	14
3.2.2.10	edx	14
3.2.2.11	eflags	14
3.2.2.12	eip	14

3.2.2.13	esi	14
3.2.2.14	lr	14
3.2.2.15	pad	14
3.2.2.16	r13	14
3.2.2.17	r14	14
3.2.2.18	r15	14
3.2.2.19	r16	14
3.2.2.20	r17	15
3.2.2.21	r18	15
3.2.2.22	r19	15
3.2.2.23	r2	15
3.2.2.24	r20	15
3.2.2.25	r21	15
3.2.2.26	r22	15
3.2.2.27	r23	15
3.2.2.28	r24	15
3.2.2.29	r25	15
3.2.2.30	r26	15
3.2.2.31	r27	15
3.2.2.32	r28	16
3.2.2.33	r29	16
3.2.2.34	r30	16
3.2.2.35	r31	16
3.2.2.36	sp	16
3.2.2.37	unused_lr	16
3.3	cpio_bin_header Struct Reference	16
3.3.1	Detailed Description	16
3.3.2	Field Documentation	17
3.3.2.1	c_dev	17
3.3.2.2	c_filesize	17
3.3.2.3	c_gid	17
3.3.2.4	c_ino	17
3.3.2.5	c_magic	17
3.3.2.6	c_mode	17
3.3.2.7	c_mtime	17
3.3.2.8	c_namesize	17
3.3.2.9	c_nlink	17
3.3.2.10	c_rdev	17
3.3.2.11	c_uid	17
3.4	cpio_file Struct Reference	18

3.4.1	Detailed Description	18
3.4.2	Field Documentation	18
3.4.2.1	cpio_addr	18
3.4.2.2	cpio_fmt	18
3.4.2.3	curr_fileaddr	18
3.4.2.4	curr_filename	18
3.4.2.5	curr_filename_len	18
3.4.2.6	curr_filesz	18
3.4.2.7	curr_header	18
3.4.2.8	next_header	19
3.5	Elf32_Ehdr Struct Reference	19
3.5.1	Detailed Description	19
3.5.2	Field Documentation	19
3.5.2.1	e_ehsize	19
3.5.2.2	e_entry	19
3.5.2.3	e_flags	19
3.5.2.4	e_ident	19
3.5.2.5	e_machine	20
3.5.2.6	e_phentsize	20
3.5.2.7	e_phnum	20
3.5.2.8	e_phoff	20
3.5.2.9	e_shentsize	20
3.5.2.10	e_shnum	20
3.5.2.11	e_shoff	20
3.5.2.12	e_shstrndx	20
3.5.2.13	e_type	20
3.5.2.14	e_version	20
3.6	Elf32_Phdr Struct Reference	20
3.6.1	Detailed Description	21
3.6.2	Field Documentation	21
3.6.2.1	p_align	21
3.6.2.2	p_filesz	21
3.6.2.3	p_flags	21
3.6.2.4	p_memsz	21
3.6.2.5	p_offset	21
3.6.2.6	p_paddr	21
3.6.2.7	p_type	21
3.6.2.8	p_vaddr	21
3.7	interrupt_frame Struct Reference	22
3.7.1	Detailed Description	22

3.7.2	Field Documentation	22
3.7.2.1	__esp	22
3.7.2.2	cs	22
3.7.2.3	ds	22
3.7.2.4	eax	22
3.7.2.5	ebp	22
3.7.2.6	ebx	23
3.7.2.7	ecx	23
3.7.2.8	edi	23
3.7.2.9	edx	23
3.7.2.10	eflags	23
3.7.2.11	eip	23
3.7.2.12	error	23
3.7.2.13	es	23
3.7.2.14	esi	23
3.7.2.15	esp	23
3.7.2.16	ss	23
3.8	pok_aout_symbol_table_t Struct Reference	24
3.8.1	Detailed Description	24
3.8.2	Field Documentation	24
3.8.2.1	addr	24
3.8.2.2	reserved	24
3.8.2.3	strsize	24
3.8.2.4	tabsize	24
3.9	pok_elf_section_header_table_t Struct Reference	24
3.9.1	Detailed Description	25
3.9.2	Field Documentation	25
3.9.2.1	addr	25
3.9.2.2	num	25
3.9.2.3	shndx	25
3.9.2.4	size	25
3.10	pok_lockobj_attr_t Struct Reference	25
3.10.1	Detailed Description	25
3.10.2	Field Documentation	25
3.10.2.1	initial_value	25
3.10.2.2	kind	26
3.10.2.3	locking_policy	26
3.10.2.4	max_value	26
3.10.2.5	queueing_policy	26
3.11	pok_lockobj_lockattr_t Struct Reference	26

3.11.1	Detailed Description	26
3.11.2	Field Documentation	26
3.11.2.1	lock_kind	26
3.11.2.2	obj_kind	26
3.11.2.3	operation	26
3.11.2.4	time	27
3.12	pok_lockobj_t Struct Reference	27
3.12.1	Detailed Description	27
3.12.2	Field Documentation	27
3.12.2.1	current_value	27
3.12.2.2	eventspin	27
3.12.2.3	initialized	27
3.12.2.4	is_locked	27
3.12.2.5	kind	27
3.12.2.6	locking_policy	28
3.12.2.7	max_value	28
3.12.2.8	queueing_policy	28
3.12.2.9	spin	28
3.12.2.10	thread_state	28
3.13	pok_memory_map_t Struct Reference	28
3.13.1	Detailed Description	28
3.13.2	Field Documentation	28
3.13.2.1	base_addr_high	28
3.13.2.2	base_addr_low	28
3.13.2.3	length_high	29
3.13.2.4	length_low	29
3.13.2.5	size	29
3.13.2.6	type	29
3.14	pok_module_t Struct Reference	29
3.14.1	Detailed Description	29
3.14.2	Field Documentation	29
3.14.2.1	mod_end	29
3.14.2.2	mod_start	29
3.14.2.3	reserved	29
3.14.2.4	string	30
3.15	pok_multiboot_header_t Struct Reference	30
3.15.1	Detailed Description	30
3.15.2	Field Documentation	30
3.15.2.1	bss_end_addr	30
3.15.2.2	checksum	30

3.15.2.3	entry_addr	30
3.15.2.4	flags	30
3.15.2.5	header_addr	30
3.15.2.6	load_addr	31
3.15.2.7	load_end_addr	31
3.15.2.8	magic	31
3.16	pok_multiboot_info_t Struct Reference	31
3.16.1	Detailed Description	31
3.16.2	Field Documentation	31
3.16.2.1	aout_sym	31
3.16.2.2	boot_device	31
3.16.2.3	cmdline	32
3.16.2.4	elf_sec	32
3.16.2.5	flags	32
3.16.2.6	mem_lower	32
3.16.2.7	mem_upper	32
3.16.2.8	mmap_addr	32
3.16.2.9	mmap_length	32
3.16.2.10	mods_addr	32
3.16.2.11	mods_count	32
3.16.2.12	u	32
3.17	pok_port_t Struct Reference	32
3.17.1	Detailed Description	33
3.17.2	Field Documentation	33
3.17.2.1	direction	33
3.17.2.2	discipline	33
3.17.2.3	empty	33
3.17.2.4	full	33
3.17.2.5	identifier	33
3.17.2.6	index	33
3.17.2.7	kind	34
3.17.2.8	last_receive	34
3.17.2.9	lock	34
3.17.2.10	must_be_flushed	34
3.17.2.11	off_b	34
3.17.2.12	off_e	34
3.17.2.13	partition	34
3.17.2.14	ready	34
3.17.2.15	refresh	34
3.17.2.16	size	34

3.18 pok_space Struct Reference	34
3.18.1 Detailed Description	35
3.18.2 Field Documentation	35
3.18.2.1 phys_base	35
3.18.2.2 size	35
3.19 pok_syscall_args_t Struct Reference	35
3.19.1 Detailed Description	35
3.19.2 Field Documentation	35
3.19.2.1 arg1	35
3.19.2.2 arg2	35
3.19.2.3 arg3	36
3.19.2.4 arg4	36
3.19.2.5 arg5	36
3.19.2.6 nargs	36
3.20 pok_syscall_info_t Struct Reference	36
3.20.1 Detailed Description	36
3.20.2 Field Documentation	36
3.20.2.1 base_addr	36
3.20.2.2 partition	36
3.20.2.3 thread	36
3.21 ppc_pte_t Struct Reference	37
3.21.1 Detailed Description	37
3.21.2 Field Documentation	37
3.21.2.1 rpn_flags	37
3.21.2.2 vsid_api	37
3.22 space_context_t Struct Reference	37
3.22.1 Detailed Description	37
3.22.2 Field Documentation	37
3.22.2.1 arg1	37
3.22.2.2 arg2	38
3.22.2.3 ctx	38
3.22.2.4 fake_ret	38
3.22.2.5 kernel_sp	38
3.22.2.6 partition_id	38
3.22.2.7 user_pc	38
3.22.2.8 user_sp	38
3.23 start_context_t Struct Reference	38
3.23.1 Detailed Description	38
3.23.2 Field Documentation	39
3.23.2.1 ctx	39

3.23.2.2	entry	39
3.23.2.3	fake_ret	39
3.23.2.4	id	39
3.24	volatile_context_t Struct Reference	39
3.24.1	Detailed Description	40
3.24.2	Field Documentation	40
3.24.2.1	back_chain	40
3.24.2.2	cr	40
3.24.2.3	ctr	40
3.24.2.4	lr	40
3.24.2.5	pad0	40
3.24.2.6	pad1	40
3.24.2.7	r0	40
3.24.2.8	r10	40
3.24.2.9	r11	40
3.24.2.10	r12	40
3.24.2.11	r13	40
3.24.2.12	r2	41
3.24.2.13	r3	41
3.24.2.14	r4	41
3.24.2.15	r5	41
3.24.2.16	r6	41
3.24.2.17	r7	41
3.24.2.18	r8	41
3.24.2.19	r9	41
3.24.2.20	sp	41
3.24.2.21	srr0	41
3.24.2.22	srr1	41
3.24.2.23	unused_lr	41
3.24.2.24	xer	42
4	File Documentation	43
4.1	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/arch.c File Reference	43
4.1.1	Detailed Description	43
4.1.2	Function Documentation	43
4.1.2.1	pok_arch_event_register	43
4.1.2.2	pok_arch_idle	44
4.1.2.3	pok_arch_init	44
4.1.2.4	pok_arch_preempt_disable	44
4.1.2.5	pok_arch_preempt_enable	44

4.1.2.6	pok_arch_space_init	45
4.1.2.7	pok_thread_stack_addr	45
4.2	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/arch.c File Reference	45
4.2.1	Detailed Description	46
4.2.2	Function Documentation	46
4.2.2.1	pok_arch_event_register	46
4.2.2.2	pok_arch_idle	46
4.2.2.3	pok_arch_init	46
4.2.2.4	pok_arch_preempt_disable	47
4.2.2.5	pok_arch_preempt_enable	47
4.2.2.6	pok_thread_stack_addr	47
4.3	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/arch.c File Reference	47
4.3.1	Detailed Description	48
4.3.2	Function Documentation	48
4.3.2.1	pok_arch_event_register	48
4.3.2.2	pok_arch_idle	48
4.3.2.3	pok_arch_init	48
4.3.2.4	pok_arch_preempt_disable	49
4.3.2.5	pok_arch_preempt_enable	49
4.3.2.6	pok_thread_stack_addr	49
4.4	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/msr.h File Reference	49
4.4.1	Macro Definition Documentation	49
4.4.1.1	MSR_DR	49
4.4.1.2	MSR_EE	50
4.4.1.3	MSR_IP	50
4.4.1.4	MSR_IR	50
4.4.1.5	MSR_PR	50
4.5	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/bsp.c File Reference	50
4.5.1	Function Documentation	50
4.5.1.1	pok_bsp_init	50
4.5.1.2	pok_bsp_mem_alloc	50
4.5.2	Variable Documentation	51
4.5.2.1	_end	51
4.6	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/bsp.c File Reference	51
4.6.1	Detailed Description	51
4.6.2	Function Documentation	51
4.6.2.1	pok_bsp_init	51
4.6.2.2	pok_bsp_mem_alloc	51
4.6.3	Variable Documentation	52
4.6.3.1	_end	52

4.7	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/bsp.c File Reference	52
4.7.1	Function Documentation	52
4.7.1.1	pok_bsp_init	52
4.7.1.2	pok_bsp_irq_acknowledge	52
4.7.1.3	pok_bsp_irq_register	53
4.7.1.4	pok_bsp_mem_alloc	53
4.7.1.5	pok_bsp_time_init	53
4.8	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.c File Reference	53
4.8.1	Function Documentation	54
4.8.1.1	pok_cons_init	54
4.9	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.c File Reference	54
4.9.1	Detailed Description	54
4.9.2	Function Documentation	54
4.9.2.1	pok_cons_init	54
4.10	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/cons.c File Reference	55
4.10.1	Function Documentation	55
4.10.1.1	pok_cons_init	55
4.11	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/cons.c File Reference	55
4.12	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.h File Reference	55
4.12.1	Function Documentation	55
4.12.1.1	pok_cons_init	55
4.13	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.h File Reference	55
4.13.1	Detailed Description	56
4.13.2	Macro Definition Documentation	56
4.13.2.1	UART1	56
4.13.2.2	UART_CTRL_FL	56
4.13.2.3	UART_CTRL_LB	56
4.13.2.4	UART_CTRL_OFFSET	57
4.13.2.5	UART_CTRL_PE	57
4.13.2.6	UART_CTRL_PS	57
4.13.2.7	UART_CTRL_RE	57
4.13.2.8	UART_CTRL_RI	57
4.13.2.9	UART_CTRL_TE	57
4.13.2.10	UART_CTRL_TI	57
4.13.2.11	UART_DATA_OFFSET	57
4.13.2.12	UART_SCALER_OFFSET	57
4.13.2.13	UART_STAT_OFFSET	58
4.13.2.14	UART_STATUS_BR	58
4.13.2.15	UART_STATUS_DR	58
4.13.2.16	UART_STATUS_ERR	58

4.13.2.17	UART_STATUS_FE	58
4.13.2.18	UART_STATUS_OE	58
4.13.2.19	UART_STATUS_PE	58
4.13.2.20	UART_STATUS_THE	58
4.13.2.21	UART_STATUS_TSE	58
4.13.3	Function Documentation	59
4.13.3.1	pok_cons_init	59
4.14	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/cons.h File Reference	59
4.14.1	Function Documentation	59
4.14.1.1	pok_cons_init	59
4.15	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cons.h File Reference	59
4.16	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/ioports.h File Reference	59
4.16.1	Macro Definition Documentation	59
4.16.1.1	inb	59
4.16.1.2	outb	59
4.16.1.3	POK_PREP_IOBASE	60
4.17	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ioports.h File Reference	60
4.17.1	Detailed Description	60
4.18	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/ioports.h File Reference	60
4.18.1	Macro Definition Documentation	60
4.18.1.1	inb	60
4.18.1.2	inl	61
4.18.1.3	outb	61
4.18.1.4	outl	61
4.19	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/space.c File Reference	61
4.19.1	Macro Definition Documentation	62
4.19.1.1	KERNEL_STACK_SIZE	62
4.19.1.2	POK_PAGE_MASK	62
4.19.1.3	POK_PAGE_SIZE	62
4.19.1.4	PPC_PTE_C	62
4.19.1.5	PPC_PTE_G	63
4.19.1.6	PPC_PTE_H	63
4.19.1.7	PPC_PTE_I	63
4.19.1.8	PPC_PTE_M	63
4.19.1.9	PPC_PTE_PP_NO	63
4.19.1.10	PPC_PTE_PP_RO	63
4.19.1.11	PPC_PTE_PP_RW	63
4.19.1.12	PPC_PTE_R	63
4.19.1.13	PPC_PTE_V	63
4.19.1.14	PPC_PTE_W	63

4.19.1.15	PPC_SR_KP	63
4.19.1.16	PPC_SR_Ks	63
4.19.1.17	PPC_SR_T	64
4.19.2	Function Documentation	64
4.19.2.1	pok_arch_dsi_int	64
4.19.2.2	pok_arch_isi_int	64
4.19.2.3	pok_arch_rfi	65
4.19.2.4	pok_arch_space_init	65
4.19.2.5	pok_create_space	65
4.19.2.6	pok_space_base_vaddr	65
4.19.2.7	pok_space_context_create	65
4.19.2.8	pok_space_switch	66
4.19.3	Variable Documentation	66
4.19.3.1	spaces	66
4.20	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.c File Reference	66
4.20.1	Detailed Description	67
4.20.2	Macro Definition Documentation	67
4.20.2.1	KERNEL_STACK_SIZE	67
4.20.3	Function Documentation	67
4.20.3.1	__attribute__	67
4.20.3.2	__attribute__	67
4.20.3.3	__attribute__	67
4.20.3.4	pok_arch_space_init	68
4.20.3.5	pok_create_space	68
4.20.3.6	pok_space_base_vaddr	69
4.20.3.7	pok_space_context_create	69
4.20.3.8	pok_space_switch	70
4.20.4	Variable Documentation	70
4.20.4.1	spaces	70
4.21	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/space.c File Reference	70
4.21.1	Detailed Description	70
4.21.2	Macro Definition Documentation	71
4.21.2.1	KERNEL_STACK_SIZE	71
4.21.3	Function Documentation	71
4.21.3.1	pok_create_space	71
4.21.3.2	pok_dispatch_space	71
4.21.3.3	pok_space_base_vaddr	72
4.21.3.4	pok_space_context_create	72
4.21.3.5	pok_space_switch	72
4.22	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/syscalls.c File Reference	73

4.22.1	Function Documentation	73
4.22.1.1	pok_arch_sc_int	73
4.23	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.c File Reference	74
4.23.1	Detailed Description	74
4.23.2	Function Documentation	74
4.23.2.1	pok_arch_sc_int	74
4.23.2.2	pok_syscalls_init	75
4.24	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/syscalls.c File Reference	75
4.24.1	Detailed Description	75
4.24.2	Macro Definition Documentation	76
4.24.2.1	PARTITION_ID	76
4.24.3	Function Documentation	76
4.24.3.1	INTERRUPT_HANDLER_syscall	76
4.24.3.2	pok_syscall_init	76
4.25	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.c File Reference	77
4.26	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.c File Reference	77
4.26.1	Detailed Description	77
4.27	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.c File Reference	77
4.28	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/thread.c File Reference	78
4.28.1	Detailed Description	78
4.29	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.h File Reference	78
4.29.1	Function Documentation	78
4.29.1.1	pok_context_create	78
4.29.1.2	pok_context_switch	79
4.30	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.h File Reference	79
4.30.1	Detailed Description	79
4.30.2	Function Documentation	79
4.30.2.1	pok_context_create	79
4.30.2.2	pok_context_switch	79
4.30.3	Variable Documentation	79
4.30.3.1	pok_arch_sp	79
4.31	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.h File Reference	79
4.31.1	Function Documentation	80
4.31.1.1	pok_context_create	80
4.31.1.2	pok_context_reset	80
4.31.1.3	pok_context_switch	80
4.32	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/thread.h File Reference	80
4.33	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/timer.c File Reference	80
4.33.1	Macro Definition Documentation	80
4.33.1.1	BUS_FREQ	80

4.33.1.2	FREQ_DIV	80
4.33.2	Function Documentation	80
4.33.2.1	pok_arch_decr_int	80
4.33.2.2	pok_bsp_time_init	81
4.34	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/timer.c File Reference	81
4.34.1	Detailed Description	81
4.34.2	Function Documentation	81
4.34.2.1	pok_bsp_time_init	81
4.34.2.2	timer_isr	82
4.35	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/context_offset.h File Reference	82
4.35.1	Detailed Description	83
4.35.2	Macro Definition Documentation	83
4.35.2.1	G1_OFFSET	83
4.35.2.2	G2_OFFSET	83
4.35.2.3	G3_OFFSET	83
4.35.2.4	G4_OFFSET	83
4.35.2.5	G5_OFFSET	83
4.35.2.6	G6_OFFSET	83
4.35.2.7	G7_OFFSET	84
4.35.2.8	I0_OFFSET	84
4.35.2.9	I1_OFFSET	84
4.35.2.10	I2_OFFSET	84
4.35.2.11	I3_OFFSET	84
4.35.2.12	I4_OFFSET	84
4.35.2.13	I5_OFFSET	84
4.35.2.14	I6_OFFSET	84
4.35.2.15	I7_OFFSET	84
4.35.2.16	L0_OFFSET	84
4.35.2.17	L1_OFFSET	84
4.35.2.18	L2_OFFSET	84
4.35.2.19	L3_OFFSET	85
4.35.2.20	L4_OFFSET	85
4.35.2.21	L5_OFFSET	85
4.35.2.22	L6_OFFSET	85
4.35.2.23	L7_OFFSET	85
4.35.2.24	NPC_OFFSET	85
4.35.2.25	PC_OFFSET	85
4.35.2.26	PSR_OFFSET	85
4.35.2.27	RESTORE_CNT_OFFSET	85
4.35.2.28	WIM_OFFSET	85

4.35.2.29 Y_OFFSET	85
4.36 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/irq.h File Reference	85
4.36.1 Detailed Description	86
4.36.2 Macro Definition Documentation	86
4.36.2.1 ack_irq	86
4.36.2.2 IRQMP_BASE	86
4.36.2.3 IRQMP_CLEAR_OFFSET	86
4.36.2.4 IRQMP_MASK0_OFFSET	86
4.36.2.5 unmask_irq	86
4.37 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/sparc_conf.h File Reference	87
4.37.1 Detailed Description	87
4.37.2 Macro Definition Documentation	87
4.37.2.1 ASI_MMU_BYPASS	87
4.37.2.2 SPARC_PAGE_SIZE	87
4.37.2.3 SPARC_PARTITION_BASE_VADDR	87
4.37.2.4 SPARC_PARTITION_SIZE	87
4.37.2.5 SPARC_PROC_FREQ	87
4.37.2.6 SPARC_RAM_ADDR	88
4.37.2.7 WINDOWS_NBR	88
4.38 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/timer.h File Reference	88
4.38.1 Detailed Description	88
4.38.2 Macro Definition Documentation	88
4.38.2.1 TIMER1	88
4.38.2.2 TIMER_CNT_VAL_OFFSET	88
4.38.2.3 TIMER_CTRL_CH	89
4.38.2.4 TIMER_CTRL_DH	89
4.38.2.5 TIMER_CTRL_EN	89
4.38.2.6 TIMER_CTRL_IE	89
4.38.2.7 TIMER_CTRL_IP	89
4.38.2.8 TIMER_CTRL_LD	89
4.38.2.9 TIMER_CTRL_OFFSET	89
4.38.2.10 TIMER_CTRL_RS	89
4.38.2.11 TIMER_IRQ	89
4.38.2.12 TIMER_RELOAD_OFFSET	90
4.38.2.13 TIMER_SCAL_RELOAD_OFFSET	90
4.38.2.14 TIMER_SCALER_OFFSET	90
4.39 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/psr.h File Reference	90
4.39.1 Detailed Description	90
4.39.2 Macro Definition Documentation	90
4.39.2.1 PSR_CWP_MASK	90

4.39.2.2	PSR_ET	90
4.39.2.3	PSR_PIL	91
4.39.2.4	PSR_PS	91
4.39.2.5	PSR_S	91
4.40	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.h File Reference	91
4.40.1	Detailed Description	92
4.40.2	Macro Definition Documentation	92
4.40.2.1	ASI_M_MMUREGS	92
4.40.2.2	LEON_CTX_NBR	92
4.40.2.3	MM_ACC_E	92
4.40.2.4	MM_ACC_R	93
4.40.2.5	MM_ACC_R_S_RW	93
4.40.2.6	MM_ACC_RE	93
4.40.2.7	MM_ACC_RW	93
4.40.2.8	MM_ACC_RWE	93
4.40.2.9	MM_ACC_S_RE	93
4.40.2.10	MM_ACC_S_RWE	93
4.40.2.11	MM_CACHEABLE	93
4.40.2.12	MM_ET_INVALID	93
4.40.2.13	MM_ET_PTD	94
4.40.2.14	MM_ET_PTE	94
4.40.2.15	mm_index1	94
4.40.2.16	mm_index2	94
4.40.2.17	mm_index3	94
4.40.2.18	MM_LVL1_ENTRIES_NBR	94
4.40.2.19	MM_LVL1_PAGE_SIZE	94
4.40.2.20	MM_LVL2_ENTRIES_NBR	94
4.40.2.21	MM_LVL2_PAGE_SIZE	94
4.40.2.22	MM_LVL3_ENTRIES_NBR	95
4.40.2.23	MM_LVL3_PAGE_SIZE	95
4.40.2.24	MM_MODIFIED	95
4.40.2.25	MM_REFERENCED	95
4.40.2.26	MMU_CTRL_REG	95
4.40.2.27	MMU_CTX_REG	95
4.40.2.28	MMU_CTX_TBL_PTR	95
4.40.2.29	MMU_FAULT_ADDR	95
4.40.2.30	MMU_FAULT_STATUS	95
4.40.3	Typedef Documentation	95
4.40.3.1	ptd	95
4.40.3.2	pte	95

4.40.4	Function Documentation	96
4.40.4.1	<code>pok_arch_space_init</code>	96
4.41	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/space.h</code> File Reference	96
4.41.1	Detailed Description	96
4.42	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.h</code> File Reference	96
4.42.1	Detailed Description	96
4.42.2	Function Documentation	97
4.42.2.1	<code>pok_syscalls_init</code>	97
4.43	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.c</code> File Reference	97
4.43.1	Detailed Description	97
4.43.2	Function Documentation	97
4.43.2.1	<code>trap_handler</code>	97
4.43.2.2	<code>traps_init</code>	98
4.43.3	Variable Documentation	98
4.43.3.1	<code>pok_sparc_isr</code>	98
4.44	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.h</code> File Reference	98
4.44.1	Detailed Description	99
4.44.2	Macro Definition Documentation	99
4.44.2.1	<code>SPARC_TRAP_IRQ_BASE</code>	99
4.44.2.2	<code>SPARC_TRAP_SYSCALL_BASE</code>	99
4.44.3	Typedef Documentation	99
4.44.3.1	<code>sparc_traps_handler</code>	99
4.44.4	Function Documentation	99
4.44.4.1	<code>traps_init</code>	99
4.44.5	Variable Documentation	100
4.44.5.1	<code>pok_sparc_isr</code>	100
4.45	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/event.c</code> File Reference	100
4.45.1	Macro Definition Documentation	100
4.45.1.1	<code>IDT_SIZE</code>	100
4.45.2	Function Documentation	101
4.45.2.1	<code>pok_event_init</code>	101
4.45.2.2	<code>pok_idt_init</code>	101
4.45.2.3	<code>pok_idt_set_gate</code>	101
4.45.3	Variable Documentation	101
4.45.3.1	<code>pok_idt</code>	101
4.46	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/event.h</code> File Reference	102
4.46.1	Macro Definition Documentation	103
4.46.1.1	<code>EXCEPTION_ALIGNMENT_CHECK</code>	103
4.46.1.2	<code>EXCEPTION_BOUNDRange</code>	103
4.46.1.3	<code>EXCEPTION_BREAKPOINT</code>	103

4.46.1.4	EXCEPTION_COPSEG_OVERRUN	103
4.46.1.5	EXCEPTION_DEBUG	103
4.46.1.6	EXCEPTION_DIVIDE_ERROR	103
4.46.1.7	EXCEPTION_DOUBLEFAULT	103
4.46.1.8	EXCEPTION_FPU_FAULT	103
4.46.1.9	EXCEPTION_GENERAL_PROTECTION	103
4.46.1.10	EXCEPTION_INVALID_TSS	103
4.46.1.11	EXCEPTION_INVALIDOPCODE	103
4.46.1.12	EXCEPTION_MACHINE_CHECK	103
4.46.1.13	EXCEPTION_NMI	104
4.46.1.14	EXCEPTION_NOMATH_COPROC	104
4.46.1.15	EXCEPTION_OVERFLOW	104
4.46.1.16	EXCEPTION_PAGEFAULT	104
4.46.1.17	EXCEPTION_RESERVED	104
4.46.1.18	EXCEPTION_SEGMENT_NOT_PRESENT	104
4.46.1.19	EXCEPTION_SIMD_FAULT	104
4.46.1.20	EXCEPTION_STACKSEG_FAULT	104
4.46.2	Typedef Documentation	104
4.46.2.1	e_idte_type	104
4.46.3	Enumeration Type Documentation	104
4.46.3.1	e_idte_type	104
4.46.4	Function Documentation	105
4.46.4.1	pok_event_init	105
4.46.4.2	pok_exception_init	105
4.46.4.3	pok_idt_init	105
4.46.4.4	pok_idt_set_gate	105
4.46.4.5	pok_syscall_init	105
4.47	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/exceptions.c File Reference	106
4.47.1	Detailed Description	106
4.48	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/gdt.c File Reference	106
4.48.1	Macro Definition Documentation	106
4.48.1.1	GDT_SIZE	106
4.48.1.2	POK_CONFIG_NB_PARTITIONS	107
4.48.1.3	POK_CONFIG_NB_THREADS	107
4.48.2	Function Documentation	107
4.48.2.1	gdt_disable	107
4.48.2.2	gdt_enable	107
4.48.2.3	gdt_set_segment	107
4.48.2.4	gdt_set_system	107
4.48.2.5	pok_gdt_init	108

4.48.2.6	<code>pok_tss_init</code>	108
4.48.2.7	<code>tss_set_esp0</code>	109
4.48.3	Variable Documentation	109
4.48.3.1	<code>pok_gdt</code>	109
4.48.3.2	<code>pok_tss</code>	109
4.49	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/gdt.h</code> File Reference	109
4.49.1	Macro Definition Documentation	110
4.49.1.1	<code>GDT_BUILD_SELECTOR</code>	110
4.49.1.2	<code>GDT_CORE_CODE_SEGMENT</code>	110
4.49.1.3	<code>GDT_CORE_DATA_SEGMENT</code>	110
4.49.1.4	<code>GDT_PARTITION_CODE_SEGMENT</code>	110
4.49.1.5	<code>GDT_PARTITION_DATA_SEGMENT</code>	110
4.49.1.6	<code>GDT_TSS_SEGMENT</code>	110
4.49.2	Typedef Documentation	110
4.49.2.1	<code>e_gdte_type</code>	110
4.49.3	Enumeration Type Documentation	110
4.49.3.1	<code>e_gdte_type</code>	110
4.49.4	Function Documentation	111
4.49.4.1	<code>gdt_disable</code>	111
4.49.4.2	<code>gdt_enable</code>	111
4.49.4.3	<code>gdt_set_segment</code>	111
4.49.4.4	<code>gdt_set_system</code>	111
4.49.4.5	<code>pok_gdt_init</code>	112
4.49.4.6	<code>pok_tss_init</code>	112
4.49.4.7	<code>tss_set_esp0</code>	112
4.50	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/interrupt.c</code> File Reference	113
4.50.1	Function Documentation	113
4.50.1.1	<code>update_tss</code>	113
4.51	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/pci.c</code> File Reference	113
4.52	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/sysdesc.h</code> File Reference	113
4.53	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/tss.h</code> File Reference	113
4.54	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/types.h</code> File Reference	113
4.54.1	Macro Definition Documentation	114
4.54.1.1	<code>__POK_X86_TYPES_H__</code>	114
4.54.2	Typedef Documentation	114
4.54.2.1	<code>int16_t</code>	114
4.54.2.2	<code>int64_t</code>	114
4.54.2.3	<code>int8_t</code>	114
4.54.2.4	<code>intptr_t</code>	114
4.54.2.5	<code>size_t</code>	114

4.54.2.6	uint16_t	114
4.54.2.7	uint32_t	114
4.54.2.8	uint64_t	114
4.54.2.9	uint8_t	115
4.55	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/types.h File Reference	115
4.55.1	Typedef Documentation	115
4.55.1.1	int16_t	115
4.55.1.2	int64_t	115
4.55.1.3	int8_t	115
4.55.1.4	intptr_t	115
4.55.1.5	size_t	115
4.55.1.6	uint16_t	115
4.55.1.7	uint32_t	115
4.55.1.8	uint64_t	116
4.55.1.9	uint8_t	116
4.56	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/types.h File Reference	116
4.56.1	Macro Definition Documentation	116
4.56.1.1	__POK_X86_TYPES_H__	116
4.56.2	Typedef Documentation	116
4.56.2.1	int16_t	116
4.56.2.2	int64_t	116
4.56.2.3	int8_t	116
4.56.2.4	intptr_t	116
4.56.2.5	size_t	117
4.56.2.6	uint16_t	117
4.56.2.7	uint32_t	117
4.56.2.8	uint64_t	117
4.56.2.9	uint8_t	117
4.57	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/types.h File Reference	117
4.57.1	Macro Definition Documentation	118
4.57.1.1	bool_t	118
4.57.1.2	FALSE	118
4.57.1.3	NULL	118
4.57.1.4	pok_bool_t	118
4.57.1.5	TRUE	118
4.57.2	Typedef Documentation	118
4.57.2.1	pok_blackboard_id_t	118
4.57.2.2	pok_buffer_id_t	118
4.57.2.3	pok_event_id_t	118
4.57.2.4	pok_lockobj_id_t	118

4.57.2.5	<code>pok_partition_id_t</code>	118
4.57.2.6	<code>pok_port_direction_t</code>	118
4.57.2.7	<code>pok_port_id_t</code>	119
4.57.2.8	<code>pok_port_kind_t</code>	119
4.57.2.9	<code>pok_port_size_t</code>	119
4.57.2.10	<code>pok_queueing_discipline_t</code>	119
4.57.2.11	<code>pok_range_t</code>	119
4.57.2.12	<code>pok_sem_id_t</code>	119
4.57.2.13	<code>pok_sem_value_t</code>	119
4.57.2.14	<code>pok_size_t</code>	119
4.58	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/debug.c</code> File Reference	119
4.59	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/debug.c</code> File Reference	119
4.60	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pic.c</code> File Reference	119
4.60.1	Function Documentation	120
4.60.1.1	<code>pok_pic_eoi</code>	120
4.60.1.2	<code>pok_pic_init</code>	120
4.60.1.3	<code>pok_pic_mask</code>	120
4.60.1.4	<code>pok_pic_unmask</code>	121
4.61	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pic.h</code> File Reference	121
4.61.1	Macro Definition Documentation	121
4.61.1.1	<code>PIC_MASTER_BASE</code>	121
4.61.1.2	<code>PIC_MASTER_ICW1</code>	122
4.61.1.3	<code>PIC_MASTER_ICW2</code>	122
4.61.1.4	<code>PIC_MASTER_ICW3</code>	122
4.61.1.5	<code>PIC_MASTER_ICW4</code>	122
4.61.1.6	<code>PIC_SLAVE_BASE</code>	122
4.61.1.7	<code>PIC_SLAVE_ICW1</code>	122
4.61.1.8	<code>PIC_SLAVE_ICW2</code>	122
4.61.1.9	<code>PIC_SLAVE_ICW3</code>	122
4.61.1.10	<code>PIC_SLAVE_ICW4</code>	122
4.61.2	Function Documentation	122
4.61.2.1	<code>pok_pic_eoi</code>	122
4.61.2.2	<code>pok_pic_init</code>	123
4.61.2.3	<code>pok_pic_mask</code>	123
4.61.2.4	<code>pok_pic_unmask</code>	123
4.62	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pit.c</code> File Reference	124
4.62.1	Macro Definition Documentation	124
4.62.1.1	<code>OSCILLATOR_RATE</code>	124
4.62.1.2	<code>PIT_BASE</code>	124
4.62.1.3	<code>PIT_IRQ</code>	124

4.62.2	Function Documentation	124
4.62.2.1	INTERRUPT_HANDLER	124
4.62.2.2	pok_x86_qemu_timer_init	125
4.63	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pit.h File Reference	125
4.63.1	Function Documentation	125
4.63.1.1	pok_x86_qemu_timer_init	125
4.64	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pm.c File Reference	125
4.64.1	Detailed Description	126
4.64.2	Macro Definition Documentation	126
4.64.2.1	ALIGN_UP	126
4.64.3	Function Documentation	126
4.64.3.1	pok_pm_init	126
4.64.3.2	pok_pm_sbrk	127
4.64.4	Variable Documentation	127
4.64.4.1	__pok_begin	127
4.64.4.2	__pok_end	127
4.64.4.3	pok_multiboot_info	127
4.64.4.4	pok_multiboot_magic	127
4.64.4.5	pok_x86_pm_brk	127
4.64.4.6	pok_x86_pm_heap_end	127
4.64.4.7	pok_x86_pm_heap_start	127
4.65	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pm.h File Reference	127
4.65.1	Macro Definition Documentation	127
4.65.1.1	MEM_16MB	127
4.65.2	Function Documentation	128
4.65.2.1	pok_pm_init	128
4.65.2.2	pok_pm_sbrk	128
4.66	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/boot.c File Reference	128
4.66.1	Detailed Description	129
4.66.2	Function Documentation	129
4.66.2.1	pok_boot	129
4.67	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/error.c File Reference	130
4.68	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/instrumentation.c File Reference	130
4.69	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/kernel.c File Reference	130
4.70	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/loader.c File Reference	130
4.70.1	Detailed Description	130
4.71	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/lockobj.c File Reference	130
4.71.1	Detailed Description	130
4.72	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/partition.c File Reference	130
4.72.1	Detailed Description	131

4.73	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/sched.c File Reference	131
4.74	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/syscall.c File Reference	131
4.74.1	Function Documentation	131
4.74.1.1	pok_core_syscall	131
4.75	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/time.c File Reference	136
4.75.1	Detailed Description	136
4.76	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch.h File Reference	137
4.76.1	Detailed Description	137
4.76.2	Function Documentation	138
4.76.2.1	pok_arch_event_register	138
4.76.2.2	pok_arch_idle	138
4.76.2.3	pok_arch_init	138
4.76.2.4	pok_arch_preempt_disable	138
4.76.2.5	pok_arch_preempt_enable	139
4.76.2.6	pok_context_create	139
4.76.2.7	pok_context_reset	139
4.76.2.8	pok_context_switch	139
4.76.2.9	pok_create_space	139
4.76.2.10	pok_dispatch_space	139
4.76.2.11	pok_space_base_vaddr	140
4.76.2.12	pok_space_context_create	140
4.76.2.13	pok_space_context_restart	141
4.76.2.14	pok_space_switch	141
4.76.2.15	pok_thread_stack_addr	141
4.77	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/ppc/spinlock.h File Reference	141
4.77.1	Macro Definition Documentation	141
4.77.1.1	SPIN_LOCK	141
4.77.1.2	SPIN_UNLOCK	142
4.77.2	Typedef Documentation	142
4.77.2.1	pok_spinlock_t	142
4.78	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/spinlock.h File Reference	142
4.78.1	Macro Definition Documentation	142
4.78.1.1	SPIN_LOCK	142
4.78.1.2	SPIN_UNLOCK	142
4.78.2	Typedef Documentation	143
4.78.2.1	pok_spinlock_t	143
4.79	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/spinlock.h File Reference	143
4.79.1	Macro Definition Documentation	143
4.79.1.1	SPIN_LOCK	143
4.79.1.2	SPIN_UNLOCK	143

4.79.2	Typedef Documentation	143
4.79.2.1	<code>pok_spinlock_t</code>	143
4.80	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/interrupt.h</code> File Reference	144
4.80.1	Macro Definition Documentation	144
4.80.1.1	<code>INTERRUPT_HANDLER</code>	144
4.80.1.2	<code>INTERRUPT_HANDLER_errorcode</code>	145
4.80.1.3	<code>INTERRUPT_HANDLER_syscall</code>	145
4.80.2	Function Documentation	145
4.80.2.1	<code>update_tss</code>	145
4.80.3	Variable Documentation	146
4.80.3.1	<code>pok_tss</code>	146
4.81	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h</code> File Reference	146
4.81.1	Detailed Description	146
4.81.2	Macro Definition Documentation	146
4.81.2.1	<code>EXT_C</code>	146
4.81.2.2	<code>MULTIBOOT_BOOTLOADER_MAGIC</code>	147
4.81.2.3	<code>MULTIBOOT_BOOTLOADER_MAGIC</code>	147
4.81.2.4	<code>MULTIBOOT_CMDLINE</code>	147
4.81.2.5	<code>MULTIBOOT_HEADER_FLAGS</code>	147
4.81.2.6	<code>MULTIBOOT_HEADER_MAGIC</code>	147
4.81.2.7	<code>MULTIBOOT_MODS</code>	147
4.81.2.8	<code>MULTIBOOT_STACK_SIZE</code>	147
4.82	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/pci.h</code> File Reference	147
4.83	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/bsp.h</code> File Reference	147
4.83.1	Detailed Description	148
4.83.2	Function Documentation	148
4.83.2.1	<code>pok_bsp_init</code>	148
4.83.2.2	<code>pok_bsp_irq_acknowledge</code>	148
4.83.2.3	<code>pok_bsp_irq_register</code>	148
4.83.2.4	<code>pok_bsp_mem_alloc</code>	149
4.83.2.5	<code>pok_bsp_time_init</code>	149
4.83.2.6	<code>pok_cons_write</code>	149
4.84	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/boot.h</code> File Reference	149
4.84.1	Detailed Description	149
4.84.2	Function Documentation	150
4.84.2.1	<code>pok_boot</code>	150
4.85	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio.h</code> File Reference	150
4.85.1	Enumeration Type Documentation	151
4.85.1.1	<code>cpio_format</code>	151
4.85.2	Function Documentation	151

4.85.2.1	cpio_get_fileaddr	151
4.85.2.2	cpio_get_filename	151
4.85.2.3	cpio_next_file	151
4.85.2.4	cpio_open	151
4.86	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/debug.h File Reference	152
4.86.1	Macro Definition Documentation	152
4.86.1.1	POK_DEBUG_PRINT_CURRENT_STATE	152
4.86.1.2	POK_FATAL	152
4.87	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/error.h File Reference	152
4.88	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/instrumentation.h File Reference	152
4.89	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/kernel.h File Reference	152
4.89.1	Function Documentation	152
4.89.1.1	pok_kernel_restart	152
4.89.1.2	pok_kernel_stop	152
4.90	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/loader.h File Reference	152
4.90.1	Function Documentation	153
4.90.1.1	pok_loader_load_partition	153
4.91	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h File Reference	153
4.91.1	Macro Definition Documentation	154
4.91.1.1	POK_CONFIG_NB_LOCKOBJECTS	154
4.91.2	Enumeration Type Documentation	154
4.91.2.1	pok_locking_policy_t	154
4.91.2.2	pok_lockobj_kind_t	154
4.91.2.3	pok_lockobj_lock_kind_t	154
4.91.2.4	pok_lockobj_operation_t	155
4.91.2.5	pok_mutex_state_t	155
4.91.3	Function Documentation	155
4.91.3.1	pok_lockobj_create	155
4.91.3.2	pok_lockobj_eventbroadcast	155
4.91.3.3	pok_lockobj_eventsignal	155
4.91.3.4	pok_lockobj_eventwait	155
4.91.3.5	pok_lockobj_init	155
4.91.3.6	pok_lockobj_lock	155
4.91.3.7	pok_lockobj_partition_create	155
4.91.3.8	pok_lockobj_partition_wrapper	155
4.91.3.9	pok_lockobj_unlock	155
4.92	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/partition.h File Reference	156
4.92.1	Detailed Description	156
4.93	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/sched.h File Reference	156
4.94	/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/schedvalues.h File Reference	156

4.94.1	Enumeration Type Documentation	156
4.94.1.1	<code>pok_sched_t</code>	156
4.95	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall.h</code> File Reference	157
4.95.1	Macro Definition Documentation	157
4.95.1.1	<code>POK_CHECK_PTR_OR_RETURN</code>	157
4.95.2	Enumeration Type Documentation	157
4.95.2.1	<code>pok_syscall_id_t</code>	158
4.95.3	Function Documentation	159
4.95.3.1	<code>pok_core_syscall</code>	159
4.95.3.2	<code>pok_syscall_init</code>	164
4.96	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/time.h</code> File Reference	164
4.97	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/dependencies.h</code> File Reference	164
4.98	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf.h</code> File Reference	165
4.98.1	Macro Definition Documentation	165
4.98.1.1	<code>EI_NIDENT</code>	165
4.98.2	Typedef Documentation	165
4.98.2.1	<code>Elf32_Addr</code>	165
4.98.2.2	<code>Elf32_Half</code>	165
4.98.2.3	<code>Elf32_Off</code>	165
4.98.2.4	<code>Elf32_Word</code>	165
4.99	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/errno.h</code> File Reference	165
4.99.1	Enumeration Type Documentation	166
4.99.1.1	<code>pok_ret_t</code>	166
4.100	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/libc.h</code> File Reference	167
4.100.1	Function Documentation	168
4.100.1.1	<code>memcpy</code>	168
4.100.1.2	<code>memset</code>	168
4.100.1.3	<code>strcmp</code>	168
4.100.1.4	<code>strlen</code>	168
4.100.1.5	<code>strncmp</code>	168
4.101	<code>/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/port.h</code> File Reference	168
4.101.1	Detailed Description	169
4.101.2	Macro Definition Documentation	169
4.101.2.1	<code>POK_PORT_MAX_SIZE</code>	169
4.101.3	Typedef Documentation	169
4.101.3.1	<code>pok_port_queueing_discipline_t</code>	169
4.101.4	Enumeration Type Documentation	169
4.101.4.1	<code>pok_port_directions_t</code>	169
4.101.4.2	<code>pok_port_kinds_t</code>	170
4.101.4.3	<code>pok_port_queueing_disciplines_t</code>	170

4.102/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/queue.h File Reference	170
4.103/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/__udivdi3.c File Reference	170
4.103.1 Function Documentation	170
4.103.1.1 __udivdi3	170
4.104/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memcpy.c File Reference	171
4.104.1 Function Documentation	171
4.104.1.1 memcpy	171
4.105/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memset.c File Reference	172
4.105.1 Function Documentation	172
4.105.1.1 __attribute__	172
4.106/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/printf.c File Reference	172
4.107/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strcmp.c File Reference	172
4.108/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strlen.c File Reference	172
4.109/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portcreate.c File Reference	172
4.110/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portflushall.c File Reference	172
4.110.1 Detailed Description	173
4.111/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portinit.c File Reference	173
4.112/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingcreate.c File Reference	173
4.113/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingid.c File Reference	173
4.114/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingreceive.c File Reference	173
4.115/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingsend.c File Reference	173
4.116/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingstatus.c File Reference	173
4.117/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingcreate.c File Reference	173
4.118/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingid.c File Reference	173
4.119/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingread.c File Reference	173
4.120/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingstatus.c File Reference	173
4.121/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingwrite.c File Reference	174
4.121.1 Detailed Description	174
4.122/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portutils.c File Reference	174
4.122.1 Detailed Description	174
4.123/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualdestination.c File Reference	174
4.124/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualgetglobal.c File Reference	174
4.125/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualid.c File Reference	174
4.126/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualnbdestinations.c File Reference	175

4.127/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/queueinit.c File Reference	. . .	175
4.128/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/ressources.c File Reference	. .	175

Chapter 1

Data Structure Index

1.1 Data Structures

Here are the data structures with brief descriptions:

__attribute__	7
context_t	12
cpio_bin_header	16
cpio_file	18
Elf32_Ehdr	19
Elf32_Phdr	20
interrupt_frame	22
pok_aout_symbol_table_t	24
pok_elf_section_header_table_t	24
pok_lockobj_attr_t	25
pok_lockobj_lockattr_t	26
pok_lockobj_t	27
pok_memory_map_t	28
pok_module_t	29
pok_multiboot_header_t	30
pok_multiboot_info_t	31
pok_port_t	32
pok_space	34
pok_syscall_args_t	35
pok_syscall_info_t	36
ppc_pte_t	37
space_context_t	37
start_context_t	38
volatile_context_t	39

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/arch.c	
Provide generic architecture access for PPC architecture	43
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/msr.h	49
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/space.c	61
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/syscalls.c	73
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.c	77
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.h	78
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/timer.c	80
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/bsp.c	50
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.c	53
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.h	55
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/ioports.h	59
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/arch.c	45
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/context_offset.h	
Define registers offset in context stack	82
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/psr.h	
Processor State Register utils	90
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.c	
Memory management in SPARC	66
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.h	91
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.c	
Syscalls management in SPARC	74
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.h	96
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.c	
Thread management	77
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.h	79
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.c	
Traps management	97
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.h	98
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/bsp.c	51
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.c	
Leon3 UART driver	54
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.h	55
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ioports.h	
SPARC "ioports". Use MMU bypass to access IO memory	60
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/irq.h	
Leon3 IRQ management	85

/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ sparc_conf.h	
Define all constant values for a SPARC bsp	87
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ timer.c	
Leon3 timer management	81
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ timer.h	88
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ arch.c	
Provides generic architecture interface for x86 architecture	47
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ event.c	100
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ event.h	102
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ exceptions.c	106
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ gdt.c	106
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ gdt.h	109
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ interrupt.c	113
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ pci.c	113
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ space.c	
Handle address spaces	70
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ space.h	96
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ syscalls.c	
This file implement system-calls for x86 platform	75
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ sysdesc.h	113
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ thread.c	77
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ thread.h	79
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ tss.h	113
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/ types.h	113
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ bsp.c	52
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ cons.c	55
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ cons.h	59
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ debug.c	119
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pic.c	119
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pic.h	121
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pit.c	124
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pit.h	125
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pm.c	125
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/ pm.h	127
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ boot.c	
Boot function to start the kernel	128
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ cons.c	55
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ debug.c	119
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ error.c	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ instrumentation.c	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ kernel.c	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ loader.c	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ lockobj.c	
Provides fonctionnalities for locking functions (mutexes, semaphores and so on)	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ partition.c	
This file provides functions for partitioning services	130
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ sched.c	131
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ syscall.c	131
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ thread.c	
Thread management in kernel	78
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/ time.c	136
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/ arch.h	
Generic interface to handle architectures	137
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/ bsp.h	
Interfaces that BSP must provide	147
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/ dependencies.h	164
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/ elf.h	165
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/ errno.h	165

/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/libc.h	167
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/types.h	117
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/ppc/spinlock.h	141
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/spinlock.h	142
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/types.h	115
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/interrupt.h	144
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/ioports.h	60
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h	146
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/pci.h	147
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/spinlock.h	143
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/types.h	116
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/boot.h	149
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cons.h	59
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio.h	150
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/debug.h	152
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/error.h	152
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/instrumentation.h	152
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/kernel.h	152
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/loader.h	152
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h	153
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/partition.h	
Definition of structure for partitioning services	156
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/sched.h	156
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/schedvalues.h	156
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall.h	157
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/thread.h	80
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/time.h	164
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/port.h	
Describe queueing and sampling ports structures	168
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/queue.h	170
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/_udivdi3.c	170
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memcpy.c	171
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memset.c	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/printfc.c	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strcmp.c	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strlen.c	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portcreate.c	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portflushall.c	
Flush the ports and send the data of IN ports to OUT ports	172
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portinit.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingcreate.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingid.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingreceive.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingsend.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingstatus.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingcreate.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingid.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingread.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingstatus.c	173
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingwrite.c	
Send data on a sampling port	174
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portutils.c	
Various functions for ports management	174
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualdestination.c	174
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualgetglobal.c	174
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualid.c	174
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualnbdestinations.c	175
/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/queueinit.c	175

/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/ressources.c 175

Chapter 3

Data Structure Documentation

3.1 `__attribute__` Struct Reference

```
#include <event.h>
```

Data Fields

- [uint32_t offset_low](#):16
- [uint32_t segsel](#):16
- [uint32_t res0](#):8
- [uint32_t type](#):3
- [uint32_t d](#):1
- [uint32_t res1](#):1
- [uint32_t dpl](#):2
- [uint32_t present](#):1
- [uint32_t offset_high](#):16
- [uint32_t limit_low](#):16
- [uint32_t base_low](#):24 `__attribute__((packed))`
- [uint32_t s](#):1
- [uint32_t limit_high](#):4
- [uint32_t available](#):2
- [uint32_t op_size](#):1
- [uint32_t granularity](#):1
- [uint32_t base_high](#):8
- [uint16_t limit](#)
- [uint32_t base](#)
- [uint16_t padding](#)
- [uint32_t back_link](#)
- [uint32_t esp0](#)
- [uint32_t ss0](#)
- [uint32_t esp1](#)
- [uint32_t ss1](#)
- [uint32_t esp2](#)
- [uint32_t ss2](#)
- [uint32_t cr3](#)
- [uint32_t eip](#)
- [uint32_t eflags](#)
- [uint32_t eax](#)
- [uint32_t ecx](#)

- [uint32_t edx](#)
- [uint32_t ebx](#)
- [uint32_t esp](#)
- [uint32_t ebp](#)
- [uint32_t esi](#)
- [uint32_t edi](#)
- [uint32_t es](#)
- [uint32_t cs](#)
- [uint32_t ss](#)
- [uint32_t ds](#)
- [uint32_t fs](#)
- [uint32_t gs](#)
- [uint32_t ldt](#)
- [uint16_t trace_trap](#)
- [uint16_t io_bit_map_offset](#)

3.1.1 Detailed Description

Definition at line 33 of file event.h.

