

POK

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# Chapter 1

## Class Index

### 1.1 Class List

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## Chapter 2

# File Index

### 2.1 File List

Here is a list of all documented files with brief descriptions:

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/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-buffers.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-events.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-health_-monitoring.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-module_-schedules.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-partitions.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-processes.-ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-queuing_-ports.ads</b>	??
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/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-semaphores.-ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex-timing.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/ada/arinc653/ <b>apex.ads</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/ppc/ <b>arch.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/sparc/ <b>arch.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/x86/ <b>arch.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/x86/ <b>ioports.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/x86/ <b>pci.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arch/x86/ <b>syscall.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/ <b>arincutils.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/ <b>blackboard.c</b>	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/ <b>buffer.c</b>	??

/home/jaouen/pok_official/pok/trunk/libpok/arinc653/error.c	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/event.c	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/partition.c	??
/home/jaouen/pok_official/pok/trunk/libpok/arinc653/process.c	??
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/home/jaouen/pok_official/pok/trunk/libpok/core/errorget.c	??
/home/jaouen/pok_official/pok/trunk/libpok/core/errorhandlercreate.c	??
/home/jaouen/pok_official/pok/trunk/libpok/core/errorhandlersetready.c	??
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/home/jaouen/pok_official/pok/trunk/libpok/core/semsignal.c	??
/home/jaouen/pok_official/pok/trunk/libpok/core/semstatus.c	??
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/home/jaouen/pok_official/pok/trunk/libpok/include/ <b>errno.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/ <b>libm.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/ <b>stdio.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/ <b>stdlib.h</b> . . . . .	??
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/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>blackboard.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>buffer.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>error.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>event.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>partition.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/ <b>process.h</b> . . . . .	??
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/home/jaouen/pok_official/pok/trunk/libpok/include/libc/ <b>string.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/middleware/ <b>blackboard.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/middleware/ <b>buffer.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/middleware/ <b>port.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/include/middleware/ <b>queue.h</b> . . . . .	??
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/home/jaouen/pok_official/pok/trunk/libpok/include/protocols/ <b>ssl.h</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libc/misc/ <b>__udivdi3.c</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libc/stdio/ <b>printf.c</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libc/stdlib/ <b>calloc.c</b> . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libc/stdlib/ <b>free.c</b> . . . . .	??

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/home/jaouen/pok_official/pok/trunk/libpok/libc/stdlib/malloc.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/stdlib/rand.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/itoa.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/memcmp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/memcpy.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/memset.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/strcmp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/strcpy.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/streq.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/strlen.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/x86/memcpy.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libc/string/x86/strlen.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/acos.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/acosf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/acosh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/acoshf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/asin.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/asinf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/asinh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/asinhf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atan.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atan2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atan2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atanf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atanh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/atanhf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/cbirt.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/cbirtf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ceil.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ceilf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/copysign.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/copysignf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/cos.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/cosf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/cosh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/coshf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/drem.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/dremf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_acos.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_acosf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_acosh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_acoshf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_asin.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_asinf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_atan2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_atan2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_atanh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_atanhf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_cosh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_coshf.c . . . . . ??

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/home/jaouen/pok_official/pok/trunk/libpok/libm/e_exp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_expf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_fmod.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_fmodf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_hypot.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_hypotf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_j0.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_j0f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_j1.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_j1f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_jn.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_jnf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_lgamma_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_lgammaf_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_log.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_log10.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_log10f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_log2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_log2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_logf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_pow.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_powf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_rem_pio2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_rem_pio2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_remainder.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_remainderf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_scalb.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_scalbf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_sinh.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_sinhf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_sqrt.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/e_sqrtf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/erf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/erff.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/exp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/expf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/expm1.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/expm1f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/fabs.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/fabsf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/finite.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/finitef.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/floor.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/floorf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/fmod.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/fmodf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/fpclassify.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/frexp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/frexp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/frexp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/gamma.c . . . . . ??
```

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/home/jaouen/pok_official/pok/trunk/libpok/libm/gamma_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/gammaf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/gammaf_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/hypot.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/hypotf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ilogb.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ilogbf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/infinity.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/isinf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/isinf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/isnan.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/isnanf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/j0.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/j0f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/j1.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/j1f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/jn.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/jnf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_cos.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_cosf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_rem_pio2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_rem_pio2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_sin.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_sinf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_standard.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_tan.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/k_tanf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ldexp.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/ldexpf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/lgamma.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/lgamma_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/lgammaf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/lgammaf_r.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log10.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log10f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log1p.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log1pf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log2.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/log2f.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/logb.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/logbf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/logf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/math_private.h . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/matherr.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/modf.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/modff.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/namespace.h . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/nextafter.c . . . . . ??
/home/jaouen/pok_official/pok/trunk/libpok/libm/nextafterf.c . . . . . ??

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/home/jaouen/pok_official/pok/trunk/libpok/libm/pow.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/powf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/remainder.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/remainderf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/rint.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/rintf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/round.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/roundf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/scalb.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/scalbf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/scalbn.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/scalbnf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/signgam.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/significand.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/significandf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sin.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sinf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sinh.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sinhf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sqrt.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/sqrtf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/tan.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/tanf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/tanh.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/tanhf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/trunc.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/libm/truncf.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardclear.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardcreate.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboarddisplay.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardid.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardinit.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardread.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/blackboardstatus.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/buffercreate.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/bufferid.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/bufferinit.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/bufferreceive.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/buffersend.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/bufferstatus.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portqueueingcreate.- c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portqueueingreceive.- c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portqueueingsend.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portsamplingcreate.- c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portsamplingread.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portsamplingwrite.c . . . . .	??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/portvirtualcreate.c . . . . .	??

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/home/jaouen/pok_official/pok/trunk/libpok/middleware/ <b>portvirtualdestination.-</b>		
<b>c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/ <b>portvirtualgetglobal.-</b>		
<b>c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/ <b>portvirtualnbdestinations.-</b>		
<b>c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/ <b>queueinit.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/middleware/ <b>ressources.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>bf_enc.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>bf_locl.h</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>bf_pi.h</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>bf_skey.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>blowfish.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/blowfish/ <b>blowfish.h</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/ceasar/ <b>ceasar.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>des.c</b>		
DES crypto protocol . . . . .		36
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>des.h</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>des_enc.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>des_locl.h</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>ncbc_enc.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>set_key.c</b> . . . . .		??
/home/jaouen/pok_official/pok/trunk/libpok/protocols/des/ <b>spr.h</b> . . . . .		??



## Chapter 3

# Class Documentation

### 3.1 `__attribute__` Struct Reference

#### Public Attributes

- char **dst** [ETH\_MAC\_LEN]
- char **src** [ETH\_MAC\_LEN]
- unsigned short **ethertype**
- unsigned short **src**
- unsigned short **dst**
- unsigned short **len**
- unsigned short **chk**
- eth\_hdr\_t **eth**
- udp\_hdr\_t **udp**
- char **data** [NET\_DATA\_MAXLEN]
- uint32\_t **len**
- uint32\_t **off**
- unsigned char **status**
- unsigned char **next**
- unsigned short **size**

#### 3.1.1 Detailed Description

Definition at line 34 of file rtl8029.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/drivers/rtl8029.h

### 3.2 `ARINC_ATTRIBUTE` Struct Reference

