

SCHEDULE

Specifies if the task is preemptable or not.

- FULL the task is preemptable
- NON the task is not preemptable

EVENT \otimes

Gives the events used by the task. A task having no EVENT attribute is a basic task. A task having ≥ 1 EVENT attribut is an extended task.

RESOURCE \otimes

Gives the resources used by the task.

MESSAGE \otimes

Gives the messages used by the task.

COUNTER objects attributes

MINCYCLE

Set the minimum number of ticks which separate two alarm expirations. Default to 1.

TICKSPERBASE

Set the prescaler of the counter. Default to 1.

MAXALLOWEDVALUE

Set the maximum value of the counter. Default to 32767.

ALARM objects attributes

COUNTER

Set the counter used by the alarm.

AUTOSTART

Specifies if an alarm is started or not when the OS is started.

- FALSE the alarm is not started
- TRUE the alarm is started

TRUE \triangleright APPMODE \otimes

≥ 1 APPMODE sub-attribute shall be set. The alarm is AUTOSTART if the OS is started in one of these

APPMODE.

ACTION

Specifies which action to do when the alarm expire.

- ACTIVATETASK activate a task.
- SETEVENT set an event to a task
- ALARMCALLBACK call a function

ACTIVATETASK \triangleright TASK

Specifies which task to activate.

SETEVENT \triangleright TASK

Specifies which task is the target of the event.

SETEVENT \triangleright EVENT

Specifies the event.

ALARMCALLBACK \triangleright ALARMCALLBACKNAME

Specifies a string with the name of the function to call.

EVENT objects attribute

MASK

Set the event mask of the event.

- AUTO the actual value is computed by the OIL compiler
- [0..2³² - 1] the actual value is set to this value

RESOURCE objects attribute

RESOURCEPROPERTY

Set the kind of resource.

- STANDARD the resource is a standard one te be used with `GetResource` and `ReleaseResource`
- INTERNAL the resource is an internal one

BASIC OIL QRDC

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The OIL standard defines standard attributes but allows implementation-specific attributes. The latter are suffixed by a †. Attribute values in a box are the default values. If none of the attribute values are boxed no default value exists. Attributes suffixed by a \otimes may appear 0, 1 or many times.

OS object attributes

STATUS

Set the error processing level of services. See the OSEK QRDC. Possible values are:

- STANDARD does not check object ids, caller identity and state, alarm bounds and resources ownership.
- EXTENDED checks all possible errors.

STARTUPHOOK

Switch the call to the startup hook in StartOS.

- FALSE the startup hook is not called
- TRUE the startup hook is called

SHUTDOWNHOOK

Switch the call to the shutdown hook in ShutdownOS.

- FALSE the shutdown hook is not called
- TRUE the shutdown hook is called

ERRORHOOK

Switch the call to the error hook when an error occurs in a service or while processing an alarm.

- FALSE the error hook is not called
- TRUE the error hook is called

PRETASKHOOK

Switch the call to the pre task hook when a context switch is about to occur.

FALSE the pre task hook is not called
 TRUE the pre task hook is called

POSTTASKHOOK

Switch the call to the post task hook when a context switch is about to occur.

FALSE the post task hook is not called
 TRUE the post task hook is called

USEGETSERVICEID

Enable the macro allowing to access in the error hook the identifier of the service in which the error occurred.

FALSE the macro to get the identifier of the service is disabled
 TRUE the macro to get the identifier of the service is enabled

USEPARAMETERACCESS

Enable the macros allowing to access in the error hook the parameters of the service in which the error occurred.

FALSE the macro to get the parameters of the service is disabled
 TRUE the macro to get the parameters of the service is enabled

USERESSCHEDULER

Enable the `res_scheduler` resource. This resource has a priority higher than the highest priority task and lower than the lowest priority ISR2.

FALSE the `res_scheduler` resource is disabled
 TRUE the `res_scheduler` resource is enabled

BUILD †

Enable the generation of a build script.

FALSE no build script is generated
 TRUE a build script is generated

TRUE ▷ APP_SRC ⊗

Gives as a string a C source file name where the application code is located.

TRUE ▷ APP_CPPSRC ⊗

Gives as a string a C++ source file name where the application code is located.

TRUE ▷ APP_NAME

The output binary executable file name.

TRUE ▷ TRAMPOLINE_BASE_PATH

The path to the trampoline directory.

TRUE ▷ CFLAGS ⊗

Gives as a string the flags passed to the C compiler

TRUE ▷ CPPFLAGS ⊗

Gives as a string the flags passed to the C++ compiler

TRUE ▷ COMMONFLAGS ⊗

Gives as a string the flags passed to both the C and the C++ compiler

TRUE ▷ ASFLAGS ⊗

Gives as a string the flags passed to the assembler.

TRUE ▷ LDFLAGS ⊗

Gives as a string the flags passed to the linker.

APPMODE objects attribute

DEFAULT

If > 1 APPMODE are defined, exactly one of the APPMODE shall have its DEFAULT attribute set to TRUE

FALSE the APPMODE is not the default one
 TRUE the APPMODE is the default one

ISR objects attributes

CATEGORY

Set the category of the ISR.

- 1 the ISR is an ISR 1
- 2 the ISR is an ISR 2

PRIORITY

Specifies the priority of the ISR. PRIORITY range from 0 (the lowest) to $2^{32} - 1$ (the highest). Even a priority lower than the highest priority task is given, the OIL compiler compute an actual priority greater than the highest priority task.

SOURCE

Specifies the hardware interrupt source. Possible values depend on the hardware platform.

RESOURCE ⊗

Gives the resources used by the ISR, usable only for ISR 2.

MESSAGE ⊗

Gives the messages used by the ISR, usable only for ISR 2.

TASK objects attributes

AUTOSTART

Specifies if a task is in the READY state or not when the OS is started.

FALSE the task is in the SUSPENDED state
 TRUE the task is in the READY state

TRUE ▷ APPMODE ⊗

≥ 1 APPMODE sub-attribute shall be set. The task is AUTOSTART if the OS is started in one of these APPMODE.

PRIORITY

Specifies the priority of the task. PRIORITY range from 0 (the lowest) to $2^{32} - 1$ (the highest).

ACTIVATION

Specifies the number of jobs that can be recorded. ACTIVATION ranges from 1 to $2^{32} - 1$.