3.1.2 Field Documentation

3.1.2.1 `uint32_t __attribute__((available))`

Definition at line 39 of file gdt.h.

3.1.2.2 `uint32_t __attribute__((back_link))`

Definition at line 25 of file tss.h.

3.1.2.3 `uint32_t __attribute__((base))`

Definition at line 24 of file sysdesc.h.

3.1.2.4 `uint32_t __attribute__((base_high))`

Definition at line 42 of file gdt.h.

3.1.2.5 `uint32_t __attribute__((base_low))`

Definition at line 33 of file gdt.h.

3.1.2.6 `uint32_t __attribute__((cr3))`

Definition at line 32 of file tss.h.

3.1.2.7 `uint32_t __attribute__((cs))`

Definition at line 44 of file tss.h.

3.1.2.8 `uint32_t __attribute__((d))`

Definition at line 39 of file `event.h`.

3.1.2.9 `uint32_t __attribute__((dpl))`

Definition at line 41 of file `event.h`.

3.1.2.10 `uint32_t __attribute__((ds))`

Definition at line 46 of file `tss.h`.

3.1.2.11 `uint32_t __attribute__((eax))`

Definition at line 35 of file `tss.h`.

3.1.2.12 `uint32_t __attribute__((ebp))`

Definition at line 40 of file `tss.h`.

3.1.2.13 `uint32_t __attribute__((ebx))`

Definition at line 38 of file `tss.h`.

3.1.2.14 `uint32_t __attribute__((ecx))`

Definition at line 36 of file `tss.h`.

3.1.2.15 `uint32_t __attribute__((edi))`

Definition at line 42 of file `tss.h`.

3.1.2.16 `uint32_t __attribute__((edx))`

Definition at line 37 of file `tss.h`.

3.1.2.17 `uint32_t __attribute__((eflags))`

Definition at line 34 of file `tss.h`.

3.1.2.18 `uint32_t __attribute__((eip))`

Definition at line 33 of file `tss.h`.

3.1.2.19 `uint32_t __attribute__((es))`

Definition at line 43 of file `tss.h`.

3.1.2.20 uint32_t __attribute__((:esi

Definition at line 41 of file tss.h.

3.1.2.21 uint32_t __attribute__((:esp

Definition at line 39 of file tss.h.

3.1.2.22 uint32_t __attribute__((:esp0

Definition at line 26 of file tss.h.

3.1.2.23 uint32_t __attribute__((:esp1

Definition at line 28 of file tss.h.

3.1.2.24 uint32_t __attribute__((:esp2

Definition at line 30 of file tss.h.

3.1.2.25 uint32_t __attribute__((:fs

Definition at line 47 of file tss.h.

3.1.2.26 uint32_t __attribute__((:granularity

Definition at line 41 of file gdt.h.

3.1.2.27 uint32_t __attribute__((:gs

Definition at line 48 of file tss.h.

3.1.2.28 uint16_t __attribute__((:io_bit_map_offset

Definition at line 51 of file tss.h.

3.1.2.29 uint32_t __attribute__((:ldt

Definition at line 49 of file tss.h.

3.1.2.30 uint16_t __attribute__((:limit

Definition at line 23 of file sysdesc.h.

3.1.2.31 uint32_t __attribute__((:limit_high

Definition at line 38 of file gdt.h.

3.1.2.32 `uint32_t __attribute__((limit_low))`

Definition at line 32 of file `gdt.h`.

3.1.2.33 `uint32_t __attribute__((offset_high))`

Definition at line 43 of file `event.h`.

3.1.2.34 `uint32_t __attribute__((offset_low))`

Definition at line 35 of file `event.h`.

3.1.2.35 `uint32_t __attribute__((op_size))`

Definition at line 40 of file `gdt.h`.

3.1.2.36 `uint16_t __attribute__((padding))`

Definition at line 25 of file `sysdesc.h`.

3.1.2.37 `uint32_t __attribute__((present))`

Definition at line 42 of file `event.h`.

3.1.2.38 `uint32_t __attribute__((res0))`

Definition at line 37 of file `event.h`.

3.1.2.39 `uint32_t __attribute__((res1))`

Definition at line 40 of file `event.h`.

3.1.2.40 `uint32_t __attribute__((s))`

Definition at line 35 of file `gdt.h`.

3.1.2.41 `uint32_t __attribute__((segssel))`

Definition at line 36 of file `event.h`.

3.1.2.42 `uint32_t __attribute__((ss))`

Definition at line 45 of file `tss.h`.

3.1.2.43 `uint32_t __attribute__((ss0))`

Definition at line 27 of file `tss.h`.

3.1.2.44 `uint32_t __attribute__((ss1))`

Definition at line 29 of file `tss.h`.

3.1.2.45 `uint32_t __attribute__((ss2))`

Definition at line 31 of file `tss.h`.

3.1.2.46 `uint16_t __attribute__((trace_trap))`

Definition at line 50 of file `tss.h`.

3.1.2.47 `uint32_t __attribute__((type))`

Definition at line 38 of file `event.h`.

The documentation for this struct was generated from the following files:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/event.h](#)
- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/gdt.h](#)
- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/sysdesc.h](#)
- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/tss.h](#)

3.2 `context_t` Struct Reference

```
#include <thread.h>
```

Data Fields

- [uint32_t sp](#)
- [uint32_t unused_lr](#)
- [uint32_t cr](#)
- [uint32_t r2](#)
- [uint32_t r13](#)
- [uint32_t r14](#)
- [uint32_t r15](#)
- [uint32_t r16](#)
- [uint32_t r17](#)
- [uint32_t r18](#)
- [uint32_t r19](#)
- [uint32_t r20](#)
- [uint32_t r21](#)
- [uint32_t r22](#)
- [uint32_t r23](#)
- [uint32_t r24](#)
- [uint32_t r25](#)
- [uint32_t r26](#)
- [uint32_t r27](#)
- [uint32_t r28](#)
- [uint32_t r29](#)
- [uint32_t r30](#)
- [uint32_t r31](#)

- [uint32_t pad](#)
- [uint32_t back_chain](#)
- [uint32_t lr](#)
- [uint32_t edi](#)
- [uint32_t esi](#)
- [uint32_t ebp](#)
- [uint32_t __esp](#)
- [uint32_t ebx](#)
- [uint32_t edx](#)
- [uint32_t ecx](#)
- [uint32_t eax](#)
- [uint32_t eip](#)
- [uint32_t cs](#)
- [uint32_t eflags](#)

3.2.1 Detailed Description

Definition at line 23 of file thread.h.

3.2.2 Field Documentation

3.2.2.1 uint32_t context.t::_esp

Definition at line 28 of file thread.h.

3.2.2.2 uint32_t context.t::back_chain

Definition at line 54 of file thread.h.

3.2.2.3 uint32_t context.t::cr

Definition at line 28 of file thread.h.

3.2.2.4 uint32_t context.t::cs

Definition at line 35 of file thread.h.

3.2.2.5 uint32_t context.t::eax

Definition at line 32 of file thread.h.

3.2.2.6 uint32_t context.t::ebp

Definition at line 27 of file thread.h.

3.2.2.7 uint32_t context.t::ebx

Definition at line 29 of file thread.h.

3.2.2.8 uint32_t context_t::ecx

Definition at line 31 of file thread.h.

3.2.2.9 uint32_t context_t::edi

Definition at line 25 of file thread.h.

3.2.2.10 uint32_t context_t::edx

Definition at line 30 of file thread.h.

3.2.2.11 uint32_t context_t::eflags

Definition at line 36 of file thread.h.

3.2.2.12 uint32_t context_t::eip

Definition at line 34 of file thread.h.

3.2.2.13 uint32_t context_t::esi

Definition at line 26 of file thread.h.

3.2.2.14 uint32_t context_t::lr

Definition at line 55 of file thread.h.

3.2.2.15 uint32_t context_t::pad

Definition at line 51 of file thread.h.

3.2.2.16 uint32_t context_t::r13

Definition at line 30 of file thread.h.

3.2.2.17 uint32_t context_t::r14

Definition at line 31 of file thread.h.

3.2.2.18 uint32_t context_t::r15

Definition at line 32 of file thread.h.

3.2.2.19 uint32_t context_t::r16

Definition at line 34 of file thread.h.

3.2.2.20 uint32_t context_t::r17

Definition at line 35 of file thread.h.

3.2.2.21 uint32_t context_t::r18

Definition at line 36 of file thread.h.

3.2.2.22 uint32_t context_t::r19

Definition at line 37 of file thread.h.

3.2.2.23 uint32_t context_t::r2

Definition at line 29 of file thread.h.

3.2.2.24 uint32_t context_t::r20

Definition at line 38 of file thread.h.

3.2.2.25 uint32_t context_t::r21

Definition at line 39 of file thread.h.

3.2.2.26 uint32_t context_t::r22

Definition at line 40 of file thread.h.

3.2.2.27 uint32_t context_t::r23

Definition at line 41 of file thread.h.

3.2.2.28 uint32_t context_t::r24

Definition at line 42 of file thread.h.

3.2.2.29 uint32_t context_t::r25

Definition at line 43 of file thread.h.

3.2.2.30 uint32_t context_t::r26

Definition at line 44 of file thread.h.

3.2.2.31 uint32_t context_t::r27

Definition at line 45 of file thread.h.

3.2.2.32 uint32_t context_t::r28

Definition at line 46 of file thread.h.

3.2.2.33 uint32_t context_t::r29

Definition at line 47 of file thread.h.

3.2.2.34 uint32_t context_t::r30

Definition at line 48 of file thread.h.

3.2.2.35 uint32_t context_t::r31

Definition at line 49 of file thread.h.

3.2.2.36 uint32_t context_t::sp

Definition at line 25 of file thread.h.

3.2.2.37 uint32_t context_t::unused_lr

Definition at line 26 of file thread.h.

The documentation for this struct was generated from the following files:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.h](#)
- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.h](#)

3.3 cpio_bin_header Struct Reference

```
#include <cpio.h>
```

Data Fields

- unsigned short [c_magic](#)
- unsigned short [c_dev](#)
- unsigned short [c_ino](#)
- unsigned short [c_mode](#)
- unsigned short [c_uid](#)
- unsigned short [c_gid](#)
- unsigned short [c_nlink](#)
- unsigned short [c_rdev](#)
- unsigned short [c_mtime](#) [2]
- unsigned short [c_namesize](#)
- unsigned short [c_filesize](#) [2]

3.3.1 Detailed Description

Definition at line 33 of file cpio.h.

3.3.2 Field Documentation

3.3.2.1 `unsigned short cpio_bin_header::c_dev`

Definition at line 36 of file `cpio.h`.

3.3.2.2 `unsigned short cpio_bin_header::c_filesize[2]`

Definition at line 45 of file `cpio.h`.

3.3.2.3 `unsigned short cpio_bin_header::c_gid`

Definition at line 40 of file `cpio.h`.

3.3.2.4 `unsigned short cpio_bin_header::c_ino`

Definition at line 37 of file `cpio.h`.

3.3.2.5 `unsigned short cpio_bin_header::c_magic`

Definition at line 35 of file `cpio.h`.

3.3.2.6 `unsigned short cpio_bin_header::c_mode`

Definition at line 38 of file `cpio.h`.

3.3.2.7 `unsigned short cpio_bin_header::c_mtime[2]`

Definition at line 43 of file `cpio.h`.

3.3.2.8 `unsigned short cpio_bin_header::c_namesize`

Definition at line 44 of file `cpio.h`.

3.3.2.9 `unsigned short cpio_bin_header::c_nlink`

Definition at line 41 of file `cpio.h`.

3.3.2.10 `unsigned short cpio_bin_header::c_rdev`

Definition at line 42 of file `cpio.h`.

3.3.2.11 `unsigned short cpio_bin_header::c_uid`

Definition at line 39 of file `cpio.h`.

The documentation for this struct was generated from the following file:

- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio.h`

3.4 cpio_file Struct Reference

```
#include <cpio.h>
```

Data Fields

- int [cpio_fmt](#)
- void * [cpio_addr](#)
- void * [curr_header](#)
- void * [curr_fileaddr](#)
- unsigned int [curr_filesz](#)
- char * [curr_filename](#)
- unsigned int [curr_filename_len](#)
- int(* [next_header](#))(struct [cpio_file](#) *cpio)

3.4.1 Detailed Description

Definition at line 48 of file cpio.h.

3.4.2 Field Documentation

3.4.2.1 void* cpio_file::cpio_addr

Definition at line 51 of file cpio.h.

3.4.2.2 int cpio_file::cpio_fmt

Definition at line 50 of file cpio.h.

3.4.2.3 void* cpio_file::curr_fileaddr

Definition at line 53 of file cpio.h.

3.4.2.4 char* cpio_file::curr_filename

Definition at line 55 of file cpio.h.

3.4.2.5 unsigned int cpio_file::curr_filename_len

Definition at line 56 of file cpio.h.

3.4.2.6 unsigned int cpio_file::curr_filesz

Definition at line 54 of file cpio.h.

3.4.2.7 void* cpio_file::curr_header

Definition at line 52 of file cpio.h.

3.4.2.8 `int(* cpio_file::next_header)(struct cpio_file *cpio)`

Definition at line 57 of file `cpio.h`.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio.h

3.5 Elf32_Ehdr Struct Reference

```
#include <elf.h>
```

Data Fields

- unsigned char `e_ident` [`EI_NIDENT`]
- [Elf32_Half e_type](#)
- [Elf32_Half e_machine](#)
- [Elf32_Word e_version](#)
- [Elf32_Addr e_entry](#)
- [Elf32_Off e_phoff](#)
- [Elf32_Off e_shoff](#)
- [Elf32_Word e_flags](#)
- [Elf32_Half e_ehsize](#)
- [Elf32_Half e_phentsize](#)
- [Elf32_Half e_phnum](#)
- [Elf32_Half e_shentsize](#)
- [Elf32_Half e_shnum](#)
- [Elf32_Half e_shstrndx](#)

3.5.1 Detailed Description

Definition at line 28 of file `elf.h`.

3.5.2 Field Documentation

3.5.2.1 `Elf32_Half Elf32_Ehdr::e_ehsize`

Definition at line 38 of file `elf.h`.

3.5.2.2 `Elf32_Addr Elf32_Ehdr::e_entry`

Definition at line 34 of file `elf.h`.

3.5.2.3 `Elf32_Word Elf32_Ehdr::e_flags`

Definition at line 37 of file `elf.h`.

3.5.2.4 `unsigned char Elf32_Ehdr::e_ident[EI_NIDENT]`

Definition at line 30 of file `elf.h`.

3.5.2.5 Elf32_Half Elf32_Ehdr::e_machine

Definition at line 32 of file elf.h.

3.5.2.6 Elf32_Half Elf32_Ehdr::e_phentsize

Definition at line 39 of file elf.h.

3.5.2.7 Elf32_Half Elf32_Ehdr::e_phnum

Definition at line 40 of file elf.h.

3.5.2.8 Elf32_Off Elf32_Ehdr::e_phoff

Definition at line 35 of file elf.h.

3.5.2.9 Elf32_Half Elf32_Ehdr::e_shentsize

Definition at line 41 of file elf.h.

3.5.2.10 Elf32_Half Elf32_Ehdr::e_shnum

Definition at line 42 of file elf.h.

3.5.2.11 Elf32_Off Elf32_Ehdr::e_shoff

Definition at line 36 of file elf.h.

3.5.2.12 Elf32_Half Elf32_Ehdr::e_shstrndx

Definition at line 43 of file elf.h.

3.5.2.13 Elf32_Half Elf32_Ehdr::e_type

Definition at line 31 of file elf.h.

3.5.2.14 Elf32_Word Elf32_Ehdr::e_version

Definition at line 33 of file elf.h.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf.h](#)

3.6 Elf32_Phdr Struct Reference

```
#include <elf.h>
```

Data Fields

- [Elf32_Word p_type](#)
- [Elf32_Off p_offset](#)
- [Elf32_Addr p_vaddr](#)
- [Elf32_Addr p_paddr](#)
- [Elf32_Word p_filesz](#)
- [Elf32_Word p_memsz](#)
- [Elf32_Word p_flags](#)
- [Elf32_Word p_align](#)

3.6.1 Detailed Description

Definition at line 48 of file elf.h.

3.6.2 Field Documentation

3.6.2.1 Elf32_Word Elf32_Phdr::p_align

Definition at line 57 of file elf.h.

3.6.2.2 Elf32_Word Elf32_Phdr::p_filesz

Definition at line 54 of file elf.h.

3.6.2.3 Elf32_Word Elf32_Phdr::p_flags

Definition at line 56 of file elf.h.

3.6.2.4 Elf32_Word Elf32_Phdr::p_memsz

Definition at line 55 of file elf.h.

3.6.2.5 Elf32_Off Elf32_Phdr::p_offset

Definition at line 51 of file elf.h.

3.6.2.6 Elf32_Addr Elf32_Phdr::p_paddr

Definition at line 53 of file elf.h.

3.6.2.7 Elf32_Word Elf32_Phdr::p_type

Definition at line 50 of file elf.h.

3.6.2.8 Elf32_Addr Elf32_Phdr::p_vaddr

Definition at line 52 of file elf.h.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf.h](#)

3.7 interrupt_frame Struct Reference

```
#include <interrupt.h>
```

Data Fields

- [uint32_t es](#)
- [uint32_t ds](#)
- [uint32_t edi](#)
- [uint32_t esi](#)
- [uint32_t ebp](#)
- [uint32_t __esp](#)
- [uint32_t ebx](#)
- [uint32_t edx](#)
- [uint32_t ecx](#)
- [uint32_t eax](#)
- [uint32_t error](#)
- [uint32_t eip](#)
- [uint32_t cs](#)
- [uint32_t eflags](#)
- [uint32_t esp](#)
- [uint32_t ss](#)

3.7.1 Detailed Description

Definition at line 24 of file interrupt.h.

3.7.2 Field Documentation

3.7.2.1 uint32_t interrupt_frame::__esp

Definition at line 31 of file interrupt.h.

3.7.2.2 uint32_t interrupt_frame::cs

Definition at line 40 of file interrupt.h.

3.7.2.3 uint32_t interrupt_frame::ds

Definition at line 27 of file interrupt.h.

3.7.2.4 uint32_t interrupt_frame::eax

Definition at line 35 of file interrupt.h.

3.7.2.5 uint32_t interrupt_frame::ebp

Definition at line 30 of file interrupt.h.

3.7.2.6 uint32_t interrupt_frame::ebx

Definition at line 32 of file interrupt.h.

3.7.2.7 uint32_t interrupt_frame::ecx

Definition at line 34 of file interrupt.h.

3.7.2.8 uint32_t interrupt_frame::edi

Definition at line 28 of file interrupt.h.

3.7.2.9 uint32_t interrupt_frame::edx

Definition at line 33 of file interrupt.h.

3.7.2.10 uint32_t interrupt_frame::eflags

Definition at line 41 of file interrupt.h.

3.7.2.11 uint32_t interrupt_frame::eip

Definition at line 39 of file interrupt.h.

3.7.2.12 uint32_t interrupt_frame::error

Definition at line 38 of file interrupt.h.

3.7.2.13 uint32_t interrupt_frame::es

Definition at line 26 of file interrupt.h.

3.7.2.14 uint32_t interrupt_frame::esi

Definition at line 29 of file interrupt.h.

3.7.2.15 uint32_t interrupt_frame::esp

Definition at line 45 of file interrupt.h.

3.7.2.16 uint32_t interrupt_frame::ss

Definition at line 46 of file interrupt.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/interrupt.h

3.8 pok_aout_symbol_table_t Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [tabsize](#)
- unsigned int [strsize](#)
- unsigned int [addr](#)
- unsigned int [reserved](#)

3.8.1 Detailed Description

Definition at line 76 of file multiboot.h.

3.8.2 Field Documentation

3.8.2.1 unsigned int pok_aout_symbol_table_t::addr

Definition at line 80 of file multiboot.h.

3.8.2.2 unsigned int pok_aout_symbol_table_t::reserved

Definition at line 81 of file multiboot.h.

3.8.2.3 unsigned int pok_aout_symbol_table_t::strsize

Definition at line 79 of file multiboot.h.

3.8.2.4 unsigned int pok_aout_symbol_table_t::tabsize

Definition at line 78 of file multiboot.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.9 pok_elf_section_header_table_t Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [num](#)
- unsigned int [size](#)
- unsigned int [addr](#)
- unsigned int [shndx](#)

3.9.1 Detailed Description

Definition at line 84 of file multiboot.h.

3.9.2 Field Documentation

3.9.2.1 unsigned int pok_elf_section_header_table_t::addr

Definition at line 88 of file multiboot.h.

3.9.2.2 unsigned int pok_elf_section_header_table_t::num

Definition at line 86 of file multiboot.h.

3.9.2.3 unsigned int pok_elf_section_header_table_t::shndx

Definition at line 89 of file multiboot.h.

3.9.2.4 unsigned int pok_elf_section_header_table_t::size

Definition at line 87 of file multiboot.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.10 pok_lockobj_attr_t Struct Reference

```
#include <lockobj.h>
```

Data Fields

- [pok_lockobj_kind_t kind](#)
- [pok_locking_policy_t locking_policy](#)
- [pok_queueing_discipline_t queueing_policy](#)
- [pok_sem_value_t initial_value](#)
- [pok_sem_value_t max_value](#)

3.10.1 Detailed Description

Definition at line 63 of file lockobj.h.

3.10.2 Field Documentation

3.10.2.1 pok_sem_value_t pok_lockobj_attr_t::initial_value

Definition at line 68 of file lockobj.h.

3.10.2.2 `pok_lockobj_kind_t` `pok_lockobj_attr_t::kind`

Definition at line 65 of file `lockobj.h`.

3.10.2.3 `pok_locking_policy_t` `pok_lockobj_attr_t::locking_policy`

Definition at line 66 of file `lockobj.h`.

3.10.2.4 `pok_sem_value_t` `pok_lockobj_attr_t::max_value`

Definition at line 69 of file `lockobj.h`.

3.10.2.5 `pok_queueing_discipline_t` `pok_lockobj_attr_t::queueing_policy`

Definition at line 67 of file `lockobj.h`.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h](#)

3.11 `pok_lockobj_lockattr_t` Struct Reference

```
#include <lockobj.h>
```

Data Fields

- [pok_lockobj_operation_t](#) `operation`
- [pok_lockobj_kind_t](#) `obj_kind`
- [pok_lockobj_lock_kind_t](#) `lock_kind`
- [uint64_t](#) `time`

3.11.1 Detailed Description

Definition at line 115 of file `lockobj.h`.

3.11.2 Field Documentation

3.11.2.1 `pok_lockobj_lock_kind_t` `pok_lockobj_lockattr_t::lock_kind`

Definition at line 119 of file `lockobj.h`.

3.11.2.2 `pok_lockobj_kind_t` `pok_lockobj_lockattr_t::obj_kind`

Definition at line 118 of file `lockobj.h`.

3.11.2.3 `pok_lockobj_operation_t` `pok_lockobj_lockattr_t::operation`

Definition at line 117 of file `lockobj.h`.

3.11.2.4 uint64_t pok_lockobj_lockattr_t::time

Definition at line 120 of file lockobj.h.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h](#)

3.12 pok_lockobj_t Struct Reference

```
#include <lockobj.h>
```

Data Fields

- [pok_spinlock_t spin](#)
- [pok_spinlock_t eventspin](#)
- [bool_t is_locked](#)
- [pok_mutex_state_t thread_state](#) [POK_CONFIG_NB_THREADS+2]
- [pok_locking_policy_t locking_policy](#)
- [pok_queueing_discipline_t queueing_policy](#)
- [pok_lockobj_kind_t kind](#)
- [bool_t initialized](#)
- [uint16_t current_value](#)
- [uint16_t max_value](#)

3.12.1 Detailed Description

Definition at line 72 of file lockobj.h.

3.12.2 Field Documentation

3.12.2.1 uint16_t pok_lockobj_t::current_value

Definition at line 95 of file lockobj.h.

3.12.2.2 pok_spinlock_t pok_lockobj_t::eventspin

Definition at line 75 of file lockobj.h.

3.12.2.3 bool_t pok_lockobj_t::initialized

Definition at line 92 of file lockobj.h.

3.12.2.4 bool_t pok_lockobj_t::is_locked

Definition at line 78 of file lockobj.h.

3.12.2.5 pok_lockobj_kind_t pok_lockobj_t::kind

Definition at line 90 of file lockobj.h.

3.12.2.6 `pok_locking_policy_t` `pok_lockobj_t::locking_policy`

Definition at line 84 of file `lockobj.h`.

3.12.2.7 `uint16_t` `pok_lockobj_t::max_value`

Definition at line 96 of file `lockobj.h`.

3.12.2.8 `pok_queueing_discipline_t` `pok_lockobj_t::queueing_policy`

Definition at line 87 of file `lockobj.h`.

3.12.2.9 `pok_spinlock_t` `pok_lockobj_t::spin`

Definition at line 74 of file `lockobj.h`.

3.12.2.10 `pok_mutex_state_t` `pok_lockobj_t::thread_state[POK_CONFIG_NB_THREADS+2]`

Definition at line 81 of file `lockobj.h`.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h

3.13 `pok_memory_map_t` Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [size](#)
- unsigned int [base_addr_low](#)
- unsigned int [base_addr_high](#)
- unsigned int [length_low](#)
- unsigned int [length_high](#)
- unsigned int [type](#)

3.13.1 Detailed Description

Definition at line 120 of file `multiboot.h`.

3.13.2 Field Documentation

3.13.2.1 unsigned int `pok_memory_map_t::base_addr_high`

Definition at line 124 of file `multiboot.h`.

3.13.2.2 unsigned int `pok_memory_map_t::base_addr_low`

Definition at line 123 of file `multiboot.h`.

3.13.2.3 unsigned int pok_memory_map_t::length_high

Definition at line 126 of file multiboot.h.

3.13.2.4 unsigned int pok_memory_map_t::length_low

Definition at line 125 of file multiboot.h.

3.13.2.5 unsigned int pok_memory_map_t::size

Definition at line 122 of file multiboot.h.

3.13.2.6 unsigned int pok_memory_map_t::type

Definition at line 127 of file multiboot.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.14 pok_module_t Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [mod_start](#)
- unsigned int [mod_end](#)
- unsigned int [string](#)
- unsigned int [reserved](#)

3.14.1 Detailed Description

Definition at line 112 of file multiboot.h.

3.14.2 Field Documentation

3.14.2.1 unsigned int pok_module_t::mod_end

Definition at line 115 of file multiboot.h.

3.14.2.2 unsigned int pok_module_t::mod_start

Definition at line 114 of file multiboot.h.

3.14.2.3 unsigned int pok_module_t::reserved

Definition at line 117 of file multiboot.h.

3.14.2.4 unsigned int pok_module_t::string

Definition at line 116 of file multiboot.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.15 pok_multiboot_header_t Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [magic](#)
- unsigned int [flags](#)
- unsigned int [checksum](#)
- unsigned int [header_addr](#)
- unsigned int [load_addr](#)
- unsigned int [load_end_addr](#)
- unsigned int [bss_end_addr](#)
- unsigned int [entry_addr](#)

3.15.1 Detailed Description

Definition at line 64 of file multiboot.h.

3.15.2 Field Documentation

3.15.2.1 unsigned int pok_multiboot_header_t::bss_end_addr

Definition at line 72 of file multiboot.h.

3.15.2.2 unsigned int pok_multiboot_header_t::checksum

Definition at line 68 of file multiboot.h.

3.15.2.3 unsigned int pok_multiboot_header_t::entry_addr

Definition at line 73 of file multiboot.h.

3.15.2.4 unsigned int pok_multiboot_header_t::flags

Definition at line 67 of file multiboot.h.

3.15.2.5 unsigned int pok_multiboot_header_t::header_addr

Definition at line 69 of file multiboot.h.

3.15.2.6 unsigned int pok_multiboot_header_t::load_addr

Definition at line 70 of file multiboot.h.

3.15.2.7 unsigned int pok_multiboot_header_t::load_end_addr

Definition at line 71 of file multiboot.h.

3.15.2.8 unsigned int pok_multiboot_header_t::magic

Definition at line 66 of file multiboot.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.16 pok_multiboot_info_t Struct Reference

```
#include <multiboot.h>
```

Data Fields

- unsigned int [flags](#)
- unsigned int [mem_lower](#)
- unsigned int [mem_upper](#)
- unsigned int [boot_device](#)
- unsigned int [cmdline](#)
- unsigned int [mods_count](#)
- unsigned int [mods_addr](#)
- union {
 - [pok_aout_symbol_table_t](#) aout_sym
 - [pok_elf_section_header_table_t](#) elf_sec
- unsigned int [mmap_length](#)
- unsigned int [mmap_addr](#)

3.16.1 Detailed Description

Definition at line 92 of file multiboot.h.

3.16.2 Field Documentation

3.16.2.1 pok_aout_symbol_table_t pok_multiboot_info_t::aout_sym

Definition at line 104 of file multiboot.h.

3.16.2.2 unsigned int pok_multiboot_info_t::boot_device

Definition at line 97 of file multiboot.h.

3.16.2.3 unsigned int pok_multiboot_info_t::cmdline

Definition at line 98 of file multiboot.h.

3.16.2.4 pok_elf_section_header_table_t pok_multiboot_info_t::elf_sec

Definition at line 105 of file multiboot.h.

3.16.2.5 unsigned int pok_multiboot_info_t::flags

Definition at line 94 of file multiboot.h.

3.16.2.6 unsigned int pok_multiboot_info_t::mem_lower

Definition at line 95 of file multiboot.h.

3.16.2.7 unsigned int pok_multiboot_info_t::mem_upper

Definition at line 96 of file multiboot.h.

3.16.2.8 unsigned int pok_multiboot_info_t::mmap_addr

Definition at line 109 of file multiboot.h.

3.16.2.9 unsigned int pok_multiboot_info_t::mmap_length

Definition at line 108 of file multiboot.h.

3.16.2.10 unsigned int pok_multiboot_info_t::mods_addr

Definition at line 100 of file multiboot.h.

3.16.2.11 unsigned int pok_multiboot_info_t::mods_count

Definition at line 99 of file multiboot.h.

3.16.2.12 union { ... } pok_multiboot_info_t::u

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h

3.17 pok_port_t Struct Reference

```
#include <port.h>
```


Data Fields

- [pok_port_id_t](#) identifier
- [pok_partition_id_t](#) partition
- [pok_port_size_t](#) index
- [bool_t](#) full
- [pok_port_size_t](#) size
- [pok_port_size_t](#) off_b
- [pok_port_size_t](#) off_e
- [pok_port_direction_t](#) direction
- [pok_port_queueing_discipline_t](#) discipline
- [pok_bool_t](#) ready
- [bool_t](#) empty
- [uint8_t](#) kind
- [uint64_t](#) refresh
- [uint64_t](#) last_receive
- [pok_lockobj_t](#) lock
- [bool_t](#) must_be_flushed

3.17.1 Detailed Description

Definition at line 57 of file port.h.

3.17.2 Field Documentation

3.17.2.1 [pok_port_direction_t](#) pok_port_t::direction

Definition at line 66 of file port.h.

3.17.2.2 [pok_port_queueing_discipline_t](#) pok_port_t::discipline

Definition at line 67 of file port.h.

3.17.2.3 [bool_t](#) pok_port_t::empty

Definition at line 69 of file port.h.

3.17.2.4 [bool_t](#) pok_port_t::full

Definition at line 62 of file port.h.

3.17.2.5 [pok_port_id_t](#) pok_port_t::identifier

Definition at line 59 of file port.h.

3.17.2.6 [pok_port_size_t](#) pok_port_t::index

Definition at line 61 of file port.h.

3.17.2.7 `uint8_t pok_port_t::kind`

Definition at line 70 of file port.h.

3.17.2.8 `uint64_t pok_port_t::last_receive`

Definition at line 72 of file port.h.

3.17.2.9 `pok_lockobj_t pok_port_t::lock`

Definition at line 73 of file port.h.

3.17.2.10 `bool_t pok_port_t::must_be_flushed`

Definition at line 74 of file port.h.

3.17.2.11 `pok_port_size_t pok_port_t::off_b`

Definition at line 64 of file port.h.

3.17.2.12 `pok_port_size_t pok_port_t::off_e`

Definition at line 65 of file port.h.

3.17.2.13 `pok_partition_id_t pok_port_t::partition`

Definition at line 60 of file port.h.

3.17.2.14 `pok_bool_t pok_port_t::ready`

Definition at line 68 of file port.h.

3.17.2.15 `uint64_t pok_port_t::refresh`

Definition at line 71 of file port.h.

3.17.2.16 `pok_port_size_t pok_port_t::size`

Definition at line 63 of file port.h.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/port.h](#)

3.18 `pok_space` Struct Reference

Data Fields

- [uint32_t phys_base](#)
- [uint32_t size](#)

3.18.1 Detailed Description

Basic partitions information needed for memory management.

Definition at line 34 of file space.c.

3.18.2 Field Documentation

3.18.2.1 uint32_t pok_space::phys_base

Physical address of the partition.

Definition at line 36 of file space.c.

3.18.2.2 uint32_t pok_space::size

Size of the partition.

Definition at line 37 of file space.c.

The documentation for this struct was generated from the following files:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/space.c](#)
- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.c](#)

3.19 pok_syscall_args_t Struct Reference

```
#include <syscall.h>
```

Data Fields

- [uint32_t nargs](#)
- [uint32_t arg1](#)
- [uint32_t arg2](#)
- [uint32_t arg3](#)
- [uint32_t arg4](#)
- [uint32_t arg5](#)

3.19.1 Detailed Description

Definition at line 92 of file syscall.h.

3.19.2 Field Documentation

3.19.2.1 uint32_t pok_syscall_args_t::arg1

Definition at line 95 of file syscall.h.

3.19.2.2 uint32_t pok_syscall_args_t::arg2

Definition at line 96 of file syscall.h.

3.19.2.3 `uint32_t pok_syscall_args_t::arg3`

Definition at line 97 of file `syscall.h`.

3.19.2.4 `uint32_t pok_syscall_args_t::arg4`

Definition at line 98 of file `syscall.h`.

3.19.2.5 `uint32_t pok_syscall_args_t::arg5`

Definition at line 99 of file `syscall.h`.

3.19.2.6 `uint32_t pok_syscall_args_t::nargs`

Definition at line 94 of file `syscall.h`.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall.h

3.20 `pok_syscall_info_t` Struct Reference

```
#include <syscall.h>
```

Data Fields

- [pok_partition_id_t partition](#)
- [uint32_t thread](#)
- [uint32_t base_addr](#)

3.20.1 Detailed Description

Definition at line 102 of file `syscall.h`.

3.20.2 Field Documentation

3.20.2.1 `uint32_t pok_syscall_info_t::base_addr`

Definition at line 106 of file `syscall.h`.

3.20.2.2 `pok_partition_id_t pok_syscall_info_t::partition`

Definition at line 104 of file `syscall.h`.

3.20.2.3 `uint32_t pok_syscall_info_t::thread`

Definition at line 105 of file `syscall.h`.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall.h

3.21 ppc_pte_t Struct Reference

Data Fields

- [uint32_t vsid_api](#)
- [uint32_t rpn_flags](#)

3.21.1 Detailed Description

Definition at line 109 of file space.c.

3.21.2 Field Documentation

3.21.2.1 uint32_t ppc_pte_t::rpn_flags

Definition at line 112 of file space.c.

3.21.2.2 uint32_t ppc_pte_t::vsid_api

Definition at line 111 of file space.c.

The documentation for this struct was generated from the following file:

- [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/space.c](#)

3.22 space_context_t Struct Reference

```
#include <space.h>
```

Data Fields

- [context_t ctx](#)
- [uint32_t fake_ret](#)
- unsigned int [partition_id](#)
- [uint32_t user_pc](#)
- [uint32_t user_sp](#)
- [uint32_t kernel_sp](#)
- [uint32_t arg1](#)
- [uint32_t arg2](#)

3.22.1 Detailed Description

Definition at line 29 of file space.h.

3.22.2 Field Documentation

3.22.2.1 uint32_t space_context_t::arg1

Definition at line 37 of file space.h.

3.22.2.2 `uint32_t space_context_t::arg2`

Definition at line 38 of file `space.h`.

3.22.2.3 `context_t space_context_t::ctx`

Definition at line 31 of file `space.h`.

3.22.2.4 `uint32_t space_context_t::fake_ret`

Definition at line 32 of file `space.h`.

3.22.2.5 `uint32_t space_context_t::kernel_sp`

Definition at line 36 of file `space.h`.

3.22.2.6 `unsigned int space_context_t::partition_id`

Definition at line 33 of file `space.h`.

3.22.2.7 `uint32_t space_context_t::user_pc`

Definition at line 34 of file `space.h`.

3.22.2.8 `uint32_t space_context_t::user_sp`

Definition at line 35 of file `space.h`.

The documentation for this struct was generated from the following file:

- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/space.h`

3.23 `start_context_t` Struct Reference

```
#include <thread.h>
```

Data Fields

- `context_t ctx`
- `uint32_t fake_ret`
- `uint32_t entry`
- `uint32_t id`

3.23.1 Detailed Description

Definition at line 40 of file `thread.h`.

3.23.2 Field Documentation

3.23.2.1 context_t start_context_t::ctx

Definition at line 42 of file thread.h.

3.23.2.2 uint32_t start_context_t::entry

Definition at line 44 of file thread.h.

3.23.2.3 uint32_t start_context_t::fake_ret

Definition at line 43 of file thread.h.

3.23.2.4 uint32_t start_context_t::id

Definition at line 45 of file thread.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.h

3.24 volatile_context_t Struct Reference

```
#include <thread.h>
```

Data Fields

- [uint32_t sp](#)
- [uint32_t unused_lr](#)
- [uint32_t cr](#)
- [uint32_t r0](#)
- [uint32_t r2](#)
- [uint32_t r3](#)
- [uint32_t r4](#)
- [uint32_t r5](#)
- [uint32_t r6](#)
- [uint32_t r7](#)
- [uint32_t r8](#)
- [uint32_t r9](#)
- [uint32_t r10](#)
- [uint32_t r11](#)
- [uint32_t r12](#)
- [uint32_t r13](#)
- [uint32_t ctr](#)
- [uint32_t xer](#)
- [uint32_t srr0](#)
- [uint32_t srr1](#)
- [uint32_t back_chain](#)
- [uint32_t lr](#)
- [uint32_t pad0](#)
- [uint32_t pad1](#)

3.24.1 Detailed Description

Definition at line 58 of file thread.h.

3.24.2 Field Documentation

3.24.2.1 `uint32_t volatile_context_t::back_chain`

Definition at line 83 of file thread.h.

3.24.2.2 `uint32_t volatile_context_t::cr`

Definition at line 63 of file thread.h.

3.24.2.3 `uint32_t volatile_context_t::ctr`

Definition at line 77 of file thread.h.

3.24.2.4 `uint32_t volatile_context_t::lr`

Definition at line 84 of file thread.h.

3.24.2.5 `uint32_t volatile_context_t::pad0`

Definition at line 87 of file thread.h.

3.24.2.6 `uint32_t volatile_context_t::pad1`

Definition at line 88 of file thread.h.

3.24.2.7 `uint32_t volatile_context_t::r0`

Definition at line 64 of file thread.h.

3.24.2.8 `uint32_t volatile_context_t::r10`

Definition at line 73 of file thread.h.

3.24.2.9 `uint32_t volatile_context_t::r11`

Definition at line 74 of file thread.h.

3.24.2.10 `uint32_t volatile_context_t::r12`

Definition at line 75 of file thread.h.

3.24.2.11 `uint32_t volatile_context_t::r13`

Definition at line 76 of file thread.h.

3.24.2.12 uint32_t volatile_context_t::r2

Definition at line 65 of file thread.h.

3.24.2.13 uint32_t volatile_context_t::r3

Definition at line 66 of file thread.h.

3.24.2.14 uint32_t volatile_context_t::r4

Definition at line 67 of file thread.h.

3.24.2.15 uint32_t volatile_context_t::r5

Definition at line 68 of file thread.h.