```
#include <arincutils.h>
```

### Public Attributes

- PROCESS\_NAME\_TYPE **NAME**
- PRIORITY\_TYPE **BASE\_PRIORITY**
- STACK\_SIZE\_TYPE **STACK\_SIZE**

#### 3.2.1 Detailed Description

Struct for save data NAME => Not use by pok BASE\_PRIORITY => This value, in pok, is modified. Here we save the base value

Definition at line 26 of file arincutils.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/arincutils.h

### 3.3 bf\_key\_st Struct Reference

#### Public Attributes

- BF\_LONG **P** [BF\_ROUNDS+2]
- BF\_LONG **S** [4 \*256]

#### 3.3.1 Detailed Description

Definition at line 100 of file blowfish.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/protocols/blowfish/blowfish.h

### 3.4 BLACKBOARD\_STATUS\_TYPE Struct Reference

#### Public Attributes

- EMPTY\_INDICATOR\_TYPE **EMPTY\_INDICATOR**
- MESSAGE\_SIZE\_TYPE **MAX\_MESSAGE\_SIZE**
- WAITING\_RANGE\_TYPE **WAITING\_PROCESSES**

#### 3.4.1 Detailed Description

Definition at line 44 of file blackboard.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/blackboard.h

## 3.5 BUFFER\_STATUS\_TYPE Struct Reference

### Public Attributes

- MESSAGE\_RANGE\_TYPE **NB\_MESSAGE**
- MESSAGE\_RANGE\_TYPE **MAX\_NB\_MESSAGE**
- MESSAGE\_SIZE\_TYPE **MAX\_MESSAGE\_SIZE**
- WAITING\_RANGE\_TYPE **WAITING\_PROCESSES**

### 3.5.1 Detailed Description

Definition at line 43 of file buffer.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/buffer.h

## 3.6 DES\_ks Struct Reference

### Public Attributes

- union {
  - DES\_cblock **cblock**
  - DES\_LONG **deslong** [2]
- } **ks** [16]

### 3.6.1 Detailed Description

Definition at line 97 of file des.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/protocols/des/des.h

## 3.7 ERROR\_STATUS\_TYPE Struct Reference

### Public Attributes

- ERROR\_CODE\_TYPE **ERROR\_CODE**
- MESSAGE\_SIZE\_TYPE **LENGTH**

- PROCESS\_ID\_TYPE **FAILED\_PROCESS\_ID**
- SYSTEM\_ADDRESS\_TYPE **FAILED\_ADDRESS**
- ERROR\_MESSAGE\_TYPE **MESSAGE**

### 3.7.1 Detailed Description

Definition at line 51 of file error.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/error.h

## 3.8 EVENT\_STATUS\_TYPE Struct Reference

### Public Attributes

- EVENT\_STATE\_TYPE **EVENT\_STATE**
- WAITING\_RANGE\_TYPE **WAITING\_PROCESSES**

### 3.8.1 Detailed Description

Definition at line 64 of file event.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/event.h

## 3.9 exception Struct Reference

### Public Attributes

- int **type**
- char \* **name**
- double **arg1**
- double **arg2**
- double **retval**

### 3.9.1 Detailed Description

Definition at line 26 of file libm.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/libm.h

## 3.10 `ieee_double_shape_type` Union Reference

### Public Attributes

- double **value**
- struct {
  - uint32\_t **lsw**
  - uint32\_t **msw**
- } **parts**

### 3.10.1 Detailed Description

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

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

- `/home/jaouen/pok_official/pok/trunk/libpok/libm/math_private.h`

## 3.11 `ieee_float_shape_type` Union Reference

### Public Attributes

- float **value**
- uint32\_t **word**

### 3.11.1 Detailed Description

Definition at line 159 of file `math_private.h`.

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

- `/home/jaouen/pok_official/pok/trunk/libpok/libm/math_private.h`

## 3.12 `PARTITION_STATUS_TYPE` Struct Reference

### Public Attributes

- `SYSTEM_TIME_TYPE` **PERIOD**
- `SYSTEM_TIME_TYPE` **DURATION**
- `PARTITION_ID_TYPE` **IDENTIFIER**
- `LOCK_LEVEL_TYPE` **LOCK\_LEVEL**
- `OPERATING_MODE_TYPE` **OPERATING\_MODE**
- `START_CONDITION_TYPE` **START\_CONDITION**

### 3.12.1 Detailed Description

Definition at line 43 of file partition.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/partition.h

## 3.13 pok\_allocator\_space\_t Struct Reference

### Public Attributes

- size\_t **start**
- size\_t **size**
- bool\_t **allocated**

