EMT-mailbox-template Reference Manual

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Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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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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Library header 11

Chapter 3

Class Documentation

3.1 Mailbox< mailboxType > Class Template Reference

RTOS mailbox as an object.

`#include <Mailbox.h>`

Public Member Functions

- Mailbox ()

  Define the mailbox.
- void begin (uint16_t number=16)

  Create the mailbox.
- bool post (mailboxType &message, uint16_t timeout=BIOS_WAIT_FOREVER)

  Post a message to the mailbox.
- void waitFor (mailboxType &message)

  Wait for a message from the mailbox.
- uint16_t available ()

  Available messages to be read.

3.1.1 Detailed Description

template<typename mailboxType>class Mailbox< mailboxType >

RTOS mailbox as an object.

Warning

Header and code for tempalte class need to be on the same unique file. I guess it isn't a bug, but a feature :/

See also

http://www.open-std.org/jtc1/sc22/wg21/docs/papers/2003/n1426.pdf

The RTOS mailbox is encapsulated as a C++ object for easier use

Warning

Messages must be of type typename used in declaration

3.1.2 Constructor & Destructor Documentation

3.1.2.1 template<typename mailboxType > Mailbox< mailboxType >::Mailbox ( )

Define the mailbox.

Warning

Specify typename between brackets in declaration

```
Mailbox<typename> myMailbox;
```

3.1.3 Member Function Documentation

3.1.3.1 template<typename mailboxType > uint16_t Mailbox< mailboxType >::available ( )

Available messages to be read.

Returns

number of available messages on the mailbox to be read

Note

0 = no messages available

3.1.3.2 template<typename mailboxType > void Mailbox< mailboxType >::begin (uint16_t *number* = 16)

Create the mailbox.

Parameters

number	number of messages of the mailbox, default = 16

3.1.3.3 template<typename mailboxType > bool Mailbox< mailboxType >::post (mailboxType & *message*, uint16_t *timeout* = BIOS_WAIT_FOREVER)

Post a message to the mailbox.

Parameters

message	message to be posted on the mailbox
timeout	default = BIOS_WAIT_FOREVER, BIOS_NO_WAIT

Returns

true if message posted, false otherwise

Note

When using BIOS_NO_WAIT, message isn't posted if mailbox full. Check returned bool for result.

Warning

Message must be of type typename

3.1.3.4 template<typename mailboxType > void Mailbox< mailboxType >::waitFor (mailboxType & *message*)

Wait for a message from the mailbox.

Parameters

message	message read from mailbox when available

Warning

Message must be of type typename

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

- Mailbox.h

3.2 myMessage_t Struct Reference

myMessage type for mailbox

`#include <rtosGlobals.h>`

Public Attributes

- uint32_t chrono
  for millis()
- char buffer [10]
  for origin

3.2.1 Detailed Description

myMessage type for mailbox

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

- rtosGlobals.h

3.3 Semaphore Class Reference

RTOS semaphore as object.

`#include <Semaphore.h>`

Public Member Functions

- Semaphore ()
  Define the semaphore.
- void begin (uint8_t count=1)
  Create the semaphore.
- void post ()
  Post a semaphore.
- uint16_t available ()
  Available count.
- void waitFor ()
  Wait for the semaphore.

3.3.1 Detailed Description

RTOS semaphore as object.

The RTOS semaphore is encapsulated as a C++ object for easier use

3.3.2 Member Function Documentation

3.3.2.1 uint16_t Semaphore::available ( )

Available count.

Returns

number of available count

3.3.2.2 void Semaphore::begin (uint8_t *count* = `1`)

Create the semaphore.