3.24.2.16 uint32_t volatile_context_t::r6

Definition at line 69 of file thread.h.

3.24.2.17 uint32_t volatile_context_t::r7

Definition at line 70 of file thread.h.

3.24.2.18 uint32_t volatile_context_t::r8

Definition at line 71 of file thread.h.

3.24.2.19 uint32_t volatile_context_t::r9

Definition at line 72 of file thread.h.

3.24.2.20 uint32_t volatile_context_t::sp

Definition at line 60 of file thread.h.

3.24.2.21 uint32_t volatile_context_t::srr0

Definition at line 79 of file thread.h.

3.24.2.22 uint32_t volatile_context_t::srr1

Definition at line 80 of file thread.h.

3.24.2.23 uint32_t volatile_context_t::unused_lr

Definition at line 61 of file thread.h.

3.24.2.24 uint32_t volatile_context_t::xer

Definition at line 78 of file thread.h.

The documentation for this struct was generated from the following file:

- /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.h

Chapter 4

File Documentation

4.1 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/arch.c File Reference

Provide generic architecture access for PPC architecture.

```
#include <types.h>
#include <errno.h>
#include <core/partition.h>
#include "msr.h"
```

Functions

- void [pok_arch_space_init](#) (void)
- [pok_ret_t](#) [pok_arch_init](#) ()
- [pok_ret_t](#) [pok_arch_preempt_disable](#) ()
- [pok_ret_t](#) [pok_arch_preempt_enable](#) ()
- [pok_ret_t](#) [pok_arch_idle](#) ()
- [pok_ret_t](#) [pok_arch_event_register](#) (uint8_t vector, void(*handler)(void))
- [uint32_t](#) [pok_thread_stack_addr](#) (const [uint8_t](#) partition_id, const [uint32_t](#) local_thread_id)

4.1.1 Detailed Description

Provide generic architecture access for PPC architecture.

Author

Tristan Gingold

Date

2009

Definition in file [arch.c](#).

4.1.2 Function Documentation

4.1.2.1 [pok_ret_t](#) [pok_arch_event_register](#) ([uint8_t](#) vector, void(*)*(void)* handler)

Register an event (for example, an interruption)

Definition at line 83 of file [arch.c](#).

```

{
    (void) vector;
    (void) handler;

    return (POK_ERRNO_OK);
}

```

4.1.2.2 pok_ret_t pok_arch_idle ()

Function that do nothing. Useful for the idle task for example.

Definition at line 74 of file arch.c.

```

{
    while (1)
    {
    }

    return (POK_ERRNO_OK);
}

```

4.1.2.3 pok_ret_t pok_arch_init ()

Function that initializes architecture concerns.

Definition at line 43 of file arch.c.

```

{
    set_msr (MSR_IP);
#ifdef POK_NEEDS_PARTITIONS
    pok_arch_space_init ();
#endif

    return (POK_ERRNO_OK);
}

```

4.1.2.4 pok_ret_t pok_arch_preempt_disable ()

Disable interruptions

Definition at line 53 of file arch.c.

```

{
    unsigned int msr;

    msr = get_msr ();
    msr &= ~MSR_EE;
    set_msr (msr);
    return (POK_ERRNO_OK);
}

```

4.1.2.5 pok_ret_t pok_arch_preempt_enable ()

Enable interruptions

Definition at line 63 of file arch.c.

```

{
    unsigned int msr;

    msr = get_msr ();
    msr |= MSR_EE;
    set_msr (msr);

    return (POK_ERRNO_OK);
}

```

4.1.2.6 void pok_arch_space_init (void)

Initilize MMU tables.

Definition at line 132 of file space.c.

```

{
    uint32_t sdr1;

    pt_base = 0;
    pt_mask = 0x3ff;

    sdr1 = pt_base | (pt_mask >> 10);
    asm volatile ("mtsdr1 %0" : : "r"(sdr1));
}

```

4.1.2.7 uint32_t pok_thread_stack_addr (const uint8_t partition_id, const uint32_t local_thread_id)

Returns the stack address for a the thread number N in a partition.

- partition_id indicates the partition that contains the thread.
- local_thread_id the thread-id of the thread inside the partition.

Returns

the stack address of the thread.

Definition at line 92 of file arch.c.

```

{
    return pok_partitions[partition_id].size - 16 - (local_thread_id *
        POK_USER_STACK_SIZE);
}

```

4.2 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/arch.c File Reference

```

#include <types.h>
#include <errno.h>
#include <core/partition.h>
#include "traps.h"
#include "space.h"
#include "psr.h"
#include "sparc_conf.h"
#include "syscalls.h"

```

Functions

- [pok_ret_t pok_arch_init \(\)](#)
- [pok_ret_t pok_arch_preempt_disable \(\)](#)
- [pok_ret_t pok_arch_preempt_enable \(\)](#)
- [pok_ret_t pok_arch_idle \(\)](#)
- [pok_ret_t pok_arch_event_register \(uint8_t vector, void\(*handler\)\(void\)\)](#)
- [uint32_t pok_thread_stack_addr \(const uint8_t partition_id, const uint32_t local_thread_id\)](#)

4.2.1 Detailed Description

Author

Fabien Chouteau

Definition in file [arch.c](#).

4.2.2 Function Documentation

4.2.2.1 `pok_ret_t pok_arch_event_register (uint8_t vector, void(*)(void) handler)`

Attach the handler to the given trap number (vector).

See Also

[pok_sparc_isr](#)

Definition at line 75 of file arch.c.

```
{
  if (pok_sparc_isr[vector] == NULL)
  {
    pok_sparc_isr[vector] = handler;
    return (POK_ERRNO_OK);
  }
  else
  {
    return (POK_ERRNO_UNAVAILABLE);
  }
}
```

4.2.2.2 `pok_ret_t pok_arch_idle ()`

Function that do nothing. Useful for the idle task for example.

Definition at line 60 of file arch.c.

```
{
  while (1)
  {
    /* Leon3 Only ? */
    asm volatile ("wr %g0, %asr19");
  }

  return (POK_ERRNO_OK);
}
```

4.2.2.3 `pok_ret_t pok_arch_init ()`

Initialize all SPARC managers (traps, syscalls, space).

Definition at line 34 of file arch.c.

```
{
  traps_init();
  psr_disable_interrupt();
  psr_enable_traps();

  pok_arch_space_init();
  pok_syscalls_init();

  return (POK_ERRNO_OK);
}
```

4.2.2.4 pok_ret_t pok_arch_preempt_disable ()

Disable interruptions

Definition at line 46 of file arch.c.

```
{
  psr_disable_interrupt();
  return (POK_ERRNO_OK);
}
```

4.2.2.5 pok_ret_t pok_arch_preempt_enable ()

Enable interruptions

Definition at line 53 of file arch.c.

```
{
  psr_enable_interrupt();
  return (POK_ERRNO_OK);
}
```

4.2.2.6 uint32_t pok_thread_stack_addr (const uint8_t partition_id, const uint32_t local_thread_id)

Compute the stack address for the given thread.

Definition at line 91 of file arch.c.

```
{
  return pok_partitions[partition_id].size - (local_thread_id *
      POK_USER_STACK_SIZE);
}
```

4.3 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/arch.c File Reference

Provides generic architecture interface for x86 architecture.

```
#include <errno.h>
#include <core/partition.h>
#include "event.h"
#include "gdt.h"
```

Functions

- [pok_ret_t pok_arch_init \(\)](#)
- [pok_ret_t pok_arch_preempt_disable \(\)](#)
- [pok_ret_t pok_arch_preempt_enable \(\)](#)
- [pok_ret_t pok_arch_idle \(\)](#)
- [pok_ret_t pok_arch_event_register \(uint8_t vector, void\(*handler\)\(void\)\)](#)
- [uint32_t pok_thread_stack_addr \(const uint8_t partition_id, const uint32_t local_thread_id\)](#)

4.3.1 Detailed Description

Provides generic architecture interface for x86 architecture.

Author

Julian Pidancet
Julien Delange

Definition in file [arch.c](#).

4.3.2 Function Documentation

4.3.2.1 `pok_ret_t pok_arch_event_register (uint8_t vector, void(*)(void) handler)`

Register an event (for example, an interruption)

Attach the handler to the given trap number (vector).

See Also

[pok_sparc_isr](#)

Definition at line 60 of file [arch.c](#).

```
{
    pok_idt_set_gate (vector,
                    GDT_CORE_CODE_SEGMENT << 3,
                    (uint32_t)handler,
                    IDTE_TRAP,
                    3);

    return (POK_ERRNO_OK);
}
```

4.3.2.2 `pok_ret_t pok_arch_idle ()`

Function that do nothing. Useful for the idle task for example.

Definition at line 50 of file [arch.c](#).

```
{
    while (1)
    {
        asm ("hlt");
    }

    return (POK_ERRNO_OK);
}
```

4.3.2.3 `pok_ret_t pok_arch_init ()`

Function that initializes architecture concerns.

Initialize all SPARC managers (traps, syscalls, space).

Definition at line 30 of file [arch.c](#).

```
{
    pok_gdt_init ();
    pok_event_init ();

    return (POK_ERRNO_OK);
}
```


4.3.2.4 pok_ret_t pok_arch_preempt_disable ()

Disable interruptions

Definition at line 38 of file arch.c.

```

{
    asm ("cli");
    return (POK_ERRNO_OK);
}

```

4.3.2.5 pok_ret_t pok_arch_preempt_enable ()

Enable interruptions

Definition at line 44 of file arch.c.

```

{
    asm ("sti");
    return (POK_ERRNO_OK);
}

```

4.3.2.6 uint32_t pok_thread_stack_addr (const uint8_t partition_id, const uint32_t local_thread_id)

Returns the stack address for a the thread number N in a partition.

- partition_id indicates the partition that contains the thread.
- local_thread_id the thread-id of the thread inside the partition.

Returns

the stack address of the thread.

Compute the stack adress for the given thread.

Definition at line 72 of file arch.c.

```

{
    return pok_partitions[partition_id].size - 4 - (local_thread_id *
        POK_USER_STACK_SIZE);
}

```

4.4 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/msr.h File Reference

Macros

- #define [MSR_DR](#) (1 << 4)
- #define [MSR_IR](#) (1 << 5)
- #define [MSR_IP](#) (1 << 6)
- #define [MSR_PR](#) (1 << 14)
- #define [MSR_EE](#) (1 << 15)

4.4.1 Macro Definition Documentation

4.4.1.1 #define MSR_DR (1 << 4)

Definition at line 21 of file msr.h.

4.4.1.2 #define MSR_EE (1 << 15)

Definition at line 26 of file msr.h.

4.4.1.3 #define MSR_IP (1 << 6)

Definition at line 23 of file msr.h.

4.4.1.4 #define MSR_IR (1 << 5)

Definition at line 22 of file msr.h.

4.4.1.5 #define MSR_PR (1 << 14)

Definition at line 25 of file msr.h.

4.5 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/bsp.c File Reference

```
#include <errno.h>
#include <arch.h>
#include "cons.h"
```

Functions

- int [pok_bsp_init](#) (void)
- void * [pok_bsp_mem_alloc](#) (size_t sz)

Variables

- char [_end](#) []

4.5.1 Function Documentation

4.5.1.1 int pok_bsp_init (void)

Definition at line 22 of file bsp.c.

```
{
    pok_cons_init ();
    return (POK_ERRNO_OK);
}
```

4.5.1.2 void* pok_bsp_mem_alloc (size_t sz)

Definition at line 34 of file bsp.c.

```
{
    char *res;

    res = (char *)(((unsigned int)heap_end + 4095) & ~4095);
    heap_end = res + sz;
    return res;
}
```

4.5.2 Variable Documentation

4.5.2.1 char_end[]

4.6 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/bsp.c File Reference

```
#include <errno.h>
#include <arch.h>
#include <core/debug.h>
#include "cons.h"
#include "sparc_conf.h"
```

Functions

- int [pok_bsp_init](#) (void)
- void * [pok_bsp_mem_alloc](#) (size_t sz)

Variables

- char [_end](#) []

4.6.1 Detailed Description

Author

Fabien Chouteau

Definition in file [bsp.c](#).

4.6.2 Function Documentation

4.6.2.1 int pok_bsp_init (void)

Definition at line 32 of file [bsp.c](#).

```
{
    pok_cons_init ();
    return (POK_ERRNO_OK);
}
```

4.6.2.2 void* pok_bsp_mem_alloc (size_t sz)

Used for partition allocation. For SPARC support, all partitions are aligned on page size and all partition sizes have to be less than page size.

See Also[SPARC_PAGE_SIZE](#)

Definition at line 44 of file bsp.c.

```

{
    char *res;

    /* Aligned on page size */
    res = (char *)(((uint32_t)heap_end + SPARC_PAGE_SIZE)
        & ~ (SPARC_PAGE_SIZE - 1));
    heap_end = res + sz;
    return res;
}

```

4.6.3 Variable Documentation**4.6.3.1 char_end[]****4.7 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/bsp.c File Reference**

```

#include <errno.h>
#include <arch.h>
#include "cons.h"
#include "pm.h"
#include "pit.h"
#include "pic.h"

```

Functions

- [pok_ret_t pok_bsp_init \(void\)](#)
- [pok_ret_t pok_bsp_irq_acknowledge \(uint8_t irq\)](#)
- [pok_ret_t pok_bsp_irq_register \(uint8_t irq, void\(*handler\)\(void\)\)](#)
- [void * pok_bsp_mem_alloc \(size_t size\)](#)
- [pok_ret_t pok_bsp_time_init \(\)](#)

4.7.1 Function Documentation**4.7.1.1 pok_ret_t pok_bsp_init (void)**

Definition at line 26 of file bsp.c.

```

{
    pok_cons_init ();
    pok_pm_init ();
    pok_pic_init ();

    return (POK_ERRNO_OK);
}

```

4.7.1.2 pok_ret_t pok_bsp_irq_acknowledge (uint8_t irq)

Definition at line 35 of file bsp.c.

```
{
    pok_pic_eoi (irq);
    return (POK_ERRNO_OK);
}
```

4.7.1.3 pok_ret_t pok_bsp_irq_register (uint8_t irq, void(*) (void) handler)

Definition at line 42 of file bsp.c.

```
{
    pok_pic_unmask (irq);
    pok_arch_event_register (32 + irq, handler);
    return (POK_ERRNO_OK);
}
```

4.7.1.4 void* pok_bsp_mem_alloc (size_t size)

Allocate data. At this time, the pok_pm_sbrk function only increment size each time we allocate memory and was not designed to free previously allocated memory.

Definition at line 58 of file bsp.c.

```
{
    return ((void *)pok_pm_sbrk(size));
}
```

4.7.1.5 pok_ret_t pok_bsp_time_init ()

Init time. *freq* is the frequency of the oscillator.

Definition at line 67 of file bsp.c.

```
{
    return (pok_x86_qemu_timer_init ());
}
```

4.8 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.c File Reference

```
#include <errno.h>
#include "ioports.h"
#include <libc.h>
#include <core/debug.h>
#include <core/cons.h>
#include "cons.h"
```

Functions

- int [pok_cons_init](#) (void)

4.8.1 Function Documentation

4.8.1.1 int pok_cons_init(void)

Definition at line 68 of file cons.c.

```
{  
    return 0;  
}
```

4.9 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.c File Reference

Leon3 UART driver.

```
#include <errno.h>  
#include "ioports.h"  
#include <libc.h>  
#include <core/debug.h>  
#include <core/cons.h>  
#include "cons.h"
```

Functions

- int [pok_cons_init](#)(void)

4.9.1 Detailed Description

Leon3 UART driver.

Author

Fabien Chouteau

Definition in file [cons.c](#).

4.9.2 Function Documentation

4.9.2.1 int pok_cons_init(void)

Definition at line 62 of file cons.c.

```
{  
    return 0;  
}
```

4.10 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/cons.c File Reference

```
#include <errno.h>
#include <arch/x86/ioports.h>
#include <libc.h>
#include <core/debug.h>
#include <core/cons.h>
#include "cons.h"
```

Functions

- [int pok_cons_init](#) (void)

4.10.1 Function Documentation

4.10.1.1 int pok_cons_init (void)

Definition at line 235 of file cons.c.

```
{
    return 0;
}
```

4.11 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/cons.c File Reference

4.12 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/cons.h File Reference

Functions

- [int pok_cons_init](#) (void)

4.12.1 Function Documentation

4.12.1.1 int pok_cons_init (void)

Definition at line 68 of file cons.c.

```
{
    return 0;
}
```

4.13 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/cons.h File Reference

Macros

- `#define UART_STATUS_DR 0x00000001`
- `#define UART_STATUS_TSE 0x00000002`

- `#define UART_STATUS_THE 0x00000004`
- `#define UART_STATUS_BR 0x00000008`
- `#define UART_STATUS_OE 0x00000010`
- `#define UART_STATUS_PE 0x00000020`
- `#define UART_STATUS_FE 0x00000040`
- `#define UART_STATUS_ERR 0x00000078`
- `#define UART_CTRL_RE 0x00000001`
- `#define UART_CTRL_TE 0x00000002`
- `#define UART_CTRL_RI 0x00000004`
- `#define UART_CTRL_TI 0x00000008`
- `#define UART_CTRL_PS 0x00000010`
- `#define UART_CTRL_PE 0x00000020`
- `#define UART_CTRL_FL 0x00000040`
- `#define UART_CTRL_LB 0x00000080`
- `#define UART_DATA_OFFSET 0x0`
- `#define UART_STAT_OFFSET 0x4`
- `#define UART_CTRL_OFFSET 0x8`
- `#define UART_SCALER_OFFSET 0xc`
- `#define UART1 0x80000100`

Functions

- `int pok_cons_init (void)`

4.13.1 Detailed Description

Author

Fabien Chouteau

Definition in file [cons.h](#).

4.13.2 Macro Definition Documentation

4.13.2.1 `#define UART1 0x80000100`

First Leon3 UART IO adress

Definition at line 48 of file [cons.h](#).

4.13.2.2 `#define UART_CTRL_FL 0x00000040`

Flow control enable

Definition at line 40 of file [cons.h](#).

4.13.2.3 `#define UART_CTRL_LB 0x00000080`

Loop Back enable

Definition at line 41 of file [cons.h](#).

4.13.2.4 #define UART_CTRL_OFFSET 0x8

Control register offset

Definition at line 45 of file cons.h.

4.13.2.5 #define UART_CTRL_PE 0x00000020

Parity enable

Definition at line 39 of file cons.h.

4.13.2.6 #define UART_CTRL_PS 0x00000010

Parity select

Definition at line 38 of file cons.h.

4.13.2.7 #define UART_CTRL_RE 0x00000001

Receiver enable

Definition at line 34 of file cons.h.

4.13.2.8 #define UART_CTRL_RI 0x00000004

Receiver interrupt enable

Definition at line 36 of file cons.h.

4.13.2.9 #define UART_CTRL_TE 0x00000002

Transmitter enable

Definition at line 35 of file cons.h.

4.13.2.10 #define UART_CTRL_TI 0x00000008

Transmitter interrupt enable

Definition at line 37 of file cons.h.

4.13.2.11 #define UART_DATA_OFFSET 0x0

Data register offset

Definition at line 43 of file cons.h.

4.13.2.12 #define UART_SCALER_OFFSET 0xc

Scaler register offset

Definition at line 46 of file cons.h.

4.13.2.13 `#define UART_STAT_OFFSET 0x4`

Stat register offset

Definition at line 44 of file cons.h.

4.13.2.14 `#define UART_STATUS_BR 0x00000008`

Break Error

Definition at line 28 of file cons.h.

4.13.2.15 `#define UART_STATUS_DR 0x00000001`

Data Ready

Definition at line 25 of file cons.h.

4.13.2.16 `#define UART_STATUS_ERR 0x00000078`

Error Mask

Definition at line 32 of file cons.h.

4.13.2.17 `#define UART_STATUS_FE 0x00000040`

RX Framing Error

Definition at line 31 of file cons.h.

4.13.2.18 `#define UART_STATUS_OE 0x00000010`

RX Overrun Error

Definition at line 29 of file cons.h.

4.13.2.19 `#define UART_STATUS_PE 0x00000020`

RX Parity Error

Definition at line 30 of file cons.h.

4.13.2.20 `#define UART_STATUS_THE 0x00000004`

TX Hold Register Empty

Definition at line 27 of file cons.h.

4.13.2.21 `#define UART_STATUS_TSE 0x00000002`

TX Send Register Empty

Definition at line 26 of file cons.h.

4.13.3 Function Documentation

4.13.3.1 int pok_cons_init (void)

Definition at line 68 of file cons.c.

```

{
    return 0;
}

```

4.14 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/cons.h File Reference

Functions

- int [pok_cons_init](#) (void)

4.14.1 Function Documentation

4.14.1.1 int pok_cons_init (void)

Definition at line 68 of file cons.c.

```

{
    return 0;
}

```

4.15 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cons.h File Reference

4.16 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/prep/ioports.h File Reference

Macros

- #define [POK_PREP_IOBASE](#) 0x80000000
- #define [outb](#)(port, data) *((volatile unsigned char *) (POK_PREP_IOBASE + port)) = data
- #define [inb](#)(port) *((volatile unsigned char *) (POK_PREP_IOBASE + port))

4.16.1 Macro Definition Documentation

4.16.1.1 #define inb(port) *((volatile unsigned char *) (POK_PREP_IOBASE + port))

Definition at line 26 of file ioports.h.

4.16.1.2 #define outb(port, data) *((volatile unsigned char *) (POK_PREP_IOBASE + port)) = data

Definition at line 23 of file ioports.h.

4.16.1.3 #define POK_PREP_IOBASE 0x80000000

Definition at line 21 of file ioports.h.

4.17 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/ioports.h File Reference

SPARC "ioports". Use MMU bypass to access IO memory.

```
#include <types.h>
#include "sparc_conf.h"
```

4.17.1 Detailed Description

SPARC "ioports". Use MMU bypass to access IO memory.

Author

Fabien Chouteau

Definition in file [ioports.h](#).

4.18 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/ioports.h File Reference

```
#include <core/syscall.h>
```

Macros

- #define [outb](#)(port, data)
- #define [inb](#)(port)
- #define [outl](#)(port, data)
- #define [inl](#)(port)

4.18.1 Macro Definition Documentation

4.18.1.1 #define inb(port)

Value:

```
{
  unsigned char res;
  asm volatile ("inb %w1,%0"
               : "=a" (res)
               : "d" (port));
  res;
})
```

Definition at line 28 of file ioports.h.

4.18.1.2 #define inl(port)

Value:

```

({
  unsigned int res;
  asm volatile ("inl %w1,%0"
               : "=a" (res)
               : "d" (port));
  res;
})

```

Definition at line 42 of file ioports.h.

4.18.1.3 #define outb(port, data)

Value:

```

asm volatile ("outb %b0,%w1"
             :
             : "a" (data), "d" (port))

```

Definition at line 23 of file ioports.h.

4.18.1.4 #define outl(port, data)

Value:

```

asm volatile ("outl %0,%w1"
             :
             : "a" (data), "d" (port))

```

Definition at line 37 of file ioports.h.

4.19 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/space.c File Reference

```

#include <types.h>
#include <errno.h>
#include <libc.h>
#include <bsp.h>
#include <core/sched.h>
#include <arch.h>
#include "thread.h"
#include "msr.h"

```

Data Structures

- struct [pok_space](#)
- struct [ppc_pte_t](#)

Macros

- #define [KERNEL_STACK_SIZE](#) 8192
- #define [PPC_SR_KP](#) (1 << 29)

- `#define PPC_SR_Ks (1 << 30)`
- `#define PPC_SR_T (1 << 31)`
- `#define PPC_PTE_V (1 << 31)`
- `#define POK_PAGE_SIZE (1 << 12)`
- `#define POK_PAGE_MASK (~(POK_PAGE_SIZE - 1))`
- `#define PPC_PTE_H (1 << 6)`
- `#define PPC_PTE_R (1 << 8)`
- `#define PPC_PTE_C (1 << 7)`
- `#define PPC_PTE_W (1 << 6)`
- `#define PPC_PTE_I (1 << 5)`
- `#define PPC_PTE_M (1 << 4)`
- `#define PPC_PTE_G (1 << 3)`
- `#define PPC_PTE_PP_NO 0`
- `#define PPC_PTE_PP_RO 1`
- `#define PPC_PTE_PP_RW 2`

Functions

- `pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)`
- `pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)`
- `uint32_t pok_space_base_vaddr (uint32_t addr)`
- `void pok_arch_rfi (void)`
- `uint32_t pok_space_context_create (uint8_t partition_id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)`
- `void pok_arch_space_init (void)`
- `void pok_arch_isi_int (uint32_t pc, uint32_t msr)`
- `void pok_arch_dsi_int (uint32_t dar, uint32_t dsisr)`

Variables

- `struct pok_space spaces [POK_CONFIG_NB_PARTITIONS]`

4.19.1 Macro Definition Documentation

4.19.1.1 `#define KERNEL_STACK_SIZE 8192`

Definition at line 28 of file space.c.

4.19.1.2 `#define POK_PAGE_MASK (~(POK_PAGE_SIZE - 1))`

Definition at line 120 of file space.c.

4.19.1.3 `#define POK_PAGE_SIZE (1 << 12)`

Definition at line 119 of file space.c.

4.19.1.4 `#define PPC_PTE_C (1 << 7)`

Definition at line 123 of file space.c.

4.19.1.5 `#define PPC_PTE_G (1 << 3)`

Definition at line 127 of file space.c.

4.19.1.6 `#define PPC_PTE_H (1 << 6)`

Definition at line 121 of file space.c.

4.19.1.7 `#define PPC_PTE_I (1 << 5)`

Definition at line 125 of file space.c.

4.19.1.8 `#define PPC_PTE_M (1 << 4)`

Definition at line 126 of file space.c.

4.19.1.9 `#define PPC_PTE_PP_NO 0`

Definition at line 128 of file space.c.

4.19.1.10 `#define PPC_PTE_PP_RO 1`

Definition at line 129 of file space.c.

4.19.1.11 `#define PPC_PTE_PP_RW 2`

Definition at line 130 of file space.c.

4.19.1.12 `#define PPC_PTE_R (1 << 8)`

Definition at line 122 of file space.c.

4.19.1.13 `#define PPC_PTE_V (1 << 31)`

Definition at line 118 of file space.c.

4.19.1.14 `#define PPC_PTE_W (1 << 6)`

Definition at line 124 of file space.c.

4.19.1.15 `#define PPC_SR_KP (1 << 29)`

Definition at line 30 of file space.c.

4.19.1.16 `#define PPC_SR_Ks (1 << 30)`

Definition at line 31 of file space.c.

4.19.1.17 #define PPC_SR.T (1 << 31)

Definition at line 32 of file space.c.

4.19.2 Function Documentation

4.19.2.1 void pok_arch_dsi_int (uint32_t dar, uint32_t dsisr)

Definition at line 203 of file space.c.

```
{
#ifdef POK_NEEDS_DEBUG
    printf("dsi_int: part=%d, dar=%x dsisr=%x\n",
           pok_current_partition, dar, dsisr);
#endif

    if (dsisr & (1 << 30))
    {
        /* Page fault */
        if (dar < spaces[pok_current_partition].size)
        {
            uint32_t vaddr = dar & POK_PAGE_MASK;
            uint32_t v;
            v = (spaces[pok_current_partition].phys_base + vaddr)
            & POK_PAGE_MASK;
            v |= PPC_PTE_R | PPC_PTE_C | PPC_PTE_PP_RW
            ;
            pok_insert_pte (pok_current_partition, vaddr, v);
            return;
        }
    }
#ifdef POK_NEEDS_DEBUG
    printf("[DEBUG] Infinite loop in pok_arch_dsi_int\n");
#endif
    while (1)
        ;
}
```

4.19.2.2 void pok_arch_isi_int (uint32_t pc, uint32_t msr)

Definition at line 168 of file space.c.

```
{
#ifdef POK_NEEDS_DEBUG
    printf("isi_int: part=%d, pc=%x msr=%x\n",
           pok_current_partition, pc, msr);
#endif

    if (msr & ((1 << 28) | (1 << 27)))
    {
        printf (" Bad access\n");
    }
#endif

    if (msr & (1 << 30))
    {
        /* Page fault */
        if (pc < spaces[pok_current_partition].size)
        {
            uint32_t vaddr = pc & POK_PAGE_MASK;
            uint32_t v;
            v = (spaces[pok_current_partition].phys_base + vaddr)
            & POK_PAGE_MASK;
            v |= PPC_PTE_R | PPC_PTE_C | PPC_PTE_PP_RW
            ;
            pok_insert_pte (pok_current_partition, vaddr, v);
            return;
        }
    }
#ifdef POK_NEEDS_DEBUG
    printf("[DEBUG] Infinite loop in pok_arch_isi_int\n");
#endif
    while (1)
        ;
}
```


4.19.2.3 void pok_arch_rfi (void)

4.19.2.4 void pok_arch_space_init (void)

Definition at line 132 of file space.c.

```
{
    uint32_t sdr1;

    pt_base = 0;
    pt_mask = 0x3ff;

    sdr1 = pt_base | (pt_mask >> 10);
    asm volatile ("mtsdr1 %0" : : "r"(sdr1));
}
```

4.19.2.5 pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)

Definition at line 42 of file space.c.

```
{
#ifdef POK_NEEDS_DEBUG
    printf ("pok_create_space: %d: %x %x\n", partition_id, addr, size);
#endif
    spaces[partition_id].phys_base = addr;
    spaces[partition_id].size = size;

    return (POK_ERRNO_OK);
}
```

4.19.2.6 uint32_t pok_space_base_vaddr (uint32_t addr)

Definition at line 64 of file space.c.

```
{
    (void) addr;
    return (0);
}
```

4.19.2.7 uint32_t pok_space_context_create (uint8_t partition_id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)

Create a new context in the given space

Definition at line 72 of file space.c.

```
{
    context_t* ctx;
    volatile_context_t* vctx;
    char* stack_addr;
    (void) partition_id;

    stack_addr = pok_bsp_mem_alloc (KERNEL_STACK_SIZE
    );

    vctx = (volatile_context_t *)
        (stack_addr + KERNEL_STACK_SIZE - sizeof (
            volatile_context_t));
    ctx = (context_t *) ((char *)vctx - sizeof (context_t) + 8);

    memset (ctx, 0, sizeof (*ctx));
    memset (vctx, 0, sizeof (*vctx));

    vctx->r3 = arg1;
    vctx->r4 = arg2;
    vctx->sp = stack_rel - 12;
    vctx->srr0 = entry_rel;
    vctx->srr1 = MSR_EE | MSR_IP | MSR_DR | MSR_IR
}
```

```

    | MSR_PR;
    ctx->lr      = (uint32_t) pok_arch_rfi;

    ctx->sp      = (uint32_t) &vctx->sp;

#ifdef POK_NEEDS_DEBUG
    printf ("space_context_create %d: entry=%x stack=%x arg1=%x arg2=%x ksp=%x\n"
           ,
           partition_id, entry_rel, stack_rel, arg1, arg2, &vctx->sp);
#endif

    return (uint32_t)ctx;
}

```

4.19.2.8 `pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)`

Switch from one space to another

Definition at line 55 of file space.c.

```

{
    (void) old_partition_id;
    /* printf ("space_switch %u -> %u\n", old_partition_id, new_partition_id); */
    asm volatile ("mtsr %0,%1" : : "r"(0), "r"(PPC_SR_KP |
        new_partition_id));
    return (POK_ERRNO_OK);
}

```

4.19.3 Variable Documentation

4.19.3.1 `struct pok_space spaces[POK_CONFIG_NB_PARTITIONS]`

Definition at line 40 of file space.c.

4.20 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.c File Reference

Memory management in SPARC.

```

#include <types.h>
#include <errno.h>
#include <libc.h>
#include <bsp.h>
#include <core/sched.h>
#include <arch.h>
#include "thread.h"
#include "space.h"
#include "sparc_conf.h"
#include "context_offset.h"
#include "ioports.h"

```

Data Structures

- struct [pok_space](#)

Macros

- #define [KERNEL_STACK_SIZE](#) 8192

Functions

- `ptd mmu_contexts_tab[POK_CONFIG_NB_PARTITIONS] __attribute__((aligned(POK_CONFIG_NB_PARTITIONS * sizeof(ptd))))`
- `ptd mmu_level1_tab[POK_CONFIG_NB_PARTITIONS][MM_LVL1_ENTRIES_NBR] __attribute__((aligned(MM_LVL1_ENTRIES_NBR * sizeof(ptd))))`
- `pte mmu_level2_tab[POK_CONFIG_NB_PARTITIONS][MM_LVL2_ENTRIES_NBR] __attribute__((aligned(MM_LVL2_ENTRIES_NBR * sizeof(pte))))`
- `pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)`
- `pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)`
- `uint32_t pok_space_base_vaddr (uint32_t addr)`
- `uint32_t pok_space_context_create (uint8_t id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)`
- `void pok_arch_space_init (void)`

Variables

- `struct pok_space spaces [POK_CONFIG_NB_PARTITIONS]`

4.20.1 Detailed Description

Memory management in SPARC.

Author

Fabien Chouteau

Definition in file [space.c](#).

4.20.2 Macro Definition Documentation

4.20.2.1 #define KERNEL_STACK_SIZE 8192

Definition at line 36 of file [space.c](#).

4.20.3 Function Documentation

4.20.3.1 `ptd mmu_contexts_tab [POK_CONFIG_NB_PARTITIONS] __attribute__((aligned(POK_CONFIG_NB_PARTITIONS * sizeof(ptd))))`

MMU contexts table. (cf SPARC V8 Manual, page 243)

4.20.3.2 `ptd mmu_level1_tab [POK_CONFIG_NB_PARTITIONS][MM_LVL1_ENTRIES_NBR] __attribute__((aligned(MM_LVL1_ENTRIES_NBR * sizeof(ptd))))`

MMU level 1 table. (cf SPARC V8 Manual, page 243)

4.20.3.3 `pte mmu_level2_tab [POK_CONFIG_NB_PARTITIONS][MM_LVL2_ENTRIES_NBR] __attribute__((aligned(MM_LVL2_ENTRIES_NBR * sizeof(pte))))`

MMU level 2 table. (cf SPARC V8 Manual, page 243)

4.20.3.4 void pok_arch_space_init (void)

Initilize MMU tables.

Definition at line 159 of file space.c.

```

{
    int i = 0;
    int j = 0;

    for (i = 0; i < POK_CONFIG_NB_PARTITIONS; i++)
        mmu_contexts_tab[i] = MM_ET_INVALID;

    for (i = 0; i < POK_CONFIG_NB_PARTITIONS; i++)
    {
        mmu_contexts_tab[i] = (unsigned int)&(mmu_level1_tab[i]) >> 4 | MM_ET_PTD
        ;

        for (j = 0; j < MM_LVL1_ENTRIES_NBR; j++)
        {
            mmu_level1_tab[i][j] = MM_ET_INVALID;
        }

        for (j = 0; j < MM_LVL2_ENTRIES_NBR; j++)
        {
            mmu_level2_tab[i][j] = MM_ET_INVALID;
        }
    }

    unsigned int kernel_pte = mm_index1(SPARC_RAM_ADDR);

    /* the kernel code is always mapped on a 16Mb page (including all partitions)
       */
    for (i = 0; i < POK_CONFIG_NB_PARTITIONS; i++)
    {
        mmu_level1_tab[i][kernel_pte] = (SPARC_RAM_ADDR >> 4) |
            MM_ACC_S_RWE | MM_ET_PTE | MM_CACHEABLE;
    }

    /* set context table */
    asm volatile ("sta %0, [%1] %2;\n"
        : /* no output */
        : "r" (((unsigned int) mmu_contexts_tab) >> 4), "r" (
            MMU_CTXTBL_PTR), "i" (ASI_M_MMUREGS)
        : "memory");

    /* set context number */
    pok_space_switch(0, 0);

    asm volatile ("flush\n"
        "sta %0, [%1] %2;\n"
        : /* no output */
        : "r" (0x1), "r" (MMU_CTRL_REG), "i" (ASI_M_MMUREGS)
        )
        : "memory");

#ifdef POK_NEEDS_DEBUG
    printf ("pok_arch_space_init: ctx nbr=%u\n", POK_CONFIG_NB_PARTITIONS);
#endif
}

```

4.20.3.5 pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)

Set ptd and pte for the given partition.

Definition at line 70 of file space.c.

```

{
    if (size > SPARC_PARTITION_SIZE)
    {
#ifdef POK_NEEDS_DEBUG
        printf ("pok_create_space: %d: partition size too big 0x%x\n", partition_id
            , size);
#endif
        return (POK_ERRNO_SIZE);
    }

    if ((addr & (SPARC_PAGE_SIZE - 1)) != 0)

```

```

{
#ifdef POK_NEEDS_DEBUG
    printf ("pok_create_space: %d: partition address not aligned 0x%x\n",
           partition_id, addr);
#endif
    return (POK_ERRNO_EFAULT);
}
#ifdef POK_NEEDS_DEBUG
    printf ("pok_create_space: %d: %x %x\n", partition_id, addr, size);
#endif
spaces[partition_id].phys_base = addr;
spaces[partition_id].size = size;

unsigned int as_ptd = mm_index1 (SPARC_PARTITION_BASE_VADDR
                                );
unsigned int as_pte = mm_index2 (SPARC_PARTITION_BASE_VADDR
                                );

mmu_level1_tab[partition_id][as_ptd] = ((unsigned int) &(mmu_level2_tab[
    partition_id]) >> 4) | MM_ET_PTD;
/* partition as */
mmu_level2_tab[partition_id][as_pte] = ((addr) >> 4) | MM_ACC_RWE |
    MM_ET_PTE | MM_CACHEABLE;

return (POK_ERRNO_OK);
}

```

4.20.3.6 uint32_t pok_space_base_vaddr (uint32_t addr)

Returns

partition virtual base address.

See Also

[SPARC_PARTITION_BASE_VADDR](#)

Definition at line 125 of file space.c.

```

{
    (void) addr;
    return (SPARC_PARTITION_BASE_VADDR);
}

```

4.20.3.7 uint32_t pok_space_context_create (uint8_t id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)

Initilize thread stack.

Definition at line 134 of file space.c.

```

{
    uint32_t ctx = spaces[id].phys_base + stack_rel - 0x40
        ;

    outw(ctx - RESTORE_CNT_OFFSET, 1); /* Only 1 register
        window needed */
    outw(ctx - PC_OFFSET, entry_rel);
    outw(ctx - NPC_OFFSET, entry_rel + 4);
    outw(ctx - IO_OFFSET, arg1);
    outw(ctx - I1_OFFSET, arg2);

#ifdef POK_NEEDS_DEBUG
    printf ("space_context_create part_id=%d entry=%x stack=%x arg1=%x arg2=%x\n"
           ,
           id, entry_rel, stack_rel, arg1, arg2);
#endif

    return SPARC_PARTITION_BASE_VADDR + stack_rel -
        0x40;
}

```

4.20.3.8 pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)

Switch address space in MMU (context register).

Definition at line 108 of file space.c.

```
{
  (void) old_partition_id;

  asm volatile ("flush\n"
               "sta %0, [%1] %2;\n"
               : /* no output */
               : "r" (new_partition_id), "r" (MMU_CTX_REG), "i" (
                 ASI_M_MMUREGS)
               : "memory");
  return (POK_ERRNO_OK);
}
```

4.20.4 Variable Documentation

4.20.4.1 struct pok_space spaces[POK_CONFIG_NB_PARTITIONS]

Definition at line 47 of file space.c.

4.21 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/space.c File Reference

Handle address spaces.

```
#include <types.h>
#include <errno.h>
#include <libc.h>
#include <bsp.h>
#include <arch.h>
#include <arch/x86/interrupt.h>
#include "gdt.h"
#include "tss.h"
#include "space.h"
```

Macros

- #define [KERNEL_STACK_SIZE](#) 8192

Functions

- [pok_ret_t pok_create_space](#) (uint8_t partition_id, uint32_t addr, uint32_t size)
- [pok_ret_t pok_space_switch](#) (uint8_t old_partition_id, uint8_t new_partition_id)
- [uint32_t pok_space_base_vaddr](#) (uint32_t addr)
- [uint32_t pok_space_context_create](#) (uint8_t partition_id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)
- void [pok_dispatch_space](#) (uint8_t partition_id, uint32_t user_pc, uint32_t user_sp, uint32_t kernel_sp, uint32_t arg1, uint32_t arg2)

4.21.1 Detailed Description

Handle address spaces.

Author

Julian Pidancet

Definition in file [space.c](#).**4.21.2 Macro Definition Documentation****4.21.2.1 #define KERNEL_STACK_SIZE 8192**

Definition at line 38 of file space.c.

4.21.3 Function Documentation**4.21.3.1 pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)**

Set ptd and pte for the given partition.

Definition at line 40 of file space.c.

```

{
    gdt_set_segment (GDT_PARTITION_CODE_SEGMENT
                    (partition_id),
                    addr, size, GDTE_CODE, 3);

    gdt_set_segment (GDT_PARTITION_DATA_SEGMENT
                    (partition_id),
                    addr, size, GDTE_DATA, 3);

    return (POK_ERRNO_OK);
}

```

4.21.3.2 void pok_dispatch_space (uint8_t partition_id, uint32_t user_pc, uint32_t user_sp, uint32_t kernel_sp, uint32_t arg1, uint32_t arg2)

Definition at line 114 of file space.c.

```

{
    interrupt_frame    ctx;
    uint32_t           code_sel;
    uint32_t           data_sel;
    uint32_t           sp;

    code_sel = GDT_BUILD_SELECTOR (GDT_PARTITION_CODE_SEGMENT
                                   (partition_id), 0, 3);
    data_sel = GDT_BUILD_SELECTOR (GDT_PARTITION_DATA_SEGMENT
                                   (partition_id), 0, 3);

    sp = (uint32_t) &ctx;

    memset (&ctx, 0, sizeof (interrupt_frame));

    pok_arch_preempt_disable ();

    ctx.es = ctx.ds = ctx.ss = data_sel;

    ctx.__esp = (uint32_t) (&ctx.error); /* for pusha */
    ctx.eip   = user_pc;
    ctx.eax   = arg1;
    ctx.ebx   = arg2;
    ctx.cs    = code_sel;
    ctx.eflags = 1 << 9;
    ctx.esp   = user_sp;

    tss_set_esp0 (kernel_sp);

    asm ("mov %0, %%esp      \n"
         "pop %%es          \n"
         "pop %%ds          \n"
         "popa              \n");
}

```

```

    "addl $4, %%esp      \n"
    "iret               \n"
    :
    : "m" (sp)
    );
}

```

4.21.3.3 uint32_t pok_space_base_vaddr (uint32_t addr)

Returns

partition virtual base adress.

See Also

[SPARC_PARTITION_BASE_VADDR](#)

Definition at line 64 of file space.c.

```

{
    (void) addr;
    return (0);
}

```

4.21.3.4 uint32_t pok_space_context_create (uint8_t partition_id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)

Create a new context in the given space

Initilize thread stack.

Definition at line 70 of file space.c.

```

{
    char*          stack_addr;
    space_context_t* sp;

    stack_addr = pok_bsp_mem_alloc (KERNEL_STACK_SIZE
    );

    sp = (space_context_t *)
    (stack_addr + KERNEL_STACK_SIZE - 4 - sizeof (
    space_context_t));

    memset (sp, 0, sizeof (space_context_t));

    sp->ctx.__esp = (uint32_t) (&sp->ctx.eip); /* for
    pusha */
    sp->ctx.eip = (uint32_t) pok_dispatch_space
    ;
    sp->ctx.cs = GDT_CORE_CODE_SEGMENT << 3;
    sp->ctx.eflags = 1 << 9;

    sp->arg1 = arg1;
    sp->arg2 = arg2;
    sp->kernel_sp = (uint32_t) sp;
    sp->user_sp = stack_rel;
    sp->user_pc = entry_rel;
    sp->partition_id = partition_id;

    return ((uint32_t) sp);
}

```

4.21.3.5 pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)

Switch from one space to another

Switch address space in MMU (context register).

Definition at line 53 of file space.c.


```

{
    gdt_disable (GDT_PARTITION_CODE_SEGMENT
                (old_partition_id));
    gdt_disable (GDT_PARTITION_DATA_SEGMENT
                (old_partition_id));
    gdt_enable (GDT_PARTITION_CODE_SEGMENT (
                new_partition_id));
    gdt_enable (GDT_PARTITION_DATA_SEGMENT (
                new_partition_id));

    return (POK_ERRNO_OK);
}

```

4.22 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/syscalls.c File Reference

```

#include <errno.h>
#include <core/debug.h>
#include <core/syscall.h>
#include <core/partition.h>
#include <types.h>
#include <libc.h>

```

Functions

- void `pok_arch_sc_int` (`uint32_t num`, `uint32_t arg1`, `uint32_t arg2`, `uint32_t arg3`, `uint32_t arg4`, `uint32_t arg5`)

4.22.1 Function Documentation

4.22.1.1 void `pok_arch_sc_int` (`uint32_t num`, `uint32_t arg1`, `uint32_t arg2`, `uint32_t arg3`, `uint32_t arg4`, `uint32_t arg5`)

Definition at line 26 of file `syscalls.c`.

```

{
    uint8_t          part_id;

    pok_syscall_info_t  syscall_info;
    pok_syscall_args_t  syscall_args;
    pok_syscall_id_t    syscall_id;

    part_id = pok_current_partition;

    /* prepare syscall_info */
    syscall_info.partition = part_id;
    syscall_info.base_addr = pok_partitions[part_id].base_addr;
    syscall_info.thread    = POK_SCHED_CURRENT_THREAD;

    /* prepare syscall_args */
    syscall_args.arg1 = arg1;
    syscall_args.arg2 = arg2;
    syscall_args.arg3 = arg3;
    syscall_args.arg4 = arg4;
    syscall_args.arg5 = arg5;

    syscall_args.nargs = 5;

    /* prepare syscall_id */
    syscall_id = (pok_syscall_id_t) num;

    if (POK_CHECK_PTR_IN_PARTITION(syscall_info.partition, &
        syscall_args) != 0)
    {
        /*
         * Perform the syscall baby !
         */
        pok_core_syscall (syscall_id, &syscall_args, &syscall_info
        );
    }
}

```

```

}
}

```

4.23 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.c File Reference

Syscalls management in SPARC.

```

#include <errno.h>
#include <core/debug.h>
#include <core/syscall.h>
#include <core/partition.h>
#include <types.h>
#include <libc.h>
#include "thread.h"
#include "context_offset.h"
#include "traps.h"
#include "arch.h"

```

Functions

- void [pok_arch_sc_int](#) (void)
- void [pok_syscalls_init](#) (void)

4.23.1 Detailed Description

Syscalls management in SPARC.