### 3.13.1 Detailed Description

Definition at line 60 of file allocator.c.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/core/allocator.c

## 3.14 pok\_arinc653\_event\_layer\_t Struct Reference

### Public Attributes

- pok\_event\_id\_t **core\_id**
- pok\_bool\_t **ready**

### 3.14.1 Detailed Description

Definition at line 43 of file event.c.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/arinc653/event.c

## 3.15 pok\_arinc653\_semaphore\_layer\_t Struct Reference

### Public Attributes

- pok\_bool\_t **ready**
- pok\_sem\_id\_t **core\_id**

### 3.15.1 Detailed Description

Definition at line 42 of file semaphore.c.

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

- [/home/jaouen/pok\\_official/pok/trunk/libpok/arinc653/semaphore.c](#)

## 3.16 pok\_blackboard\_status\_t Struct Reference

### Public Attributes

- pok\_port\_size\_t **msg\_size**
- pok\_bool\_t **empty**
- pok\_range\_t **waiting\_processes**

### 3.16.1 Detailed Description

Definition at line 37 of file blackboard.h.

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

- [/home/jaouen/pok\\_official/pok/trunk/libpok/include/middleware/blackboard.h](#)

## 3.17 pok\_blackboard\_t Struct Reference

### Public Attributes

- pok\_size\_t **size**
- pok\_bool\_t **empty**
- pok\_range\_t **waiting\_processes**
- pok\_size\_t **index**
- pok\_bool\_t **ready**
- pok\_event\_id\_t **lock**

### 3.17.1 Detailed Description

Definition at line 27 of file blackboard.h.

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

- [/home/jaouen/pok\\_official/pok/trunk/libpok/include/middleware/blackboard.h](#)

## 3.18 pok\_buffer\_status\_t Struct Reference

### Public Attributes

- pok\_range\_t **nb\_messages**
- pok\_range\_t **max\_messages**
- pok\_size\_t **message\_size**
- pok\_range\_t **waiting\_processes**

### 3.18.1 Detailed Description

Definition at line 47 of file buffer.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/middleware/buffer.h

## 3.19 pok\_buffer\_t Struct Reference

### Public Attributes

- pok\_bool\_t **ready**
- pok\_bool\_t **empty**
- pok\_bool\_t **full**
- pok\_size\_t **size**
- pok\_size\_t **index**
- pok\_port\_size\_t **off\_b**
- pok\_port\_size\_t **off\_e**
- pok\_port\_size\_t **msgsize**
- pok\_range\_t **waiting\_processes**
- pok\_queueing\_discipline\_t **discipline**
- pok\_event\_id\_t **lock**

### 3.19.1 Detailed Description

Definition at line 32 of file buffer.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/middleware/buffer.h



## 3.20 pok\_error\_report\_t Struct Reference

### Public Attributes

- uint32\_t **thread**
- uint32\_t **error**
- pok\_time\_t **when**

### 3.20.1 Detailed Description

Definition at line 37 of file error.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/error.h

## 3.21 pok\_error\_status\_t Struct Reference

### Public Attributes

- uint8\_t **error\_kind**
- uint32\_t **failed\_thread**
- uint32\_t **failed\_addr**
- char \* **msg**
- uint32\_t **msg\_size**

### 3.21.1 Detailed Description

Definition at line 27 of file error.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/error.h

## 3.22 pok\_lockobj\_attr\_t Struct Reference

### Public Attributes

- 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**

### 3.22.1 Detailed Description

Definition at line 38 of file lockobj.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/lockobj.h

## 3.23 pok\_lockobj\_lockattr\_t Struct Reference

### Public Attributes

- pok\_lockobj\_operation\_t **operation**
- pok\_lockobj\_kind\_t **obj\_kind**
- pok\_lockobj\_lock\_kind\_t **lock\_kind**
- uint64\_t **time**

### 3.23.1 Detailed Description

Definition at line 62 of file lockobj.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/lockobj.h

## 3.24 pok\_mutex\_attr\_t Struct Reference

### Public Attributes

- pok\_mutex\_policy\_t **policy**

### 3.24.1 Detailed Description

Definition at line 31 of file mutex.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/mutex.h