Parameters

count	usually number of ressources to synchronise, default = 1

Note

For serial port, take 1

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

- Semaphore.h
- Semaphore.cpp

Chapter 4

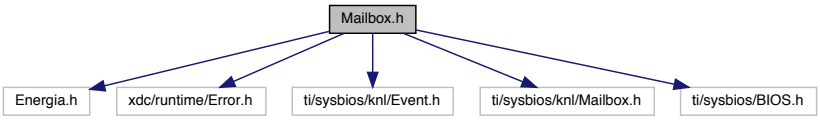
File Documentation

4.1 Mailbox.h File Reference

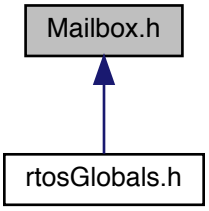
Library header.

```
#include <Energia.h>
#include <xdc/runtime/Error.h>
#include <ti/sysbios/knl/Event.h>
#include <ti/sysbios/knl/Mailbox.h>
#include <ti/sysbios/BIOS.h>
```

Include dependency graph for Mailbox.h:



This graph shows which files directly or indirectly include this file:



Classes

- class Mailbox< mailboxType >

RTOS mailbox as an object.

4.1.1 Detailed Description

Library header.

RTOS mailbox as C++ object for Energia MT

Project Energia MT 0101E0016

Author

Energia, base
Rei Vilo, enhancements

Date

Jun 14, 2015 09:53

Version

104

See also

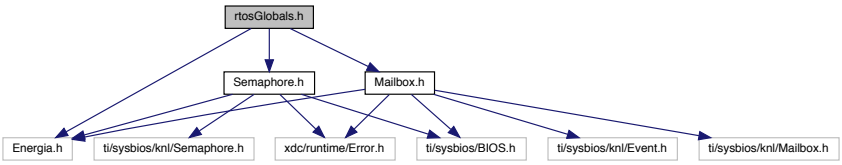
SYS/BIOS (TI-RTOS Kernel) v6.41 User's Guide (spruex3o) http://www.ti.com/lit/pdf/spruex3

4.2 rtosGlobals.h File Reference

Header.

```
#include "Energia.h"
#include "Mailbox.h"
#include "Semaphore.h"
```

Include dependency graph for rtosGlobals.h:



Classes

- struct myMessage_t

  myMessage type for mailbox

Macros

- #define NUMBER 4

  Number of messages of the mailbox.
- #define MODALITY BIOS_WAIT_FOREVER

  Mailbox post modality.

Variables

- Mailbox< myMessage_t > myMailbox

  myMailbox
- Semaphore mySemaphore

  mySemaphore

4.2.1 Detailed Description

Header.

Global variables for Energia MT project

Project MultiBlink_eX
Developed with embedXcode+

Author

Rei Vilo
http://embeddedcomputing.weebly.com

Date

Jun 05, 2015 13:34

Version

101

Copyright

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See also

ReadMe.txt for references

4.2.2 Macro Definition Documentation

4.2.2.1 #define MODALITY BIOS_WAIT_FOREVER

Mailbox post modality.

Note

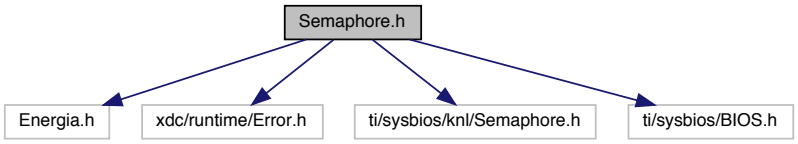
Either BIOS_WAIT_FOREVER or BIOS_NO_WAIT

4.3 Semaphore.h File Reference

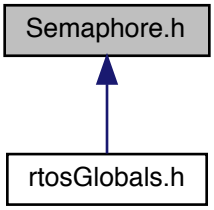
Library header.

```
#include <Energia.h>
#include <xdc/runtime/Error.h>
#include <ti/sysbios/knl/Semaphore.h>
#include <ti/sysbios/BIOS.h>
```

Include dependency graph for Semaphore.h:



This graph shows which files directly or indirectly include this file:



Classes

- class Semaphore

  RTOS semaphore as object.

4.3.1 Detailed Description

Library header.

RTOS semaphore as C++ object for Energia MT

Project EMT-Semaphore
Developed with embedXcode+

Author

Rei Vilo
http://embeddedcomputing.weebly.com

Date

Jun 08, 2015 09:53

Version

104

Copyright

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See also

ReadMe.txt for references and example
SYS/BIOS (TI-RTOS Kernel) v6.41 User's Guide (spruex3o) http://www.ti.com/lit/pdf/spruex3

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