Author

Fabien Chouteau

Definition in file [syscalls.c](#).

4.23.2 Function Documentation

4.23.2.1 void [pok_arch_sc_int](#) (void)

Syscalls handler.

Definition at line 39 of file [syscalls.c](#).

```

{
    uint8_t *ctx = (uint8_t *)pok_arch_sp;
    uint32_t num = *(uint32_t *)((char *)ctx - IO_OFFSET);
};
uint8_t      part_id;
pok_syscall_info_t  syscall_info;
pok_ret_t      syscall_ret;
pok_syscall_args_t  syscall_args;
pok_syscall_id_t  syscall_id;

part_id = pok_current_partition;

/* prepare syscall_info */
syscall_info.partition = part_id;
syscall_info.base_addr = pok_partitions[part_id].base_addr;
syscall_info.thread    = POK_SCHED_CURRENT_THREAD;

```

```

/* prepare syscall_args */
syscall_args.arg1 = *(uint32_t *) (ctx - I1_OFFSET);
syscall_args.arg2 = *(uint32_t *) (ctx - I2_OFFSET);
syscall_args.arg3 = *(uint32_t *) (ctx - I3_OFFSET);
syscall_args.arg4 = *(uint32_t *) (ctx - I4_OFFSET);
syscall_args.arg5 = *(uint32_t *) (ctx - I5_OFFSET);

syscall_args.nargs = 5;

/* prepare syscall_id */
syscall_id = (pok_syscall_id_t) num;

/*
 * No pointer check needed, syscall_args is allocated in kernel stack.
 */
syscall_ret = pok_core_syscall (syscall_id, &syscall_args, &
    syscall_info);

*(uint32_t *) (ctx - I0_OFFSET) = syscall_ret;
*(uint32_t *) (ctx - PC_OFFSET) += 4; // skip "ta"
    instruction
*(uint32_t *) (ctx - NPC_OFFSET) += 4;
}

```

4.23.2.2 void pok_syscalls_init (void)

Syscalls initialization. Just register the syscall handler.

Definition at line 83 of file syscalls.c.

```

{
    pok_arch_event_register (SPARC_TRAP_SYSCALL_BASE
        + 0x2, pok_arch_sc_int);
}

```

4.24 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/syscalls.c File Reference

This file implement system-calls for x86 platform.

```

#include <errno.h>
#include <core/debug.h>
#include <core/partition.h>
#include <core/syscall.h>
#include "gdt.h"
#include "event.h"

```

Macros

- #define PARTITION_ID(cs) (((cs >> 3) - 4) / 2)

Functions

- INTERRUPT_HANDLER_syscall (syscall_gate)
- pok_ret_t pok_syscall_init ()

4.24.1 Detailed Description

This file implement system-calls for x86 platform.

Author

Julian Pidancet
 Julien Delange
 Laurent Lec

Definition in file [syscalls.c](#).

4.24.2 Macro Definition Documentation**4.24.2.1 #define PARTITION_ID(cs)(((cs >> 3) - 4) / 2)**

Definition at line 33 of file [syscalls.c](#).

4.24.3 Function Documentation**4.24.3.1 INTERRUPT_HANDLER_syscall (syscall_gate)**

Definition at line 35 of file [syscalls.c](#).

```
{
    pok_syscall_info_t    syscall_info;
    pok_ret_t             syscall_ret;
    pok_syscall_args_t*  syscall_args;
    pok_syscall_id_t     syscall_id;

    /*
     * Give informations about syscalls: which partition, thread
     * initiates the syscall, the base addr of the partition and so on.
     */
    syscall_info.partition = PARTITION_ID (frame->cs);
    syscall_info.base_addr = pok_partitions[syscall_info.partition]
        .base_addr;
    syscall_info.thread    = POK_SCHED_CURRENT_THREAD;

    syscall_args = (pok_syscall_args_t*) (frame->ebx +
        syscall_info.base_addr);

    /*
     * Get the syscall id in the eax register
     */
    syscall_id = (pok_syscall_id_t) frame->eax;

    /*
     * Check that pointer is inside the adress space
     */
    if (POK_CHECK_PTR_IN_PARTITION(syscall_info.partition, syscall_args)
        == 0)
    {
        syscall_ret = POK_ERRNO_EINVAL;
    }
    else
    {
        /*
         * Perform the syscall baby !
         */
        syscall_ret = pok_core_syscall (syscall_id, syscall_args,
            &syscall_info);
    }

    /*
     * And finally, put the return value in eax register
     */
    asm ("movl %0, %%eax \n"
        :
        : "m" (syscall_ret));
}
```

4.24.3.2 pok_ret_t pok_syscall_init ()

Init system calls

Definition at line 83 of file syscalls.c.

```
{
    pok_idt_set_gate (POK_SYSCALL_INT_NUMBER
                    ,
                    GDT_CORE_CODE_SEGMENT << 3,
                    (uint32_t) syscall_gate,
                    IDTE_INTERRUPT,
                    3);
    return (POK_ERRNO_OK);
}
```

4.25 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.c File Reference

```
#include <bsp.h>
#include <libc.h>
#include <errno.h>
#include <core/thread.h>
#include "thread.h"
```

4.26 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.c File Reference

Thread management.

```
#include <bsp.h>
#include <libc.h>
#include <errno.h>
#include <core/thread.h>
#include "thread.h"
#include "context_offset.h"
#include "ioports.h"
```

4.26.1 Detailed Description

Thread management.

Author

Fabien Chouteau

Definition in file [thread.c](#).

4.27 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.c File Reference

```
#include <bsp.h>
#include <libc.h>
#include <errno.h>
#include <core/thread.h>
#include "gdt.h"
#include "thread.h"
```

4.28 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/thread.c File Reference

Thread management in kernel.

```
#include <types.h>
#include <arch.h>
#include <core/debug.h>
#include <core/error.h>
#include <core/thread.h>
#include <core/sched.h>
#include <core/partition.h>
#include <core/time.h>
#include <core/instrumentation.h>
```

4.28.1 Detailed Description

Thread management in kernel.

Author

Julien Delange

Date

2008-2009

Definition in file [thread.c](#).

4.29 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/thread.h File Reference

```
#include <types.h>
```

Data Structures

- struct [context_t](#)
- struct [volatile_context_t](#)

Functions

- [uint32_t pok_context_create](#) ([uint32_t](#) id, [uint32_t](#) stack_size, [uint32_t](#) entry)
- void [pok_context_switch](#) ([uint32_t](#) *old_sp, [uint32_t](#) new_sp)

4.29.1 Function Documentation

4.29.1.1 [uint32_t pok_context_create](#) ([uint32_t](#) id, [uint32_t](#) stack_size, [uint32_t](#) entry)

4.29.1.2 void pok_context_switch (uint32_t * old_sp, uint32_t new_sp)

4.30 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/thread.h File Reference

```
#include <types.h>
```

Functions

- [uint32_t pok_context_create](#) (uint32_t id, uint32_t stack_size, uint32_t entry)
- void [pok_context_switch](#) (uint32_t *old_sp, uint32_t new_sp)

Variables

- [uint32_t pok_arch_sp](#)

4.30.1 Detailed Description

Author

Fabien Chouteau

Definition in file [thread.h](#).

4.30.2 Function Documentation

4.30.2.1 [uint32_t pok_context.create](#) (uint32_t id, uint32_t stack_size, uint32_t entry)

4.30.2.2 void [pok_context.switch](#) (uint32_t * old_sp, uint32_t new_sp)

4.30.3 Variable Documentation

4.30.3.1 [uint32_t pok_arch.sp](#)

4.31 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/thread.h File Reference

```
#include <types.h>
```

Data Structures

- struct [context_t](#)
- struct [start_context_t](#)

Functions

- [uint32_t pok_context.create](#) (uint32_t id, uint32_t stack_size, uint32_t entry)
- void [pok_context.switch](#) (uint32_t *old_sp, uint32_t new_sp)
- void [pok_context.reset](#) (uint32_t stack_size, uint32_t stack_addr)

4.31.1 Function Documentation

4.31.1.1 `uint32_t pok_context_create (uint32_t id, uint32_t stack_size, uint32_t entry)`

4.31.1.2 `void pok_context_reset (uint32_t stack_size, uint32_t stack_addr)`

4.31.1.3 `void pok_context_switch (uint32_t * old_sp, uint32_t new_sp)`

4.32 `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/thread.h` File Reference

4.33 `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/ppc/timer.c` File Reference

```
#include <errno.h>
#include <bsp.h>
#include <core/time.h>
#include <core/sched.h>
```

Macros

- `#define BUS_FREQ (100 * 1000000U)`
- `#define FREQ_DIV 40`

Functions

- `void pok_arch_decr_int (void)`
- `pok_ret_t pok_bsp_time_init ()`

4.33.1 Macro Definition Documentation

4.33.1.1 `#define BUS_FREQ (100 * 1000000U)`

Definition at line 24 of file timer.c.

4.33.1.2 `#define FREQ_DIV 40`

Definition at line 26 of file timer.c.

4.33.2 Function Documentation

4.33.2.1 `void pok_arch_decr_int (void)`

Definition at line 73 of file timer.c.

```
{
    int err;

    do
    {
        err = pok_arch_set_decr();
    }
```



```
    pok_tick_counter += FREQ_DIV;
} while (err != POK_ERRNO_OK);

pok_sched ();
}
```

4.33.2.2 pok_ret_t pok_bsp_time_init ()

Definition at line 87 of file timer.c.

```
{
    time_inter = (BUS_FREQ * FREQ_DIV) / POK_TIMER_FREQUENCY;
    time_last = get_ppc_tb ();
    pok_arch_set_decr ();

    return (POK_ERRNO_OK);
}
```

4.34 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/timer.c File Reference

Leon3 timer management.

```
#include <errno.h>
#include <bsp.h>
#include <core/time.h>
#include <core/sched.h>
#include <arch.h>
#include "ioports.h"
#include "sparc_conf.h"
#include "timer.h"
#include "irq.h"
#include "../traps.h"
```

Functions

- void [timer_isr](#) (void)
- [pok_ret_t pok_bsp_time_init](#) ()

4.34.1 Detailed Description

Leon3 timer management.

Author

Fabien Chouteau

Definition in file [timer.c](#).

4.34.2 Function Documentation

4.34.2.1 pok_ret_t pok_bsp_time_init ()

Initialize the timer, register the ISR and unmask the interrupt.

See Also

[unmask_irq\(irq_nbr\)](#)

Definition at line 50 of file timer.c.

```
{
    outw(TIMER1 + TIMER_SCALER_OFFSET, 1);
    outw(TIMER1 + TIMER_SCAL_RELOAD_OFFSET, 1);

    outw(TIMER1 + TIMER_CNT_VAL_OFFSET, 1);
    outw(TIMER1 + TIMER_RELOAD_OFFSET, SPARC_PROC_FREQ
        / POK_TIMER_FREQUENCY);
    outw(TIMER1 + TIMER_CTRL_OFFSET,
        TIMER_CTRL_EN | TIMER_CTRL_RS | TIMER_CTRL_LD
        | TIMER_CTRL_IE);

    pok_arch_event_register(SPARC_TRAP_IRQ_BASE
        + TIMER_IRQ, timer_isr);
    unmask_irq(TIMER_IRQ);
    return (POK_ERRNO_OK);
}
```

4.34.2.2 void timer_isr (void)

Timer interrupt subroutine.

See Also

[ack_irq\(irq_nbr\)](#)

Definition at line 39 of file timer.c.

```
{
    ack_irq(TIMER_IRQ);
    CLOCK_HANDLER
    return;
}
```

4.35 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/context_offset.h File Reference

Define registers offset in context stack.

Macros

- #define [L0_OFFSET](#) 0x00
- #define [L1_OFFSET](#) 0x04
- #define [L2_OFFSET](#) 0x08
- #define [L3_OFFSET](#) 0x0c
- #define [L4_OFFSET](#) 0x10
- #define [L5_OFFSET](#) 0x14
- #define [L6_OFFSET](#) 0x18
- #define [L7_OFFSET](#) 0x1c
- #define [I0_OFFSET](#) 0x20
- #define [I1_OFFSET](#) 0x24
- #define [I2_OFFSET](#) 0x28
- #define [I3_OFFSET](#) 0x2c
- #define [I4_OFFSET](#) 0x30
- #define [I5_OFFSET](#) 0x34

- `#define I6_OFFSET 0x38`
- `#define I7_OFFSET 0x3c`
- `#define G7_OFFSET 0x04`
- `#define G6_OFFSET 0x08`
- `#define G5_OFFSET 0x0c`
- `#define G4_OFFSET 0x10`
- `#define G3_OFFSET 0x14`
- `#define G2_OFFSET 0x18`
- `#define G1_OFFSET 0x1c`
- `#define WIM_OFFSET 0x40`
- `#define PSR_OFFSET 0x44`
- `#define Y_OFFSET 0x48`
- `#define PC_OFFSET 0x4c`
- `#define NPC_OFFSET 0x50`
- `#define RESTORE_CNT_OFFSET 0x54`

4.35.1 Detailed Description

Define registers offset in context stack.

Author

Fabien Chouteau

Definition in file [context_offset.h](#).

4.35.2 Macro Definition Documentation

4.35.2.1 `#define G1_OFFSET 0x1c`

Definition at line 57 of file [context_offset.h](#).

4.35.2.2 `#define G2_OFFSET 0x18`

Definition at line 56 of file [context_offset.h](#).

4.35.2.3 `#define G3_OFFSET 0x14`

Definition at line 55 of file [context_offset.h](#).

4.35.2.4 `#define G4_OFFSET 0x10`

Definition at line 54 of file [context_offset.h](#).

4.35.2.5 `#define G5_OFFSET 0x0c`

Definition at line 53 of file [context_offset.h](#).

4.35.2.6 `#define G6_OFFSET 0x08`

Definition at line 52 of file [context_offset.h](#).

4.35.2.7 `#define G7_OFFSET 0x04`

Definition at line 51 of file `context_offset.h`.

4.35.2.8 `#define I0_OFFSET 0x20`

Definition at line 38 of file `context_offset.h`.

4.35.2.9 `#define I1_OFFSET 0x24`

Definition at line 39 of file `context_offset.h`.

4.35.2.10 `#define I2_OFFSET 0x28`

Definition at line 40 of file `context_offset.h`.

4.35.2.11 `#define I3_OFFSET 0x2c`

Definition at line 41 of file `context_offset.h`.

4.35.2.12 `#define I4_OFFSET 0x30`

Definition at line 42 of file `context_offset.h`.

4.35.2.13 `#define I5_OFFSET 0x34`

Definition at line 43 of file `context_offset.h`.

4.35.2.14 `#define I6_OFFSET 0x38`

Definition at line 44 of file `context_offset.h`.

4.35.2.15 `#define I7_OFFSET 0x3c`

Definition at line 45 of file `context_offset.h`.

4.35.2.16 `#define L0_OFFSET 0x00`

Definition at line 30 of file `context_offset.h`.

4.35.2.17 `#define L1_OFFSET 0x04`

Definition at line 31 of file `context_offset.h`.

4.35.2.18 `#define L2_OFFSET 0x08`

Definition at line 32 of file `context_offset.h`.

4.35.2.19 `#define L3_OFFSET 0x0c`

Definition at line 33 of file context_offset.h.

4.35.2.20 `#define L4_OFFSET 0x10`

Definition at line 34 of file context_offset.h.

4.35.2.21 `#define L5_OFFSET 0x14`

Definition at line 35 of file context_offset.h.

4.35.2.22 `#define L6_OFFSET 0x18`

Definition at line 36 of file context_offset.h.

4.35.2.23 `#define L7_OFFSET 0x1c`

Definition at line 37 of file context_offset.h.

4.35.2.24 `#define NPC_OFFSET 0x50`

Definition at line 66 of file context_offset.h.

4.35.2.25 `#define PC_OFFSET 0x4c`

Definition at line 65 of file context_offset.h.

4.35.2.26 `#define PSR_OFFSET 0x44`

Definition at line 63 of file context_offset.h.

4.35.2.27 `#define RESTORE_CNT_OFFSET 0x54`

Definition at line 67 of file context_offset.h.

4.35.2.28 `#define WIM_OFFSET 0x40`

Definition at line 62 of file context_offset.h.

4.35.2.29 `#define Y_OFFSET 0x48`

Definition at line 64 of file context_offset.h.

4.36 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/irq.h File Reference

Leon3 IRQ management.

```
#include "ioports.h"
```

Macros

- #define `IRQMP_BASE` 0x80000200
- #define `IRQMP_CLEAR_OFFSET` 0x10U
- #define `IRQMP_MASK0_OFFSET` 0x40U
- #define `unmask_irq`(irq_nbr)
- #define `ack_irq`(irq_nbr) outw(`IRQMP_BASE` + `IRQMP_CLEAR_OFFSET`, (1 << (irq_nbr)))

4.36.1 Detailed Description

Leon3 IRQ management.

Author

Fabien Chouteau

Definition in file [irq.h](#).

4.36.2 Macro Definition Documentation

4.36.2.1 #define `ack_irq(irq_nbr)` outw(`IRQMP_BASE` + `IRQMP_CLEAR_OFFSET`, (1 << (irq_nbr)))

Acknowledge the given irq.

Definition at line 44 of file [irq.h](#).

4.36.2.2 #define `IRQMP_BASE` 0x80000200

Leon3 IRQMP IO adress

Definition at line 28 of file [irq.h](#).

4.36.2.3 #define `IRQMP_CLEAR_OFFSET` 0x10U

Clear register offset

Definition at line 30 of file [irq.h](#).

4.36.2.4 #define `IRQMP_MASK0_OFFSET` 0x40U

Mask register offset

Definition at line 31 of file [irq.h](#).

4.36.2.5 #define `unmask_irq(irq_nbr)`

Value:

```
outw(IRQMP_BASE + IRQMP_MASK0_OFFSET, \
      inb(IRQMP_BASE + \
          IRQMP_MASK0_OFFSET) | (1 << (irq_nbr)))
```

Unmask the given irq.

Definition at line 37 of file [irq.h](#).

4.37 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/sparc_conf.h File Reference

Define all constant values for a SPARC bsp.

Macros

- #define [SPARC_RAM_ADDR](#) 0x40000000
- #define [SPARC_PROC_FREQ](#) 50000000U
- #define [WINDOWS_NBR](#) 8
- #define [ASI_MMU_BYPASS](#) 0x1c /* not sparc v8 compliant */
- #define [SPARC_PAGE_SIZE](#) (256 * 1024)
- #define [SPARC_PARTITION_SIZE](#) [SPARC_PAGE_SIZE](#)
- #define [SPARC_PARTITION_BASE_VADDR](#) 0x0

4.37.1 Detailed Description

Define all constant values for a SPARC bsp.

Author

Fabien Chouteau

Definition in file [sparc_conf.h](#).

4.37.2 Macro Definition Documentation

4.37.2.1 #define [ASI_MMU_BYPASS](#) 0x1c /* not sparc v8 compliant */

Definition at line 32 of file [sparc_conf.h](#).

4.37.2.2 #define [SPARC_PAGE_SIZE](#) (256 * 1024)

Page size (256 Kbytes)

Definition at line 34 of file [sparc_conf.h](#).

4.37.2.3 #define [SPARC_PARTITION_BASE_VADDR](#) 0x0

Partition virtual base adress. Should always be 0x0

Definition at line 37 of file [sparc_conf.h](#).

4.37.2.4 #define [SPARC_PARTITION_SIZE](#) [SPARC_PAGE_SIZE](#)

Maximum partition size

Definition at line 35 of file [sparc_conf.h](#).

4.37.2.5 #define [SPARC_PROC_FREQ](#) 50000000U

Processor frequency (in Hz)

Definition at line 28 of file [sparc_conf.h](#).

4.37.2.6 #define SPARC_RAM_ADDR 0x40000000

RAM base adress

Definition at line 26 of file sparc_conf.h.

4.37.2.7 #define WINDOWS_NBR 8

Number of register windows

Definition at line 30 of file sparc_conf.h.

4.38 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/leon3/timer.h File Reference

Macros

- #define [TIMER_CTRL_EN](#) (1 << 0)
- #define [TIMER_CTRL_RS](#) (1 << 1)
- #define [TIMER_CTRL_LD](#) (1 << 2)
- #define [TIMER_CTRL_IE](#) (1 << 3)
- #define [TIMER_CTRL_IP](#) (1 << 4)
- #define [TIMER_CTRL_CH](#) (1 << 5)
- #define [TIMER_CTRL_DH](#) (1 << 6)
- #define [TIMER_SCALER_OFFSET](#) 0x00
- #define [TIMER_SCAL_RELOAD_OFFSET](#) 0x04
- #define [TIMER_CNT_VAL_OFFSET](#) 0x10
- #define [TIMER_RELOAD_OFFSET](#) 0x14
- #define [TIMER_CTRL_OFFSET](#) 0x18
- #define [TIMER_IRQ](#) 0x8U
- #define [TIMER1](#) 0x80000300

4.38.1 Detailed Description

Author

Fabien Chouteau

Definition in file [timer.h](#).

4.38.2 Macro Definition Documentation

4.38.2.1 #define TIMER1 0x80000300

first Leon3 TIMER IO adress

Definition at line 42 of file timer.h.

4.38.2.2 #define TIMER_CNT_VAL_OFFSET 0x10

Counter value register offset

Definition at line 36 of file timer.h.

4.38.2.3 #define TIMER_CTRL_CH (1 << 5)

Chain

Definition at line 30 of file timer.h.

4.38.2.4 #define TIMER_CTRL_DH (1 << 6)

Debug Halt

Definition at line 31 of file timer.h.

4.38.2.5 #define TIMER_CTRL_EN (1 << 0)

Enable

Definition at line 25 of file timer.h.

4.38.2.6 #define TIMER_CTRL_IE (1 << 3)

Interrupt enable

Definition at line 28 of file timer.h.

4.38.2.7 #define TIMER_CTRL_IP (1 << 4)

Interrupt Pending

Definition at line 29 of file timer.h.

4.38.2.8 #define TIMER_CTRL_LD (1 << 2)

Load

Definition at line 27 of file timer.h.

4.38.2.9 #define TIMER_CTRL_OFFSET 0x18

Control register offset

Definition at line 38 of file timer.h.

4.38.2.10 #define TIMER_CTRL_RS (1 << 1)

Restart

Definition at line 26 of file timer.h.

4.38.2.11 #define TIMER_IRQ 0x8U

Definition at line 40 of file timer.h.

4.38.2.12 #define TIMER_RELOAD_OFFSET 0x14

Counter reload register offset

Definition at line 37 of file timer.h.

4.38.2.13 #define TIMER_SCAL_RELOAD_OFFSET 0x04

Scaler reload register offset

Definition at line 34 of file timer.h.

4.38.2.14 #define TIMER_SCALER_OFFSET 0x00

Scaler value register offset

Definition at line 33 of file timer.h.

4.39 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/psr.h File Reference

Processor State Register utils.

Macros

- #define [PSR_ET](#) 0x20
- #define [PSR_PS](#) 0x40
- #define [PSR_S](#) 0x80
- #define [PSR_CWP_MASK](#) 0x1F
- #define [PSR_PIL](#)(pil) (((pil) & 0xF) << 8)

4.39.1 Detailed Description

Processor State Register utils.

Author

Fabien Chouteau

Definition in file [psr.h](#).

4.39.2 Macro Definition Documentation

4.39.2.1 #define PSR_CWP_MASK 0x1F

Current Window Pointer Mask

Definition at line 29 of file psr.h.

4.39.2.2 #define PSR_ET 0x20

enable traps

Definition at line 26 of file psr.h.

4.39.2.3 #define PSR_PIL(pil) (((pil) & 0xF) << 8)

Proc Interrupt Level

Definition at line 30 of file psr.h.

4.39.2.4 #define PSR_PS 0x40

previous supervisor

Definition at line 27 of file psr.h.

4.39.2.5 #define PSR_S 0x80

supervisor

Definition at line 28 of file psr.h.

4.40 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/space.h File Reference

```
#include <types.h>
```

Macros

- #define [LEON_CTX_NBR](#) 256

PTD/PTE ET field

(cf *SPARC V8 Manual*, page 247)

- #define [MM_ET_INVALID](#) 0x0
- #define [MM_ET_PTD](#) 0x1
- #define [MM_ET_PTE](#) 0x2

PTE ACC field

Acces permissions. (cf *SPARC V8 Manual*, page 248)

- #define [MM_ACC_R](#) (0x0 << 2)
- #define [MM_ACC_RW](#) (0x1 << 2)
- #define [MM_ACC_RE](#) (0x2 << 2)
- #define [MM_ACC_RWE](#) (0x3 << 2)
- #define [MM_ACC_E](#) (0x4 << 2)
- #define [MM_ACC_R_S_RW](#) (0x5 << 2)
- #define [MM_ACC_S_RE](#) (0x6 << 2)
- #define [MM_ACC_S_RWE](#) (0x7 << 2)

PTE misc fields

(cf *SPARC V8 Manual*, page 248)

- #define [MM_CACHEABLE](#) (1 << 7)
- #define [MM_MODIFIED](#) (1 << 6)
- #define [MM_REFERENCED](#) (1 << 5)

MMU levels utils

- `#define MM_LVL1_ENTRIES_NBR 256`
- `#define MM_LVL1_PAGE_SIZE (64 * 64 * 4 * 1024)`
- `#define mm_index1(addr) (((addr) >> 24) & 0xFF)`
- `#define MM_LVL2_ENTRIES_NBR 64`
- `#define MM_LVL2_PAGE_SIZE (64 * 4 * 1024)`
- `#define mm_index2(addr) (((addr) >> 18) & 0x3F)`
- `#define MM_LVL3_ENTRIES_NBR 64`
- `#define MM_LVL3_PAGE_SIZE (4 * 1024)`
- `#define mm_index3(addr) (((addr) >> 12) & 0x3F)`

MMU ASI and registers

- `#define ASI_M_MMUREGS 0x19 /* not sparc v8 compliant */`
- `#define MMU_CTRL_REG 0x00000000`
- `#define MMU_CTXTBL_PTR 0x00000100`
- `#define MMU_CTX_REG 0x00000200`
- `#define MMU_FAULT_STATUS 0x00000300`
- `#define MMU_FAULT_ADDR 0x00000400`

Typedefs

- `typedef uint32_t pte`
- `typedef uint32_t ptd`

Functions

- `void pok_arch_space_init (void)`

4.40.1 Detailed Description

Author

Fabien Chouteau

Definition in file [space.h](#).

4.40.2 Macro Definition Documentation

4.40.2.1 `#define ASI_M_MMUREGS 0x19 /* not sparc v8 compliant */`

Definition at line 97 of file [space.h](#).

4.40.2.2 `#define LEON_CTX_NBR 256`

Maximum number of contexts

Definition at line 105 of file [space.h](#).

4.40.2.3 `#define MM_ACC_E (0x4 << 2)`

All Execute only

Definition at line 46 of file [space.h](#).

4.40.2.4 #define MM_ACC_R (0x0 << 2)

All Read only

Definition at line 42 of file space.h.

4.40.2.5 #define MM_ACC_R_S_RW (0x5 << 2)

User Read only, Supervisor Read Write

Definition at line 47 of file space.h.

4.40.2.6 #define MM_ACC_RE (0x2 << 2)

All Read Execute

Definition at line 44 of file space.h.

4.40.2.7 #define MM_ACC_RW (0x1 << 2)

All Read Write

Definition at line 43 of file space.h.

4.40.2.8 #define MM_ACC_RWE (0x3 << 2)

All Read Write Execute

Definition at line 45 of file space.h.

4.40.2.9 #define MM_ACC_S_RE (0x6 << 2)

Supervisor Read Write Execute

Definition at line 49 of file space.h.

4.40.2.10 #define MM_ACC_S_RWE (0x7 << 2)

Supervisor Read Execute

Definition at line 50 of file space.h.

4.40.2.11 #define MM_CACHEABLE (1 << 7)

Definition at line 58 of file space.h.

4.40.2.12 #define MM_ET_INVALID 0x0

Invalid

Definition at line 32 of file space.h.

4.40.2.13 `#define MM_ET_PTD 0x1`

Page Table Descriptor

Definition at line 33 of file space.h.

4.40.2.14 `#define MM_ET_PTE 0x2`

Page Table Entry

Definition at line 34 of file space.h.

4.40.2.15 `#define mm_index1(addr) (((addr) >> 24) & 0xFF)`

Compute the index in 1st level table for the given adress.

Definition at line 73 of file space.h.

4.40.2.16 `#define mm_index2(addr) (((addr) >> 18) & 0x3F)`

Compute the index in 2nd level table for the given adress.

Definition at line 81 of file space.h.

4.40.2.17 `#define mm_index3(addr) (((addr) >> 12) & 0x3F)`

Compute the index in 3rd level table for the given adress.

Definition at line 89 of file space.h.

4.40.2.18 `#define MM_LVL1_ENTRIES_NBR 256`

Number of entries in 1st level table

Definition at line 67 of file space.h.

4.40.2.19 `#define MM_LVL1_PAGE_SIZE (64 * 64 * 4 * 1024)`

16 MegaBytes

Definition at line 68 of file space.h.

4.40.2.20 `#define MM_LVL2_ENTRIES_NBR 64`

Number of entries in 2nd level table

Definition at line 75 of file space.h.

4.40.2.21 `#define MM_LVL2_PAGE_SIZE (64 * 4 * 1024)`

256 KiloBytes

Definition at line 76 of file space.h.

4.40.2.22 `#define MM_LVL3_ENTRIES_NBR 64`

Number of entries in 3rd level table

Definition at line 83 of file space.h.

4.40.2.23 `#define MM_LVL3_PAGE_SIZE (4 * 1024)`

4 KiloBytes

Definition at line 84 of file space.h.

4.40.2.24 `#define MM_MODIFIED (1 << 6)`

Definition at line 59 of file space.h.

4.40.2.25 `#define MM_REFERENCED (1 << 5)`

Definition at line 60 of file space.h.

4.40.2.26 `#define MMU_CTRL_REG 0x00000000`

Definition at line 98 of file space.h.

4.40.2.27 `#define MMU_CTX_REG 0x00000200`

Definition at line 100 of file space.h.

4.40.2.28 `#define MMU_CTXTBL_PTR 0x00000100`

Definition at line 99 of file space.h.

4.40.2.29 `#define MMU_FAULT_ADDR 0x00000400`

Definition at line 102 of file space.h.

4.40.2.30 `#define MMU_FAULT_STATUS 0x00000300`

Definition at line 101 of file space.h.

4.40.3 Typedef Documentation

4.40.3.1 `typedef uint32_t ptd`

Definition at line 108 of file space.h.

4.40.3.2 `typedef uint32_t pte`

Definition at line 107 of file space.h.

4.40.4 Function Documentation

4.40.4.1 void pok_arch_space_init (void)

Initilize MMU tables.

Definition at line 132 of file space.c.

```
{
    uint32_t sdr1;

    pt_base = 0;
    pt_mask = 0x3fff;

    sdr1 = pt_base | (pt_mask >> 10);
    asm volatile ("mtsdr1 %0" : : "r"(sdr1));
}
```

4.41 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/space.h File Reference

```
#include <types.h>
#include "thread.h"
```

Data Structures

- struct [space_context_t](#)

4.41.1 Detailed Description

Author

Julian Pidancet

Date

2008-2009

Definition in file [space.h](#).

4.42 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/syscalls.h File Reference

Functions

- void [pok_syscalls_init](#) (void)

4.42.1 Detailed Description

Author

Fabien Chouteau

Definition in file [syscalls.h](#).

4.42.2 Function Documentation

4.42.2.1 void pok_syscalls_init (void)

Syscalls initialization. Just register the syscall handler.

Definition at line 83 of file syscalls.c.

```
{
    pok_arch_event_register (SPARC_TRAP_SYSCALL_BASE
        + 0x2, pok_arch_sc_int);
}
```

4.43 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.c File Reference

Traps management.

```
#include <types.h>
#include <errno.h>
#include <libc.h>
#include <core/debug.h>
#include "thread.h"
#include "traps.h"
```

Functions

- [pok_ret_t traps_init](#) (void)
- void [trap_handler](#) (unsigned int pc, unsigned int npc, unsigned int psr, unsigned int trap_nb, unsigned int restore_counter, unsigned int stack_pointer)

Variables

- [sparc_traps_handler](#) [pok_sparc_isr](#) [256]

4.43.1 Detailed Description

Traps management.

Author

Fabien Chouteau

Definition in file [traps.c](#).

4.43.2 Function Documentation

4.43.2.1 void trap_handler (unsigned int pc, unsigned int npc, unsigned int psr, unsigned int trap_nb, unsigned int restore_counter, unsigned int stack_pointer)

Function called by interrupt pre-handler. Call the correct handler for the given trap number.

Parameters

<i>trap_nb</i>	The number of the current trap. (cf SPARC V8 Manual, page 76)
<i>stack_pointer</i>	Adress of the interrupted stack.

See Also[pok_arch_sp](#)

Definition at line 53 of file traps.c.

```

{
    (void)restore_counter;

    pok_arch_sp = stack_pointer;

    if (pok_sparc_isr[trap_nb] != NULL)
    {
        pok_sparc_isr[trap_nb]();
    }
    else
    {
#ifdef POK_NEEDS_DEBUG
        printf (" [KERNEL] [ERROR] Unhandled trap: 0x%x %%PSR=%x %%PC=%x %%nPC=%x
                %%sp=0x%x\n", trap_nb, psr, pc, npc, stack_pointer);
        printf("%%psr : impl:0x%x ver:%x nzvc:%u%u%u%u EC:%u EF:%u PIL:0x%x S:%u
                PS:%u ET:%u CWP:%u\n\r",
                (psr >> 28) & 0xF, (psr >> 24) & 0xF,
                (psr >> 23) & 0x1, (psr >> 22) & 0x1c, (psr >> 21) & 0x1, (psr >> 20
                ) & 0x1,
                (psr >> 23) & 0x1, (psr >> 12) & 0x1, (psr >> 8) & 0xF, (psr >> 7) &
                0x1, (psr >> 6) & 0x1,
                (psr >> 5) & 0x1, psr & 0xF);
#else
        (void)psr;
        (void)npc;
        (void)pc;
#endif
        POK_FATAL ("Unhandled trap");
    }
    return;
}

```

4.43.2.2 pok_ret_t traps_init (void)

Initialize ISR table.

See Also[pok_sparc_isr](#)

Definition at line 40 of file traps.c.

```

{
    memset((unsigned char *)pok_sparc_isr, 0x0, sizeof (
        pok_sparc_isr));
    return POK_ERRNO_OK;
}

```

4.43.3 Variable Documentation**4.43.3.1 sparc_traps_handler pok_sparc_isr[256]**

Interrupt subroutine table.

Definition at line 34 of file traps.c.

4.44 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/sparc/traps.h File Reference

```

#include <types.h>
#include <errno.h>

```

Macros

- `#define SPARC_TRAP_IRQ_BASE 0x10`
- `#define SPARC_TRAP_SYSCALL_BASE 0x80`

Typedefs

- `typedef void(* sparc_traps_handler)(void)`

Functions

- `pok_ret_t traps_init (void)`

Variables

- `sparc_traps_handler pok_sparc_isr [256]`

4.44.1 Detailed Description

Author

Fabien Chouteau

Definition in file [traps.h](#).

4.44.2 Macro Definition Documentation

4.44.2.1 `#define SPARC_TRAP_IRQ_BASE 0x10`

Definition at line 28 of file [traps.h](#).

4.44.2.2 `#define SPARC_TRAP_SYSCALL_BASE 0x80`

Definition at line 29 of file [traps.h](#).

4.44.3 Typedef Documentation

4.44.3.1 `typedef void(* sparc_traps_handler)(void)`

Definition at line 31 of file [traps.h](#).

4.44.4 Function Documentation

4.44.4.1 `pok_ret_t traps_init (void)`

Initialize ISR table.

See Also

[pok_sparc_isr](#)

Definition at line 40 of file traps.c.

```
{
    memset((unsigned char *)pok_sparc_isr, 0x0, sizeof (
        pok_sparc_isr));
    return POK_ERRNO_OK;
}
```

4.44.5 Variable Documentation**4.44.5.1 sparc_traps_handler pok_sparc_isr[256]**

Interrupt subroutine table.

Definition at line 34 of file traps.c.

4.45 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/event.c File Reference

```
#include <libc.h>
#include <types.h>
#include <errno.h>
#include <core/syscall.h>
#include "event.h"
#include "sysdesc.h"
```

Macros

- `#define IDT_SIZE 256`

Functions

- `pok_ret_t pok_event_init ()`
- `pok_ret_t pok_idt_init ()`
- `void pok_idt_set_gate (uint16_t index, uint16_t segsel, uint32_t offset, e_idte_type t, int dpl)`

Variables

- `idt_entry_t pok_idt [IDT_SIZE]`

4.45.1 Macro Definition Documentation**4.45.1.1 #define IDT_SIZE 256**

Definition at line 27 of file event.c.

4.45.2 Function Documentation

4.45.2.1 pok_ret_t pok_event_init ()

Definition at line 31 of file event.c.

```
{
    pok_idt_init ();

    #if defined (POK_NEEDS_DEBUG) || defined (POK_NEEDS_ERROR_HANDLING)
        pok_exception_init ();
    #endif

    pok_syscall_init ();

    return (POK_ERRNO_OK);
}
```

4.45.2.2 pok_ret_t pok_idt_init ()

Definition at line 44 of file event.c.

```
{
    sysdesc_t sysdesc;

    /* Clear table */
    memset(pok_idt, 0, sizeof (idt_entry_t) * IDT_SIZE);

    /* Load IDT */
    sysdesc.limit = sizeof (pok_idt);
    sysdesc.base = (uint32_t)pok_idt;

    asm ("lidt %0"
        :
        : "m" (sysdesc));

    return (POK_ERRNO_OK);
}
```

4.45.2.3 void pok_idt_set_gate (uint16_t index, uint16_t segsel, uint32_t offset, e_idte_type t, int dpl)

Definition at line 62 of file event.c.

```
{
    pok_idt[index].offset_low = (offset) & 0xFFFF;
    pok_idt[index].offset_high = (offset >> 16) & 0xFFFF;
    pok_idt[index].segsel = segsel;
    pok_idt[index].dpl = dpl;
    pok_idt[index].type = t;
    pok_idt[index].d = 1;
    pok_idt[index].res0 = 0; /* reserved */
    pok_idt[index].res1 = 0; /* reserved */
    pok_idt[index].present = 1;
}
```

4.45.3 Variable Documentation

4.45.3.1 idt_entry_t pok_idt[IDT_SIZE]

Definition at line 29 of file event.c.

4.46 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/event.h File Reference

```
#include <types.h>
#include <arch/x86/interrupt.h>
#include "gdt.h"
```

Data Structures

- struct [__attribute__](#)

Macros

- #define [EXCEPTION_DIVIDE_ERROR](#) 0
- #define [EXCEPTION_DEBUG](#) 1
- #define [EXCEPTION_NMI](#) 2
- #define [EXCEPTION_BREAKPOINT](#) 3
- #define [EXCEPTION_OVERFLOW](#) 4
- #define [EXCEPTION_BOUNDRange](#) 5
- #define [EXCEPTION_INVALIDOPCODE](#) 6
- #define [EXCEPTION_NOMATH_COPROC](#) 7
- #define [EXCEPTION_DOUBLEFAULT](#) 8
- #define [EXCEPTION_COPSEG_OVERRUN](#) 9
- #define [EXCEPTION_INVALID_TSS](#) 10
- #define [EXCEPTION_SEGMENT_NOT_PRESENT](#) 11
- #define [EXCEPTION_STACKSEG_FAULT](#) 12
- #define [EXCEPTION_GENERAL_PROTECTION](#) 13
- #define [EXCEPTION_PAGEFAULT](#) 14
- #define [EXCEPTION_RESERVED](#) 15
- #define [EXCEPTION_FPU_FAULT](#) 16
- #define [EXCEPTION_ALIGNMENT_CHECK](#) 17
- #define [EXCEPTION_MACHINE_CHECK](#) 18
- #define [EXCEPTION_SIMD_FAULT](#) 19

Typedefs

- typedef enum [e_idte_type](#) [e_idte_type](#)

Enumerations

- enum [e_idte_type](#) { [IDTE_TASK](#) = 5, [IDTE_INTERRUPT](#) = 6, [IDTE_TRAP](#) = 7 }

Functions

- void [pok_idt_set_gate](#) (uint16_t index, uint16_t segsel, uint32_t offset, [e_idte_type](#) t, int dpl)
- [pok_ret_t](#) [pok_idt_init](#) ()
- [pok_ret_t](#) [pok_exception_init](#) ()
- [pok_ret_t](#) [pok_event_init](#) ()
- [pok_ret_t](#) [pok_syscall_init](#) ()

4.46.1 Macro Definition Documentation

4.46.1.1 #define EXCEPTION_ALIGNMENT_CHECK 17

Definition at line 63 of file event.h.

4.46.1.2 #define EXCEPTION_BOUNDRange 5

Definition at line 51 of file event.h.

4.46.1.3 #define EXCEPTION_BREAKPOINT 3

Definition at line 49 of file event.h.

4.46.1.4 #define EXCEPTION_COPSEG_OVERRUN 9

Definition at line 55 of file event.h.

4.46.1.5 #define EXCEPTION_DEBUG 1

Definition at line 47 of file event.h.

4.46.1.6 #define EXCEPTION_DIVIDE_ERROR 0

Definition at line 46 of file event.h.

4.46.1.7 #define EXCEPTION_DOUBLEFAULT 8

Definition at line 54 of file event.h.

4.46.1.8 #define EXCEPTION_FPU_FAULT 16

Definition at line 62 of file event.h.

4.46.1.9 #define EXCEPTION_GENERAL_PROTECTION 13

Definition at line 59 of file event.h.

4.46.1.10 #define EXCEPTION_INVALID_TSS 10

Definition at line 56 of file event.h.

4.46.1.11 #define EXCEPTION_INVALIDOPCODE 6

Definition at line 52 of file event.h.

4.46.1.12 #define EXCEPTION_MACHINE_CHECK 18

Definition at line 64 of file event.h.

4.46.1.13 #define EXCEPTION_NMI 2

Definition at line 48 of file event.h.

4.46.1.14 #define EXCEPTION_NOMATH_COPROC 7

Definition at line 53 of file event.h.

4.46.1.15 #define EXCEPTION_OVERFLOW 4

Definition at line 50 of file event.h.

4.46.1.16 #define EXCEPTION_PAGEFAULT 14

Definition at line 60 of file event.h.

4.46.1.17 #define EXCEPTION_RESERVED 15

Definition at line 61 of file event.h.

4.46.1.18 #define EXCEPTION_SEGMENT_NOT_PRESENT 11

Definition at line 57 of file event.h.

4.46.1.19 #define EXCEPTION_SIMD_FAULT 19

Definition at line 65 of file event.h.

4.46.1.20 #define EXCEPTION_STACKSEG_FAULT 12

Definition at line 58 of file event.h.

4.46.2 Typedef Documentation

4.46.2.1 typedef enum e_idte_type e_idte_type

4.46.3 Enumeration Type Documentation

4.46.3.1 enum e_idte_type

Enumerator:

```
IDTE_TASK  
IDTE_INTERRUPT  
IDTE_TRAP
```

Definition at line 26 of file event.h.

```
{  
  IDTE_TASK = 5,  
  IDTE_INTERRUPT = 6,  
  IDTE_TRAP = 7  
} e_idte_type;
```


4.46.4 Function Documentation

4.46.4.1 pok_ret_t pok_event_init ()

Definition at line 31 of file event.c.

```
{
    pok_idt_init ();

    #if defined (POK_NEEDS_DEBUG) || defined (POK_NEEDS_ERROR_HANDLING)
        pok_exception_init ();
    #endif

    pok_syscall_init ();

    return (POK_ERRNO_OK);
}
```

4.46.4.2 pok_ret_t pok_exception_init ()

4.46.4.3 pok_ret_t pok_idt_init ()

Definition at line 44 of file event.c.

```
{
    sysdesc_t sysdesc;

    /* Clear table */
    memset(pok_idt, 0, sizeof (idt_entry_t) * IDT_SIZE);

    /* Load IDT */
    sysdesc.limit = sizeof (pok_idt);
    sysdesc.base = (uint32_t)pok_idt;

    asm ("lidt %0"
        :
        : "m" (sysdesc));

    return (POK_ERRNO_OK);
}
```

4.46.4.4 void pok_idt_set_gate (uint16_t index, uint16_t segsel, uint32_t offset, e_idte_type t, int dpl)

Definition at line 62 of file event.c.

```
{
    pok_idt[index].offset_low = (offset) & 0xFFFF;
    pok_idt[index].offset_high = (offset >> 16) & 0xFFFF;
    pok_idt[index].segsel = segsel;
    pok_idt[index].dpl = dpl;
    pok_idt[index].type = t;
    pok_idt[index].d = 1;
    pok_idt[index].res0 = 0; /* reserved */
    pok_idt[index].res1 = 0; /* reserved */
    pok_idt[index].present = 1;
}
```

4.46.4.5 pok_ret_t pok_syscall_init ()

Init system calls

Definition at line 83 of file syscalls.c.

```
{
    pok_idt_set_gate (POK_SYSCALL_INT_NUMBER
        ,
        GDT_CORE_CODE_SEGMENT << 3,
```

```

        (uint32_t) syscall_gate,
        IDTE_INTERRUPT,
        3);
    return (POK_ERRNO_OK);
}

```

4.47 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/exceptions.c File Reference

4.47.1 Detailed Description

Author

Julian Pidancet

Definition in file [exceptions.c](#).

4.48 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/gdt.c File Reference

```

#include <libc.h>
#include <types.h>
#include <errno.h>
#include "gdt.h"
#include "sysdesc.h"
#include "tss.h"

```

Macros

- `#define POK_CONFIG_NB_THREADS 0`
- `#define POK_CONFIG_NB_PARTITIONS 0`
- `#define GDT_SIZE 256`

Functions

- `pok_ret_t pok_gdt_init ()`
- `int pok_tss_init ()`
- `void tss_set_esp0 (uint32_t esp0)`
- `void gdt_set_segment (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)`
- `void gdt_set_system (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)`
- `void gdt_enable (uint16_t index)`
- `void gdt_disable (uint16_t index)`

Variables

- `gdt_entry_t pok_gdt [GDT_SIZE]`
- `tss_t pok_tss`

4.48.1 Macro Definition Documentation

4.48.1.1 #define GDT_SIZE 256

Definition at line 35 of file [gdt.c](#).

4.48.1.2 #define POK_CONFIG_NB_PARTITIONS 0

Definition at line 32 of file gdt.c.