## 3.25 pok\_port\_queueing\_status\_t Struct Reference

### Public Attributes

- pok\_port\_size\_t **size**

- pok\_port\_direction\_t **direction**
- uint8\_t **nb\_messages**
- uint8\_t **waiting\_processes**

### 3.25.1 Detailed Description

Definition at line 60 of file port.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/middleware/port.h

## 3.26 pok\_port\_sampling\_status\_t Struct Reference

### Public Attributes

- pok\_port\_size\_t **size**
- pok\_port\_direction\_t **direction**
- uint64\_t **refresh**
- bool\_t **validity**

### 3.26.1 Detailed Description

Definition at line 107 of file port.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/middleware/port.h

## 3.27 pok\_queue\_t Struct Reference

### Public Attributes

- char \* **data**
- uint8\_t **size**
- uint8\_t **available\_size**

### 3.27.1 Detailed Description

Definition at line 25 of file queue.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/middleware/queue.h

## 3.28 pok\_syscall\_args\_t Struct Reference

### Public Attributes

- uint32\_t **nargs**
- uint32\_t **arg1**
- uint32\_t **arg2**
- uint32\_t **arg3**
- uint32\_t **arg4**
- uint32\_t **arg5**

### 3.28.1 Detailed Description

Definition at line 92 of file syscall.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/syscall.h

## 3.29 pok\_thread\_attr\_t Struct Reference

### Public Attributes

- uint8\_t **priority**
- void \* **entry**
- uint64\_t **period**
- uint64\_t **deadline**
- uint64\_t **time\_capacity**
- uint32\_t **stack\_size**
- uint32\_t **state**

### 3.29.1 Detailed Description

Definition at line 32 of file thread.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/core/thread.h

## 3.30 PROCESS\_ATTRIBUTE\_TYPE Struct Reference

### Public Attributes

- SYSTEM\_TIME\_TYPE **PERIOD**

- SYSTEM\_TIME\_TYPE **TIME\_CAPACITY**
- SYSTEM\_ADDRESS\_TYPE **ENTRY\_POINT**
- STACK\_SIZE\_TYPE **STACK\_SIZE**
- PRIORITY\_TYPE **BASE\_PRIORITY**
- DEADLINE\_TYPE **DEADLINE**
- PROCESS\_NAME\_TYPE **NAME**

### 3.30.1 Detailed Description

Definition at line 55 of file process.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/process.h

## 3.31 PROCESS\_STATUS\_TYPE Struct Reference

### Public Attributes

- SYSTEM\_TIME\_TYPE **DEADLINE\_TIME**
- PRIORITY\_TYPE **CURRENT\_PRIORITY**
- PROCESS\_STATE\_TYPE **PROCESS\_STATE**
- [PROCESS\\_ATTRIBUTE\\_TYPE](#) **ATTRIBUTES**

### 3.31.1 Detailed Description

Definition at line 65 of file process.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/process.h

## 3.32 QUEUING\_PORT\_STATUS\_TYPE Struct Reference

### Public Attributes

- MESSAGE\_RANGE\_TYPE **NB\_MESSAGE**
- MESSAGE\_RANGE\_TYPE **MAX\_NB\_MESSAGE**
- MESSAGE\_SIZE\_TYPE **MAX\_MESSAGE\_SIZE**
- PORT\_DIRECTION\_TYPE **PORT\_DIRECTION**
- WAITING\_RANGE\_TYPE **WAITING\_PROCESSES**

### 3.32.1 Detailed Description

Definition at line 32 of file queueing.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arinc653/queueing.h

## 3.33 s\_file Struct Reference

### Public Attributes

- char **buff** [MY\_BUF\_SIZE]
- size\_t **pos**

### 3.33.1 Detailed Description

Definition at line 38 of file printf.c.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/libc/stdio/printf.c

## 3.34 s\_format Struct Reference

### Public Attributes

- char **ch**
- t\_fmtfun **fun**
- int **flags**

### 3.34.1 Detailed Description

Definition at line 55 of file printf.c.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/libc/stdio/printf.c

## 3.35 s\_ne2000\_dev Struct Reference

### Public Attributes

- [s\\_pci\\_device](#) **pci**

- unsigned int **addr**
- char **mac** [6]
- [pok\\_queue\\_t](#) **recv\_buf** [20]

### 3.35.1 Detailed Description

Definition at line 66 of file rtl8029.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/drivers/rtl8029.h

## 3.36 s\_pci\_device Struct Reference

### Public Attributes

- uint16\_t **bus**
- uint16\_t **dev**
- uint16\_t **fun**
- uint16\_t **vendorid**
- uint16\_t **deviceid**
