

EMT-mailbox-template Reference Manual

Generated by Doxygen 1.8.9.1

Sun Jun 14 2015 19:20:42

Contents

1	Class Index	1
1.1	Class List	1
2	File Index	3
2.1	File List	3
3	Class Documentation	5
3.1	Mailbox< mailboxType > Class Template Reference	5
3.1.1	Detailed Description	5
3.1.2	Constructor & Destructor Documentation	6
3.1.2.1	Mailbox	6
3.1.3	Member Function Documentation	6
3.1.3.1	begin	6
3.1.3.2	post	6
3.1.3.3	waitFor	6
3.2	myMessage_t Struct Reference	6
3.2.1	Detailed Description	7
3.3	Semaphore Class Reference	7
3.3.1	Detailed Description	7
3.3.2	Member Function Documentation	7
3.3.2.1	available	7
3.3.2.2	begin	7
4	File Documentation	9
4.1	Mailbox.h File Reference	9
4.1.1	Detailed Description	9
4.2	rtosGlobals.h File Reference	10
4.2.1	Detailed Description	10
4.3	Semaphore.h File Reference	11
4.3.1	Detailed Description	12
	Index	13

Chapter 1

Class Index

1.1 Class List

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

Mailbox< mailboxType >	
RTOS mailbox as an object	5
myMessage_t	
MyMessage type for mailbox	6
Semaphore	
RTOS semaphore as object	7

Chapter 2

File Index

2.1 File List

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

Mailbox.h		
Library header	9
rtosGlobals.h		
Header	10
rtosTasks.h	??
Semaphore.h		
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.
- void [post](#) (mailboxType &message)
Post a message to the mailbox.
- void [waitFor](#) (mailboxType &message)
Wait for a message from the mailbox.

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

NOTE: Only a single Task can pend on an [Mailbox](#) object at a time.

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 > void Mailbox< mailboxType >::begin (uint16_t number = 16)`

Create the mailbox.

Parameters

<i>number</i>	number of messages of the mailbox, default = 16
---------------	---

3.1.3.2 `template<typename mailboxType > void Mailbox< mailboxType >::post (mailboxType & message)`

Post a message to the mailbox.

Parameters

<i>message</i>	message of type to be posted on the mailbox
----------------	---

Warning

Message must be of type typename

3.1.3.3 `template<typename mailboxType > void Mailbox< mailboxType >::waitFor (mailboxType & message)`

Wait for a message from the mailbox.

Parameters

<i>message</i>	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

<i>count</i>	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

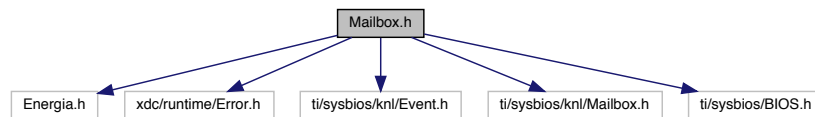
File Documentation

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:



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

101

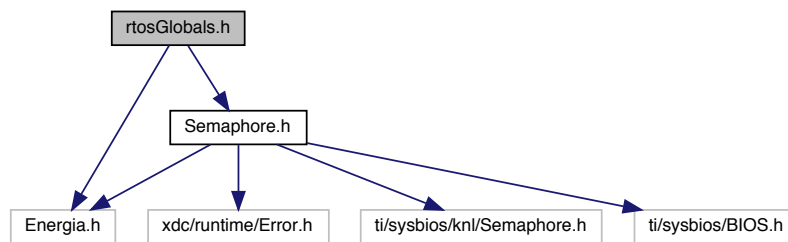
See alsoSYS/BIOS (TI-RTOS Kernel) v6.41 User's Guide (spruex3o) <http://www.ti.com/lit/pdf/spruex3>

4.2 rtosGlobals.h File Reference

Header.

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

Include dependency graph for rtosGlobals.h:



Classes

- struct [myMessage_t](#)
myMessage type for mailbox

Variables

- [Mailbox](#) < [myMessage_t](#) > [myMailbox](#)
myMailbox
- [Semaphore](#) [mySemaphore](#)
mySemaphore

4.2.1 Detailed Description

Header.

Global variables for Energia MT project

Project MultiBlink_eXDeveloped with [embedXcode+](#)

Author

Rei Vilo

<http://embeddedcomputing.weebly.com>**Date**

Jun 05, 2015 13:34

Version

101

Copyright

(c) Rei Vilo, 2015

CC = BY SA NC

See also

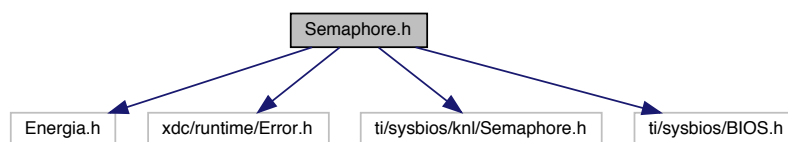
ReadMe.txt for references

4.3 Semaphore.h File Reference

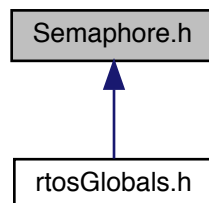
Library header.

```
#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

(c) Rei Vilo, 2015
CC = BY SA NC

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>

Index

- available
 - Semaphore, [7](#)
- begin
 - Mailbox, [6](#)
 - Semaphore, [7](#)
- Mailbox
 - begin, [6](#)
 - Mailbox, [6](#)
 - post, [6](#)
 - waitFor, [6](#)
- Mailbox< mailboxType >, [5](#)
- Mailbox.h, [9](#)
- myMessage_t, [6](#)
- post
 - Mailbox, [6](#)
- rtosGlobals.h, [10](#)
- Semaphore, [7](#)
 - available, [7](#)
 - begin, [7](#)
- Semaphore.h, [11](#)
- waitFor
 - Mailbox, [6](#)