4.48.1.3 #define POK_CONFIG_NB_THREADS 0

Definition at line 28 of file gdt.c.

4.48.2 Function Documentation

4.48.2.1 void gdt_disable (uint16_t index)

Definition at line 155 of file gdt.c.

```
{
    pok_gdt[index].present = 0;
}
```

4.48.2.2 void gdt_enable (uint16_t index)

Definition at line 150 of file gdt.c.

```
{
    pok_gdt[index].present = 1;
}
```

4.48.2.3 void gdt_set_segment (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)

Definition at line 99 of file gdt.c.

```
{
    if (limit > (1 << 20)) /* 4K granularity */
    {
        pok_gdt[index].limit_low = (limit >> 12) & 0xFFFF;
        pok_gdt[index].limit_high = (limit >> 28) & 0xFF;
        pok_gdt[index].granularity = 1;
    }
    else /* 1B granularity */
    {
        pok_gdt[index].limit_low = limit & 0xFFFF;
        pok_gdt[index].limit_high = (limit >> 16) & 0xFF;
        pok_gdt[index].granularity = 0;
    }

    pok_gdt[index].base_low = base_address & 0xFFFFFF;
    pok_gdt[index].base_high = (base_address >> 24) & 0xFF;

    pok_gdt[index].type = t & 0xF;
    pok_gdt[index].dpl = dpl & 0x3;

    pok_gdt[index].s = 1; /* Segment is data/code type */
    pok_gdt[index].present = 1;
    pok_gdt[index].available = 0;
    pok_gdt[index].op_size = 1; /* We work on 32 bits segments */
}
```

4.48.2.4 void gdt_set_system (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)

Definition at line 130 of file gdt.c.

```

{
    pok_gdt[index].limit_low = limit & 0xFFFF;
    pok_gdt[index].limit_high = (limit >> 16) & 0xFF;
    pok_gdt[index].base_low = base_address & 0xFFFFF;
    pok_gdt[index].base_high = (base_address >> 24) & 0xFF;

    pok_gdt[index].type = t & 0xF;
    pok_gdt[index].dpl = dpl & 0x3;

    pok_gdt[index].s = 0;           /* Segment is system type */
    pok_gdt[index].present = 1;
    pok_gdt[index].available = 0;
    pok_gdt[index].op_size = 0;
}

```

4.48.2.5 pok_ret_t pok_gdt_init ()

Definition at line 41 of file gdt.c.

```

{
    sysdesc_t sysdesc;

    /* Set null descriptor and clear table */
    memset(pok_gdt, 0, sizeof (gdt_entry_t) * GDT_SIZE);

    /* Set kernel descriptors */
    gdt_set_segment(GDT_CORE_CODE_SEGMENT, 0
        , ~0UL, GDTE_CODE, 0);
    gdt_set_segment(GDT_CORE_DATA_SEGMENT, 0
        , ~0UL, GDTE_DATA, 0);

    /* Load GDT */
    sysdesc.limit = sizeof (pok_gdt);
    sysdesc.base = (uint32_t)pok_gdt;

    asm ("lgdt %0"
        :
        : "m" (sysdesc));

    /* Reload Segments */
    asm ("ljmp %0, $1f \n"
        "1: \n"
        "mov %1, %%ax \n"
        "mov %%ax, %%ds \n"
        "mov %%ax, %%es \n"
        "mov %%ax, %%fs \n"
        "mov %%ax, %%gs \n"
        "mov %%ax, %%ss \n"
        :
        : "i" (GDT_CORE_CODE_SEGMENT << 3),
        "i" (GDT_CORE_DATA_SEGMENT << 3)
        : "eax");

    pok_tss_init();

    return (POK_ERRNO_OK);
}

```

4.48.2.6 int pok_tss_init ()

Definition at line 79 of file gdt.c.

```

{
    uint16_t sel = GDT_BUILD_SELECTOR(GDT_TSS_SEGMENT
        , 0, 0);

    memset(&pok_tss, 0, sizeof (tss_t));

    pok_tss.ss0 = GDT_BUILD_SELECTOR(
        GDT_CORE_DATA_SEGMENT, 0, 0);

    gdt_set_system(GDT_TSS_SEGMENT, (uint32_t
        )&pok_tss,
        sizeof (tss_t), GDTE_TSS, 0);

    asm ("ltr %0" : : "m" (sel));
    return (POK_ERRNO_OK);
}

```

4.48.2.7 void tss_set_esp0 (uint32_t esp0)

Definition at line 94 of file gdt.c.

```
{
    pok_tss.esp0 = esp0;
}
```

4.48.3 Variable Documentation

4.48.3.1 gdt_entry_t pok_gdt[GDT_SIZE]

Definition at line 37 of file gdt.c.

4.48.3.2 tss_t pok_tss

Definition at line 39 of file gdt.c.

4.49 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/gdt.h File Reference

```
#include <types.h>
```

Data Structures

- struct [__attribute__](#)

Macros

- #define [GDT_CORE_CODE_SEGMENT](#) 1
- #define [GDT_CORE_DATA_SEGMENT](#) 2
- #define [GDT_TSS_SEGMENT](#) 3
- #define [GDT_PARTITION_CODE_SEGMENT](#)(partition_id) (4 + 2 * partition_id)
- #define [GDT_PARTITION_DATA_SEGMENT](#)(partition_id) (4 + 2 * partition_id + 1)
- #define [GDT_BUILD_SELECTOR](#)(seg, local, rpl) ((seg << 3) | ((local & 0x1) << 2) | (rpl & 0x3))

Typedefs

- typedef enum [e_gdte_type](#) e_gdte_type

Enumerations

- enum [e_gdte_type](#) { [GDTE_CODE](#) = 0xB, [GDTE_DATA](#) = 0x3, [GDTE_TSS](#) = 0x9 }

Functions

- [pok_ret_t pok_gdt_init](#) ()
- int [pok_tss_init](#) ()
- void [tss_set_esp0](#) (uint32_t esp0)
- void [gdt_set_segment](#) (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)
- void [gdt_set_system](#) (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)

- void `gdt_enable` (`uint16_t` index)
- void `gdt_disable` (`uint16_t` index)

4.49.1 Macro Definition Documentation

4.49.1.1 `#define GDT_BUILD_SELECTOR(seg, local, rpl) ((seg << 3) | ((local & 0x1) << 2) | (rpl & 0x3))`

Definition at line 52 of file `gdt.h`.

4.49.1.2 `#define GDT_CORE_CODE_SEGMENT 1`

Definition at line 45 of file `gdt.h`.

4.49.1.3 `#define GDT_CORE_DATA_SEGMENT 2`

Definition at line 46 of file `gdt.h`.

4.49.1.4 `#define GDT_PARTITION_CODE_SEGMENT(partition_id) (4 + 2 * partition_id)`

Definition at line 49 of file `gdt.h`.

4.49.1.5 `#define GDT_PARTITION_DATA_SEGMENT(partition_id) (4 + 2 * partition_id + 1)`

Definition at line 50 of file `gdt.h`.

4.49.1.6 `#define GDT_TSS_SEGMENT 3`

Definition at line 47 of file `gdt.h`.

4.49.2 Typedef Documentation

4.49.2.1 `typedef enum e_gdte_type e_gdte_type`

4.49.3 Enumeration Type Documentation

4.49.3.1 `enum e_gdte_type`

Enumerator:

`GDTE_CODE`

`GDTE_DATA`

`GDTE_TSS`

Definition at line 23 of file `gdt.h`.

```
{
  GDTE_CODE = 0xB,
  GDTE_DATA = 0x3,
  GDTE_TSS = 0x9
} e_gdte_type;
```

4.49.4 Function Documentation

4.49.4.1 void gdt_disable (uint16_t index)

Definition at line 155 of file gdt.c.

```
{
    pok_gdt[index].present = 0;
}
```

4.49.4.2 void gdt_enable (uint16_t index)

Definition at line 150 of file gdt.c.

```
{
    pok_gdt[index].present = 1;
}
```

4.49.4.3 void gdt_set_segment (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)

Definition at line 99 of file gdt.c.

```
{
    if (limit > (1 << 20)) /* 4K granularity */
    {
        pok_gdt[index].limit_low = (limit >> 12) & 0xFFFF;
        pok_gdt[index].limit_high = (limit >> 28) & 0xF;
        pok_gdt[index].granularity = 1;
    }
    else /* 1B granularity */
    {
        pok_gdt[index].limit_low = limit & 0xFFFF;
        pok_gdt[index].limit_high = (limit >> 16) & 0xFF;
        pok_gdt[index].granularity = 0;
    }

    pok_gdt[index].base_low = base_address & 0xFFFFF;
    pok_gdt[index].base_high = (base_address >> 24) & 0xFF;

    pok_gdt[index].type = t & 0xF;
    pok_gdt[index].dpl = dpl & 0x3;

    pok_gdt[index].s = 1; /* Segment is data/code type */
    pok_gdt[index].present = 1;
    pok_gdt[index].available = 0;
    pok_gdt[index].op_size = 1; /* We work on 32 bits segments */
}
```

4.49.4.4 void gdt_set_system (uint16_t index, uint32_t base_address, uint32_t limit, e_gdte_type t, int dpl)

Definition at line 130 of file gdt.c.

```
{
    pok_gdt[index].limit_low = limit & 0xFFFF;
    pok_gdt[index].limit_high = (limit >> 16) & 0xFF;
    pok_gdt[index].base_low = base_address & 0xFFFFF;
    pok_gdt[index].base_high = (base_address >> 24) & 0xFF;

    pok_gdt[index].type = t & 0xF;
    pok_gdt[index].dpl = dpl & 0x3;

    pok_gdt[index].s = 0; /* Segment is system type */
    pok_gdt[index].present = 1;
    pok_gdt[index].available = 0;
    pok_gdt[index].op_size = 0;
}
```

4.49.4.5 pok_ret_t pok_gdt_init ()

Definition at line 41 of file gdt.c.

```
{
    sysdesc_t sysdesc;

    /* Set null descriptor and clear table */
    memset(pok_gdt, 0, sizeof (gdt_entry_t) * GDT_SIZE);

    /* Set kernel descriptors */
    gdt_set_segment(GDT_CORE_CODE_SEGMENT, 0
        , ~0UL, GDTE_CODE, 0);
    gdt_set_segment(GDT_CORE_DATA_SEGMENT, 0
        , ~0UL, GDTE_DATA, 0);

    /* Load GDT */
    sysdesc.limit = sizeof (pok_gdt);
    sysdesc.base = (uint32_t)pok_gdt;

    asm ("lgdt %0"
        :
        : "m" (sysdesc));

    /* Reload Segments */
    asm ("ljmp %0, $1f \n"
        "1: \n"
        "mov %1, %%ax \n"
        "mov %%ax, %%ds \n"
        "mov %%ax, %%es \n"
        "mov %%ax, %%fs \n"
        "mov %%ax, %%gs \n"
        "mov %%ax, %%ss \n"
        :
        : "i" (GDT_CORE_CODE_SEGMENT << 3),
        "i" (GDT_CORE_DATA_SEGMENT << 3)
        : "eax");

    pok_tss_init();

    return (POK_ERRNO_OK);
}
```

4.49.4.6 int pok_tss_init ()

Definition at line 79 of file gdt.c.

```
{
    uint16_t sel = GDT_BUILD_SELECTOR(GDT_TSS_SEGMENT
        , 0, 0);

    memset(&pok_tss, 0, sizeof (tss_t));

    pok_tss.ss0 = GDT_BUILD_SELECTOR(
        GDT_CORE_DATA_SEGMENT, 0, 0);

    gdt_set_system(GDT_TSS_SEGMENT, (uint32_t)
        )&pok_tss,
        sizeof (tss_t), GDTE_TSS, 0);

    asm ("ltr %0" : : "m"(sel));
    return (POK_ERRNO_OK);
}
```

4.49.4.7 void tss_set_esp0 (uint32_t esp0)

Definition at line 94 of file gdt.c.

```
{
    pok_tss.esp0 = esp0;
}
```


4.50 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/interrupt.c File Reference

```
#include <arch/x86/interrupt.h>
```

Functions

- void [update_tss](#) ([interrupt_frame](#) *frame)

4.50.1 Function Documentation

4.50.1.1 void update_tss ([interrupt_frame](#) * *frame*)

Definition at line 20 of file interrupt.c.

```
{  
    uint32\_t* esp0 = (&pok\_tss) + 1;  
    if ((frame->cs & 0xffff) != 0x8)  
    {  
        *esp0 = (uint32\_t)frame + sizeof (interrupt\_frame);  
    }  
}
```

4.51 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/pci.c File Reference

4.52 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/sysdesc.h File Reference

Data Structures

- struct [__attribute__](#)

4.53 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/tss.h File Reference

```
#include <types.h>
```

Data Structures

- struct [__attribute__](#)

4.54 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/types.h File Reference

Macros

- #define [__POK_X86_TYPES_H__](#)

Typedefs

- typedef unsigned short [uint8_t](#)
- typedef unsigned short [uint16_t](#)
- typedef unsigned int [uint32_t](#)
- typedef unsigned long long [uint64_t](#)
- typedef short [int8_t](#)
- typedef short [int16_t](#)
- typedef signed long long [int64_t](#)
- typedef unsigned int [size_t](#)
- typedef unsigned long int [intptr_t](#)

4.54.1 Macro Definition Documentation

4.54.1.1 #define `__POK_X86_TYPES_H__`

Definition at line 19 of file types.h.

4.54.2 Typedef Documentation

4.54.2.1 typedef short `int16_t`

Definition at line 27 of file types.h.

4.54.2.2 typedef signed long long `int64_t`

Definition at line 28 of file types.h.

4.54.2.3 typedef short `int8_t`

Definition at line 26 of file types.h.

4.54.2.4 typedef unsigned long int `intptr_t`

Definition at line 31 of file types.h.

4.54.2.5 typedef unsigned int `size_t`

Definition at line 30 of file types.h.

4.54.2.6 typedef unsigned short `uint16_t`

Definition at line 22 of file types.h.

4.54.2.7 typedef unsigned int `uint32_t`

Definition at line 23 of file types.h.

4.54.2.8 typedef unsigned long long `uint64_t`

Definition at line 24 of file types.h.

4.54.2.9 typedef unsigned short uint8_t

Definition at line 21 of file types.h.

4.55 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/types.h File Reference

Typedefs

- typedef unsigned char [uint8_t](#)
- typedef unsigned short [uint16_t](#)
- typedef unsigned int [uint32_t](#)
- typedef unsigned long long [uint64_t](#)
- typedef char [int8_t](#)
- typedef short [int16_t](#)
- typedef signed long long [int64_t](#)
- typedef unsigned int [size_t](#)
- typedef unsigned long int [intptr_t](#)

4.55.1 Typedef Documentation

4.55.1.1 typedef short int16_t

Definition at line 27 of file types.h.

4.55.1.2 typedef signed long long int64_t

Definition at line 28 of file types.h.

4.55.1.3 typedef char int8_t

Definition at line 26 of file types.h.

4.55.1.4 typedef unsigned long int intptr_t

Definition at line 31 of file types.h.

4.55.1.5 typedef unsigned int size_t

Definition at line 30 of file types.h.

4.55.1.6 typedef unsigned short uint16_t

Definition at line 22 of file types.h.

4.55.1.7 typedef unsigned int uint32_t

Definition at line 23 of file types.h.

4.55.1.8 typedef unsigned long long uint64_t

Definition at line 24 of file types.h.

4.55.1.9 typedef unsigned char uint8_t

Definition at line 21 of file types.h.

4.56 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/types.h File Reference

Macros

- #define [__POK_X86_TYPES_H__](#)

Typedefs

- typedef unsigned short [uint8_t](#)
- typedef unsigned short [uint16_t](#)
- typedef unsigned int [uint32_t](#)
- typedef unsigned long long [uint64_t](#)
- typedef short [int8_t](#)
- typedef short [int16_t](#)
- typedef signed long long [int64_t](#)
- typedef unsigned int [size_t](#)
- typedef unsigned long int [intptr_t](#)

4.56.1 Macro Definition Documentation

4.56.1.1 #define __POK_X86_TYPES_H__

Definition at line 19 of file types.h.

4.56.2 Typedef Documentation

4.56.2.1 typedef short int16_t

Definition at line 27 of file types.h.

4.56.2.2 typedef signed long long int64_t

Definition at line 28 of file types.h.

4.56.2.3 typedef short int8_t

Definition at line 26 of file types.h.

4.56.2.4 typedef unsigned long int intptr_t

Definition at line 31 of file types.h.

4.56.2.5 typedef unsigned int size_t

Definition at line 30 of file types.h.

4.56.2.6 typedef unsigned short uint16_t

Definition at line 22 of file types.h.

4.56.2.7 typedef unsigned int uint32_t

Definition at line 23 of file types.h.

4.56.2.8 typedef unsigned long long uint64_t

Definition at line 24 of file types.h.

4.56.2.9 typedef unsigned short uint8_t

Definition at line 21 of file types.h.

4.57 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/types.h File Reference

```
#include <arch/x86/types.h>
```

Macros

- #define [NULL](#) 0
- #define [FALSE](#) 0
- #define [TRUE](#) 1
- #define [bool_t](#) int
- #define [pok_bool_t](#) int

Typedefs

- typedef [uint32_t](#) [pok_port_size_t](#)
- typedef [uint8_t](#) [pok_port_direction_t](#)
- typedef [uint8_t](#) [pok_port_kind_t](#)
- typedef [uint8_t](#) [pok_queueing_discipline_t](#)
- typedef [uint8_t](#) [pok_port_id_t](#)
- typedef [uint8_t](#) [pok_size_t](#)
- typedef [uint8_t](#) [pok_range_t](#)
- typedef [uint8_t](#) [pok_buffer_id_t](#)
- typedef [uint8_t](#) [pok_blackboard_id_t](#)
- typedef [uint8_t](#) [pok_lockobj_id_t](#)
- typedef [uint8_t](#) [pok_sem_id_t](#)
- typedef [uint8_t](#) [pok_event_id_t](#)
- typedef [uint8_t](#) [pok_partition_id_t](#)
- typedef [uint16_t](#) [pok_sem_value_t](#)

4.57.1 Macro Definition Documentation

4.57.1.1 `#define bool_t int`

Definition at line 30 of file types.h.

4.57.1.2 `#define FALSE 0`

Definition at line 28 of file types.h.

4.57.1.3 `#define NULL 0`

Definition at line 27 of file types.h.

4.57.1.4 `#define pok_bool_t int`

Definition at line 31 of file types.h.

4.57.1.5 `#define TRUE 1`

Definition at line 29 of file types.h.

4.57.2 Typedef Documentation

4.57.2.1 `typedef uint8_t pok_blackboard_id_t`

Definition at line 41 of file types.h.

4.57.2.2 `typedef uint8_t pok_buffer_id_t`

Definition at line 40 of file types.h.

4.57.2.3 `typedef uint8_t pok_event_id_t`

Definition at line 44 of file types.h.

4.57.2.4 `typedef uint8_t pok_lockobj_id_t`

Definition at line 42 of file types.h.

4.57.2.5 `typedef uint8_t pok_partition_id_t`

Definition at line 45 of file types.h.

4.57.2.6 `typedef uint8_t pok_port_direction_t`

Definition at line 34 of file types.h.

4.57.2.7 typedef uint8_t pok_port_id_t

Definition at line 37 of file types.h.

4.57.2.8 typedef uint8_t pok_port_kind_t

Definition at line 35 of file types.h.

4.57.2.9 typedef uint32_t pok_port_size_t

Definition at line 33 of file types.h.

4.57.2.10 typedef uint8_t pok_queueing_discipline_t

Definition at line 36 of file types.h.

4.57.2.11 typedef uint8_t pok_range_t

Definition at line 39 of file types.h.

4.57.2.12 typedef uint8_t pok_sem_id_t

Definition at line 43 of file types.h.

4.57.2.13 typedef uint16_t pok_sem_value_t

Definition at line 46 of file types.h.

4.57.2.14 typedef uint8_t pok_size_t

Definition at line 38 of file types.h.

4.58 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/debug.c File Reference

4.59 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/debug.c File Reference

4.60 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pic.c File Reference

```
#include <types.h>
#include <errno.h>
#include <arch/x86/ioports.h>
#include "pic.h"
```

Functions

- int `pok_pic_init` ()
- int `pok_pic_mask` (uint8_t irq)
- int `pok_pic_unmask` (uint8_t irq)
- void `pok_pic_eoi` (uint8_t irq)

4.60.1 Function Documentation

4.60.1.1 void `pok_pic_eoi` (uint8_t irq)

Definition at line 90 of file pic.c.

```
{
    if (irq >= 8)
    {
        outb (PIC_SLAVE_BASE, 0x20);
    }

    outb (PIC_MASTER_BASE, 0x20);
}
```

4.60.1.2 int `pok_pic_init` ()

Definition at line 25 of file pic.c.

```
{
    outb (PIC_MASTER_BASE, PIC_MASTER_ICW1);
    outb (PIC_SLAVE_BASE, PIC_SLAVE_ICW1);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW2);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW2);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW3);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW3);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW4);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW4);

    /* Mask everything */
    outb (PIC_MASTER_BASE + 1, 0xfb);
    outb (PIC_SLAVE_BASE + 1, 0xff);

    return (POK_ERRNO_OK);
}
```

4.60.1.3 int `pok_pic_mask` (uint8_t irq)

Definition at line 46 of file pic.c.

```
{
    uint8_t mask;

    if (irq > 15)
    {
        return (POK_ERRNO_EINVAL);
    }

    if (irq < 8)
    {
        mask = inb (PIC_MASTER_BASE + 1);
        outb (PIC_MASTER_BASE + 1, mask | (1 << irq));
    }
    else
    {
        mask = inb (PIC_SLAVE_BASE + 1);
    }
}
```



```

    outb (PIC_SLAVE_BASE + 1, mask | (1 << (irq - 8)));
}
return (POK_ERRNO_OK);
}

```

4.60.1.4 int pok_pic_unmask (uint8_t irq)

Definition at line 69 of file pic.c.

```

{
    uint8_t mask;

    if (irq > 15)
        return (POK_ERRNO_EINVAL);

    if (irq < 8)
    {
        mask = inb(PIC_MASTER_BASE + 1);
        outb(PIC_MASTER_BASE + 1, mask & ~(1 << irq));
    }
    else
    {
        mask = inb(PIC_SLAVE_BASE + 1);
        outb(PIC_SLAVE_BASE + 1, mask & ~(1 << (irq - 8)));
    }

    return (POK_ERRNO_OK);
}

```

4.61 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pic.h File Reference

Macros

- #define [PIC_MASTER_BASE](#) 0x20
- #define [PIC_SLAVE_BASE](#) 0xa0
- #define [PIC_MASTER_ICW1](#) 0x11
- #define [PIC_MASTER_ICW2](#) 0x20
- #define [PIC_MASTER_ICW3](#) 0x04
- #define [PIC_MASTER_ICW4](#) 0x01
- #define [PIC_SLAVE_ICW1](#) 0x11
- #define [PIC_SLAVE_ICW2](#) 0x28
- #define [PIC_SLAVE_ICW3](#) 0x02
- #define [PIC_SLAVE_ICW4](#) 0x01

Functions

- int [pok_pic_init](#) ()
- int [pok_pic_mask](#) (uint8_t irq)
- int [pok_pic_unmask](#) (uint8_t irq)
- void [pok_pic_eoi](#) (uint8_t irq)

4.61.1 Macro Definition Documentation

4.61.1.1 #define PIC_MASTER_BASE 0x20

Definition at line 21 of file pic.h.

4.61.1.2 #define PIC_MASTER_ICW1 0x11

Definition at line 24 of file pic.h.

4.61.1.3 #define PIC_MASTER_ICW2 0x20

Definition at line 25 of file pic.h.

4.61.1.4 #define PIC_MASTER_ICW3 0x04

Definition at line 26 of file pic.h.

4.61.1.5 #define PIC_MASTER_ICW4 0x01

Definition at line 27 of file pic.h.

4.61.1.6 #define PIC_SLAVE_BASE 0xa0

Definition at line 22 of file pic.h.

4.61.1.7 #define PIC_SLAVE_ICW1 0x11

Definition at line 29 of file pic.h.

4.61.1.8 #define PIC_SLAVE_ICW2 0x28

Definition at line 30 of file pic.h.

4.61.1.9 #define PIC_SLAVE_ICW3 0x02

Definition at line 31 of file pic.h.

4.61.1.10 #define PIC_SLAVE_ICW4 0x01

Definition at line 32 of file pic.h.

4.61.2 Function Documentation

4.61.2.1 void pok_pic_eoi (uint8_t irq)

Definition at line 90 of file pic.c.

```
{  
    if (irq >= 8)  
    {  
        outb (PIC_SLAVE_BASE, 0x20);  
    }  
    outb (PIC_MASTER_BASE, 0x20);  
}
```

4.61.2.2 int pok_pic_init ()

Definition at line 25 of file pic.c.

```

{
    outb (PIC_MASTER_BASE, PIC_MASTER_ICW1);
    outb (PIC_SLAVE_BASE, PIC_SLAVE_ICW1);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW2);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW2);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW3);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW3);

    outb (PIC_MASTER_BASE + 1, PIC_MASTER_ICW4);
    outb (PIC_SLAVE_BASE + 1, PIC_SLAVE_ICW4);

    /* Mask everything */
    outb (PIC_MASTER_BASE + 1, 0xfb);
    outb (PIC_SLAVE_BASE + 1, 0xff);

    return (POK_ERRNO_OK);
}

```

4.61.2.3 int pok_pic_mask (uint8_t irq)

Definition at line 46 of file pic.c.

```

{
    uint8_t mask;

    if (irq > 15)
    {
        return (POK_ERRNO_EINVAL);
    }

    if (irq < 8)
    {
        mask = inb (PIC_MASTER_BASE + 1);
        outb (PIC_MASTER_BASE + 1, mask | (1 << irq));
    }
    else
    {
        mask = inb (PIC_SLAVE_BASE + 1);
        outb (PIC_SLAVE_BASE + 1, mask | (1 << (irq - 8)));
    }

    return (POK_ERRNO_OK);
}

```

4.61.2.4 int pok_pic_unmask (uint8_t irq)

Definition at line 69 of file pic.c.

```

{
    uint8_t mask;

    if (irq > 15)
        return (POK_ERRNO_EINVAL);

    if (irq < 8)
    {
        mask = inb (PIC_MASTER_BASE + 1);
        outb (PIC_MASTER_BASE + 1, mask & ~(1 << irq));
    }
    else
    {
        mask = inb (PIC_SLAVE_BASE + 1);
        outb (PIC_SLAVE_BASE + 1, mask & ~(1 << (irq - 8)));
    }

    return (POK_ERRNO_OK);
}

```

4.62 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pit.c File Reference

```
#include <errno.h>
#include <bsp.h>
#include <core/time.h>
#include <core/sched.h>
#include <arch/x86/ioports.h>
#include <arch/x86/interrupt.h>
#include "pic.h"
#include "pit.h"
```

Macros

- `#define OSCILLATOR_RATE 1193180` /** The oscillation rate of x86 clock */
- `#define PIT_BASE 0x40`
- `#define PIT_IRQ 0`

Functions

- `INTERRUPT_HANDLER (pit_interrupt)`
- `pok_ret_t pok_x86_qemu_timer_init ()`

4.62.1 Macro Definition Documentation

4.62.1.1 `#define OSCILLATOR_RATE 1193180` /** The oscillation rate of x86 clock */

Definition at line 29 of file pit.c.

4.62.1.2 `#define PIT_BASE 0x40`

Definition at line 30 of file pit.c.

4.62.1.3 `#define PIT_IRQ 0`

Definition at line 31 of file pit.c.

4.62.2 Function Documentation

4.62.2.1 `INTERRUPT_HANDLER (pit_interrupt)`

Definition at line 33 of file pit.c.

```
{
    (void) frame;
    pok_pic_eoi (PIT_IRQ);
    CLOCK_HANDLER
}
```

4.62.2.2 pok_ret_t pok_x86_qemu_timer_init ()

Definition at line 40 of file pit.c.

```
{
    uint16_t pit_freq;

    pit_freq = POK_TIMER_FREQUENCY;

    outb (PIT_BASE + 3, 0x34); /* Channel0, rate generator, Set LSB
        then MSB */
    outb (PIT_BASE, (OSCILLATOR_RATE / pit_freq) & 0
        xff);
    outb (PIT_BASE, ((OSCILLATOR_RATE / pit_freq) >>
        8) & 0xff);

    pok_bsp_irq_register (PIT_IRQ, pit_interrupt);

    return (POK_ERRNO_OK);
}
```

4.63 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pit.h File Reference

Functions

- [pok_ret_t pok_x86_qemu_timer_init \(\)](#)

4.63.1 Function Documentation

4.63.1.1 pok_ret_t pok_x86_qemu_timer_init ()

Definition at line 40 of file pit.c.

```
{
    uint16_t pit_freq;

    pit_freq = POK_TIMER_FREQUENCY;

    outb (PIT_BASE + 3, 0x34); /* Channel0, rate generator, Set LSB
        then MSB */
    outb (PIT_BASE, (OSCILLATOR_RATE / pit_freq) & 0
        xff);
    outb (PIT_BASE, ((OSCILLATOR_RATE / pit_freq) >>
        8) & 0xff);

    pok_bsp_irq_register (PIT_IRQ, pit_interrupt);

    return (POK_ERRNO_OK);
}
```

4.64 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pm.c File Reference

```
#include <errno.h>
#include <arch/x86/multiboot.h>
#include <types.h>
#include "pm.h"
```

Macros

- #define [ALIGN_UP](#)(boundary, val) (val + (boundary - 1)) & (~(boundary - 1))

Functions

- `int pok_pm_init ()`
- `uint32_t pok_pm_sbrk (uint32_t increment)`

Variables

- `void * __pok_begin`
- `void * __pok_end`
- `uint32_t pok_multiboot_magic`
- `uint32_t pok_multiboot_info`
- `uint32_t pok_x86_pm_heap_start`
- `uint32_t pok_x86_pm_brk`
- `uint32_t pok_x86_pm_heap_end`

4.64.1 Detailed Description

Author

Julian Pidancet
Julien Delange

Date

2008-2009

Definition in file [pm.c](#).

4.64.2 Macro Definition Documentation

4.64.2.1 `#define ALIGN_UP(boundary, val) (val + (boundary - 1)) & ~(boundary - 1)`

Definition at line 30 of file [pm.c](#).

4.64.3 Function Documentation

4.64.3.1 `int pok_pm_init ()`

Definition at line 44 of file [pm.c](#).

```
{
    pok_multiboot_info_t* mbi;
    uint32_t free_mem;

    mbi = (pok_multiboot_info_t*) pok_multiboot_info;

#ifdef POK_NEEDS_DMA
    free_mem = MEM_16MB;
#else
    free_mem = ALIGN_UP (4096, (uint32_t) (&__pok_end));
#endif

    pok_x86_pm_heap_start = pok_x86_pm_brk =
        free_mem;

    pok_x86_pm_heap_end = (uint32_t) (mbi->mem_upper
        * 1024);

    return (POK_ERRNO_OK);
}
```

4.64.3.2 uint32_t pok_pm_sbrk (uint32_t increment)

Allocation function, very basic, just allocate new memory space each time

Definition at line 68 of file pm.c.

```
{
    uint32_t addr;
    addr = pok_x86_pm_brk;
    pok_x86_pm_brk += increment;
    return (addr);
}
```

4.64.4 Variable Documentation

4.64.4.1 void* __pok_begin

4.64.4.2 void* __pok_end

4.64.4.3 uint32_t pok_multiboot_info

4.64.4.4 uint32_t pok_multiboot_magic

4.64.4.5 uint32_t pok_x86_pm_brk

Definition at line 40 of file pm.c.

4.64.4.6 uint32_t pok_x86_pm_heap_end

Definition at line 41 of file pm.c.

4.64.4.7 uint32_t pok_x86_pm_heap_start

Definition at line 39 of file pm.c.

4.65 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86/x86-qemu/pm.h File Reference

Macros

- #define [MEM_16MB](#) 0x1000000

Functions

- int [pok_pm_init](#) ()
- [uint32_t pok_pm_sbrk](#) (uint32_t increment)

4.65.1 Macro Definition Documentation

4.65.1.1 #define MEM_16MB 0x1000000

Definition at line 21 of file pm.h.

4.65.2 Function Documentation

4.65.2.1 int pok_pm_init ()

Definition at line 44 of file pm.c.

```
{
    pok_multiboot_info_t* mbi;
    uint32_t free_mem;

    mbi = (pok_multiboot_info_t*) pok_multiboot_info;
#ifdef POK_NEEDS_DMA
    free_mem = MEM_16MB;
#else
    free_mem = ALIGN_UP (4096, (uint32_t) (&__pok_end));
#endif

    pok_x86_pm_heap_start = pok_x86_pm_brk =
        free_mem;

    pok_x86_pm_heap_end = (uint32_t) (mbi->mem_upper
        * 1024);

    return (POK_ERRNO_OK);
}
```

4.65.2.2 uint32_t pok_pm_sbrk (uint32_t increment)

Allocation function, very basic, just allocate new memory space each time

Definition at line 68 of file pm.c.

```
{
    uint32_t addr;

    addr = pok_x86_pm_brk;

    pok_x86_pm_brk += increment;

    return (addr);
}
```

4.66 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/boot.c File Reference

Boot function to start the kernel.

```
#include <arch.h>
#include <bsp.h>
#include <core/time.h>
#include <core/thread.h>
#include <core/sched.h>
#include <core/partition.h>
#include <middleware/port.h>
#include <middleware/queue.h>
#include <core/boot.h>
#include <core/instrumentation.h>
```

Functions

- void [pok_boot](#) ()

Boot function that launch everything.

4.66.1 Detailed Description

Boot function to start the kernel.

Author

Julien Delange

Date

2008-2009

Definition in file [boot.c](#).

4.66.2 Function Documentation

4.66.2.1 void pok_boot ()

Boot function that launch everything.

This function load every service according to system requirements (the POK_NEEDS_* macro). If we don't use partitioning service, we execute a main function. In that case, POK is acting like an executive, not a real kernel

Definition at line 37 of file boot.c.

```
{
    pok_arch_init();
    pok_bsp_init();

    #if defined (POK_NEEDS_TIME) || defined (POK_NEEDS_SCHED) || defined
        (POK_NEEDS_THREADS)
        pok_time_init();
    #endif

    #ifdef POK_NEEDS_PARTITIONS
        pok_partition_init ();
    #endif

    #ifdef POK_NEEDS_THREADS
        pok_thread_init ();
    #endif

    #if defined (POK_NEEDS_SCHED) || defined (POK_NEEDS_THREADS)
        pok_sched_init ();
    #endif

    #if (defined POK_NEEDS_LOCKOBJ) || defined (POK_NEEDS_PORTS_QUEUEING) ||
        defined (POK_NEEDS_PORTS_SAMPLING)
        pok_lockobj_init ();
    #endif

    #if defined (POK_NEEDS_PORTS_QUEUEING) || defined (POK_NEEDS_PORTS_SAMPLING)
        pok_port_init ();
        pok_queue_init ();
    #endif

    #if defined (POK_NEEDS_DEBUG) || defined (POK_NEEDS_CONSOLE)
        pok_cons_write ("POK kernel initialized\n", 23);
    #endif

    #ifdef POK_NEEDS_INSTRUMENTATION
        uint32_t tmp;
        printf ("[INSTRUMENTATION][CHEDDAR] <event_table>\n");
        printf ("[INSTRUMENTATION][CHEDDAR] <processor>\n");
        printf ("[INSTRUMENTATION][CHEDDAR] <name>pok_kernel</name>\n");

        for (tmp = 0 ; tmp < POK_CONFIG_NB_THREADS ; tmp++)
        {
            printf ("[INSTRUMENTATION][CHEDDAR] <task_activation> 0 task
                %d</task_activation>\n", tmp);
        }
    #endif

    pok_arch_preempt_enable();

    #ifndef POK_NEEDS_PARTITIONS
```

```
main ();  
#endif  
}
```

4.67 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/error.c](#) File Reference

4.68 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/instrumentation.c](#) File Reference

4.69 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/kernel.c](#) File Reference

4.70 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/loader.c](#) File Reference

4.70.1 Detailed Description

Author

Julian Pidancet
Julien Delange

Date

2008-2009

Contains all needed stuff to load partitions (elf files). This needs the partitioning service (POK_NEEDS_PARTITIONS must be defined) to work.

Definition in file [loader.c](#).

4.71 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/lockobj.c](#) File Reference

Provides fonctionnalities for locking functions (mutexes, semaphores and so on)

4.71.1 Detailed Description

Provides fonctionnalities for locking functions (mutexes, semaphores and so on)

Author

Julien Delange

This file contains the implementation code for mutexes, conditions and semaphores. This is implemented in the same file since the fonctionnalities does not differ so much.

Definition in file [lockobj.c](#).

4.72 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/partition.c](#) File Reference

This file provides functions for partitioning services.

4.72.1 Detailed Description

This file provides functions for partitioning services.

Author

Julien Delange

The definition of useful structures can be found in [partition.h](#) header file. To enable partitioning services, you must set the POK_NEEDS_PARTITIONS macro.

Definition in file [partition.c](#).

4.73 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/sched.c File Reference

4.74 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/syscall.c File Reference

```
#include <bsp.h>
#include <types.h>
#include <libc.h>
#include <arch/x86/ioports.h>
#include <arch/x86/pci.h>
#include <errno.h>
#include <core/debug.h>
#include <core/syscall.h>
#include <core/partition.h>
#include <core/thread.h>
#include <core/lockobj.h>
#include <core/time.h>
#include <core/error.h>
#include <middleware/port.h>
```

Functions

- [pok_ret_t pok_core_syscall](#) (const [pok_syscall_id_t](#) syscall_id, const [pok_syscall_args_t](#) *args, const [pok_syscall_info_t](#) *infos)

4.74.1 Function Documentation

4.74.1.1 [pok_ret_t pok_core_syscall](#) (const [pok_syscall_id_t](#) *syscall_id*, const [pok_syscall_args_t](#) * *args*, const [pok_syscall_info_t](#) * *infos*)

Function that performs the syscall. It is called by the architecture interruption handler.

Parameters

<i>syscall_id</i>	This param correspond to the syscal which should be performed. The list of available syscalls is available in the definition of the pok_syscall_id_t type
<i>args</i>	Arguments of the syscall. It corresponds to data useful to perform the syscall.
<i>infos</i>	Informations about the syscall: which partition/thread initiates the syscall, etc ...

Returns

Returns an error code, which is defined in [include/errno.h](#)

Here is the default syscall handler. In this case, the syscall ID was not properly identified and thus, we should return an error. If error management is activated, we raise an error in kernel of partitions, calling the error handler.

Definition at line 40 of file syscall.c.

```
{
    switch (syscall_id)
    {
#if defined (POK_NEEDS_CONSOLE) || defined (POK_NEEDS_DEBUG)
        case POK_SYSCALL_CONSWRITE:
            POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
            if (pok_cons_write ((const char*)args->arg1 + infos->
base_addr, args->arg2))
            {
                return POK_ERRNO_OK;
            }
            else
            {
                return POK_ERRNO_EINVAL;
            }
            break;
#endif

#ifdef POK_NEEDS_PORTS_VIRTUAL
        case POK_SYSCALL_MIDDLEWARE_VIRTUAL_CREATE:
            POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
            POK_CHECK_PTR_OR_RETURN(infos->partition, args->
arg2 + infos->base_addr)
            return pok_port_virtual_id ( (char*) (args->arg1 + infos->base_addr),
(pok_port_id_t*) (args->arg2 + infos->base_addr));
            break;

        case POK_SYSCALL_MIDDLEWARE_VIRTUAL_NB_DESTINATIONS:
            POK_CHECK_PTR_OR_RETURN(infos->partition, args->
arg2 + infos->base_addr)
            return pok_port_virtual_nb_destinations ( (pok_port_id_t)
(args->arg1), (uint32_t*) (args->arg2 + infos->base_addr));
            break;

        case POK_SYSCALL_MIDDLEWARE_VIRTUAL_DESTINATION:
            POK_CHECK_PTR_OR_RETURN(infos->partition, ((
void*) args->arg3)+infos->base_addr)
            return pok_port_virtual_destination ( (pok_port_id_t) (
args->arg1), (uint32_t) (args->arg2), (uint32_t*) (args->arg3 +
infos->base_addr));
            break;

        case POK_SYSCALL_MIDDLEWARE_VIRTUAL_GET_GLOBAL:
            POK_CHECK_PTR_OR_RETURN(infos->partition, (void
*) (args->arg2 + infos->base_addr)
            return pok_port_virtual_get_global ((pok_port_id_t) (args
->arg1), (pok_port_id_t*) (args->arg2 + infos->base_addr));
            break;
#endif

#ifdef POK_NEEDS_GETTICK
        case POK_SYSCALL_GETTICK:
            POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
            return pok_gettick_by_pointer ((uint64_t*) (args->arg1 + infos
->base_addr));
            break;
#endif

        case POK_SYSCALL_THREAD_CREATE:
            return pok_partition_thread_create ((uint32_t*) (args
->arg1 + infos->base_addr),
, (pok_thread_attr_t*) (args->arg2
+ infos->base_addr),
, (uint8_t) (args->arg3)
->partition);
            break;
#endif

#ifdef POK_NEEDS_THREAD_SLEEP
        case POK_SYSCALL_THREAD_SLEEP:
            return pok_thread_sleep (args->arg1);
            break;
#endif
    }
}
```

```

#ifdef POK_NEEDS_THREAD_SLEEP_UNTIL
    case POK_SYSCALL_THREAD_SLEEP_UNTIL:
        return pok_thread_sleep_until (args->arg1);
        break;
#endif

    case POK_SYSCALL_THREAD_PERIOD:
        return pok_sched_end_period ();
        break;

#ifdef defined (POK_NEEDS_THREAD_SUSPEND) || defined (POK_NEEDS_ERROR_HANDLING)
    case POK_SYSCALL_THREAD_SUSPEND:
        return pok_thread_suspend ();
        break;
#endif

#ifdef POK_NEEDS_THREAD_ID
    case POK_SYSCALL_THREAD_ID:
        return pok_sched_get_current ((uint32_t*) (args->arg1 +
infos->base_addr));
        break;
#endif

    case POK_SYSCALL_THREAD_STATUS:
        return pok_thread_get_status (args->arg1, (pok_thread_attr_t
*) (args->arg2 + infos->base_addr));
        break;

    case POK_SYSCALL_THREAD_DELAYED_START:
        return pok_thread_delayed_start (args->arg1, args->arg2);
        break;
    case POK_SYSCALL_THREAD_SET_PRIORITY:
        return pok_thread_set_priority (args->arg1, args->arg2);
        break;

    case POK_SYSCALL_THREAD_RESUME:
        return pok_thread_resume (args->arg1);
        break;
    case POK_SYSCALL_THREAD_SUSPEND_TARGET:
        return pok_thread_suspend_target (args->arg1);
        break;

#ifdef POK_NEEDS_ERROR_HANDLING
    case POK_SYSCALL_THREAD_RESTART:
        return pok_partition_restart_thread (args->arg1);
        break;

    case POK_SYSCALL_THREAD_STOP:
        return pok_partition_stop_thread (args->arg1);
        break;

    case POK_SYSCALL_THREAD_STOPSELF:
        pok_sched_stop_self ();
        return POK_ERRNO_OK;
        break;

#endif

#ifdef POK_NEEDS_PARTITIONS
    case POK_SYSCALL_PARTITION_SET_MODE:
        return pok_partition_set_mode_current ((pok_partition_mode_t)args->
arg1);
        break;
    case POK_SYSCALL_PARTITION_GET_ID:
        return pok_current_partition_get_id ((uint8_t*) (args->arg1 +
infos->base_addr));
        break;
    case POK_SYSCALL_PARTITION_GET_PERIOD:
        return pok_current_partition_get_period ((uint64_t*) (args->arg1
+ infos->base_addr));
        break;
    case POK_SYSCALL_PARTITION_GET_DURATION:
        return pok_current_partition_get_duration ((uint64_t*) (args->
arg1 + infos->base_addr));
        break;
    case POK_SYSCALL_PARTITION_GET_LOCK_LEVEL:
        return pok_current_partition_get_lock_level ((uint32_t*) (args->
arg1 + infos->base_addr));
        break;
    case POK_SYSCALL_PARTITION_GET_OPERATING_MODE:
        return pok_current_partition_get_operating_mode ((pok_partition_mode_t
*) (args->arg1 + infos->base_addr));
        break;
    case POK_SYSCALL_PARTITION_GET_START_CONDITION:
        return pok_current_partition_get_start_condition ((
pok_start_condition_t*) (args->arg1 + infos->base_addr));

```

```

        break;
#endif

#ifdef POK_NEEDS_ERROR_HANDLING
case POK_SYSCALL_ERROR_HANDLER_CREATE:
    return pok_error_thread_create (args->arg1 , (void*) (args->arg2
));
    break;

case POK_SYSCALL_ERROR_RAISE_APPLICATION_ERROR:
    POK_CHECK_PTR_OR_RETURN (infos->partition
, args->arg1 + infos->base_addr)
    pok_error_raise_application_error ((char*) (args->arg1 + infos->
base_addr), args->arg2);
    return POK_ERRNO_OK;
    break;

case POK_SYSCALL_ERROR_GET:
    return pok_error_get ((pok_error_status_t*) (args->arg1 + infos->
base_addr));
    break;
#endif

/* Middleware syscalls */
#ifdef POK_NEEDS_PORTS_SAMPLING
case POK_SYSCALL_MIDDLEWARE_SAMPLING_CREATE:
    POK_CHECK_PTR_OR_RETURN (infos->partition
, args->arg5 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg1 + infos->base_addr)
    return pok_port_sampling_create ((char*) (args->arg1 + infos->
base_addr),
                                   (pok_port_size_t) args
->arg2,
                                   (pok_port_direction_t
) args->arg3,
                                   (uint64_t) args->arg4,
                                   (pok_port_id_t*) (args->
arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_WRITE:
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg2 + infos->base_addr)

    return pok_port_sampling_write ((const pok_port_id_t)
args->arg1,
                                   (const void*) ((void*)args->arg2 +
infos->base_addr),
                                   (const uint8_t) args->arg3);
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_READ:
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg2 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg4 + infos->base_addr)
    return pok_port_sampling_read ((const pok_port_id_t)args->
arg1,
                                   (void*) args->arg2 + infos->base_addr,
                                   (pok_port_size_t*) (args->
arg3 + infos->base_addr),
                                   (bool_t*) (args->arg4 + infos->
base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_ID:
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN (infos->partition, args->
arg2 + infos->base_addr)
    return pok_port_sampling_id ((char*) (args->arg1 + infos->base_addr),
                                (pok_port_id_t*) (args->arg2
+ infos->base_addr));
    break;
#endif
#ifdef POK_GENERATED_CODE
case POK_SYSCALL_MIDDLEWARE_SAMPLING_STATUS:
    POK_CHECK_PTR_OR_RETURN (infos->partition
, args->arg2+infos->base_addr)
    return pok_port_sampling_status ((const pok_port_id_t)
args->arg1,
                                   (pok_port_sampling_status_t*) (args->
arg2 + infos->base_addr));
    break;
#endif /* POK_GENERATED_CODE */
#endif /* POK_NEEDS_PORTS_SAMPLING */

```

```

#ifdef POK_NEEDS_PORTS_QUEUEING
case POK_SYSCALL_MIDDLEWARE_QUEUEING_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg5 + infos->base_addr)
    return pok_port_queueing_create ((char*)
args->arg1 + infos->base_addr),
                                (pok_port_size_t)
                                args->arg2,
                                (pok_port_direction_t)
                                args->arg3,
                                (pok_port_queueing_discipline_t)
                                args->arg4,
                                (pok_port_id_t*)
                                (args->arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_SEND:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_queueing_send ((const pok_port_id_t)
args->arg1,
                                (const void*)
                                void*)args->arg2 + infos->base_addr),
                                (const uint8_t)
                                (args->arg3),
                                (const uint64_t)
                                args->arg4);
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_RECEIVE:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg4 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg5 + infos->base_addr)
    return pok_port_queueing_receive ((const pok_port_id_t)
args->arg1,
                                (uint64_t)
                                args->arg2,
                                (pok_port_size_t)
                                args->arg3,
                                (void*)
                                ((void*)args->arg4 + infos->base_addr),
                                (pok_port_size_t*)
                                (args->arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_ID:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_queueing_id ((char*)
base_addr),
                                (pok_port_id_t*)
                                (args->arg1 + infos->
base_addr));
    break;

#ifdef POK_GENERATED_CODE
case POK_SYSCALL_MIDDLEWARE_QUEUEING_STATUS:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2 + infos->base_addr)
    return pok_port_queueing_status
                                ((const pok_port_id_t)
                                args->arg1,
                                (pok_port_queueing_status_t*)
                                args->arg2 + infos->base_addr));
    break;
#endif
#endif /* POK_NEEDS_PORTS_QUEUEING */

#ifdef POK_NEEDS_LOCKOBJECTS
case POK_SYSCALL_LOCKOBJ_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2+infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1+infos->base_addr)
    return pok_lockobj_partition_create ((
pok_lockobj_id_t*)
                                (args->arg1 + infos->base_addr),
                                (pok_lockobj_attr_t)
                                *)
                                (args->arg2 + infos->base_addr));
    break;

case POK_SYSCALL_LOCKOBJ_OPERATION:
    if (args->arg2 == NULL)

```

```

    {
        return pok_lockobj_partition_wrapper (
(const uint8_t) args->arg1, NULL);
    }
    else
    {
        POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2 + infos->base_addr)
        return pok_lockobj_partition_wrapper
((const uint8_t) args->arg1,
*(args->arg2 + infos->base_addr));
    }
    break;
#endif /* POK_NEEDS_LOCKOBJECTS */

#ifdef POK_NEEDS_IO
case POK_SYSCALL_INB:
    if ((args->arg1 < pok_partitions[infos->partition].io_min
) ||
        (args->arg1 > pok_partitions[infos->partition].io_max
))
    {
        return -POK_ERRNO_EPERM;
    }
    else
    {
        return inb((unsigned short) args->arg1);
    }
    break;

case POK_SYSCALL_OUTB:
    if ((args->arg1 < pok_partitions[infos->partition].io_min
) ||
        (args->arg1 > pok_partitions[infos->partition].io_max
))
    {
        return -POK_ERRNO_EPERM;
    }
    else
    {
        outb((unsigned short) args->arg1, (unsigned char) args->
arg2);
        return POK_ERRNO_OK;
    }
    break;
#endif /* POK_NEEDS_IO */

#ifdef POK_NEEDS_PCI
case POK_SYSCALL_PCI_REGISTER:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    return pci_register((void*)args->arg1 + infos->base_addr, infos->
partition);
    break;
#endif /* POK_NEEDS_PCI */

    default:
#ifdef POK_NEEDS_ERROR_HANDLING
    pok_error_declare (POK_ERROR_KIND_ILLEGAL_REQUEST);
    pok_sched_activate_error_thread ();
#else
    #ifdef POK_NEEDS_DEBUG
    printf ("Tried to use syscall %d\n", syscall_id);
    #endif
    POK_FATAL ("Unknown syscall");
#endif
    break;
}

return POK_ERRNO_EINVAL;
}

```

4.75 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/time.c File Reference

4.75.1 Detailed Description

Author

François Goudal
Julien Delange

Date

2008-2009

Definition in file [time.c](#).