- uint16\_t **irq\_line**
- uint16\_t **io\_range**
- uint32\_t **bar** [6]
- uint32\_t **addr**
- void \* **irq\_handler**

### 3.36.1 Detailed Description

Definition at line 28 of file pci.h.

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

- /home/jaouen/pok\_official/pok/trunk/libpok/include/arch/x86/pci.h

## 3.37 SAMPLING\_PORT\_STATUS\_TYPE Struct Reference

### Public Attributes

- SYSTEM\_TIME\_TYPE **REFRESH\_PERIOD**
- MESSAGE\_SIZE\_TYPE **MAX\_MESSAGE\_SIZE**
- PORT\_DIRECTION\_TYPE **PORT\_DIRECTION**
- VALIDITY\_TYPE **LAST\_MSG\_VALIDITY**

### 3.37.1 Detailed Description

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

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

- `/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/sampling.h`

## 3.38 SEMAPHORE\_STATUS\_TYPE Struct Reference

### Public Attributes

- `SEMAPHORE_VALUE_TYPE CURRENT_VALUE`
- `SEMAPHORE_VALUE_TYPE MAXIMUM_VALUE`
- `WAITING_RANGE_TYPE WAITING_PROCESSES`

### 3.38.1 Detailed Description

Definition at line 64 of file `semaphore.h`.

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

- `/home/jaouen/pok_official/pok/trunk/libpok/include/arinc653/semaphore.h`

## 3.39 u\_arg Union Reference

### Public Attributes

- `uint32_t value`
- `uint32_t uint`
- `int sint`
- `double vdouble`
- `void * ptr`

### 3.39.1 Detailed Description

Definition at line 44 of file `printf.c`.

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

- `/home/jaouen/pok_official/pok/trunk/libpok/libc/stdio/printf.c`



## Chapter 4

# File Documentation

### 4.1 /home/jaouen/pok\_official/pok/trunk/libpok/arinc653/semaphore.c File Reference

Provides ARINC653 API functionalities for semaphore management.

#### Classes

- struct [pok\\_arinc653\\_semaphore\\_layer\\_t](#)

#### Functions

- void **CREATE\_SEMAPHORE** (SEMAPHORE\_NAME\_TYPE SEMAPHORE\_NAME, SEMAPHORE\_VALUE\_TYPE CURRENT\_VALUE, SEMAPHORE\_VALUE\_TYPE MAXIMUM\_VALUE, QUEUING\_DISCIPLINE\_TYPE QUEUING\_DISCIPLINE, SEMAPHORE\_ID\_TYPE \*SEMAPHORE\_ID, RETURN\_CODE\_TYPE \*RETURN\_CODE)
- void **WAIT\_SEMAPHORE** (SEMAPHORE\_ID\_TYPE SEMAPHORE\_ID, SYSTEM\_TIME\_TYPE TIME\_OUT, RETURN\_CODE\_TYPE \*RETURN\_CODE)
- void **SIGNAL\_SEMAPHORE** (SEMAPHORE\_ID\_TYPE SEMAPHORE\_ID, RETURN\_CODE\_TYPE \*RETURN\_CODE)
- void **GET\_SEMAPHORE\_ID** (SEMAPHORE\_NAME\_TYPE SEMAPHORE\_NAME, SEMAPHORE\_ID\_TYPE \*SEMAPHORE\_ID, RETURN\_CODE\_TYPE \*RETURN\_CODE)
- void **GET\_SEMAPHORE\_STATUS** (SEMAPHORE\_ID\_TYPE SEMAPHORE\_ID, [SEMAPHORE\\_STATUS\\_TYPE](#) \*SEMAPHORE\_STATUS, RETURN\_CODE\_TYPE \*RETURN\_CODE)

#### Variables

- pok\_bool\_t **pok\_arinc653\_semaphores\_initialized** = 0

- char \* **pok\_arinc653\_semaphores\_names** [POK\_CONFIG\_ARINC653\_NB\_SEMAPHORES]
- [pok\\_arinc653\\_semaphore\\_layer\\_t](#) **pok\_arinc653\_semaphores\_layers** [POK\_CONFIG\_ARINC653\_NB\_SEMAPHORES]

#### 4.1.1 Detailed Description

Provides ARINC653 API functionalities for semaphore management.

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

## 4.2 /home/jaouen/pok\_official/pok/trunk/libpok/drivers/rtl8029.c - File Reference

RTL8029 driver.

### Functions

- void [rtl8029\\_read](#) (pok\_port\_id\_t port\_id, void \*data, uint32\_t len)  
*Reads data from the corresponding network stack.*
- void [rtl8029\\_write](#) (pok\_port\_id\_t port\_id, const void \*data, uint32\_t len)  
*Send data to the interface.*
- void [rtl8029\\_polling](#) ()  
*Polls rtl8029 device.*
- void [rtl8029\\_init](#) ()  
*Initializes rtl8029 device.*

#### 4.2.1 Detailed Description

RTL8029 driver.

##### Author

Laurent

##### Date

PFE GISTR 2010

Definition in file [rtl8029.c](#).

## 4.2 /home/jaouen/pok\_official/pok/trunk/libpok/drivers/rtl8029.c File Reference 29

### 4.2.2 Function Documentation

#### 4.2.2.1 void rtl8029\_init ( )

Initializes rtl8029 device.

Seeks and registers PCI interface, set configuration and fills the dev structure.

Definition at line 382 of file rtl8029.c.