4.76 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch.h File Reference

Generic interface to handle architectures.

```
#include <types.h>
#include <errno.h>
```

Functions

- [pok_ret_t pok_arch_init \(\)](#)
- [pok_ret_t pok_arch_preempt_disable \(\)](#)
- [pok_ret_t pok_arch_preempt_enable \(\)](#)
- [pok_ret_t pok_arch_idle \(\)](#)
- [pok_ret_t pok_arch_event_register \(uint8_t vector, void\(*handler\)\(void\)\)](#)
- [uint32_t pok_context_create \(uint32_t thread_id, uint32_t stack_size, uint32_t entry\)](#)
- [void pok_context_switch \(uint32_t *old_sp, uint32_t new_sp\)](#)
- [void pok_context_reset \(uint32_t stack_size, uint32_t stack_addr\)](#)
- [pok_ret_t pok_create_space \(uint8_t partition_id, uint32_t addr, uint32_t size\)](#)
- [uint32_t pok_space_base_vaddr \(uint32_t addr\)](#)
- [void pok_dispatch_space \(uint8_t partition_id, uint32_t user_pc, uint32_t user_sp, uint32_t kernel_sp, uint32_t arg1, uint32_t arg2\)](#)
- [uint32_t pok_space_context_create \(uint8_t partition_id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2\)](#)
- [void pok_space_context_restart \(uint32_t sp, uint32_t entry, uint32_t user_stack\)](#)
- [pok_ret_t pok_space_switch \(uint8_t old_partition_id, uint8_t new_partition_id\)](#)
- [uint32_t pok_thread_stack_addr \(const uint8_t partition_id, const uint32_t local_thread_id\)](#)

4.76.1 Detailed Description

Generic interface to handle architectures.

Author

Julian Pidancet
Julien Delange

Date

2008-2009

Definition in file [arch.h](#).

4.76.2 Function Documentation

4.76.2.1 `pok_ret_t pok_arch_event_register (uint8_t vector, void(*)(void) handler)`

Register an event (for example, an interruption)

Attach the handler to the given trap number (vector).

See Also

[pok_sparc_isr](#)

Definition at line 83 of file arch.c.

```
{
  (void) vector;
  (void) handler;

  return (POK_ERRNO_OK);
}
```

4.76.2.2 `pok_ret_t pok_arch_idle ()`

Function that do nothing. Useful for the idle task for example.

Definition at line 74 of file arch.c.

```
{
  while (1)
  {
  }

  return (POK_ERRNO_OK);
}
```

4.76.2.3 `pok_ret_t pok_arch_init ()`

Function that initializes architecture concerns.

Initialize all SPARC managers (traps, syscalls, space).

Definition at line 43 of file arch.c.

```
{
  set_msr (MSR_IP);
#ifdef POK_NEEDS_PARTITIONS
  pok_arch_space_init();
#endif

  return (POK_ERRNO_OK);
}
```

4.76.2.4 `pok_ret_t pok_arch_preempt_disable ()`

Disable interruptions

Definition at line 53 of file arch.c.

```
{
  unsigned int msr;

  msr = get_msr();
  msr &= ~MSR_EE;
  set_msr(msr);
  return (POK_ERRNO_OK);
}
```

4.76.2.5 `pok_ret_t pok_arch_preempt_enable ()`

Enable interruptions

Definition at line 63 of file arch.c.

```
{
    unsigned int msr;

    msr = get_msr();
    msr |= MSR_EE;
    set_msr(msr);

    return (POK_ERRNO_OK);
}
```

4.76.2.6 `uint32_t pok_context_create (uint32_t thread_id, uint32_t stack_size, uint32_t entry)`4.76.2.7 `void pok_context_reset (uint32_t stack_size, uint32_t stack_addr)`4.76.2.8 `void pok_context_switch (uint32_t * old_sp, uint32_t new_sp)`4.76.2.9 `pok_ret_t pok_create_space (uint8_t partition_id, uint32_t addr, uint32_t size)`

Set ptd and pte for the given partition.

Definition at line 42 of file space.c.

```
{
#ifdef POK_NEEDS_DEBUG
    printf ("pok_create_space: %d: %x %x\n", partition_id, addr, size);
#endif
    spaces[partition_id].phys_base = addr;
    spaces[partition_id].size = size;

    return (POK_ERRNO_OK);
}
```

4.76.2.10 `void pok_dispatch_space (uint8_t partition_id, uint32_t user_pc, uint32_t user_sp, uint32_t kernel_sp, uint32_t arg1, uint32_t arg2)`

Definition at line 114 of file space.c.

```
{
    interrupt_frame    ctx;
    uint32_t           code_sel;
    uint32_t           data_sel;
    uint32_t           sp;

    code_sel = GDT_BUILD_SELECTOR (GDT_PARTITION_CODE_SEGMENT
                                   (partition_id), 0, 3);
    data_sel = GDT_BUILD_SELECTOR (GDT_PARTITION_DATA_SEGMENT
                                   (partition_id), 0, 3);

    sp = (uint32_t) &ctx;

    memset (&ctx, 0, sizeof (interrupt_frame));

    pok_arch_preempt_disable ();

    ctx.es = ctx.ds = ctx.ss = data_sel;

    ctx.__esp = (uint32_t) (&ctx.error); /* for pusha */
    ctx.eip = user_pc;
    ctx.eax = arg1;
    ctx.ebx = arg2;
    ctx.cs = code_sel;
    ctx.eflags = 1 << 9;
    ctx.esp = user_sp;

    tss_set_esp0 (kernel_sp);
}
```

```

asm ("mov %0, %%esp      \n"
     "pop %%es           \n"
     "pop %%ds           \n"
     "popa                \n"
     "addl $4, %%esp     \n"
     "iret                \n"
     :
     : "m" (sp)
     );
}

```

4.76.2.11 uint32_t pok_space_base_vaddr (uint32_t addr)

Returns

partition virtual base address.

See Also

[SPARC_PARTITION_BASE_VADDR](#)

Definition at line 64 of file space.c.

```

{
    (void) addr;
    return (0);
}

```

4.76.2.12 uint32_t pok_space_context_create (uint8_t id, uint32_t entry_rel, uint32_t stack_rel, uint32_t arg1, uint32_t arg2)

Create a new context in the given space

Initilize thread stack.

Definition at line 72 of file space.c.

```

{
    context_t* ctx;
    volatile_context_t* vctx;
    char*      stack_addr;
    (void) partition_id;

    stack_addr = pok_bsp_mem_alloc (KERNEL_STACK_SIZE
                                   );

    vctx = (volatile_context_t *)
        (stack_addr + KERNEL_STACK_SIZE - sizeof (
            volatile_context_t));
    ctx = (context_t *) ((char *)vctx - sizeof (context_t) + 8);

    memset (ctx, 0, sizeof (*ctx));
    memset (vctx, 0, sizeof (*vctx));

    vctx->r3      = arg1;
    vctx->r4      = arg2;
    vctx->sp      = stack_rel - 12;
    vctx->srr0    = entry_rel;
    vctx->srr1    = MSR_EE | MSR_IP | MSR_DR | MSR_IR
        | MSR_PR;
    ctx->lr       = (uint32_t) pok_arch_rfi;

    ctx->sp       = (uint32_t) &vctx->sp;

#ifdef POK_NEEDS_DEBUG
    printf ("space_context_create %d: entry=%x stack=%x arg1=%x arg2=%x ksp=%x\n"
           ,
           partition_id, entry_rel, stack_rel, arg1, arg2, &vctx->sp);
#endif

    return (uint32_t)ctx;
}

```

4.76.2.13 void pok_space_context_restart (uint32_t sp, uint32_t entry, uint32_t user_stack)

4.76.2.14 pok_ret_t pok_space_switch (uint8_t old_partition_id, uint8_t new_partition_id)

Switch from one space to another

Switch address space in MMU (context register).

Definition at line 55 of file space.c.

```
{
  (void) old_partition_id;
  /* printf ("space_switch %u -> %u\n", old_partition_id, new_partition_id); */
  asm volatile ("mtsr %0,%1" :: "r"(0), "r"(PPC_SR_KP |
    new_partition_id));
  return (POK_ERRNO_OK);
}
```

4.76.2.15 uint32_t pok_thread_stack_addr (const uint8_t partition_id, const uint32_t local_thread_id)

Returns the stack address for a the thread number N in a partition.

- partition_id indicates the partition that contains the thread.
- local_thread_id the thread-id of the thread inside the partition.

Returns

the stack address of the thread.

Compute the stack address for the given thread.

Definition at line 92 of file arch.c.

```
{
  return pok_partitions[partition_id].size - 16 - (local_thread_id *
    POK_USER_STACK_SIZE);
}
```

4.77 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/ppc/spinlock.h File Reference

Macros

- #define SPIN_UNLOCK(_spin_) (_spin_) = 0
- #define SPIN_LOCK(_spin_)

Typedefs

- typedef unsigned int pok_spinlock_t

4.77.1 Macro Definition Documentation

4.77.1.1 #define SPIN_LOCK(_spin_)

Value:

```

do {
    unsigned int val;
    asm volatile ("\\n"
                 "l:\\n\\t"
                 "lwarx    %0,0,%1    \\n\\t"
                 "cmpwi    %0,0      \\n\\t"
                 "bne     1b         \\n\\t"
                 "stwcx.   %2,0,%1    \\n\\t"
                 "bne     1b         \\n\\t"
                 : "=&r"(val) : "r" (&_spin_), "r"(1));
} while (0)

```

Definition at line 26 of file spinlock.h.

4.77.1.2 #define SPIN_UNLOCK(_spin_)(_spin_) = 0

Definition at line 23 of file spinlock.h.

4.77.2 Typedef Documentation

4.77.2.1 typedef unsigned int pok_spinlock_t

Definition at line 21 of file spinlock.h.

4.78 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/sparc/spinlock.h File Reference

Macros

- #define [SPIN_UNLOCK](#)(_spin_) (_spin_) = 0
- #define [SPIN_LOCK](#)(_spin_)

Typedefs

- typedef unsigned int [pok_spinlock_t](#)

4.78.1 Macro Definition Documentation

4.78.1.1 #define SPIN_LOCK(_spin_)

Value:

```

do {
    asm volatile ("l:
                 "ldstub [%0], %1 \\n"
                 "tst %1      \\n"
                 "bnz 1b      \\n"
                 : /* no output */
                 : "r" (&(_spin_)), "r"(1));
} while (0)

```

Definition at line 30 of file spinlock.h.

4.78.1.2 #define SPIN_UNLOCK(_spin_)(_spin_) = 0

Definition at line 27 of file spinlock.h.

4.78.2 Typedef Documentation

4.78.2.1 typedef unsigned int pok_spinlock_t

Definition at line 25 of file spinlock.h.

4.79 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/spinlock.h File Reference

Macros

- #define [SPIN_UNLOCK](#)(_spin_)
- #define [SPIN_LOCK](#)(_spin_)

Typedefs

- typedef unsigned char [pok_spinlock_t](#)

4.79.1 Macro Definition Documentation

4.79.1.1 #define SPIN_LOCK(_spin_)

Value:

```
asm volatile ("mov $1, %%al          \n\t"
              "l:                    \n\t"
              "lock xchg %0, %%al    \n\t"
              "test %%al, %%al      \n\t"
              "jnz 1b                \n\t"
              :
              : "m" (_spin_)
              : "%al")
```

Definition at line 28 of file spinlock.h.

4.79.1.2 #define SPIN_UNLOCK(_spin_)

Value:

```
{
  (_spin_) = 0;
}
```

Definition at line 23 of file spinlock.h.

4.79.2 Typedef Documentation

4.79.2.1 typedef unsigned char pok_spinlock_t

Definition at line 21 of file spinlock.h.

4.80 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/interrupt.h File Reference

```
#include <types.h>
```

Data Structures

- struct [interrupt_frame](#)

Macros

- #define [INTERRUPT_HANDLER\(name\)](#)
- #define [INTERRUPT_HANDLER_errorcode\(name\)](#)
- #define [INTERRUPT_HANDLER_syscall\(name\)](#)

Functions

- void [update_tss](#) ([interrupt_frame](#) *frame)

Variables

- [uint32_t pok_tss](#)

4.80.1 Macro Definition Documentation

4.80.1.1 #define INTERRUPT_HANDLER(name)

Value:

```
void name (void);
void name##_handler(interrupt\_frame* frame);
asm (
    ".global "#name "                \n"
    "\t.type "#name",@function       \n"
    "#name":                          \n"
    "cli                               \n"
    "subl $4, %esp                    \n"
    "pusha                             \n"
    "push %ds                          \n"
    "push %es                          \n"
    "push %esp                         \n"
    "mov $0x10, %ax                   \n"
    "mov %ax, %ds                     \n"
    "mov %ax, %es                     \n"
    "call "#name"_handler             \n"
    "call update_tss                  \n"
    "addl $4, %esp                    \n"
    "pop %es                           \n"
    "pop %ds                           \n"
    "popa                              \n"
    "addl $4, %esp                    \n"
    "sti                               \n"
    "iret                             \n"
);
void name##_handler(interrupt\_frame* frame)
```

Definition at line 53 of file interrupt.h.

4.80.1.2 #define INTERRUPT_HANDLER_errorcode(name)

Value:

```

void name (void);
void name##_handler(interrupt_frame* frame);
asm (
    ".global "#name "           \n"
    "\t.type "#name",@function  \n"
    "#name":                     \n"
    "cli                          \n"
    "pusha                        \n"
    "push %ds                     \n"
    "push %es                     \n"
    "push %esp                    \n"
    "mov $0x10, %ax              \n"
    "mov %ax, %ds                \n"
    "mov %ax, %es                \n"
    "call "#name"_handler        \n"
    "call update_tss             \n"
    "addl $4, %esp               \n"
    "pop %es                      \n"
    "pop %ds                      \n"
    "popa                         \n"
    "addl $4, %esp               \n"
    "sti                          \n"
    "iret                        \n"
);
void name##_handler(interrupt_frame* frame)

```

Definition at line 81 of file interrupt.h.

4.80.1.3 #define INTERRUPT_HANDLER_syscall(name)

Value:

```

int name (void);
void name##_handler(interrupt_frame* frame);
asm (
    ".global "#name "           \n"
    "\t.type "#name",@function  \n"
    "#name":                     \n"
    "cli                          \n"
    "subl $4, %esp                \n"
    "pusha                        \n"
    "push %ds                     \n"
    "push %es                     \n"
    "push %esp                    \n"
    "mov $0x10, %ax              \n"
    "mov %ax, %ds                \n"
    "mov %ax, %es                \n"
    "call "#name"_handler        \n"
    "movl %eax, 40(%esp)         \n" /* return value */ \
    "call update_tss             \n"
    "addl $4, %esp               \n"
    "pop %es                      \n"
    "pop %ds                      \n"
    "popa                         \n"
    "addl $4, %esp               \n"
    "sti                          \n"
    "iret                        \n"
);
void name##_handler(interrupt_frame* frame)

```

Definition at line 108 of file interrupt.h.

4.80.2 Function Documentation

4.80.2.1 void update_tss (interrupt_frame * frame)

Definition at line 20 of file interrupt.c.

```
{
  uint32_t* esp0 = (&pok_tss) + 1;
  if ((frame->cs & 0xffff) != 0x8)
  {
    *esp0 = (uint32_t)frame + sizeof (interrupt_frame);
  }
}
```

4.80.3 Variable Documentation

4.80.3.1 uint32_t pok_tss

Definition at line 39 of file gdt.c.

4.81 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/multiboot.h File Reference

Data Structures

- struct [pok_multiboot_header_t](#)
- struct [pok_aout_symbol_table_t](#)
- struct [pok_elf_section_header_table_t](#)
- struct [pok_multiboot_info_t](#)
- struct [pok_module_t](#)
- struct [pok_memory_map_t](#)

Macros

- #define [MULTIBOOT_BOOTLOADER_MAGIC](#) 0x2BADB002
- #define [MULTIBOOT_HEADER_MAGIC](#) 0x1BADB002
- #define [MULTIBOOT_HEADER_FLAGS](#) 0x00010003
- #define [MULTIBOOT_BOOTLOADER_MAGIC](#) 0x2BADB002
- #define [MULTIBOOT_STACK_SIZE](#) 0x4000
- #define [MULTIBOOT_CMDLINE](#) 4
- #define [MULTIBOOT_MODS](#) 8
- #define [EXT_C\(sym\)](#) sym

4.81.1 Detailed Description

Author

Julien Pidancet

Date

2008-2009

Definition in file [multiboot.h](#).

4.81.2 Macro Definition Documentation

4.81.2.1 #define EXT_C(*sym*) sym

C symbol format. HAVE_ASM_USCORE is defined by configure.

Definition at line 57 of file multiboot.h.

4.81.2.2 #define MULTIBOOT_BOOTLOADER_MAGIC 0x2BADB002

The magic number passed by a Multiboot-compliant boot loader.

Definition at line 41 of file multiboot.h.

4.81.2.3 #define MULTIBOOT_BOOTLOADER_MAGIC 0x2BADB002

The magic number passed by a Multiboot-compliant boot loader.

Definition at line 41 of file multiboot.h.

4.81.2.4 #define MULTIBOOT_CMDLINE 4

Definition at line 48 of file multiboot.h.

4.81.2.5 #define MULTIBOOT_HEADER_FLAGS 0x00010003

The flags for the Multiboot header.

Definition at line 36 of file multiboot.h.

4.81.2.6 #define MULTIBOOT_HEADER_MAGIC 0x1BADB002

The magic number for the Multiboot header.

Definition at line 31 of file multiboot.h.

4.81.2.7 #define MULTIBOOT_MODS 8

Definition at line 49 of file multiboot.h.

4.81.2.8 #define MULTIBOOT_STACK_SIZE 0x4000

The size of our stack (16KB).

Definition at line 46 of file multiboot.h.

4.82 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/arch/x86/pci.h File Reference

4.83 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/bsp.h File Reference

Interfaces that BSP must provide.

```
#include <types.h>
#include <errno.h>
```

Functions

- [pok_ret_t pok_bsp_init \(\)](#)
- [pok_ret_t pok_bsp_irq_acknowledge \(uint8_t irq\)](#)

- `pok_ret_t pok_bsp_irq_register (uint8_t irq, void(*handler)(void))`
- `void * pok_bsp_mem_alloc (size_t size)`
- `pok_ret_t pok_bsp_time_init ()`
- `bool_t pok_cons_write (const char *s, size_t length)`

4.83.1 Detailed Description

Interfaces that BSP must provide.

Author

Julian Pidancet

Date

2008-2009

Definition in file [bsp.h](#).

4.83.2 Function Documentation

4.83.2.1 `pok_ret_t pok_bsp_init ()`

Definition at line 22 of file `bsp.c`.

```
{
    pok_cons_init ();
    return (POK_ERRNO_OK);
}
```

4.83.2.2 `pok_ret_t pok_bsp_irq_acknowledge (uint8_t irq)`

Definition at line 35 of file `bsp.c`.

```
{
    pok_pic_eoi (irq);
    return (POK_ERRNO_OK);
}
```

4.83.2.3 `pok_ret_t pok_bsp_irq_register (uint8_t irq, void(*) (void) handler)`

Definition at line 42 of file `bsp.c`.

```
{
    pok_pic_unmask (irq);
    pok_arch_event_register (32 + irq, handler);
    return (POK_ERRNO_OK);
}
```

4.83.2.4 void* pok_bsp_mem_alloc (size_t size)

Used for partition allocation. For SPARC support, all partitions are aligned on page size and all partition sizes have to be less than page size.

See Also

[SPARC_PAGE_SIZE](#)

Allocate data. At this time, the pok_pm_sbrk function only increment size each time we allocate memory and was not designed to free previously allocated memory.

Definition at line 34 of file bsp.c.

```
{
    char *res;

    res = (char *)(((unsigned int)heap_end + 4095) & ~4095);
    heap_end = res + sz;
    return res;
}
```

4.83.2.5 pok_ret_t pok_bsp_time_init ()

Initialize the timer, register the ISR and unmask the interrupt.

See Also

[unmask_irq\(irq_nbr\)](#)

Init time. *freq* is the frequency of the oscillator.

Definition at line 87 of file timer.c.

```
{
    time_inter = (BUS_FREQ * FREQ_DIV) / POK_TIMER_FREQUENCY;
    time_last = get_ppc_tb ();
    pok_arch_set_decr ();

    return (POK_ERRNO_OK);
}
```

4.83.2.6 bool_t pok_cons_write (const char * s, size_t length)

4.84 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/boot.h File Reference

Functions

- void [pok_boot](#) ()
Boot function that launch everything.

4.84.1 Detailed Description

Author

Julien Delange

Date

2008-2009

Definition in file [boot.h](#).**4.84.2 Function Documentation****4.84.2.1 void pok_boot ()**

Boot function that launch everything.

This function load every service according to system requirements (the POK_NEEDS_* macro). If we don't use partitioning service, we execute a main function. In that case, POK is acting like an executive, not a real kernel

Definition at line 37 of file boot.c.

```

{
    pok_arch_init();
    pok_bsp_init();

#ifdef POK_NEEDS_TIME || defined (POK_NEEDS_SCHED) || defined
    (POK_NEEDS_THREADS)
    pok_time_init();
#endif

#ifdef POK_NEEDS_PARTITIONS
    pok_partition_init ();
#endif

#ifdef POK_NEEDS_THREADS
    pok_thread_init ();
#endif

#ifdef POK_NEEDS_SCHED || defined (POK_NEEDS_THREADS)
    pok_sched_init ();
#endif

#ifdef POK_NEEDS_LOCKOBJ || defined (POK_NEEDS_PORTS_QUEUEING) ||
    defined (POK_NEEDS_PORTS_SAMPLING)
    pok_lockobj_init ();
#endif

#ifdef POK_NEEDS_PORTS_QUEUEING || defined (POK_NEEDS_PORTS_SAMPLING)
    pok_port_init ();
    pok_queue_init ();
#endif

#ifdef POK_NEEDS_DEBUG || defined (POK_NEEDS_CONSOLE)
    pok_cons_write ("POK kernel initialized\n", 23);
#endif

#ifdef POK_NEEDS_INSTRUMENTATION
    uint32_t tmp;
    printf ("[INSTRUMENTATION][CHEDDAR] <event_table>\n");
    printf ("[INSTRUMENTATION][CHEDDAR] <processor>\n");
    printf ("[INSTRUMENTATION][CHEDDAR] <name>pok_kernel</name>\n");

    for (tmp = 0 ; tmp < POK_CONFIG_NB_THREADS ; tmp++)
    {
        printf ("[INSTRUMENTATION][CHEDDAR] <task_activation> 0 task
            %d</task_activation>\n", tmp);
    }
#endif

    pok_arch_preempt_enable();

#ifdef POK_NEEDS_PARTITIONS
    main ();
#endif
}

```

4.85 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio.h File Reference

Data Structures

- struct [cpio_bin_header](#)
- struct [cpio_file](#)

Enumerations

- enum [cpio_format](#) {
 [CPIO_BIN_FMT](#), [CPIO_ODC_FMT](#), [CPIO_NEWC_FMT](#), [CPIO_CRC_FMT](#),
 [CPIO_TAR_FMT](#), [CPIO_USTAR_FMT](#), [CPIO_HPBIN_FMT](#), [CPIO_HPODC_FMT](#) }

Functions

- int [cpio_open](#) (struct [cpio_file](#) *cpio, void *file)
- char * [cpio_get_filename](#) (struct [cpio_file](#) *cpio)
- int [cpio_next_file](#) (struct [cpio_file](#) *cpio)
- void * [cpio_get_fileaddr](#) (struct [cpio_file](#) *cpio)

4.85.1 Enumeration Type Documentation

4.85.1.1 enum [cpio_format](#)

Enumerator:

CPIO_BIN_FMT
CPIO_ODC_FMT
CPIO_NEWC_FMT
CPIO_CRC_FMT
CPIO_TAR_FMT
CPIO_USTAR_FMT
CPIO_HPBIN_FMT
CPIO_HPODC_FMT

Definition at line 21 of file [cpio.h](#).

```
{  
    CPIO_BIN_FMT,  
    CPIO_ODC_FMT,  
    CPIO_NEWC_FMT,  
    CPIO_CRC_FMT,  
    CPIO_TAR_FMT,  
    CPIO_USTAR_FMT,  
    CPIO_HPBIN_FMT,  
    CPIO_HPODC_FMT  
};
```

4.85.2 Function Documentation

4.85.2.1 void* [cpio_get_fileaddr](#) (struct [cpio_file](#) * *cpio*)

4.85.2.2 char* [cpio_get_filename](#) (struct [cpio_file](#) * *cpio*)

4.85.2.3 int [cpio_next_file](#) (struct [cpio_file](#) * *cpio*)

4.85.2.4 int [cpio_open](#) (struct [cpio_file](#) * *cpio*, void * *file*)

4.86 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/debug.h File Reference

Macros

- `#define POK_DEBUG_PRINT_CURRENT_STATE`
- `#define POK_FATAL(arg)`

4.86.1 Macro Definition Documentation

4.86.1.1 `#define POK_DEBUG_PRINT_CURRENT_STATE`

Definition at line 37 of file debug.h.

4.86.1.2 `#define POK_FATAL(arg)`

Definition at line 38 of file debug.h.

4.87 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/error.h File Reference

4.88 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/instrumentation.h File Reference

4.89 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/kernel.h File Reference

Functions

- void `pok_kernel_restart` (void)
- void `pok_kernel_stop` (void)

4.89.1 Function Documentation

4.89.1.1 void `pok_kernel_restart` (void)

4.89.1.2 void `pok_kernel_stop` (void)

4.90 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/loader.h File Reference

```
#include <types.h>
```

Functions

- void `pok_loader_load_partition` (const `uint8_t` part_id, `uint32_t` offset, `uint32_t` *entry)

Load the program of the partition.

4.90.1 Function Documentation

4.90.1.1 void pok_loader_load_partition (const uint8_t *part_id*, uint32_t *offset*, uint32_t * *entry*)

Load the program of the partition.

It loads the program of the partition *part_id*. In fact, It will load the ELF file that corresponds to this partition.

4.91 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj.h File Reference

```
#include <types.h>
#include <arch.h>
```

Data Structures

- struct [pok_lockobj_attr_t](#)
- struct [pok_lockobj_t](#)
- struct [pok_lockobj_lockattr_t](#)

Macros

- #define [POK_CONFIG_NB_LOCKOBJECTS](#) 0

Enumerations

- enum [pok_lockobj_kind_t](#) { [POK_LOCKOBJ_KIND_MUTEX](#) = 1, [POK_LOCKOBJ_KIND_SEMAPHORE](#) = 2, [POK_LOCKOBJ_KIND_EVENT](#) = 3 }
- enum [pok_locking_policy_t](#) { [POK_LOCKOBJ_POLICY_STANDARD](#) = 0, [POK_LOCKOBJ_POLICY_PIP](#) = 1, [POK_LOCKOBJ_POLICY_PCP](#) = 2 }
- enum [pok_mutex_state_t](#) { [LOCKOBJ_STATE_LOCK](#) = 0, [LOCKOBJ_STATE_UNLOCK](#) = 1, [LOCKOBJ_STATE_WAITEVENT](#) = 2 }
- enum [pok_lockobj_lock_kind_t](#) { [LOCKOBJ_LOCK_REGULAR](#) = 1, [LOCKOBJ_LOCK_TIMED](#) = 2 }
- enum [pok_lockobj_operation_t](#) { [LOCKOBJ_OPERATION_LOCK](#) = 1, [LOCKOBJ_OPERATION_UNLOCK](#) = 2, [LOCKOBJ_OPERATION_WAIT](#) = 3, [LOCKOBJ_OPERATION_SIGNAL](#) = 4, [LOCKOBJ_OPERATION_BROADCAST](#) = 5 }

Functions

- [pok_ret_t pok_lockobj_create](#) (pok_lockobj_t *obj, const [pok_lockobj_attr_t](#) *attr)
- [pok_ret_t pok_lockobj_init](#) ()
- [pok_ret_t pok_lockobj_partition_create](#) (pok_lockobj_id_t *id, const [pok_lockobj_attr_t](#) *attr)
- [pok_ret_t pok_lockobj_lock](#) (pok_lockobj_t *obj, const [pok_lockobj_lockattr_t](#) *attr)
- [pok_ret_t pok_lockobj_unlock](#) (pok_lockobj_t *obj, const [pok_lockobj_lockattr_t](#) *attr)
- [pok_ret_t pok_lockobj_eventwait](#) (pok_lockobj_t *obj, const uint64_t timeout)
- [pok_ret_t pok_lockobj_eventsignal](#) (pok_lockobj_t *obj)
- [pok_ret_t pok_lockobj_eventbroadcast](#) (pok_lockobj_t *obj)
- [pok_ret_t pok_lockobj_partition_wrapper](#) (const [pok_lockobj_id_t](#) id, const [pok_lockobj_lockattr_t](#) *attr)

4.91.1 Macro Definition Documentation

4.91.1.1 #define POK_CONFIG_NB_LOCKOBJECTS 0

Definition at line 25 of file lockobj.h.

4.91.2 Enumeration Type Documentation

4.91.2.1 enum pok_locking_policy_t

Enumerator:

POK_LOCKOBJ_POLICY_STANDARD
POK_LOCKOBJ_POLICY_PIP
POK_LOCKOBJ_POLICY_PCP

Definition at line 47 of file lockobj.h.

```
{
    POK_LOCKOBJ_POLICY_STANDARD = 0,
    POK_LOCKOBJ_POLICY_PIP     = 1,
    POK_LOCKOBJ_POLICY_PCP     = 2
}pok_locking_policy_t;
```

4.91.2.2 enum pok_lockobj_kind_t

Enumerator:

POK_LOCKOBJ_KIND_MUTEX
POK_LOCKOBJ_KIND_SEMAPHORE
POK_LOCKOBJ_KIND_EVENT

Definition at line 38 of file lockobj.h.

```
{
    POK_LOCKOBJ_KIND_MUTEX = 1,
    POK_LOCKOBJ_KIND_SEMAPHORE = 2,
    POK_LOCKOBJ_KIND_EVENT = 3
}pok_lockobj_kind_t;
```

4.91.2.3 enum pok_lockobj_lock_kind_t

Enumerator:

LOCKOBJ_LOCK_REGULAR
LOCKOBJ_LOCK_TIMED

Definition at line 100 of file lockobj.h.

```
{
    LOCKOBJ_LOCK_REGULAR = 1,
    LOCKOBJ_LOCK_TIMED   = 2
}pok_lockobj_lock_kind_t;
```

4.91.2.4 enum pok_lockobj_operation_t

Enumerator:

LOCKOBJ_OPERATION_LOCK
LOCKOBJ_OPERATION_UNLOCK
LOCKOBJ_OPERATION_WAIT
LOCKOBJ_OPERATION_SIGNAL
LOCKOBJ_OPERATION_BROADCAST

Definition at line 106 of file lockobj.h.

```
{  
    LOCKOBJ_OPERATION_LOCK = 1,  
    LOCKOBJ_OPERATION_UNLOCK = 2,  
    LOCKOBJ_OPERATION_WAIT = 3,  
    LOCKOBJ_OPERATION_SIGNAL = 4,  
    LOCKOBJ_OPERATION_BROADCAST = 5  
}pok_lockobj_operation_t;
```

4.91.2.5 enum pok_mutex_state_t

Enumerator:

LOCKOBJ_STATE_LOCK
LOCKOBJ_STATE_UNLOCK
LOCKOBJ_STATE_WAITEVENT

Definition at line 55 of file lockobj.h.

```
{  
    LOCKOBJ_STATE_LOCK = 0,  
    LOCKOBJ_STATE_UNLOCK = 1,  
    LOCKOBJ_STATE_WAITEVENT = 2  
}pok_mutex_state_t;
```

4.91.3 Function Documentation

4.91.3.1 `pok_ret_t pok_lockobj_create (pok_lockobj_t * obj, const pok_lockobj_attr_t * attr)`

4.91.3.2 `pok_ret_t pok_lockobj_eventbroadcast (pok_lockobj_t * obj)`

4.91.3.3 `pok_ret_t pok_lockobj_eventsignal (pok_lockobj_t * obj)`

4.91.3.4 `pok_ret_t pok_lockobj_eventwait (pok_lockobj_t * obj, const uint64_t timeout)`

4.91.3.5 `pok_ret_t pok_lockobj_init ()`

4.91.3.6 `pok_ret_t pok_lockobj_lock (pok_lockobj_t * obj, const pok_lockobj_lockattr_t * attr)`

4.91.3.7 `pok_ret_t pok_lockobj_partition_create (pok_lockobj_id_t * id, const pok_lockobj_attr_t * attr)`

4.91.3.8 `pok_ret_t pok_lockobj_partition_wrapper (const pok_lockobj_id_t id, const pok_lockobj_lockattr_t * attr)`

4.91.3.9 `pok_ret_t pok_lockobj_unlock (pok_lockobj_t * obj, const pok_lockobj_lockattr_t * attr)`

4.92 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/partition.h](#) File Reference

Definition of structure for partitioning services.

4.92.1 Detailed Description

Definition of structure for partitioning services.

Author

Julien Delange

Definition in file [partition.h](#).

4.93 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/sched.h](#) File Reference

4.94 [/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/schedvalues.h](#) File Reference

Enumerations

- enum [pok_sched_t](#) {
[POK_SCHED_FIFO](#) = 0, [POK_SCHED_RR](#) = 1, [POK_SCHED_GLOBAL_TIMESLICE](#) = 2, [POK_SCHED_RMS](#) = 3,
[POK_SCHED_EDF](#) = 4, [POK_SCHED_LLF](#) = 5, [POK_SCHED_STATIC](#) = 6 }

4.94.1 Enumeration Type Documentation

4.94.1.1 enum [pok_sched_t](#)

Enumerator:

[POK_SCHED_FIFO](#)
[POK_SCHED_RR](#)
[POK_SCHED_GLOBAL_TIMESLICE](#)
[POK_SCHED_RMS](#)
[POK_SCHED_EDF](#)
[POK_SCHED_LLF](#)
[POK_SCHED_STATIC](#)

Definition at line 21 of file [schedvalues.h](#).

```
{
  POK_SCHED_FIFO           = 0,
  POK_SCHED_RR            = 1,
  POK_SCHED_GLOBAL_TIMESLICE = 2,
  POK_SCHED_RMS           = 3,
  POK_SCHED_EDF           = 4,
  POK_SCHED_LLF           = 5,
  POK_SCHED_STATIC        = 6
} pok_sched_t;
```

4.95 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall.h File Reference

```
#include <types.h>
#include <errno.h>
```

Data Structures

- struct [pok_syscall_args_t](#)
- struct [pok_syscall_info_t](#)

Macros

- #define [POK_CHECK_PTR_OR_RETURN](#)(pid, ptr)

Enumerations

- enum [pok_syscall_id_t](#) {
[POK_SYSCALL_CONSWRITE](#) = 10, [POK_SYSCALL_GETTICK](#) = 20, [POK_SYSCALL_INT_NUMBER](#) = 42,
[POK_SYSCALL_THREAD_CREATE](#) = 50,
[POK_SYSCALL_THREAD_SLEEP_UNTIL](#) = 51, [POK_SYSCALL_THREAD_SLEEP](#) = 52, [POK_SYSCALL_THREAD_SUSPEND](#) = 53, [POK_SYSCALL_THREAD_RESTART](#) = 54,
[POK_SYSCALL_THREAD_STOP](#) = 55, [POK_SYSCALL_THREAD_PERIOD](#) = 56, [POK_SYSCALL_THREAD_STOPSELF](#) = 57, [POK_SYSCALL_THREAD_ID](#) = 58,
[POK_SYSCALL_THREAD_STATUS](#) = 59, [POK_SYSCALL_THREAD_SET_PRIORITY](#) = 60, [POK_SYSCALL_THREAD_RESUME](#) = 61, [POK_SYSCALL_THREAD_SUSPEND_TARGET](#) = 62,
[POK_SYSCALL_THREAD_DELAYED_START](#) = 65 }

Functions

- [pok_ret_t pok_core_syscall](#) (const [pok_syscall_id_t](#) syscall_id, const [pok_syscall_args_t](#) *args, const [pok_syscall_info_t](#) *infos)
- [pok_ret_t pok_syscall_init](#) ()

4.95.1 Macro Definition Documentation

4.95.1.1 #define POK_CHECK_PTR_OR_RETURN(pid, ptr)

Value:

```
if (!POK_CHECK_PTR_IN_PARTITION(pid, ptr)) \
{ \
    return POK_ERRNO_EINVAL; \
}
```

Definition at line 143 of file syscall.h.

4.95.2 Enumeration Type Documentation

4.95.2.1 enum pok_syscall_id_t

Enumerator:

POK_SYSCALL_CONSWRITE
POK_SYSCALL_GETTICK
POK_SYSCALL_INT_NUMBER
POK_SYSCALL_THREAD_CREATE
POK_SYSCALL_THREAD_SLEEP_UNTIL
POK_SYSCALL_THREAD_SLEEP
POK_SYSCALL_THREAD_SUSPEND
POK_SYSCALL_THREAD_RESTART
POK_SYSCALL_THREAD_STOP
POK_SYSCALL_THREAD_PERIOD
POK_SYSCALL_THREAD_STOPSELF
POK_SYSCALL_THREAD_ID
POK_SYSCALL_THREAD_STATUS
POK_SYSCALL_THREAD_SET_PRIORITY
POK_SYSCALL_THREAD_RESUME
POK_SYSCALL_THREAD_SUSPEND_TARGET
POK_SYSCALL_THREAD_DELAYED_START

Definition at line 23 of file syscall.h.

```
{
POK_SYSCALL_CONSWRITE           = 10,
POK_SYSCALL_GETTICK             = 20,
POK_SYSCALL_INT_NUMBER         = 42,
POK_SYSCALL_THREAD_CREATE      =
    50,
POK_SYSCALL_THREAD_SLEEP_UNTIL =
    51,
POK_SYSCALL_THREAD_SLEEP       =
    52,
POK_SYSCALL_THREAD_SUSPEND     =
    53,
POK_SYSCALL_THREAD_RESTART     =
    54,
POK_SYSCALL_THREAD_STOP        = 55,
POK_SYSCALL_THREAD_PERIOD      =
    56,
POK_SYSCALL_THREAD_STOPSELF    =
    57,
POK_SYSCALL_THREAD_ID          = 58,
POK_SYSCALL_THREAD_STATUS      =
    59,
POK_SYSCALL_THREAD_SET_PRIORITY =
    60,
POK_SYSCALL_THREAD_RESUME      =
    61,
POK_SYSCALL_THREAD_SUSPEND_TARGET =
    62,
//POK_SYSCALL_THREAD_DEADLINE   = 63,
//POK_SYSCALL_THREAD_STATE      = 64,
POK_SYSCALL_THREAD_DELAYED_START =
    65,
#ifdef POK_NEEDS_PORTS_SAMPLING
POK_SYSCALL_MIDDLEWARE_SAMPLING_ID = 101,
POK_SYSCALL_MIDDLEWARE_SAMPLING_READ = 102,
POK_SYSCALL_MIDDLEWARE_SAMPLING_STATUS = 103,
POK_SYSCALL_MIDDLEWARE_SAMPLING_WRITE = 104,
POK_SYSCALL_MIDDLEWARE_SAMPLING_CREATE = 105,
#endif
#ifdef POK_NEEDS_PORTS_QUEUEING
POK_SYSCALL_MIDDLEWARE_QUEUEING_CREATE = 110,
POK_SYSCALL_MIDDLEWARE_QUEUEING_SEND = 111,
POK_SYSCALL_MIDDLEWARE_QUEUEING_RECEIVE = 112,
POK_SYSCALL_MIDDLEWARE_QUEUEING_ID = 113,
```

```

    POK_SYSCALL_MIDDLEWARE_QUEUEING_STATUS          = 114,
#endif
#ifdef POK_NEEDS_PORTS_VIRTUAL
    POK_SYSCALL_MIDDLEWARE_VIRTUAL_CREATE          = 150,
    POK_SYSCALL_MIDDLEWARE_VIRTUAL_NB_DESTINATIONS = 151,
    POK_SYSCALL_MIDDLEWARE_VIRTUAL_DESTINATION     = 152,
    POK_SYSCALL_MIDDLEWARE_VIRTUAL_GET_GLOBAL      = 153,
#endif
#if defined (POK_NEEDS_LOCKOBJECTS) || defined (POK_NEEDS_MUTEXES) || defined
    (POK_NEEDS_SEMAPHORES) || defined (POK_NEEDS_EVENTS) || defined
    (POK_NEEDS_BUFFERS) || defined (POK_NEEDS_BLACKBOARDS)
    POK_SYSCALL_LOCKOBJ_CREATE                    = 201,
    POK_SYSCALL_LOCKOBJ_OPERATION                 = 202,
#endif
#ifdef POK_NEEDS_ERROR_HANDLING
    POK_SYSCALL_ERROR_HANDLER_CREATE              = 301,
    POK_SYSCALL_ERROR_HANDLER_SET_READY          = 302,
    POK_SYSCALL_ERROR_RAISE_APPLICATION_ERROR     = 303,
    POK_SYSCALL_ERROR_GET                        = 304,
#endif
#ifdef POK_NEEDS_PARTITIONS
    POK_SYSCALL_PARTITION_SET_MODE                = 404,
    POK_SYSCALL_PARTITION_GET_ID                 = 405,
    POK_SYSCALL_PARTITION_GET_PERIOD            = 406,
    POK_SYSCALL_PARTITION_GET_DURATION          = 407,
    POK_SYSCALL_PARTITION_GET_LOCK_LEVEL        = 408,
    POK_SYSCALL_PARTITION_GET_OPERATING_MODE     = 409,
    POK_SYSCALL_PARTITION_GET_START_CONDITION    = 410,
#endif
#ifdef POK_NEEDS_IO
    POK_SYSCALL_INB                              = 501,
    POK_SYSCALL_OUTB                             = 502,
#endif
#ifdef POK_NEEDS_PCI
    POK_SYSCALL_PCI_REGISTER                     = 601,
#endif
} pok_syscall_id_t;

```

4.95.3 Function Documentation

4.95.3.1 `pok_ret_t pok_core_syscall (const pok_syscall_id_t syscall_id, const pok_syscall_args_t * args, const pok_syscall_info_t * infos)`

Function that performs the syscall. It is called by the architecture interruption handler.

Parameters

<i>syscall_id</i>	This param correspond to the syscall which should be performed. The list of available syscalls is available in the definition of the <code>pok_syscall_id_t</code> type
<i>args</i>	Arguments of the syscall. It corresponds to data useful to perform the syscall.
<i>infos</i>	Informations about the syscall: which partition/thread initiates the syscall, etc ...

Returns

Returns an error code, which is defined in [include/errno.h](#)

Here is the default syscall handler. In this case, the syscall ID was not properly identified and thus, we should return an error. If error management is activated, we raise an error in kernel of partitions, calling the error handler.

Definition at line 40 of file `syscall.c`.

```

{
    switch (syscall_id)
    {
#ifdef POK_NEEDS_CONSOLE || defined (POK_NEEDS_DEBUG)
        case POK_SYSCALL_CONSWRITE:
            POK_CHECK_PTR_OR_RETURN (infos->partition
            , args->arg1 + infos->base_addr)
            if (pok_cons_write ((const char*)args->arg1 + infos->
            base_addr, args->arg2))
            {
                return POK_ERRNO_OK;
            }
            else

```

```

        {
            return POK_ERRNO_EINVAL;
        }
        break;
#endif

#ifdef POK_NEEDS_PORTS_VIRTUAL
case POK_SYSCALL_MIDDLEWARE_VIRTUAL_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_virtual_id ( (char*) (args->arg1 + infos->base_addr),
(pok_port_id_t*) (args->arg2 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_VIRTUAL_NB_DESTINATIONS:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_virtual_nb_destinations ( (pok_port_id_t)
(args->arg1), (uint32_t*) (args->arg2 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_VIRTUAL_DESTINATION:
    POK_CHECK_PTR_OR_RETURN(infos->partition, ((
void*) args->arg3)+infos->base_addr)
    return pok_port_virtual_destination ( (pok_port_id_t) (
args->arg1), (uint32_t) (args->arg2), (uint32_t*) (args->arg3 +
infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_VIRTUAL_GET_GLOBAL:
    POK_CHECK_PTR_OR_RETURN(infos->partition, (void
*) (args->arg2 + infos->base_addr)
    return pok_port_virtual_get_global ((pok_port_id_t) (args
->arg1), (pok_port_id_t*) (args->arg2 + infos->base_addr));
    break;

#endif

#if defined POK_NEEDS_GETTICK
case POK_SYSCALL_GETTICK:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    return pok_gettick_by_pointer ((uint64_t*) (args->arg1 + infos
->base_addr));
    break;
#endif

case POK_SYSCALL_THREAD_CREATE:
    return pok_partition_thread_create ((uint32_t*) (args
->arg1 + infos->base_addr),
, (pok_thread_attr_t*) (args->arg2
+ infos->base_addr),
, (uint8_t) (args->arg3 +
infos->base_addr));
    break;

#ifdef POK_NEEDS_THREAD_SLEEP
case POK_SYSCALL_THREAD_SLEEP:
    return pok_thread_sleep (args->arg1);
    break;
#endif

#ifdef POK_NEEDS_THREAD_SLEEP_UNTIL
case POK_SYSCALL_THREAD_SLEEP_UNTIL:
    return pok_thread_sleep_until (args->arg1);
    break;
#endif

case POK_SYSCALL_THREAD_PERIOD:
    return pok_sched_end_period ();
    break;

#if defined (POK_NEEDS_THREAD_SUSPEND) || defined (POK_NEEDS_ERROR_HANDLING)
case POK_SYSCALL_THREAD_SUSPEND:
    return pok_thread_suspend ();
    break;
#endif

#ifdef POK_NEEDS_THREAD_ID
case POK_SYSCALL_THREAD_ID:
    return pok_sched_get_current ((uint32_t*) (args->arg1 +
infos->base_addr));
    break;
#endif

case POK_SYSCALL_THREAD_STATUS:

```



```

        return pok_thread_get_status (args->arg1, (pok_thread_attr_t
*) (args->arg2 + infos->base_addr));
        break;

case POK_SYSCALL_THREAD_DELAYED_START:
    return pok_thread_delayed_start (args->arg1, args->arg2);
    break;
case POK_SYSCALL_THREAD_SET_PRIORITY:
    return pok_thread_set_priority (args->arg1, args->arg2);
    break;

case POK_SYSCALL_THREAD_RESUME:
    return pok_thread_resume (args->arg1);
    break;
case POK_SYSCALL_THREAD_SUSPEND_TARGET:
    return pok_thread_suspend_target (args->arg1);
    break;

#ifdef POK_NEEDS_ERROR_HANDLING

case POK_SYSCALL_THREAD_RESTART:
    return pok_partition_restart_thread (args->arg1);
    break;

case POK_SYSCALL_THREAD_STOP:
    return pok_partition_stop_thread (args->arg1);
    break;

case POK_SYSCALL_THREAD_STOPSELF:
    pok_sched_stop_self ();
    return POK_ERRNO_OK;
    break;

#endif

#ifdef POK_NEEDS_PARTITIONS
case POK_SYSCALL_PARTITION_SET_MODE:
    return pok_partition_set_mode_current ((pok_partition_mode_t)args->
arg1);
    break;
case POK_SYSCALL_PARTITION_GET_ID:
    return pok_current_partition_get_id ((uint8_t*)(args->arg1 +
infos->base_addr));
    break;
case POK_SYSCALL_PARTITION_GET_PERIOD:
    return pok_current_partition_get_period ((uint64_t*)(args->arg1
+ infos->base_addr));
    break;
case POK_SYSCALL_PARTITION_GET_DURATION:
    return pok_current_partition_get_duration ((uint64_t*)(args->
arg1 + infos->base_addr));
    break;
case POK_SYSCALL_PARTITION_GET_LOCK_LEVEL:
    return pok_current_partition_get_lock_level ((uint32_t*)(args->
arg1 + infos->base_addr));
    break;
case POK_SYSCALL_PARTITION_GET_OPERATING_MODE:
    return pok_current_partition_get_operating_mode ((pok_partition_mode_t
*)(args->arg1 + infos->base_addr));
    break;
case POK_SYSCALL_PARTITION_GET_START_CONDITION:
    return pok_current_partition_get_start_condition ((
pok_start_condition_t*)(args->arg1 + infos->base_addr));
    break;
#endif

#ifdef POK_NEEDS_ERROR_HANDLING
case POK_SYSCALL_ERROR_HANDLER_CREATE:
    return pok_error_thread_create (args->arg1, (void*)(args->arg2
));
    break;

case POK_SYSCALL_ERROR_RAISE_APPLICATION_ERROR:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    pok_error_raise_application_error ((char*)(args->arg1 + infos->
base_addr), args->arg2);
    return POK_ERRNO_OK;
    break;

case POK_SYSCALL_ERROR_GET:
    return pok_error_get ((pok_error_status_t*)(args->arg1 + infos->
base_addr));
    break;
#endif

/* Middleware syscalls */

```

```

#ifdef POK_NEEDS_PORTS_SAMPLING
case POK_SYSCALL_MIDDLEWARE_SAMPLING_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg5 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1 + infos->base_addr)
    return pok_port_sampling_create ((char*)(args->arg1 + infos->
base_addr),
                                     (pok_port_size_t) args
->arg2,
                                     (pok_port_direction_t
) args->arg3,
                                     (uint64_t) args->arg4,
                                     (pok_port_id_t*) (args->
arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_WRITE:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)

    return pok_port_sampling_write ((const pok_port_id_t)
args->arg1,
                                     (const void*) ((void*)args->arg2 +
infos->base_addr),
                                     (const uint8_t) args->arg3);
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_READ:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg4 + infos->base_addr)
    return pok_port_sampling_read ((const pok_port_id_t)args-
>arg1,
                                     (void*) args->arg2 + infos->base_addr,
                                     (pok_port_size_t*) (args-
>arg3 + infos->base_addr),
                                     (bool_t*) (args->arg4 + infos->
base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_SAMPLING_ID:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_sampling_id ((char*)(args->arg1 + infos->base_addr),
                                     (pok_port_id_t*) (args->arg2
+ infos->base_addr));
    break;

#endif POK_GENERATED_CODE
case POK_SYSCALL_MIDDLEWARE_SAMPLING_STATUS:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2+infos->base_addr)
    return pok_port_sampling_status ((const pok_port_id_t)
args->arg1,
                                     (pok_port_sampling_status_t*) (args->
arg2 + infos->base_addr));
    break;
#endif /* POK_GENERATED_CODE */
#endif /* POK_NEEDS_PORTS_SAMPLING */

#ifdef POK_NEEDS_PORTS_QUEUEING
case POK_SYSCALL_MIDDLEWARE_QUEUEING_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg5 + infos->base_addr)
    return pok_port_queueing_create ((char*)
args->arg1 + infos->base_addr),
                                     (
                                     (pok_port_size_t)
args->arg2,
                                     (pok_port_direction_t
) args->arg3,
                                     (pok_port_queueing_discipline_t
) args->arg4,
                                     (pok_port_id_t*)
(args->arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_SEND:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_queueing_send ((const pok_port_id_t)

```

```

        args->arg1,
        (const void*)
        ((
void*)args->arg2 + infos->base_addr),
        (const uint8_t)
        (args->arg3),
        (const uint64_t)
        args->arg4);
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_RECEIVE:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg4 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg5 + infos->base_addr)
    return pok_port_queueing_receive ((const pok_port_id_t)
args->arg1,
        (uint64_t)
        args-
>arg2,
        (pok_port_size_t)
        args->arg3,
        (void*)
        ((void*)args-
>arg4 + infos->base_addr),
        (pok_port_size_t*)
        (args->arg5 + infos->base_addr));
    break;

case POK_SYSCALL_MIDDLEWARE_QUEUEING_ID:
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1 + infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg2 + infos->base_addr)
    return pok_port_queueing_id ((char*)
        (args->arg1 + infos->
base_addr),
        (pok_port_id_t*)
        (args->arg2
+ infos->base_addr));
    break;

#ifndef POK_GENERATED_CODE
case POK_SYSCALL_MIDDLEWARE_QUEUEING_STATUS:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2 + infos->base_addr)
    return pok_port_queueing_status
        ((const pok_port_id_t
)
        args->arg1,
        (pok_port_queueing_status_t*)
        (
args->arg2 + infos->base_addr));
    break;
#endif
#endif /* POK_NEEDS_PORTS_QUEUEING */

#ifdef POK_NEEDS_LOCKOBJECTS
case POK_SYSCALL_LOCKOBJ_CREATE:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2+infos->base_addr)
    POK_CHECK_PTR_OR_RETURN(infos->partition, args-
>arg1+infos->base_addr)
    return pok_lockobj_partition_create
        ((
pok_lockobj_id_t*)
        (args->arg1 + infos->base_addr),
        (pok_lockobj_attr_t
*)
        (args->arg2 + infos->base_addr));
    break;

case POK_SYSCALL_LOCKOBJ_OPERATION:
    if (args->arg2 == NULL)
    {
        return pok_lockobj_partition_wrapper (
(const uint8_t) args->arg1, NULL);
    }
    else
    {
        POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg2 + infos->base_addr)
        return pok_lockobj_partition_wrapper
            ((const uint8_t) args->arg1,
            (pok_lockobj_lockattr_t
*)
            (args->arg2 + infos->base_addr));
    }
    break;
#endif /* POK_NEEDS_LOCKOBJECTS */

#ifdef POK_NEEDS_IO
case POK_SYSCALL_INB:
    if ((args->arg1 < pok_partitions[infos->partition].io_min
) ||
        (args->arg1 > pok_partitions[infos->partition].io_max
))
    {
        return -POK_ERRNO_EPERM;
    }

```

```

    }
    else
    {
        return inb((unsigned short) args->arg1);
    }
    break;

case POK_SYSCALL_OUTB:
    if ((args->arg1 < pok_partitions[infos->partition].io_min
) ||
        (args->arg1 > pok_partitions[infos->partition].io_max
))
    {
        return -POK_ERRNO_EPERM;
    }
    else
    {
        outb((unsigned short) args->arg1, (unsigned char) args->
arg2);
        return POK_ERRNO_OK;
    }
    break;
#endif /* POK_NEEDS_IO */

#ifdef POK_NEEDS_PCI
case POK_SYSCALL_PCI_REGISTER:
    POK_CHECK_PTR_OR_RETURN(infos->partition
, args->arg1 + infos->base_addr)
    return pci_register((void*)args->arg1 + infos->base_addr, infos->
partition);
    break;
#endif /* POK_NEEDS_PCI */

    default:
#ifdef POK_NEEDS_ERROR_HANDLING
    pok_error_declare (POK_ERROR_KIND_ILLEGAL_REQUEST);
    pok_sched_activate_error_thread ();
#else
    #ifdef POK_NEEDS_DEBUG
    printf ("Tried to use syscall %d\n", syscall_id);
    #endif
    POK_FATAL ("Unknown syscall");
#endif
    break;
}

return POK_ERRNO_EINVAL;
}

```

4.95.3.2 pok_ret_t pok_syscall_init ()

Init system calls

Definition at line 83 of file syscalls.c.

```

{
    pok_idt_set_gate (POK_SYSCALL_INT_NUMBER
,
                    GDT_CORE_CODE_SEGMENT << 3,
                    (uint32_t) syscall_gate,
                    IDTE_INTERRUPT,
                    3);

    return (POK_ERRNO_OK);
}

```

4.96 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/time.h File Reference

4.97 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/dependencies.h File Reference

4.98 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf.h File Reference

Data Structures

- struct [Elf32_Ehdr](#)
- struct [Elf32_Phdr](#)

Macros

- #define [EI_NIDENT](#) (16)

Typedefs

- typedef [uint16_t](#) [Elf32_Half](#)
- typedef [uint32_t](#) [Elf32_Word](#)
- typedef [uint32_t](#) [Elf32_Off](#)
- typedef [uint32_t](#) [Elf32_Addr](#)

4.98.1 Macro Definition Documentation

4.98.1.1 #define EI.NIDENT (16)

Definition at line 26 of file elf.h.

4.98.2 Typedef Documentation

4.98.2.1 typedef uint32_t Elf32_Addr

Definition at line 24 of file elf.h.

4.98.2.2 typedef uint16_t Elf32_Half

Definition at line 21 of file elf.h.

4.98.2.3 typedef uint32_t Elf32_Off

Definition at line 23 of file elf.h.

4.98.2.4 typedef uint32_t Elf32_Word

Definition at line 22 of file elf.h.

4.99 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/errno.h File Reference

Enumerations

- enum pok_ret_t {
 - POK_ERRNO_OK = 0, POK_ERRNO_EINVAL = 1, POK_ERRNO_UNAVAILABLE = 2, POK_ERRNO_PARAM = 3,
 - POK_ERRNO_TOOMANY = 5, POK_ERRNO_EPERM = 6, POK_ERRNO_EXISTS = 7, POK_ERRNO_ERANGE = 8,
 - POK_ERRNO_EDOM = 9, POK_ERRNO_HUGE_VAL = 10, POK_ERRNO_EFAULT = 11, POK_ERRNO_THREAD = 49,
 - POK_ERRNO_THREADATTR = 50, POK_ERRNO_TIME = 100, POK_ERRNO_PARTITION_ATTR = 200,
 - POK_ERRNO_PORT = 301,
 - POK_ERRNO_NOTFOUND = 302, POK_ERRNO_DIRECTION = 303, POK_ERRNO_SIZE = 304, POK_ERRNO_DISCIPLINE = 305,
 - POK_ERRNO_PORTPART = 307, POK_ERRNO_EMPTY = 308, POK_ERRNO_KIND = 309, POK_ERRNO_FULL = 311,
 - POK_ERRNO_READY = 310, POK_ERRNO_TIMEOUT = 250, POK_ERRNO_MODE = 251, POK_ERRNO_LOCKOBJ_UNAVAILABLE = 500,
 - POK_ERRNO_LOCKOBJ_NOTREADY = 501, POK_ERRNO_LOCKOBJ_KIND = 502, POK_ERRNO_LOCKOBJ_POLICY = 503, POK_ERRNO_PARTITION_MODE = 601,
 - POK_ERRNO_PARTITION = 401 }

4.99.1 Enumeration Type Documentation

4.99.1.1 enum pok_ret_t

Enumerator:

POK_ERRNO_OK
POK_ERRNO_EINVAL
POK_ERRNO_UNAVAILABLE
POK_ERRNO_PARAM
POK_ERRNO_TOOMANY
POK_ERRNO_EPERM
POK_ERRNO_EXISTS
POK_ERRNO_ERANGE
POK_ERRNO_EDOM
POK_ERRNO_HUGE_VAL
POK_ERRNO_EFAULT
POK_ERRNO_THREAD
POK_ERRNO_THREADATTR
POK_ERRNO_TIME
POK_ERRNO_PARTITION_ATTR
POK_ERRNO_PORT
POK_ERRNO_NOTFOUND
POK_ERRNO_DIRECTION
POK_ERRNO_SIZE
POK_ERRNO_DISCIPLINE
POK_ERRNO_PORTPART
POK_ERRNO_EMPTY
POK_ERRNO_KIND
POK_ERRNO_FULL

POK_ERRNO_READY
POK_ERRNO_TIMEOUT
POK_ERRNO_MODE
POK_ERRNO_LOCKOBJ_UNAVAILABLE
POK_ERRNO_LOCKOBJ_NOTREADY
POK_ERRNO_LOCKOBJ_KIND
POK_ERRNO_LOCKOBJ_POLICY
POK_ERRNO_PARTITION_MODE
POK_ERRNO_PARTITION

Definition at line 21 of file errno.h.

```

{
    POK_ERRNO_OK = 0,
    POK_ERRNO_EINVAL = 1,

    POK_ERRNO_UNAVAILABLE = 2,
    POK_ERRNO_PARAM = 3,

    POK_ERRNO_TOOMANY = 5,
    POK_ERRNO_EPERM = 6,
    POK_ERRNO_EXISTS = 7,

    POK_ERRNO_ERANGE = 8,
    POK_ERRNO_EDOM = 9,
    POK_ERRNO_HUGE_VAL = 10,

    POK_ERRNO_EFAULT = 11,

    POK_ERRNO_THREAD = 49,
    POK_ERRNO_THREADATTR = 50,

    POK_ERRNO_TIME = 100,

    POK_ERRNO_PARTITION_ATTR = 200,

    POK_ERRNO_PORT = 301,
    POK_ERRNO_NOTFOUND = 302,
    POK_ERRNO_DIRECTION = 303,
    POK_ERRNO_SIZE = 304,
    POK_ERRNO_DISCIPLINE = 305,
    POK_ERRNO_PORTPART = 307,
    POK_ERRNO_EMPTY = 308,
    POK_ERRNO_KIND = 309,
    POK_ERRNO_FULL = 311,
    POK_ERRNO_READY = 310,
    POK_ERRNO_TIMEOUT = 250,
    POK_ERRNO_MODE = 251,

    POK_ERRNO_LOCKOBJ_UNAVAILABLE = 500,
    POK_ERRNO_LOCKOBJ_NOTREADY = 501,

    POK_ERRNO_LOCKOBJ_KIND = 502,
    POK_ERRNO_LOCKOBJ_POLICY = 503,

    POK_ERRNO_PARTITION_MODE = 601,
    POK_ERRNO_PARTITION = 401
} pok_ret_t;

```

4.100 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/libc.h File Reference

```
#include <types.h>
```

Functions

- void * [memcpy](#) (void *to, const void *from, [size_t](#) n)

- void * [memset](#) (void *dest, unsigned char val, [size_t](#) count)
- int [strlen](#) (const char *str)
- int [strcmp](#) (const char *s1, const char *s2)
- int [strncmp](#) (const char *s1, const char *s2, [size_t](#) size)

4.100.1 Function Documentation

4.100.1.1 void* memcpy (void * to, const void * from, size_t n)

Definition at line 20 of file memcpy.c.

```
{
#ifdef __i386__
    int d0;
    int d1;
    int d2;

    __asm__ __volatile__(
        "rep ; movsl\n\t"
        "testb $2,%b4\n\t"
        "je 1f\n\t"
        "movsw\n\t"
        "1:\ttestb $1,%b4\n\t"
        "je 2f\n\t"
        "movsb\n\t"
        "2:"
        : "=&c" (d0), "=&D" (d1), "=&S" (d2)
        : "0" (n/4), "q" (n), "1" ((long) to), "2" ((long) from)
        : "memory");
#else
    char *cto = (char *)to;
    const char *cfrom = (const char *)from;

    for (; n > 0; n--)
    {
        *cto++ = *cfrom++;
    }
#endif
    return (to);
}
```

4.100.1.2 void* memset (void * dest, unsigned char val, size_t count)

4.100.1.3 int strcmp (const char * s1, const char * s2)

4.100.1.4 int strlen (const char * str)

4.100.1.5 int strncmp (const char * s1, const char * s2, size_t size)

4.101 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/port.h File Reference

Describe queueing and sampling ports structures.

```
#include <types.h>
#include <errno.h>
#include <core/lockobj.h>
```

Data Structures

- struct [pok_port_t](#)

Macros

- `#define POK_PORT_MAX_SIZE 512`

Typedefs

- `typedef pok_queueing_discipline_t pok_port_queueing_discipline_t`

Enumerations

- `enum pok_port_queueing_disciplines_t { POK_PORT_QUEUEING_DISCIPLINE_FIFO = 1, POK_PORT_QUEUEING_DISCIPLINE_PRIORITY = 2 }`
- `enum pok_port_directions_t { POK_PORT_DIRECTION_IN = 1, POK_PORT_DIRECTION_OUT = 2 }`
- `enum pok_port_kinds_t { POK_PORT_KIND_QUEUEING = 1, POK_PORT_KIND_SAMPLING = 2, POK_PORT_KIND_INVALID = 10 }`

4.101.1 Detailed Description

Describe queueing and sampling ports structures.

Date

2008-2009

Author

Julien Delange

Definition in file [port.h](#).

4.101.2 Macro Definition Documentation

4.101.2.1 `#define POK_PORT_MAX_SIZE 512`

Definition at line 31 of file [port.h](#).

4.101.3 Typedef Documentation

4.101.3.1 `typedef pok_queueing_discipline_t pok_port_queueing_discipline_t`

Definition at line 45 of file [port.h](#).

4.101.4 Enumeration Type Documentation

4.101.4.1 `enum pok_port_directions_t`

Enumerator:

`POK_PORT_DIRECTION_IN`
`POK_PORT_DIRECTION_OUT`

Definition at line 39 of file [port.h](#).

```
{
    POK_PORT_DIRECTION_IN    = 1,
    POK_PORT_DIRECTION_OUT  = 2
} pok_port_directions_t;
```

4.101.4.2 enum pok_port_kinds_t

Enumerator:

```
POK_PORT_KIND_QUEUEING
POK_PORT_KIND_SAMPLING
POK_PORT_KIND_INVALID
```

Definition at line 47 of file port.h.

```
{
    POK_PORT_KIND_QUEUEING = 1,
    POK_PORT_KIND_SAMPLING = 2,
#ifdef POK_NEEDS_PORTS_VIRTUAL
    POK_PORT_KIND_VIRTUAL = 2,
#endif
    POK_PORT_KIND_INVALID = 10
} pok_port_kinds_t;
```

4.101.4.3 enum pok_port_queueing_disciplines_t

Enumerator:

```
POK_PORT_QUEUEING_DISCIPLINE_FIFO
POK_PORT_QUEUEING_DISCIPLINE_PRIORITY
```

Definition at line 33 of file port.h.

```
{
    POK_PORT_QUEUEING_DISCIPLINE_FIFO
    = 1,
    POK_PORT_QUEUEING_DISCIPLINE_PRIORITY
    = 2
} pok_port_queueing_disciplines_t;
```

4.102 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/queue.h File Reference

4.103 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/__udivdi3.c File Reference

Functions

- unsigned long long [__udivdi3](#) (unsigned long long num, unsigned long long den)

4.103.1 Function Documentation

4.103.1.1 unsigned long long __udivdi3 (unsigned long long num, unsigned long long den)

Definition at line 19 of file [__udivdi3.c](#).

```

{
#ifdef POK_NEEDS_DEBUG
    unsigned long long quot, qbit;

    quot = 0;
    qbit = 1;

    if (den == 0)
    {
        return 0;
    }

    while ((long long) den >= 0)
    {
        den <<= 1;
        qbit <<= 1;
    }

    while (qbit)
    {
        if (den <= num)
        {
            num -= den;
            quot += qbit;
        }
        den >>= 1;
        qbit >>= 1;
    }

    return quot;
#else
    (void) num;
    (void) den;
    return 0;
#endif
}

```

4.104 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memcpy.c File Reference

```
#include <libc.h>
```

Functions

- void * [memcpy](#) (void *to, const void *from, [size_t](#) n)

4.104.1 Function Documentation

4.104.1.1 void* memcpy (void * to, const void * from, size_t n)

Definition at line 20 of file memcpy.c.

```

{
#ifdef __i386__
    int d0;
    int d1;
    int d2;

    __asm__ __volatile__(
        "rep ; movsl\n\t"
        "testb $2,%b4\n\t"
        "je 1f\n\t"
        "movsw\n\t"
        "1:\ttestb $1,%b4\n\t"
        "je 2f\n\t"
        "movsb\n\t"
        "2:"
        : "=&c" (d0), "=&D" (d1), "=&S" (d2)
        : "0" (n/4), "q" (n), "1" ((long) to), "2" ((long) from)
        : "memory");
#else

```

```

char *cto = (char *)to;
const char *cfrom = (const char *)from;

for (; n > 0; n--)
{
    *cto++ = *cfrom++;
}
#endif
return (to);
}

```

4.105 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/memset.c File Reference

```
#include <libc.h>
```

Functions

- [__attribute__](#) ((weak))

4.105.1 Function Documentation

4.105.1.1 [__attribute__](#) (weak)

Definition at line 20 of file `memset.c`.

```

{
    unsigned char *d = (unsigned char *) dest;

    while (count--)
    {
        *d++ = val;
    }

    return dest;
}

```

4.106 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/printf.c File Reference

4.107 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strcmp.c File Reference

4.108 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strlen.c File Reference

4.109 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portcreate.c File Reference

4.110 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portflushall.c File Reference

Flush the ports and send the data of IN ports to OUT ports.

4.110.1 Detailed Description

Flush the ports and send the data of IN ports to OUT ports.

Date

2008-2009

Author

Julien Delange
Laurent Lec

Definition in file [portflushall.c](#).

4.111 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portinit.c File Reference

4.112 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingcreate.c File Reference

4.113 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingid.c File Reference

4.114 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingreceive.c File Reference

4.115 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingsend.c File Reference

4.116 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingstatus.c File Reference

4.117 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingcreate.c File Reference

4.118 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingid.c File Reference

4.119 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingread.c File Reference

4.120 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingstatus.c File Reference

4.121 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingwrite.c File Reference

Send data on a sampling port.

4.121.1 Detailed Description

Send data on a sampling port.

Author

Julien Delange

Date

2008-2009

Definition in file [portsamplingwrite.c](#).

4.122 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portutils.c File Reference

Various functions for ports management.

4.122.1 Detailed Description

Various functions for ports management.

Date

2008-2009

Author

Julien Delange

Definition in file [portutils.c](#).

4.123 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualdestination.c File Reference

4.124 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualgetglobal.c File Reference

4.125 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualid.c File Reference

4.126 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualnbdestinations.c File Reference

4.127 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/queueinit.c File Reference

4.128 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/ressources.c File Reference

- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/elf-qemu/cons.h`, 59
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/elf-qemu/debug.c`, 119
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/elf-qemu/pic.c`, 119
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/core/boot-qemu/pic.h`, 121
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/core/cons-qemu/pit.c`, 124
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/core/cpio-qemu/pit.h`, 125
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/core/debug-qemu/pm.c`, 125
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/arch/x86_64/include/core/error-qemu/pm.h`, 127
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/boot`, 128
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/cons`, 55
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/debug`, 119
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/restore`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/sched`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/schedv`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/syscall`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/thread`, 130
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/time`, 131
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/syscall`, 131
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/elf`, 78
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/core/home/errno`, 136
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf`, 137
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/types`, 141
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/types`, 142
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/types`, 115
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/_udivdi3.c`, 144
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/memcpy`, 60
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/memset`, 146
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/printf`, 147
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf-qemu/cons.h`, 143
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf-qemu/pic.c`, 116
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf-qemu/pic.c`, 147
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/boot-qemu/pic.h`, 149
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cons-qemu/pit.c`, 59
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/cpio-qemu/pit.h`, 150
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/debug-qemu/pm.c`, 152
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/error-qemu/pm.h`, 152
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/instrum`, 152
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/kernel`, 152
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/loader`, 152
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/lockobj`, 153
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/partition`, 156
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/sched`, 156
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/schedv`, 156
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/syscall`, 157
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/thread`, 80
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/core/time`, 164
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/dependenci`, 164
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/elf`, 165
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/errno`, 165
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/libc`, 167
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/types`, 168
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/middleware/parsec/pok_orig/pok/trunk/kernel/include/types`, 170
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/include/types`, 117
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/_udivdi3.c`, 170
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/memcpy`, 171
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/memset`, 172
- `/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/lib/printf`, 172

/home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strncpy.c, 172
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/libc/strlen.c, 172
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portcreate.c, 172
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portflushall.c, 172
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portinit.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingcreate.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingid.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingreceive.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingsend.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portqueueingstatus.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingcreate.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingid.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingread.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingstatus.c, 173
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portsamplingwrite.c, 174
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portutils.c, 174
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualdestination.c, 174
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualgetglobal.c, 174
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualid.c, 174
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/portvirtualhdestinations.c, 175
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/queueinit.c, 175
 /home/rosen/projets/parsec/pok_orig/pok/trunk/kernel/middleware/resources.c, 175
 __attribute__, 7
 available, 8
 back_link, 8
 base, 8
 base_high, 8
 base_low, 8
 cr3, 8
 cs, 8
 d, 8
 dpl, 9
 ds, 9
 eax, 9
 ebp, 9
 ebx, 9
 ecx, 9
 edi, 9
 edx, 9
 eflags, 9
 esp, 9
 esp1, 10
 esp2, 10
 fs, 10
 gs, 10
 ie_bit_map_offset, 10
 ldt, 10
 limit, 10
 limit_high, 10
 limit_low, 10
 memset.c, 172
 offset_high, 11
 offset_low, 11
 op_size, 11
 padding, 11
 present, 11
 res0, 11
 res1, 11
 s, 11
 segssel, 11
 sparc/space.c, 67
 ss, 11
 ss0, 11
 ss1, 11
 ss2, 12
 trace_trap, 12
 type, 12
 __esp_context_t, 13
 interrupt_frame, 22
 __pok_begin
 pm.c, 127
 __pok_end
 pm.c, 127
 __udivdi3
 __udivdi3.c, 170
 __udivdi3.c
 __udivdi3, 170
 _end
 ppc/prep/bsp.c, 51
 sparc/leon3/bsp.c, 52

 ALIGN_UP
 pm.c, 126
 ASI_M_MMUREGS
 sparc/space.h, 92
 ASI_MMU_BYPASS
 sparc_conf.h, 87
 ack_irq
 irq.h, 86

addr
 pok_aout_symbol_table_t, 24
 pok_elf_section_header_table_t, 25
 aout_sym
 pok_multiboot_info_t, 31
 arch.h
 pok_arch_event_register, 138
 pok_arch_idle, 138
 pok_arch_init, 138
 pok_arch_preempt_disable, 138
 pok_arch_preempt_enable, 138
 pok_context_create, 139
 pok_context_reset, 139
 pok_context_switch, 139
 pok_create_space, 139
 pok_dispatch_space, 139
 pok_space_base_vaddr, 140
 pok_space_context_create, 140
 pok_space_context_restart, 140
 pok_space_switch, 141
 pok_thread_stack_addr, 141
 arch/ppc/prep/cons.c
 pok_cons_init, 54
 arch/ppc/prep/cons.h
 pok_cons_init, 55
 arch/ppc/prep/ioports.h
 inb, 59
 outb, 59
 POK_PREP_IOBASE, 59
 arch/ppc/thread.h
 pok_context_create, 78
 pok_context_switch, 78
 arch/sparc/leon3/cons.c
 pok_cons_init, 54
 arch/sparc/leon3/cons.h
 pok_cons_init, 59
 UART1, 56
 UART_CTRL_FL, 56
 UART_CTRL_LB, 56
 UART_CTRL_OFFSET, 56
 UART_CTRL_PE, 57
 UART_CTRL_PS, 57
 UART_CTRL_RE, 57
 UART_CTRL_RI, 57
 UART_CTRL_TE, 57
 UART_CTRL_TI, 57
 UART_DATA_OFFSET, 57
 UART_SCALER_OFFSET, 57
 UART_STAT_OFFSET, 57
 UART_STATUS_BR, 58
 UART_STATUS_DR, 58
 UART_STATUS_ERR, 58
 UART_STATUS_FE, 58
 UART_STATUS_OE, 58
 UART_STATUS_PE, 58
 UART_STATUS_THE, 58
 UART_STATUS_TSE, 58
 arch/sparc/thread.h
 pok_arch_sp, 79
 pok_context_create, 79
 pok_context_switch, 79
 arch/x86/thread.h
 pok_context_create, 80
 pok_context_reset, 80
 pok_context_switch, 80
 arch/x86/types.h
 int16_t, 114
 int64_t, 114
 int8_t, 114
 intptr_t, 114
 size_t, 114
 uint16_t, 114
 uint32_t, 114
 uint64_t, 114
 uint8_t, 114
 arch/x86/x86-qemu/cons.c
 pok_cons_init, 55
 arch/x86/x86-qemu/cons.h
 pok_cons_init, 59
 arg1
 pok_syscall_args_t, 35
 space_context_t, 37
 arg2
 pok_syscall_args_t, 35
 space_context_t, 37
 arg3
 pok_syscall_args_t, 35
 arg4
 pok_syscall_args_t, 36
 arg5
 pok_syscall_args_t, 36
 available
 __attribute__, 8
 BUS_FREQ
 ppc/timer.c, 80
 back_chain
 context_t, 13
 volatile_context_t, 40
 back_link
 __attribute__, 8
 base
 __attribute__, 8
 base_addr
 pok_syscall_info_t, 36
 base_addr_high
 pok_memory_map_t, 28
 base_addr_low
 pok_memory_map_t, 28
 base_high
 __attribute__, 8
 base_low
 __attribute__, 8
 bool_t
 include/types.h, 118
 boot.c
 pok_boot, 129

boot.h
 pok_boot, 150
 boot_device
 pok_multiboot_info_t, 31
 bsp.h
 pok_bsp_init, 148
 pok_bsp_irq_acknowledge, 148
 pok_bsp_irq_register, 148
 pok_bsp_mem_alloc, 148
 pok_bsp_time_init, 149
 pok_cons_write, 149
 bss_end_addr
 pok_multiboot_header_t, 30

 CPIO_BIN_FMT
 cpio.h, 151
 CPIO_CRC_FMT
 cpio.h, 151
 CPIO_HPBIN_FMT
 cpio.h, 151
 CPIO_HPODC_FMT
 cpio.h, 151
 CPIO_NEWC_FMT
 cpio.h, 151
 CPIO_ODC_FMT
 cpio.h, 151
 CPIO_TAR_FMT
 cpio.h, 151
 CPIO_USTAR_FMT
 cpio.h, 151
 c_dev
 cpio_bin_header, 17
 c_filesize
 cpio_bin_header, 17
 c_gid
 cpio_bin_header, 17
 c_ino
 cpio_bin_header, 17
 c_magic
 cpio_bin_header, 17
 c_mode
 cpio_bin_header, 17
 c_mtime
 cpio_bin_header, 17
 c_namesize
 cpio_bin_header, 17
 c_nlink
 cpio_bin_header, 17
 c_rdev
 cpio_bin_header, 17
 c_uid
 cpio_bin_header, 17
 checksum
 pok_multiboot_header_t, 30
 cmdline
 pok_multiboot_info_t, 31
 context_offset.h
 G1_OFFSET, 83
 G2_OFFSET, 83
 G3_OFFSET, 83
 G4_OFFSET, 83
 G5_OFFSET, 83
 G6_OFFSET, 83
 G7_OFFSET, 83
 I0_OFFSET, 84
 I1_OFFSET, 84
 I2_OFFSET, 84
 I3_OFFSET, 84
 I4_OFFSET, 84
 I5_OFFSET, 84
 I6_OFFSET, 84
 I7_OFFSET, 84
 L0_OFFSET, 84
 L1_OFFSET, 84
 L2_OFFSET, 84
 L3_OFFSET, 84
 L4_OFFSET, 85
 L5_OFFSET, 85
 L6_OFFSET, 85
 L7_OFFSET, 85
 NPC_OFFSET, 85
 PC_OFFSET, 85
 PSR_OFFSET, 85
 WIM_OFFSET, 85
 Y_OFFSET, 85
 context_t, 12
 __esp, 13
 back_chain, 13
 cr, 13
 cs, 13
 eax, 13
 ebp, 13
 ebx, 13
 ecx, 13
 edi, 14
 edx, 14
 eflags, 14
 eip, 14
 esi, 14
 lr, 14
 pad, 14
 r13, 14
 r14, 14
 r15, 14
 r16, 14
 r17, 14
 r18, 15
 r19, 15
 r2, 15
 r20, 15
 r21, 15
 r22, 15
 r23, 15
 r24, 15
 r25, 15
 r26, 15
 r27, 15

- r28, [15](#)
- r29, [16](#)
- r30, [16](#)
- r31, [16](#)
- sp, [16](#)
- unused_lr, [16](#)
- cpio.h
 - CPIO_BIN_FMT, [151](#)
 - CPIO_CRC_FMT, [151](#)
 - CPIO_HPBIN_FMT, [151](#)
 - CPIO_HPODC_FMT, [151](#)
 - CPIO_NEWC_FMT, [151](#)
 - CPIO_ODC_FMT, [151](#)
 - CPIO_TAR_FMT, [151](#)
 - CPIO_USTAR_FMT, [151](#)
- cpio.h
 - cpio_format, [151](#)
 - cpio_get_fileaddr, [151](#)
 - cpio_get_filename, [151](#)
 - cpio_next_file, [151](#)
 - cpio_open, [151](#)
- cpio_addr
 - cpio_file, [18](#)
- cpio_bin_header, [16](#)
 - c_dev, [17](#)
 - c_filesize, [17](#)
 - c_gid, [17](#)
 - c_ino, [17](#)
 - c_magic, [17](#)
 - c_mode, [17](#)
 - c_mtime, [17](#)
 - c_namesize, [17](#)
 - c_nlink, [17](#)
 - c_rdev, [17](#)
 - c_uid, [17](#)
- cpio_file, [18](#)
 - cpio_addr, [18](#)
 - cpio_fmt, [18](#)
 - curr_fileaddr, [18](#)
 - curr_filename, [18](#)
 - curr_filename_len, [18](#)
 - curr_filesz, [18](#)
 - curr_header, [18](#)
 - next_header, [18](#)
- cpio_fmt
 - cpio_file, [18](#)
- cpio_format
 - cpio.h, [151](#)
- cpio_get_fileaddr
 - cpio.h, [151](#)
- cpio_get_filename
 - cpio.h, [151](#)
- cpio_next_file
 - cpio.h, [151](#)
- cpio_open
 - cpio.h, [151](#)
- cr
 - context_t, [13](#)
 - volatile_context_t, [40](#)
- cr3
 - __attribute__, [8](#)
- cs
 - __attribute__, [8](#)
 - context_t, [13](#)
 - interrupt_frame, [22](#)
- ctr
 - volatile_context_t, [40](#)
- ctx
 - space_context_t, [38](#)
 - start_context_t, [39](#)
- curr_fileaddr
 - cpio_file, [18](#)
- curr_filename
 - cpio_file, [18](#)
- curr_filename_len
 - cpio_file, [18](#)
- curr_filesz
 - cpio_file, [18](#)
- curr_header
 - cpio_file, [18](#)
- current_value
 - pok_lockobj_t, [27](#)
- d
 - __attribute__, [8](#)
- debug.h
 - POK_FATAL, [152](#)
- direction
 - pok_port_t, [33](#)
- discipline
 - pok_port_t, [33](#)
- dpl
 - __attribute__, [9](#)
- ds
 - __attribute__, [9](#)
 - interrupt_frame, [22](#)
- e_ehsize
 - Elf32_Ehdr, [19](#)
- e_entry
 - Elf32_Ehdr, [19](#)
- e_flags
 - Elf32_Ehdr, [19](#)
- e_gdte_type
 - gdt.h, [110](#)
- e_ident
 - Elf32_Ehdr, [19](#)
- e_idte_type
 - event.h, [104](#)
- e_machine
 - Elf32_Ehdr, [19](#)
- e_phentsize
 - Elf32_Ehdr, [20](#)
- e_phnum
 - Elf32_Ehdr, [20](#)
- e_phoff
 - Elf32_Ehdr, [20](#)

- e_shentsize
 - Elf32_Ehdr, 20
- e_shnum
 - Elf32_Ehdr, 20
- e_shoff
 - Elf32_Ehdr, 20
- e_shstrndx
 - Elf32_Ehdr, 20
- e_type
 - Elf32_Ehdr, 20
- e_version
 - Elf32_Ehdr, 20
- EI_NIDENT
 - elf.h, 165
- EXCEPTION_BOUNDRange
 - event.h, 103
- EXCEPTION_BREAKPOINT
 - event.h, 103
- EXCEPTION_DEBUG
 - event.h, 103
- EXCEPTION_DOUBLEFAULT
 - event.h, 103
- EXCEPTION_FPU_FAULT
 - event.h, 103
- EXCEPTION_NMI
 - event.h, 103
- EXCEPTION_OVERFLOW
 - event.h, 104
- EXCEPTION_PAGEFAULT
 - event.h, 104
- EXCEPTION_RESERVED
 - event.h, 104
- EXCEPTION_SIMD_FAULT
 - event.h, 104
- EXT_C
 - multiboot.h, 146
- eax
 - __attribute__, 9
 - context_t, 13
 - interrupt_frame, 22
- ebp
 - __attribute__, 9
 - context_t, 13
 - interrupt_frame, 22
- ebx
 - __attribute__, 9
 - context_t, 13
 - interrupt_frame, 22
- ecx
 - __attribute__, 9
 - context_t, 13
 - interrupt_frame, 23
- edi
 - __attribute__, 9
 - context_t, 14
 - interrupt_frame, 23
- edx
 - __attribute__, 9
- context_t, 14
- interrupt_frame, 23
- eflags
 - __attribute__, 9
 - context_t, 14
 - interrupt_frame, 23
- eip
 - __attribute__, 9
 - context_t, 14
 - interrupt_frame, 23
- elf.h
 - EI_NIDENT, 165
 - Elf32_Addr, 165
 - Elf32_Half, 165
 - Elf32_Off, 165
 - Elf32_Word, 165
- Elf32_Addr
 - elf.h, 165
- Elf32_Ehdr, 19
 - e_ehsize, 19
 - e_entry, 19
 - e_flags, 19
 - e_ident, 19
 - e_machine, 19
 - e_phentsize, 20
 - e_phnum, 20
 - e_phoff, 20
 - e_shentsize, 20
 - e_shnum, 20
 - e_shoff, 20
 - e_shstrndx, 20
 - e_type, 20
 - e_version, 20
- Elf32_Half
 - elf.h, 165
- Elf32_Off
 - elf.h, 165
- Elf32_Phdr, 20
 - p_align, 21
 - p_filesz, 21
 - p_flags, 21
 - p_memsz, 21
 - p_offset, 21
 - p_paddr, 21
 - p_type, 21
 - p_vaddr, 21
- Elf32_Word
 - elf.h, 165
- elf_sec
 - pok_multiboot_info_t, 32
- empty
 - pok_port_t, 33
- entry
 - start_context_t, 39
- entry_addr
 - pok_multiboot_header_t, 30
- errno.h
 - POK_ERRNO_DIRECTION, 166

- POK_ERRNO_DISCIPLINE, 166
- POK_ERRNO_EDOM, 166
- POK_ERRNO_EFAULT, 166
- POK_ERRNO_EINVAL, 166
- POK_ERRNO_EMPTY, 166
- POK_ERRNO_EPERM, 166
- POK_ERRNO_ERANGE, 166
- POK_ERRNO_EXISTS, 166
- POK_ERRNO_FULL, 166
- POK_ERRNO_HUGE_VAL, 166
- POK_ERRNO_KIND, 166
- POK_ERRNO_LOCKOBJ_KIND, 167
- POK_ERRNO_LOCKOBJ_NOTREADY, 167
- POK_ERRNO_LOCKOBJ_POLICY, 167
- POK_ERRNO_LOCKOBJ_UNAVAILABLE, 167
- POK_ERRNO_MODE, 167
- POK_ERRNO_NOTFOUND, 166
- POK_ERRNO_OK, 166
- POK_ERRNO_PARAM, 166
- POK_ERRNO_PARTITION, 167
- POK_ERRNO_PARTITION_ATTR, 166
- POK_ERRNO_PARTITION_MODE, 167
- POK_ERRNO_PORT, 166
- POK_ERRNO_PORTPART, 166
- POK_ERRNO_READY, 166
- POK_ERRNO_SIZE, 166
- POK_ERRNO_THREAD, 166
- POK_ERRNO_THREADATTR, 166
- POK_ERRNO_TIME, 166
- POK_ERRNO_TIMEOUT, 167
- POK_ERRNO_TOOMANY, 166
- POK_ERRNO_UNAVAILABLE, 166
- errno.h
 - pok_ret_t, 166
- error
 - interrupt_frame, 23
- es
 - __attribute__, 9
 - interrupt_frame, 23
- esi
 - __attribute__, 9
 - context_t, 14
 - interrupt_frame, 23
- esp
 - __attribute__, 10
 - interrupt_frame, 23
- esp0
 - __attribute__, 10
- esp1
 - __attribute__, 10
- esp2
 - __attribute__, 10
- event.h
 - IDTE_INTERRUPT, 104
 - IDTE_TASK, 104
 - IDTE_TRAP, 104
- event.c
 - IDT_SIZE, 100
 - pok_event_init, 101
 - pok_idt, 101
 - pok_idt_init, 101
 - pok_idt_set_gate, 101
- event.h
 - e_idte_type, 104
 - EXCEPTION_BOUNDRANGE, 103
 - EXCEPTION_BREAKPOINT, 103
 - EXCEPTION_DEBUG, 103
 - EXCEPTION_FPU_FAULT, 103
 - EXCEPTION_NMI, 103
 - EXCEPTION_OVERFLOW, 104
 - EXCEPTION_PAGEFAULT, 104
 - EXCEPTION_RESERVED, 104
 - pok_event_init, 105
 - pok_exception_init, 105
 - pok_idt_init, 105
 - pok_idt_set_gate, 105
 - pok_syscall_init, 105
- eventspin
 - pok_lockobj_t, 27
- FALSE
 - include/types.h, 118
- FREQ_DIV
 - ppc/timer.c, 80
- fake_ret
 - space_context_t, 38
 - start_context_t, 39
- flags
 - pok_multiboot_header_t, 30
 - pok_multiboot_info_t, 32
- fs
 - __attribute__, 10
- full
 - pok_port_t, 33
- G1_OFFSET
 - context_offset.h, 83
- G2_OFFSET
 - context_offset.h, 83
- G3_OFFSET
 - context_offset.h, 83
- G4_OFFSET
 - context_offset.h, 83
- G5_OFFSET
 - context_offset.h, 83
- G6_OFFSET
 - context_offset.h, 83
- G7_OFFSET
 - context_offset.h, 83
- GDTE_CODE
 - gdt.h, 110
- GDTE_DATA
 - gdt.h, 110
- GDTE_TSS
 - gdt.h, 110
- GDT_BUILD_SELECTOR
 - gdt.h, 110