```
{
    dev.pci.vendorid = 0x10ec;
    dev.pci.deviceid = 0x8029;
    dev.pci.io_range = 0x10;

    if (pci_register(&(dev.pci)) != 0)
    {
        printf("rtl8029: PCI init failed!\n");
        return;
    }

    dev.addr = dev.pci.bar[0] & (~0x1F);

    unsigned char i = 0;
    unsigned char buf[6 * 2]; // used for MAC address

    NE2000_SELECT_PAGE(&dev, 0);

    /* This bit is the STOP command. When it is set, no packets will be
       received or transmitted. POWER UP=1. */
    outb(NE2000_CR_STP, dev.addr + NE2000_CR);

    // Sets several options... Read the datasheet!
    outb(0x00, dev.addr + NE2000_TCR);
    outb(NE2000_RCR_AB, dev.addr + NE2000_RCR);
    outb(NE2000_DCR_LS | NE2000_DCR_FT1, dev.addr + NE2000_DCR);

    /* The Page Start register sets the start page address
       of the receive buffer ring. */
    outb(NE2000_RXBUF, dev.addr + NE2000_PSTART);
    /* The Page Stop register sets the stop page address
       of the receive buffer ring. */
    outb(NE2000_MEMSZ, dev.addr + NE2000_PSTOP);
    /* This register is used to prevent overwrite of the receive buffer ring.
       It is typically used as a pointer indicating the last receive buffer
       page the host has read. */
    outb(NE2000_RXBUF, dev.addr + NE2000_BNRY);

    /* These two registers set the data byte counts of remote DMA. */
    outb(0, dev.addr + NE2000_RBCR0);
    outb(0, dev.addr + NE2000_RBCR1);

    NE2000_SELECT_PAGE(&dev, 1);

    /* This register points to the page address of the first receive buffer
       page to be used for a packet reception. */
    outb(NE2000_RXBUF + 1, dev.addr + NE2000_CURR);

    // Init mac address
    /* Here's something I do not understand... Section 6.2.2 of the datasheet
       says bytes 00H-05H of the PROM corresponds to the Ethernet ID. But it
```

```

    looks like each byte of the MAC address is written twice...
    Therefore I read 2 * sizeof(mac) and select one of the two bytes
    corresponding to the MAC... Weird... Really... */
ne2000_read(&dev, buf, 6 * 2, 0);
for (i = 0; i < 6; i++)
    dev.mac[i] = buf[i * 2];

/* These registers contain my Ethernet node address and are used to compare
   the destination address of incoming packets for acceptance or rejection.*/
outb(dev.mac[0], dev.addr + NE2000_PAR0);
outb(dev.mac[1], dev.addr + NE2000_PAR1);
outb(dev.mac[2], dev.addr + NE2000_PAR2);
outb(dev.mac[3], dev.addr + NE2000_PAR3);
outb(dev.mac[4], dev.addr + NE2000_PAR4);
outb(dev.mac[5], dev.addr + NE2000_PAR5);

NE2000_SELECT_PAGE(&dev, 0);

// Start command
outb(NE2000_CR_STA, dev.addr + NE2000_CR);

// Reactivating interrupts
/* ISR register must be cleared after power up. */
outb(0xFF, dev.addr + NE2000_ISR);
/* All bits correspond to the bits in the ISR register. POWER UP=all 0s.
   Setting individual bits will enable the corresponding interrupts. */
/* Since POK use polling, ALL interrupts are disabled */
outb(0x00, dev.addr + NE2000_IMR);

for (i = 0; i < 20; i++) /* TODO: random constant */
{
    dev.recv_buf[i].len = 0;
    dev.recv_buf[i].off = 0;
}

return;
}

```

#### 4.2.2.2 void rtl8029\_polling( )

Polls rtl8029 device.

Watches for events, typically for receiving queued packets.

Definition at line 279 of file rtl8029.c.

```

{
    unsigned char state; // ISR state

    NE2000_SELECT_PAGE(&dev, 0);

    while (1)
    {
        // do we have an interrupt flag set?
        if ((state = pok_inb(dev.addr + NE2000_ISR)) == 0)
            continue;

        if (state & NE2000_ISR_PRX)
        {

```

## 4.2 /home/jaouen/pok\_official/pok/trunk/libpok/drivers/rtl8029.c File Reference 31

```
if ((pok_inb(dev.addr + NE2000_RSR) & NE2000_RSR_PRX) == 0)
{
    // error
}

printf("[*]\n");

/* no errors */
s_ne2000_header    ne2000_hdr;        // ne2000 packet header
unsigned short    offset;            // dma offset
unsigned char     start, end;        // pointers for the ring buffer
pok_packet_t      recv_packet;

while (1)
{
    /* This register is used to prevent overwrite of the receive buffer
    ring.
    It is typically used as a pointer indicating the last receive buffer
    page the host has read.*/
    start = pok_inb(dev.addr + NE2000_BNRY) + 1;

    /* This register points to the page address of the first receive
    buffer page to be used for a packet reception. */
    NE2000_SELECT_PAGE(&dev, 1);
    end = pok_inb(dev.addr + NE2000_CURR);
    NE2000_SELECT_PAGE(&dev, 0);

    if ((end % NE2000_MEMSZ) == (start % NE2000_MEMSZ) + 1)
    {
        break;
    }

    /* et on decapsule! */
    offset = start << 8;
    // ne2000 header
    offset += ne2000_read(&dev, &ne2000_hdr, sizeof(s_ne2000_header),
        offset);

    ne2000_read(&dev, &recv_packet,
        ne2000_hdr.size - sizeof(s_ne2000_header), offset);
    rtl8029_enqueue(&recv_packet);

    // update the BNRY register... almost forgot that
    outb(ne2000_hdr.next > NE2000_MEMSZ ?
        NE2000_RXBUF - 1 : ne2000_hdr.next - 1, dev.addr + NE2000_BNRY);
}

outb(NE2000_ISR_PRX, dev.addr + NE2000_ISR); // Clear PRX flag
}

if (state & NE2000_ISR_PTX)
{
    outb(NE2000_ISR_PTX, dev.addr + NE2000_ISR); // Clear PTX flag
}

if (state & NE2000_ISR_RXE)
{
    outb(NE2000_ISR_RXE, dev.addr + NE2000_ISR); // Clear RXE flag
}
}
```

```

    if (state & NE2000_ISR_TXE)
    {
        outb(NE2000_ISR_TXE, dev.addr + NE2000_ISR); // Clear TXE flag
    }

    if (state & NE2000_ISR_OVW)
    {
        outb(NE2000_ISR_OVW, dev.addr + NE2000_ISR); // Clear OVW flag
    }

    if (state & NE2000_ISR_CNT)
    {
        outb(NE2000_ISR_CNT, dev.addr + NE2000_ISR); // Clear CNT flag
    }

    if (state & NE2000_ISR_RST)
    {
        outb(NE2000_ISR_RST, dev.addr + NE2000_ISR); // Clear RST bit
    }
}
}

```

#### 4.2.2.3 void rtl8029\_read ( pok\_port\_id\_t port\_id, void \* data, uint32\_t len )

Reads data from the corresponding network stack.

Reads enqueued data in the stack partition.

Definition at line 146 of file rtl8029.c.

```

{
    pok_port_id_t global;
    pok_ret_t      ret;

    ret = pok_port_virtual_get_global (port_id, &global);

    if (ret == POK_ERRNO_OK)
    {
        char          *dest = data;
        pok_queue_t* queue = dev.recv_buf + global;
        uint32_t      size = len < queue->len ? len : queue->len;
        uint32_t      copied = 0;

        printf ("[RTL8029] READ DATA FROM LOCAL PORT %d "
               "GLOBAL_PORT=%d), size=%d\n", port_id, global, len);

        /* is there something to read ? */
        if (queue->len == 0)
        {
            printf("rtl8029_read: error: empty read ring buffer %d!\n", port_id);
            return;
        }

        /* copy from the queue to the buffer */
        for (copied = 0; copied < size; copied++)
        {
            dest[copied % RECV_BUF_SZ] = queue->data[queue->off];
            queue->off = (queue->off + 1) % RECV_BUF_SZ;
        }
    }
}

```

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```
    /* updating data length in this queue */
    queue->len -= size;
}
}
```

### 4.2.2.4 void rtl8029\_write ( pok\_port\_id\_t port\_id, const void \* data, uint32\_t len )

Send data to the interface.

Writes data to be sent to network.

Definition at line 187 of file rtl8029.c.

```
{
    uint32_t      nbdest;
    uint32_t      tmp;
    uint32_t      dest;
    pok_ret_t     ret;
    char          node2[6] = { 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF };
    pok_packet_t  packet;
    const char*   d;
    size_t        cpylen = 0;
    size_t        sndlen = 0;
    unsigned char state; // ISR state

    ret = pok_port_virtual_nb_destinations (port_id, &nbdest);
    if (ret != POK_ERRNO_OK)
    {
        return;
    }

    for (tmp = 0 ; tmp < nbdest ; tmp++)
    {
        ret = pok_port_virtual_destination (port_id, tmp, &dest);
        if (ret == POK_ERRNO_OK)
        {
            printf ("[RTL8029] SEND DATA THROUGH NETWORK FROM LOCAL PORT %d "
                    "TO GLOBAL PORT %d, size=%d\n", port_id, dest, len);

            memcpy(packet.eth.src, dev.mac, ETH_MAC_LEN);
            memcpy(packet.eth.dst, node2, ETH_MAC_LEN);
            packet.eth.ethertype = 0x4242;
            packet.udp.src = port_id;
            packet.udp.dst = dest;

            for (d = data; len != 0; len -= cpylen, data += cpylen)
            {
                // too short; let's cut
                if (len <= NET_DATA_MINLEN)
                {
                    cpylen = len;
                    sndlen = ETH_DATA_MINLEN + sizeof(eth_hdr_t);
                }
                else
                {
                    // too big; let's pad
                    if (len >= NET_DATA_MAXLEN)
                    {

```

```

    cpylen = NET_DATA_MAXLEN;
    sndlen = ETH_DATA_MAXLEN + sizeof(eth_hdr_t);
}
// normal
else
{
    cpylen = len;
    sndlen = sizeof(eth_hdr_t) + sizeof(udp_hdr_t) + cpylen;
}
}

packet.udp.len = cpylen;
memcpy(&packet.data, data, cpylen);

ne2000_write(&dev, &packet, sndlen, NE2000_TXBUF * 256);

do
{
    state = pok_inb(dev.addr + NE2000_ISR);
}
while ((state & NE2000_ISR_RDC) != NE2000_ISR_RDC);

/* This register sets the start page address of
   the packet to be transmitted. */
outb(NE2000_TXBUF, dev.addr + NE2000_TPSR); //?

/* These two registers set the byte counts of
   the packet to be transmitted. */
outb(sndlen, dev.addr + NE2000_TBCR0);
outb(sndlen >> 8, dev.addr + NE2000_TBCR1);

/* This bit must be set to transmit a packet. */
outb(pok_inb(dev.addr + NE2000_CR) | NE2000_CR_TXP,
     dev.addr + NE2000_CR);

outb(NE2000_ISR_RDC, dev.addr + NE2000_ISR); // Clear RDC bit
}
}
}
}
}

```

### 4.3 /home/jaouen/pok\_official/pok/trunk/libpok/include/protocols/cesar.h File Reference

Cesar crypto protocol.