- GDT_SIZE
 - gdt.c, 106
- GDT_TSS_SEGMENT
 - gdt.h, 110
- gdt.h
 - GDTE_CODE, 110
 - GDTE_DATA, 110
 - GDTE_TSS, 110
- gdt.c
 - GDT_SIZE, 106
 - gdt_disable, 107
 - gdt_enable, 107
 - gdt_set_segment, 107
 - gdt_set_system, 107
 - pok_gdt, 109
 - pok_gdt_init, 108
 - pok_tss, 109
 - pok_tss_init, 108
 - tss_set_esp0, 108
- gdt.h
 - e_gdte_type, 110
 - GDT_BUILD_SELECTOR, 110
 - GDT_TSS_SEGMENT, 110
 - gdt_disable, 111
 - gdt_enable, 111
 - gdt_set_segment, 111
 - gdt_set_system, 111
 - pok_gdt_init, 111
 - pok_tss_init, 112
 - tss_set_esp0, 112
- gdt_disable
 - gdt.c, 107
 - gdt.h, 111
- gdt_enable
 - gdt.c, 107
 - gdt.h, 111
- gdt_set_segment
 - gdt.c, 107
 - gdt.h, 111
- gdt_set_system
 - gdt.c, 107
 - gdt.h, 111
- granularity
 - __attribute__, 10
- gs
 - __attribute__, 10
- header_addr
 - pok_multiboot_header_t, 30
- I0_OFFSET
 - context_offset.h, 84
- I1_OFFSET
 - context_offset.h, 84
- I2_OFFSET
 - context_offset.h, 84
- I3_OFFSET
 - context_offset.h, 84
- I4_OFFSET
 - context_offset.h, 84
- I5_OFFSET
 - context_offset.h, 84
- I6_OFFSET
 - context_offset.h, 84
- I7_OFFSET
 - context_offset.h, 84
- IDTE_INTERRUPT
 - event.h, 104
- IDTE_TASK
 - event.h, 104
- IDTE_TRAP
 - event.h, 104
- IDT_SIZE
 - event.c, 100
- INTERRUPT_HANDLER
 - interrupt.h, 144
 - pit.c, 124
- INTERRUPT_HANDLER_errorcode
 - interrupt.h, 144
- INTERRUPT_HANDLER_syscall
 - interrupt.h, 145
 - x86/syscalls.c, 76
- IRQMP_BASE
 - irq.h, 86
- IRQMP_CLEAR_OFFSET
 - irq.h, 86
- IRQMP_MASK0_OFFSET
 - irq.h, 86
- id
 - start_context_t, 39
- identifier
 - pok_port_t, 33
- inb
 - arch/ppc/prep/ioports.h, 59
 - include/arch/x86/ioports.h, 60
- include/arch/sparc/types.h
 - int16_t, 115
 - int64_t, 115
 - int8_t, 115
 - intptr_t, 115
 - size_t, 115
 - uint16_t, 115
 - uint32_t, 115
 - uint64_t, 115
 - uint8_t, 116
- include/arch/x86/ioports.h
 - inb, 60
 - inl, 60
 - outb, 61
 - outl, 61
- include/arch/x86/types.h
 - int16_t, 116
 - int64_t, 116
 - int8_t, 116
 - intptr_t, 116
 - size_t, 116
 - uint16_t, 117

- uint32_t, 117
- uint64_t, 117
- uint8_t, 117
- include/types.h
 - bool_t, 118
 - FALSE, 118
 - NULL, 118
 - pok_blackboard_id_t, 118
 - pok_bool_t, 118
 - pok_buffer_id_t, 118
 - pok_event_id_t, 118
 - pok_lockobj_id_t, 118
 - pok_partition_id_t, 118
 - pok_port_direction_t, 118
 - pok_port_id_t, 118
 - pok_port_kind_t, 119
 - pok_port_size_t, 119
 - pok_queueing_discipline_t, 119
 - pok_range_t, 119
 - pok_sem_id_t, 119
 - pok_sem_value_t, 119
 - pok_size_t, 119
 - TRUE, 118
- index
 - pok_port_t, 33
- initial_value
 - pok_lockobj_attr_t, 25
- initialized
 - pok_lockobj_t, 27
- inl
 - include/arch/x86/ioports.h, 60
- int16_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 116
- int64_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 116
- int8_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 116
- interrupt.c
 - update_tss, 113
- interrupt.h
 - INTERRUPT_HANDLER, 144
 - INTERRUPT_HANDLER_errorcode, 144
 - INTERRUPT_HANDLER_syscall, 145
 - pok_tss, 146
 - update_tss, 145
- interrupt_frame, 22
 - __esp, 22
 - cs, 22
 - ds, 22
 - eax, 22
 - ebp, 22
 - ebx, 22
 - ecx, 23
 - edi, 23
 - edx, 23
 - eflags, 23
 - eip, 23
 - error, 23
 - es, 23
 - esi, 23
 - esp, 23
 - ss, 23
- intptr_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 116
- io_bit_map_offset
 - __attribute__, 10
- irq.h
 - ack_irq, 86
 - IRQMP_BASE, 86
 - IRQMP_CLEAR_OFFSET, 86
 - IRQMP_MASK0_OFFSET, 86
 - unmask_irq, 86
- is_locked
 - pok_lockobj_t, 27
- KERNEL_STACK_SIZE
 - ppc/space.c, 62
 - sparc/space.c, 67
 - x86/space.c, 71
- kernel.h
 - pok_kernel_restart, 152
 - pok_kernel_stop, 152
- kernel_sp
 - space_context_t, 38
- kind
 - pok_lockobj_attr_t, 25
 - pok_lockobj_t, 27
 - pok_port_t, 33
- L0_OFFSET
 - context_offset.h, 84
- L1_OFFSET
 - context_offset.h, 84
- L2_OFFSET
 - context_offset.h, 84
- L3_OFFSET
 - context_offset.h, 84
- L4_OFFSET
 - context_offset.h, 85
- L5_OFFSET
 - context_offset.h, 85
- L6_OFFSET
 - context_offset.h, 85
- L7_OFFSET
 - context_offset.h, 85
- LOCKOBJ_LOCK_TIMED
 - lockobj.h, 154
- LOCKOBJ_OPERATION_BROADCAST
 - lockobj.h, 155

- MM_LVL2_ENTRIES_NBR
 - sparc/space.h, 94
- MM_LVL2_PAGE_SIZE
 - sparc/space.h, 94
- MM_LVL3_ENTRIES_NBR
 - sparc/space.h, 94
- MM_LVL3_PAGE_SIZE
 - sparc/space.h, 95
- MM_MODIFIED
 - sparc/space.h, 95
- MM_REFERENCED
 - sparc/space.h, 95
- MMU_CTRL_REG
 - sparc/space.h, 95
- MMU_CTX_REG
 - sparc/space.h, 95
- MMU_CTX_TBL_PTR
 - sparc/space.h, 95
- MMU_FAULT_ADDR
 - sparc/space.h, 95
- MMU_FAULT_STATUS
 - sparc/space.h, 95
- MSR_DR
 - msr.h, 49
- MSR_EE
 - msr.h, 49
- MSR_IP
 - msr.h, 50
- MSR_IR
 - msr.h, 50
- MSR_PR
 - msr.h, 50
- MULTIBOOT_CMDLINE
 - multiboot.h, 147
- MULTIBOOT_MODS
 - multiboot.h, 147
- magic
 - pok_multiboot_header_t, 31
- max_value
 - pok_lockobj_attr_t, 26
 - pok_lockobj_t, 28
- mem_lower
 - pok_multiboot_info_t, 32
- mem_upper
 - pok_multiboot_info_t, 32
- memcpy
 - libc.h, 168
 - memcpy.c, 171
- memcpy.c
 - memcpy, 171
- memset
 - libc.h, 168
- memset.c
 - __attribute__, 172
- mm_index1
 - sparc/space.h, 94
- mm_index2
 - sparc/space.h, 94
- mm_index3
 - sparc/space.h, 94
- mmap_addr
 - pok_multiboot_info_t, 32
- mmap_length
 - pok_multiboot_info_t, 32
- mod_end
 - pok_module_t, 29
- mod_start
 - pok_module_t, 29
- mods_addr
 - pok_multiboot_info_t, 32
- mods_count
 - pok_multiboot_info_t, 32
- msr.h
 - MSR_DR, 49
 - MSR_EE, 49
 - MSR_IP, 50
 - MSR_IR, 50
 - MSR_PR, 50
- multiboot.h
 - EXT_C, 146
 - MULTIBOOT_CMDLINE, 147
 - MULTIBOOT_MODS, 147
- must_be_flushed
 - pok_port_t, 34
- NPC_OFFSET
 - context_offset.h, 85
- NULL
 - include/types.h, 118
- nargs
 - pok_syscall_args_t, 36
- next_header
 - cpio_file, 18
- num
 - pok_elf_section_header_table_t, 25
- OSCILLATOR_RATE
 - pit.c, 124
- obj_kind
 - pok_lockobj_lockattr_t, 26
- off_b
 - pok_port_t, 34
- off_e
 - pok_port_t, 34
- offset_high
 - __attribute__, 11
- offset_low
 - __attribute__, 11
- op_size
 - __attribute__, 11
- operation
 - pok_lockobj_lockattr_t, 26
- outb
 - arch/ppc/prep/ioports.h, 59
 - include/arch/x86/ioports.h, 61
- outl
 - include/arch/x86/ioports.h, 61

POK_ERRNO_DIRECTION
 errno.h, 166
 POK_ERRNO_DISCIPLINE
 errno.h, 166
 POK_ERRNO_EDOM
 errno.h, 166
 POK_ERRNO_EFAULT
 errno.h, 166
 POK_ERRNO_EINVAL
 errno.h, 166
 POK_ERRNO_EMPTY
 errno.h, 166
 POK_ERRNO_EPERM
 errno.h, 166
 POK_ERRNO_ERANGE
 errno.h, 166
 POK_ERRNO_EXISTS
 errno.h, 166
 POK_ERRNO_FULL
 errno.h, 166
 POK_ERRNO_HUGE_VAL
 errno.h, 166
 POK_ERRNO_KIND
 errno.h, 166
 POK_ERRNO_LOCKOBJ_KIND
 errno.h, 167
 POK_ERRNO_LOCKOBJ_NOTREADY
 errno.h, 167
 POK_ERRNO_LOCKOBJ_POLICY
 errno.h, 167
 POK_ERRNO_LOCKOBJ_UNAVAILABLE
 errno.h, 167
 POK_ERRNO_MODE
 errno.h, 167
 POK_ERRNO_NOTFOUND
 errno.h, 166
 POK_ERRNO_OK
 errno.h, 166
 POK_ERRNO_PARAM
 errno.h, 166
 POK_ERRNO_PARTITION
 errno.h, 167
 POK_ERRNO_PARTITION_ATTR
 errno.h, 166
 POK_ERRNO_PARTITION_MODE
 errno.h, 167
 POK_ERRNO_PORT
 errno.h, 166
 POK_ERRNO_PORTPART
 errno.h, 166
 POK_ERRNO_READY
 errno.h, 166
 POK_ERRNO_SIZE
 errno.h, 166
 POK_ERRNO_THREAD
 errno.h, 166
 POK_ERRNO_THREADATTR
 errno.h, 166
 POK_ERRNO_TIME
 errno.h, 166
 POK_ERRNO_TIMEOUT
 errno.h, 167
 POK_ERRNO_TOOMANY
 errno.h, 166
 POK_ERRNO_UNAVAILABLE
 errno.h, 166
 POK_LOCKOBJ_KIND_EVENT
 lockobj.h, 154
 POK_LOCKOBJ_KIND_MUTEX
 lockobj.h, 154
 POK_LOCKOBJ_KIND_SEMAPHORE
 lockobj.h, 154
 POK_LOCKOBJ_POLICY_PCP
 lockobj.h, 154
 POK_LOCKOBJ_POLICY_PIP
 lockobj.h, 154
 POK_LOCKOBJ_POLICY_STANDARD
 lockobj.h, 154
 POK_PORT_DIRECTION_IN
 port.h, 169
 POK_PORT_DIRECTION_OUT
 port.h, 169
 POK_PORT_KIND_INVALID
 port.h, 170
 POK_PORT_KIND_QUEUEING
 port.h, 170
 POK_PORT_KIND_SAMPLING
 port.h, 170
 POK_PORT_QUEUEING_DISCIPLINE_FIFO
 port.h, 170
 POK_PORT_QUEUEING_DISCIPLINE_PRIORITY
 port.h, 170
 POK_SCHED_EDF
 schedvalues.h, 156
 POK_SCHED_FIFO
 schedvalues.h, 156
 POK_SCHED_GLOBAL_TIMESLICE
 schedvalues.h, 156
 POK_SCHED_LLF
 schedvalues.h, 156
 POK_SCHED_RMS
 schedvalues.h, 156
 POK_SCHED_RR
 schedvalues.h, 156
 POK_SCHED_STATIC
 schedvalues.h, 156
 POK_SYSCALL_CONSWRITE
 syscall.h, 158
 POK_SYSCALL_GETTICK
 syscall.h, 158
 POK_SYSCALL_INT_NUMBER
 syscall.h, 158
 POK_SYSCALL_THREAD_CREATE
 syscall.h, 158
 POK_SYSCALL_THREAD_DELAYED_START
 syscall.h, 158

- POK_SYSCALL_THREAD_ID
syscall.h, 158
- POK_SYSCALL_THREAD_PERIOD
syscall.h, 158
- POK_SYSCALL_THREAD_RESTART
syscall.h, 158
- POK_SYSCALL_THREAD_RESUME
syscall.h, 158
- POK_SYSCALL_THREAD_SET_PRIORITY
syscall.h, 158
- POK_SYSCALL_THREAD_SLEEP
syscall.h, 158
- POK_SYSCALL_THREAD_SLEEP_UNTIL
syscall.h, 158
- POK_SYSCALL_THREAD_STATUS
syscall.h, 158
- POK_SYSCALL_THREAD_STOP
syscall.h, 158
- POK_SYSCALL_THREAD_STOPSELF
syscall.h, 158
- POK_SYSCALL_THREAD_SUSPEND
syscall.h, 158
- POK_SYSCALL_THREAD_SUSPEND_TARGET
syscall.h, 158
- p_align
Elf32_Phdr, 21
- p_filesz
Elf32_Phdr, 21
- p_flags
Elf32_Phdr, 21
- p_memsz
Elf32_Phdr, 21
- p_offset
Elf32_Phdr, 21
- p_paddr
Elf32_Phdr, 21
- p_type
Elf32_Phdr, 21
- p_vaddr
Elf32_Phdr, 21
- PARTITION_ID
x86/syscalls.c, 76
- PC_OFFSET
context_offset.h, 85
- PIC_MASTER_BASE
pic.h, 121
- PIC_MASTER_ICW1
pic.h, 121
- PIC_MASTER_ICW2
pic.h, 122
- PIC_MASTER_ICW3
pic.h, 122
- PIC_MASTER_ICW4
pic.h, 122
- PIC_SLAVE_BASE
pic.h, 122
- PIC_SLAVE_ICW1
pic.h, 122
- PIC_SLAVE_ICW2
pic.h, 122
- PIC_SLAVE_ICW3
pic.h, 122
- PIC_SLAVE_ICW4
pic.h, 122
- PIT_BASE
pit.c, 124
- PIT_IRQ
pit.c, 124
- POK_FATAL
debug.h, 152
- POK_PAGE_MASK
ppc/space.c, 62
- POK_PAGE_SIZE
ppc/space.c, 62
- POK_PORT_MAX_SIZE
port.h, 169
- POK_PREP_IOBASE
arch/ppc/prep/ioports.h, 59
- PPC_PTE_C
ppc/space.c, 62
- PPC_PTE_G
ppc/space.c, 62
- PPC_PTE_H
ppc/space.c, 63
- PPC_PTE_I
ppc/space.c, 63
- PPC_PTE_M
ppc/space.c, 63
- PPC_PTE_PP_NO
ppc/space.c, 63
- PPC_PTE_PP_RO
ppc/space.c, 63
- PPC_PTE_PP_RW
ppc/space.c, 63
- PPC_PTE_R
ppc/space.c, 63
- PPC_PTE_V
ppc/space.c, 63
- PPC_PTE_W
ppc/space.c, 63
- PPC_SR_KP
ppc/space.c, 63
- PPC_SR_Ks
ppc/space.c, 63
- PPC_SR_T
ppc/space.c, 63
- PSR_CWP_MASK
psr.h, 90
- PSR_ET
psr.h, 90
- PSR_OFFSET
context_offset.h, 85
- PSR_PIL
psr.h, 90
- PSR_PS
psr.h, 91

- PSR_S
 - psr.h, 91
- pad
 - context_t, 14
- pad0
 - volatile_context_t, 40
- pad1
 - volatile_context_t, 40
- padding
 - __attribute__, 11
- partition
 - pok_port_t, 34
 - pok_syscall_info_t, 36
- partition_id
 - space_context_t, 38
- phys_base
 - pok_space, 35
- pic.c
 - pok_pic_eoi, 120
 - pok_pic_init, 120
 - pok_pic_mask, 120
 - pok_pic_unmask, 121
- pic.h
 - PIC_MASTER_BASE, 121
 - PIC_MASTER_ICW1, 121
 - PIC_MASTER_ICW2, 122
 - PIC_MASTER_ICW3, 122
 - PIC_MASTER_ICW4, 122
 - PIC_SLAVE_BASE, 122
 - PIC_SLAVE_ICW1, 122
 - PIC_SLAVE_ICW2, 122
 - PIC_SLAVE_ICW3, 122
 - PIC_SLAVE_ICW4, 122
 - pok_pic_eoi, 122
 - pok_pic_init, 122
 - pok_pic_mask, 123
 - pok_pic_unmask, 123
- pit.c
 - INTERRUPT_HANDLER, 124
 - OSCILLATOR_RATE, 124
 - PIT_BASE, 124
 - PIT_IRQ, 124
 - pok_x86_qemu_timer_init, 124
- pit.h
 - pok_x86_qemu_timer_init, 125
- pm.c
 - __pok_begin, 127
 - __pok_end, 127
 - ALIGN_UP, 126
 - pok_multiboot_info, 127
 - pok_multiboot_magic, 127
 - pok_pm_init, 126
 - pok_pm_sbrk, 126
 - pok_x86_pm_brk, 127
 - pok_x86_pm_heap_end, 127
 - pok_x86_pm_heap_start, 127
- pm.h
 - MEM_16MB, 127
 - pok_pm_init, 128
 - pok_pm_sbrk, 128
- pok_aout_symbol_table_t, 24
 - addr, 24
 - reserved, 24
 - strsize, 24
 - tabsize, 24
- pok_arch_decr_int
 - ppc/timer.c, 80
- pok_arch_dsi_int
 - ppc/space.c, 64
- pok_arch_event_register
 - arch.h, 138
 - ppc/arch.c, 43
 - sparc/arch.c, 46
 - x86/arch.c, 48
- pok_arch_idle
 - arch.h, 138
 - ppc/arch.c, 44
 - sparc/arch.c, 46
 - x86/arch.c, 48
- pok_arch_init
 - arch.h, 138
 - ppc/arch.c, 44
 - sparc/arch.c, 46
 - x86/arch.c, 48
- pok_arch_isi_int
 - ppc/space.c, 64
- pok_arch_preempt_disable
 - arch.h, 138
 - ppc/arch.c, 44
 - sparc/arch.c, 46
 - x86/arch.c, 48
- pok_arch_preempt_enable
 - arch.h, 138
 - ppc/arch.c, 44
 - sparc/arch.c, 47
 - x86/arch.c, 49
- pok_arch_rfi
 - ppc/space.c, 65
- pok_arch_sc_int
 - ppc/syscalls.c, 73
 - sparc/syscalls.c, 74
- pok_arch_sp
 - arch/sparc/thread.h, 79
- pok_arch_space_init
 - ppc/arch.c, 44
 - ppc/space.c, 65
 - sparc/space.c, 67
 - sparc/space.h, 96
- pok_blackboard_id_t
 - include/types.h, 118
- pok_bool_t
 - include/types.h, 118
- pok_boot
 - boot.c, 129
 - boot.h, 150
- pok_bsp_init

- bsp.h, 148
- ppc/prep/bsp.c, 50
- sparc/leon3/bsp.c, 51
- x86/x86-qemu/bsp.c, 52
- pok_bsp_irq_acknowledge
 - bsp.h, 148
 - x86/x86-qemu/bsp.c, 52
- pok_bsp_irq_register
 - bsp.h, 148
 - x86/x86-qemu/bsp.c, 53
- pok_bsp_mem_alloc
 - bsp.h, 148
 - ppc/prep/bsp.c, 50
 - sparc/leon3/bsp.c, 51
 - x86/x86-qemu/bsp.c, 53
- pok_bsp_time_init
 - bsp.h, 149
 - ppc/timer.c, 81
 - sparc/leon3/timer.c, 81
 - x86/x86-qemu/bsp.c, 53
- pok_buffer_id_t
 - include/types.h, 118
- pok_cons_init
 - arch/ppc/prep/cons.c, 54
 - arch/ppc/prep/cons.h, 55
 - arch/sparc/leon3/cons.c, 54
 - arch/sparc/leon3/cons.h, 59
 - arch/x86/x86-qemu/cons.c, 55
 - arch/x86/x86-qemu/cons.h, 59
- pok_cons_write
 - bsp.h, 149
- pok_context_create
 - arch.h, 139
 - arch/ppc/thread.h, 78
 - arch/sparc/thread.h, 79
 - arch/x86/thread.h, 80
- pok_context_reset
 - arch.h, 139
 - arch/x86/thread.h, 80
- pok_context_switch
 - arch.h, 139
 - arch/ppc/thread.h, 78
 - arch/sparc/thread.h, 79
 - arch/x86/thread.h, 80
- pok_core_syscall
 - syscall.c, 131
 - syscall.h, 159
- pok_create_space
 - arch.h, 139
 - ppc/space.c, 65
 - sparc/space.c, 68
 - x86/space.c, 71
- pok_dispatch_space
 - arch.h, 139
 - x86/space.c, 71
- pok_elf_section_header_table_t, 24
 - addr, 25
 - num, 25
- shndx, 25
- size, 25
- pok_event_id_t
 - include/types.h, 118
- pok_event_init
 - event.c, 101
 - event.h, 105
- pok_exception_init
 - event.h, 105
- pok_gdt
 - gdt.c, 109
- pok_gdt_init
 - gdt.c, 108
 - gdt.h, 111
- pok_idt
 - event.c, 101
- pok_idt_init
 - event.c, 101
 - event.h, 105
- pok_idt_set_gate
 - event.c, 101
 - event.h, 105
- pok_kernel_restart
 - kernel.h, 152
- pok_kernel_stop
 - kernel.h, 152
- pok_loader_load_partition
 - loader.h, 153
- pok_locking_policy_t
 - lockobj.h, 154
- pok_lockobj_attr_t, 25
 - initial_value, 25
 - kind, 25
 - locking_policy, 26
 - max_value, 26
 - queueing_policy, 26
- pok_lockobj_create
 - lockobj.h, 155
- pok_lockobj_eventbroadcast
 - lockobj.h, 155
- pok_lockobj_eventsignal
 - lockobj.h, 155
- pok_lockobj_eventwait
 - lockobj.h, 155
- pok_lockobj_id_t
 - include/types.h, 118
- pok_lockobj_init
 - lockobj.h, 155
- pok_lockobj_kind_t
 - lockobj.h, 154
- pok_lockobj_lock
 - lockobj.h, 155
- pok_lockobj_lock_kind_t
 - lockobj.h, 154
- pok_lockobj_lockattr_t, 26
 - lock_kind, 26
 - obj_kind, 26
 - operation, 26

- time, 26
- pok_lockobj_operation_t
 - lockobj.h, 154
- pok_lockobj_partition_create
 - lockobj.h, 155
- pok_lockobj_partition_wrapper
 - lockobj.h, 155
- pok_lockobj_t, 27
 - current_value, 27
 - eventspin, 27
 - initialized, 27
 - is_locked, 27
 - kind, 27
 - locking_policy, 27
 - max_value, 28
 - queueing_policy, 28
 - spin, 28
 - thread_state, 28
- pok_lockobj_unlock
 - lockobj.h, 155
- pok_memory_map_t, 28
 - base_addr_high, 28
 - base_addr_low, 28
 - length_high, 28
 - length_low, 29
 - size, 29
 - type, 29
- pok_module_t, 29
 - mod_end, 29
 - mod_start, 29
 - reserved, 29
 - string, 29
- pok_multiboot_header_t, 30
 - bss_end_addr, 30
 - checksum, 30
 - entry_addr, 30
 - flags, 30
 - header_addr, 30
 - load_addr, 30
 - load_end_addr, 31
 - magic, 31
- pok_multiboot_info
 - pm.c, 127
- pok_multiboot_info_t, 31
 - aout_sym, 31
 - boot_device, 31
 - cmdline, 31
 - elf_sec, 32
 - flags, 32
 - mem_lower, 32
 - mem_upper, 32
 - mmap_addr, 32
 - mmap_length, 32
 - mods_addr, 32
 - mods_count, 32
 - u, 32
- pok_multiboot_magic
 - pm.c, 127
- pok_mutex_state_t
 - lockobj.h, 155
- pok_partition_id_t
 - include/types.h, 118
- pok_pic_eoi
 - pic.c, 120
 - pic.h, 122
- pok_pic_init
 - pic.c, 120
 - pic.h, 122
- pok_pic_mask
 - pic.c, 120
 - pic.h, 123
- pok_pic_unmask
 - pic.c, 121
 - pic.h, 123
- pok_pm_init
 - pm.c, 126
 - pm.h, 128
- pok_pm_sbrk
 - pm.c, 126
 - pm.h, 128
- pok_port_direction_t
 - include/types.h, 118
- pok_port_directions_t
 - port.h, 169
- pok_port_id_t
 - include/types.h, 118
- pok_port_kind_t
 - include/types.h, 119
- pok_port_kinds_t
 - port.h, 170
- pok_port_queueing_discipline_t
 - port.h, 169
- pok_port_queueing_disciplines_t
 - port.h, 170
- pok_port_size_t
 - include/types.h, 119
- pok_port_t, 32
 - direction, 33
 - discipline, 33
 - empty, 33
 - full, 33
 - identifier, 33
 - index, 33
 - kind, 33
 - last_receive, 34
 - lock, 34
 - must_be_flushed, 34
 - off_b, 34
 - off_e, 34
 - partition, 34
 - ready, 34
 - refresh, 34
 - size, 34
- pok_queueing_discipline_t
 - include/types.h, 119
- pok_range_t

- include/types.h, 119
- pok_ret_t
 - errno.h, 166
- pok_sched_t
 - schedvalues.h, 156
- pok_sem_id_t
 - include/types.h, 119
- pok_sem_value_t
 - include/types.h, 119
- pok_size_t
 - include/types.h, 119
- pok_space, 34
 - phys_base, 35
 - size, 35
- pok_space_base_vaddr
 - arch.h, 140
 - ppc/space.c, 65
 - sparc/space.c, 69
 - x86/space.c, 72
- pok_space_context_create
 - arch.h, 140
 - ppc/space.c, 65
 - sparc/space.c, 69
 - x86/space.c, 72
- pok_space_context_restart
 - arch.h, 140
- pok_space_switch
 - arch.h, 141
 - ppc/space.c, 66
 - sparc/space.c, 69
 - x86/space.c, 72
- pok_sparc_isr
 - traps.c, 98
 - traps.h, 100
- pok_spinlock_t
 - ppc/spinlock.h, 142
 - sparc/spinlock.h, 143
 - x86/spinlock.h, 143
- pok_syscall_args_t, 35
 - arg1, 35
 - arg2, 35
 - arg3, 35
 - arg4, 36
 - arg5, 36
 - nargs, 36
- pok_syscall_id_t
 - syscall.h, 157
- pok_syscall_info_t, 36
 - base_addr, 36
 - partition, 36
 - thread, 36
- pok_syscall_init
 - event.h, 105
 - syscall.h, 164
 - x86/syscalls.c, 76
- pok_syscalls_init
 - sparc/syscalls.c, 75
 - syscalls.h, 97
- pok_thread_stack_addr
 - arch.h, 141
 - ppc/arch.c, 45
 - sparc/arch.c, 47
 - x86/arch.c, 49
- pok_tss
 - gdt.c, 109
 - interrupt.h, 146
- pok_tss_init
 - gdt.c, 108
 - gdt.h, 112
- pok_x86_pm_brk
 - pm.c, 127
- pok_x86_pm_heap_end
 - pm.c, 127
- pok_x86_pm_heap_start
 - pm.c, 127
- pok_x86_qemu_timer_init
 - pit.c, 124
 - pit.h, 125
- port.h
 - POK_PORT_DIRECTION_IN, 169
 - POK_PORT_DIRECTION_OUT, 169
 - POK_PORT_KIND_INVALID, 170
 - POK_PORT_KIND_QUEUEING, 170
 - POK_PORT_KIND_SAMPLING, 170
 - POK_PORT_QUEUEING_DISCIPLINE_FIFO, 170
 - POK_PORT_QUEUEING_DISCIPLINE_PRIORITY, 170
- port.h
 - POK_PORT_MAX_SIZE, 169
 - pok_port_directions_t, 169
 - pok_port_kinds_t, 170
 - pok_port_queueing_discipline_t, 169
 - pok_port_queueing_disciplines_t, 170
- ppc/arch.c
 - pok_arch_event_register, 43
 - pok_arch_idle, 44
 - pok_arch_init, 44
 - pok_arch_preempt_disable, 44
 - pok_arch_preempt_enable, 44
 - pok_arch_space_init, 44
 - pok_thread_stack_addr, 45
- ppc/prep/bsp.c
 - _end, 51
 - pok_bsp_init, 50
 - pok_bsp_mem_alloc, 50
- ppc/space.c
 - KERNEL_STACK_SIZE, 62
 - POK_PAGE_MASK, 62
 - POK_PAGE_SIZE, 62
 - PPC_PTE_C, 62
 - PPC_PTE_G, 62
 - PPC_PTE_H, 63
 - PPC_PTE_I, 63
 - PPC_PTE_M, 63
 - PPC_PTE_PP_NO, 63
 - PPC_PTE_PP_RO, 63

PPC_PTE_PP_RW, 63
 PPC_PTE_R, 63
 PPC_PTE_V, 63
 PPC_PTE_W, 63
 PPC_SR_KP, 63
 PPC_SR_Ks, 63
 PPC_SR_T, 63
 pok_arch_dsi_int, 64
 pok_arch_isi_int, 64
 pok_arch_rfi, 65
 pok_arch_space_init, 65
 pok_create_space, 65
 pok_space_base_vaddr, 65
 pok_space_context_create, 65
 pok_space_switch, 66
 spaces, 66
 ppc/spinlock.h
 pok_spinlock_t, 142
 SPIN_LOCK, 141
 SPIN_UNLOCK, 142
 ppc/syscalls.c
 pok_arch_sc_int, 73
 ppc/timer.c
 BUS_FREQ, 80
 FREQ_DIV, 80
 pok_arch_decr_int, 80
 pok_bsp_time_init, 81
 ppc_pte_t, 37
 rpn_flags, 37
 vsid_api, 37
 present
 __attribute__, 11
 psr.h
 PSR_CWP_MASK, 90
 PSR_ET, 90
 PSR_PIL, 90
 PSR_PS, 91
 PSR_S, 91
 ptd
 sparc/space.h, 95
 pte
 sparc/space.h, 95
 queueing_policy
 pok_lockobj_attr_t, 26
 pok_lockobj_t, 28
 r0
 volatile_context_t, 40
 r10
 volatile_context_t, 40
 r11
 volatile_context_t, 40
 r12
 volatile_context_t, 40
 r13
 context_t, 14
 volatile_context_t, 40
 r14
 context_t, 14
 r15
 context_t, 14
 r16
 context_t, 14
 r17
 context_t, 14
 r18
 context_t, 15
 r19
 context_t, 15
 r2
 context_t, 15
 volatile_context_t, 40
 r20
 context_t, 15
 r21
 context_t, 15
 r22
 context_t, 15
 r23
 context_t, 15
 r24
 context_t, 15
 r25
 context_t, 15
 r26
 context_t, 15
 r27
 context_t, 15
 r28
 context_t, 15
 r29
 context_t, 16
 r3
 volatile_context_t, 41
 r30
 context_t, 16
 r31
 context_t, 16
 r4
 volatile_context_t, 41
 r5
 volatile_context_t, 41
 r6
 volatile_context_t, 41
 r7
 volatile_context_t, 41
 r8
 volatile_context_t, 41
 r9
 volatile_context_t, 41
 RESTORE_CNT_OFFSET
 context_offset.h, 85
 ready
 pok_port_t, 34
 refresh
 pok_port_t, 34

- res0
 - __attribute__, 11
- res1
 - __attribute__, 11
- reserved
 - pok_aout_symbol_table_t, 24
 - pok_module_t, 29
- rpn_flags
 - ppc_pte_t, 37
- s
 - __attribute__, 11
- SPARC_PAGE_SIZE
 - sparc_conf.h, 87
- SPARC_PROC_FREQ
 - sparc_conf.h, 87
- SPARC_RAM_ADDR
 - sparc_conf.h, 87
- SPARC_TRAP_IRQ_BASE
 - traps.h, 99
- SPIN_LOCK
 - ppc/spinlock.h, 141
 - sparc/spinlock.h, 142
 - x86/spinlock.h, 143
- SPIN_UNLOCK
 - ppc/spinlock.h, 142
 - sparc/spinlock.h, 142
 - x86/spinlock.h, 143
- schedvalues.h
 - POK_SCHED_EDF, 156
 - POK_SCHED_FIFO, 156
 - POK_SCHED_GLOBAL_TIMESLICE, 156
 - POK_SCHED_LLF, 156
 - POK_SCHED_RMS, 156
 - POK_SCHED_RR, 156
 - POK_SCHED_STATIC, 156
- schedvalues.h
 - pok_sched_t, 156
- segsel
 - __attribute__, 11
- shndx
 - pok_elf_section_header_table_t, 25
- size
 - pok_elf_section_header_table_t, 25
 - pok_memory_map_t, 29
 - pok_port_t, 34
 - pok_space, 35
- size_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 116
- sp
 - context_t, 16
 - volatile_context_t, 41
- space_context_t, 37
 - arg1, 37
 - arg2, 37
 - ctx, 38
 - fake_ret, 38
- kernel_sp, 38
- partition_id, 38
- user_pc, 38
- user_sp, 38
- spaces
 - ppc/space.c, 66
 - sparc/space.c, 70
- sparc/arch.c
 - pok_arch_event_register, 46
 - pok_arch_idle, 46
 - pok_arch_init, 46
 - pok_arch_preempt_disable, 46
 - pok_arch_preempt_enable, 47
 - pok_thread_stack_addr, 47
- sparc/leon3/bsp.c
 - _end, 52
 - pok_bsp_init, 51
 - pok_bsp_mem_alloc, 51
- sparc/leon3/timer.c
 - pok_bsp_time_init, 81
 - timer_isr, 82
- sparc/space.c
 - __attribute__, 67
 - KERNEL_STACK_SIZE, 67
 - pok_arch_space_init, 67
 - pok_create_space, 68
 - pok_space_base_vaddr, 69
 - pok_space_context_create, 69
 - pok_space_switch, 69
 - spaces, 70
- sparc/space.h
 - ASI_M_MMUREGS, 92
 - LEON_CTX_NBR, 92
 - MM_ACC_E, 92
 - MM_ACC_R, 92
 - MM_ACC_R_S_RW, 93
 - MM_ACC_RE, 93
 - MM_ACC_RW, 93
 - MM_ACC_RWE, 93
 - MM_ACC_S_RE, 93
 - MM_ACC_S_RWE, 93
 - MM_CACHEABLE, 93
 - MM_ET_INVALID, 93
 - MM_ET_PTD, 93
 - MM_ET_PTE, 94
 - MM_LVL1_ENTRIES_NBR, 94
 - MM_LVL1_PAGE_SIZE, 94
 - MM_LVL2_ENTRIES_NBR, 94
 - MM_LVL2_PAGE_SIZE, 94
 - MM_LVL3_ENTRIES_NBR, 94
 - MM_LVL3_PAGE_SIZE, 95
 - MM_MODIFIED, 95
 - MM_REFERENCED, 95
 - MMU_CTRL_REG, 95
 - MMU_CTX_REG, 95
 - MMU_CTXTBL_PTR, 95
 - MMU_FAULT_ADDR, 95
 - MMU_FAULT_STATUS, 95

- mm_index1, 94
- mm_index2, 94
- mm_index3, 94
- pok_arch_space_init, 96
- ptd, 95
- pte, 95
- sparc/spinlock.h
 - pok_spinlock_t, 143
 - SPIN_LOCK, 142
 - SPIN_UNLOCK, 142
- sparc/syscalls.c
 - pok_arch_sc_int, 74
 - pok_syscalls_init, 75
- sparc_conf.h
 - ASI_MMU_BYPASS, 87
 - SPARC_PAGE_SIZE, 87
 - SPARC_PROC_FREQ, 87
 - SPARC_RAM_ADDR, 87
 - WINDOWS_NBR, 88
- sparc_traps_handler
 - traps.h, 99
- spin
 - pok_lockobj_t, 28
- srr0
 - volatile_context_t, 41
- srr1
 - volatile_context_t, 41
- ss
 - __attribute__, 11
 - interrupt_frame, 23
- ss0
 - __attribute__, 11
- ss1
 - __attribute__, 11
- ss2
 - __attribute__, 12
- start_context_t, 38
 - ctx, 39
 - entry, 39
 - fake_ret, 39
 - id, 39
- strcmp
 - libc.h, 168
- string
 - pok_module_t, 29
- strlen
 - libc.h, 168
- strncmp
 - libc.h, 168
- strsize
 - pok_aout_symbol_table_t, 24
- syscall.h
 - POK_SYSCALL_CONSWRITE, 158
 - POK_SYSCALL_GETTICK, 158
 - POK_SYSCALL_INT_NUMBER, 158
 - POK_SYSCALL_THREAD_CREATE, 158
 - POK_SYSCALL_THREAD_DELAYED_START, 158
 - POK_SYSCALL_THREAD_ID, 158
 - POK_SYSCALL_THREAD_PERIOD, 158
 - POK_SYSCALL_THREAD_RESTART, 158
 - POK_SYSCALL_THREAD_RESUME, 158
 - POK_SYSCALL_THREAD_SET_PRIORITY, 158
 - POK_SYSCALL_THREAD_SLEEP, 158
 - POK_SYSCALL_THREAD_SLEEP_UNTIL, 158
 - POK_SYSCALL_THREAD_STATUS, 158
 - POK_SYSCALL_THREAD_STOP, 158
 - POK_SYSCALL_THREAD_STOPSELF, 158
 - POK_SYSCALL_THREAD_SUSPEND, 158
 - POK_SYSCALL_THREAD_SUSPEND_TARGET, 158
- syscall.c
 - pok_core_syscall, 131
- syscall.h
 - pok_core_syscall, 159
 - pok_syscall_id_t, 157
 - pok_syscall_init, 164
- syscalls.h
 - pok_syscalls_init, 97
- TIMER1
 - timer.h, 88
- TIMER_CTRL_CH
 - timer.h, 88
- TIMER_CTRL_DH
 - timer.h, 89
- TIMER_CTRL_EN
 - timer.h, 89
- TIMER_CTRL_IE
 - timer.h, 89
- TIMER_CTRL_IP
 - timer.h, 89
- TIMER_CTRL_LD
 - timer.h, 89
- TIMER_CTRL_OFFSET
 - timer.h, 89
- TIMER_CTRL_RS
 - timer.h, 89
- TIMER_IRQ
 - timer.h, 89
- TIMER_RELOAD_OFFSET
 - timer.h, 89
- TIMER_SCALER_OFFSET
 - timer.h, 90
- TRUE
 - include/types.h, 118
- tabsize
 - pok_aout_symbol_table_t, 24
- thread
 - pok_syscall_info_t, 36
- thread_state
 - pok_lockobj_t, 28
- time
 - pok_lockobj_lockattr_t, 26
- timer.h
 - TIMER1, 88
 - TIMER_CTRL_CH, 88

- TIMER_CTRL_DH, 89
- TIMER_CTRL_EN, 89
- TIMER_CTRL_IE, 89
- TIMER_CTRL_IP, 89
- TIMER_CTRL_LD, 89
- TIMER_CTRL_OFFSET, 89
- TIMER_CTRL_RS, 89
- TIMER_IRQ, 89
- TIMER_RELOAD_OFFSET, 89
- TIMER_SCALER_OFFSET, 90
- timer_isr
 - sparc/leon3/timer.c, 82
- trace_trap
 - __attribute__, 12
- trap_handler
 - traps.c, 97
- traps.c
 - pok_sparc_isr, 98
 - trap_handler, 97
 - traps_init, 98
- traps.h
 - pok_sparc_isr, 100
 - sparc_traps_handler, 99
 - traps_init, 99
- traps_init
 - traps.c, 98
 - traps.h, 99
- tss_set_esp0
 - gdt.c, 108
 - gdt.h, 112
- type
 - __attribute__, 12
 - pok_memory_map_t, 29
- u
 - pok_multiboot_info_t, 32
- UART1
 - arch/sparc/leon3/cons.h, 56
- UART_CTRL_FL
 - arch/sparc/leon3/cons.h, 56
- UART_CTRL_LB
 - arch/sparc/leon3/cons.h, 56
- UART_CTRL_OFFSET
 - arch/sparc/leon3/cons.h, 56
- UART_CTRL_PE
 - arch/sparc/leon3/cons.h, 57
- UART_CTRL_PS
 - arch/sparc/leon3/cons.h, 57
- UART_CTRL_RE
 - arch/sparc/leon3/cons.h, 57
- UART_CTRL_RI
 - arch/sparc/leon3/cons.h, 57
- UART_CTRL_TE
 - arch/sparc/leon3/cons.h, 57
- UART_CTRL_TI
 - arch/sparc/leon3/cons.h, 57
- UART_DATA_OFFSET
 - arch/sparc/leon3/cons.h, 57
- UART_SCALER_OFFSET
 - arch/sparc/leon3/cons.h, 57
- UART_STAT_OFFSET
 - arch/sparc/leon3/cons.h, 57
- UART_STATUS_BR
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_DR
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_ERR
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_FE
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_OE
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_PE
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_THE
 - arch/sparc/leon3/cons.h, 58
- UART_STATUS_TSE
 - arch/sparc/leon3/cons.h, 58
- uint16_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 117
- uint32_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 117
- uint64_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 115
 - include/arch/x86/types.h, 117
- uint8_t
 - arch/x86/types.h, 114
 - include/arch/sparc/types.h, 116
 - include/arch/x86/types.h, 117
- unmask_irq
 - irq.h, 86
- unused_lr
 - context_t, 16
 - volatile_context_t, 41
- update_tss
 - interrupt.c, 113
 - interrupt.h, 145
- user_pc
 - space_context_t, 38
- user_sp
 - space_context_t, 38
- volatile_context_t, 39
 - back_chain, 40
 - cr, 40
 - ctr, 40
 - lr, 40
 - pad0, 40
 - pad1, 40
 - r0, 40
 - r10, 40
 - r11, 40
 - r12, 40

- r13, [40](#)
- r2, [40](#)
- r3, [41](#)
- r4, [41](#)
- r5, [41](#)
- r6, [41](#)
- r7, [41](#)
- r8, [41](#)
- r9, [41](#)
- sp, [41](#)
- srr0, [41](#)
- srr1, [41](#)
- unused_lr, [41](#)
- xer, [41](#)

vsid_api

- ppc_pte_t, [37](#)

WIM_OFFSET

- context_offset.h, [85](#)

WINDOWS_NBR

- sparc_conf.h, [88](#)

x86/arch.c

- pok_arch_event_register, [48](#)
- pok_arch_idle, [48](#)
- pok_arch_init, [48](#)
- pok_arch_preempt_disable, [48](#)
- pok_arch_preempt_enable, [49](#)
- pok_thread_stack_addr, [49](#)

x86/space.c

- KERNEL_STACK_SIZE, [71](#)
- pok_create_space, [71](#)
- pok_dispatch_space, [71](#)
- pok_space_base_vaddr, [72](#)
- pok_space_context_create, [72](#)
- pok_space_switch, [72](#)

x86/spinlock.h

- pok_spinlock_t, [143](#)
- SPIN_LOCK, [143](#)
- SPIN_UNLOCK, [143](#)

x86/syscalls.c

- INTERRUPT_HANDLER_syscall, [76](#)
- PARTITION_ID, [76](#)
- pok_syscall_init, [76](#)

x86/x86-qemu/bsp.c

- pok_bsp_init, [52](#)
- pok_bsp_irq_acknowledge, [52](#)
- pok_bsp_irq_register, [53](#)
- pok_bsp_mem_alloc, [53](#)
- pok_bsp_time_init, [53](#)

xer

- volatile_context_t, [41](#)

Y_OFFSET

- context_offset.h, [85](#)