#### Functions

- void [pok\\_protocols\\_cesar\\_unmarshall](#) (void \*crypted\_data, pok\_size\_t crypted\_size, void \*uncrypted\_data, size\_t \*uncrypted\_size)
- void [pok\\_protocols\\_cesar\\_marshall](#) (void \*uncrypted\_data, pok\_size\_t uncrypted\_size, void \*crypted\_data, size\_t \*crypted\_size)



### 4.3.1 Detailed Description

Cesar crypto protocol.

#### Author

Julien Delange

#### Date

2009 This is a very basic crypto protocol that just change the order of bytes in data. There is no public/private key, the algorithm is known by the attacker so that it's a very weak crypto protocol. Interested people can gather more information about this protocol on: [http://en.wikipedia.org/wiki/Caesar\\_cipher](http://en.wikipedia.org/wiki/Caesar_cipher)

We don't provide an associated marshalling type for the Cesar protocol since the crypted size is the same than the unencrypted size.

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

### 4.3.2 Function Documentation

#### 4.3.2.1 void pok\_protocols\_ceasar\_marshall ( void \* unencrypted\_data, pok\_size\_t unencrypted\_size, void \* crypted\_data, size\_t \* crypted\_size )

Function that encrypts data

\file libpok/protocols/ceasar.c \brief Function to crypt/uncrypt data using the Caesar cipher. \author Julien Delange \brief Marshall data, the crypted size has the same size than unencrypted data.

Definition at line 34 of file ceasar.c.

```
{
    uint8_t* unencrypted;
    uint8_t* crypted;
    size_t tmp;

    unencrypted = (uint8_t*) unencrypted_data;
    crypted = (uint8_t*) crypted_data;

    for (tmp = 0 ; tmp < unencrypted_size ; tmp++)
    {
        crypted[tmp] = (unencrypted[tmp] + 4) % 255;
    }

    *crypted_size = unencrypted_size;
}
```

#### 4.3.2.2 void pok\_protocols\_ceasar\_unmarshall ( void \* crypted\_data, pok\_size\_t crypted\_size, void \* unencrypted\_data, size\_t \* unencrypted\_size )

Function that unencrypts data

\brief Unmarshall data, the crypted size has the same size than uncrpyted data.

Definition at line 56 of file ceasar.c.

```
{
    uint8_t* uncrpyted;
    uint8_t* crypted;
    size_t   tmp;

    uncrpyted = (uint8_t*) uncrpyted_data;
    crypted   = (uint8_t*) crypted_data;

    for (tmp = 0 ; tmp < crypted_size ; tmp++)
    {
        uncrpyted[tmp] = (crypted[tmp] - 4) % 255;
    }

    *uncrpyted_size = crypted_size;
}
```

## 4.4 /home/jaouen/pok\_official/pok/trunk/libpok/protocols/des/des.c File Reference

DES crypto protocol.

### Functions

- void **pok\_protocols\_des\_init** ()
- void **pok\_protocols\_des\_marshall** (void \*uncrpyted\_data, pok\_size\_t uncrpyted\_size, void \*crypted\_data, size\_t \*crypted\_size)
- void **pok\_protocols\_des\_unmarshall** (void \*crypted\_data, pok\_size\_t crypted\_size, void \*uncrpyted\_data, size\_t \*uncrpyted\_size)

### Variables

- unsigned char **initVector** [8] = POK\_PROTOCOLS\_DES\_INIT
- int **pok\_protocols\_des\_is\_init** = 0

#### 4.4.1 Detailed Description

DES crypto protocol.

#### Author

Julien Delange

Date

2009 This file is a wrapper that interfaces with OpenSSL functions. It sets the crypto key, initialisation string and calls OpenSSL function to crypts data.

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

## 4.4.2 Function Documentation

### 4.4.2.1 void pok\_protocols\_des\_marshall ( void \* *unrypted\_data*, pok\_size\_t *unrypted\_size*, void \* *crypted\_data*, size\_t \* *crypted\_size* )

Function that crypts data.

Definition at line 54 of file des.c.

```
{
    DES_cblock ivec;
    DES_key_schedule schedule;

    DES_set_key_checked (&cbc_key, &schedule);

    memcpy(ivec,initVector,sizeof(initVector));

    DES_ncbc_encrypt(unrypted_data, crypted_data, unrypted_size, &schedule, &
        ivec, DES_ENCRYPT);
    *crypted_size = 8;
}
```

### 4.4.2.2 void pok\_protocols\_des\_unmarshall ( void \* *crypted\_data*, pok\_size\_t *crypted\_size*, void \* *unrypted\_data*, size\_t \* *unrypted\_size* )

Function that uncrypts data.

Definition at line 68 of file des.c.

```
{
    DES_cblock ivec;
    DES_key_schedule schedule;

    DES_set_key_checked (&cbc_key, &schedule);

    memcpy(ivec,initVector,sizeof(initVector));
    DES_ncbc_encrypt(crypted_data, unrypted_data, crypted_size, &schedule, &
        ivec, DES_DECRYPT);

    *unrypted_size = 8;
}
```