DECI2 Library Reference

Publication date: October 2001

Sony Computer Entertainment Inc.
1-1, Akasaka 7-chome, Minato-ku
Tokyo 107-0052, Japan

Sony Computer Entertainment America
919 E. Hillsdale Blvd.
Foster City, CA 94404, U.S.A.

Sony Computer Entertainment Europe
30 Golden Square
London W1F 9LD, U.K.

Table of Contents

About This Manual

This is the Runtime Library Release 2.4 version of the *DECI2 Library Reference* manual.

Changes Since Last Release

None

Related Documentation

Note: the Developer Support Web site posts current developments regarding the Libraries and also provides notice of future documentation releases and upgrades.

Typographic Conventions

Certain Typographic Conventions are used throughout this manual to clarify the meaning of the text:

Convention	Meaning
`courier`	Indicates literal program code.
italic	Indicates names of arguments and structure members (in structure/function definitions only).
medium bold	Indicates data types and structure/function names (in structure/function definitions only).
blue	Indicates a hyperlink.

Developer Support

Sony Computer Entertainment America (SCEA)

SCEA developer support is available to licensees in North America only. You may obtain developer support or additional copies of this documentation by contacting the following addresses:

Order Information	Developer Support
In North America:	*In North America:*
Attn: Developer Tools Coordinator Sony Computer Entertainment America 919 East Hillsdale Blvd. Foster City, CA 94404, U.S.A. Tel: (650) 655-8000	E-mail: PS2_Support@playstation.sony.com Web: http://www.devnet.scea.com/ Developer Support Hotline: (650) 655-5566 (Call Monday through Friday, 8 a.m. to 5 p.m., PST/PDT)

Sony Computer Entertainment Europe (SCEE)

SCEE developer support is available to licensees in Europe only. You may obtain developer support or additional copies of this documentation by contacting the following addresses:

Order Information	Developer Support
In Europe:	*In Europe:*
Attn: Production Coordinator Sony Computer Entertainment Europe 30 Golden Square London W1F 9LD, U.K. Tel: +44 (0) 20 7859-5000	E-mail: ps2_support@scee.net Web: https://www.ps2-pro.com/ Developer Support Hotline: +44 (0) 20 7859-5777 (Call Monday through Friday, 9 a.m. to 6 p.m., GMT)

Functions

sceDeci2Close

Delete protocol driver

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2Close(	
int *s***)**	Socket descriptor

Calling conditions

Can be called from a thread

Multi-thread safe (must be called in an interrupt-enabled state)

Description

Deletes a protocol driver.

Return value

1	Successful
-1 or less	Error code (INVALSOCK)

sceDeci2ExLock

Lock other protocol

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExLock(	
int *s***)**	Socket descriptor

Calling conditions

Call from an event handler

Description

Locks a protocol other than the one being used by the protocol driver making the request.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, ALREADYLOCK)

sceDeci2ExPanic

printf from event handler (IOP only)

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExPanic(	
const char ****format*, ...)**	Output format string (same as printf)

Calling conditions

Call from an event handler

Description

This function is called from within an event handler and corresponds to printf.

It can also be called from outside an event handler.

The string output from sceDeci2ExPanic() can also be displayed on the host using the dscomp command.

Return value

Number of characters output

sceDeci2ExRecv

Receive DECI2 packet

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExRecv(	
int *s,*	Socket descriptor
void **buf,*	Pointer to buffer
unsigned short *len*)	Size of received data

Calling conditions

Call from an event handler

Description

This function can only be called when a DECI2_READ event has been issued. A WOULDBLOCK error results if the function is called at any other time.

A DECI2_READ event is issued each time a packet fragment that needs to be passed to the protocol driver is received. The event is issued repeatedly until all the data for a single packet is read by this function. Once all the data for a single packet has been read, a DECI2_READDONE event is generated.

When a DECI2_READ event is generated, no reception actually takes place. Reading begins only when this function specifies a read buffer.

The size of the packet fragment that arrived is passed as a parameter to the DECI2_READ event (in the case of the final fragment of a packet, it may be rounded up to a multiple of 4).

A size smaller than the size passed as the parameter can be specified in len. In this case, a DECI2_READ event is generated again. If a small size is specified, it must be a multiple of 128.

On the EE, buf must be aligned on a 16-byte boundary.

Return value

1 or more	Size of received data
-1 or less	Error code (INVALSOCK, INVALADDR, PKTSIZE, WOULDBLOCK)

sceDeci2ExReqSend

DECI2_WRITE event request

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExReqSend(	
int *s,*	Socket descriptor
char *dest***)**	Destination node for packet

Calling conditions

Call from an event handler

Description

Used in an event handler to request the DECI2 Manager to send data.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, WOULDBLOCK, NOROUTE)

sceDeci2ExSend

Send DECI2 packet

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExSend(	
int *s,*	Socket descriptor
void **buf,*	Pointer to buffer
unsigned short *len***)**	Size of data to be sent

Calling conditions

Call from an event handler

Description

This function can only be called when a DECI2_WRITE event has been issued. A WOULDBLOCK error results if the function is called at any other time.

A DECI2_WRITE event is generated when a sceDeci2ReqSend() is accepted and sending is possible. Once all the data for a single packet has been accepted and sent, a WRITEDONE event is generated.

len can be specified as a size smaller than the size of the packet to be actually sent. In this case, another DECI2_WRITE event will be generated. However, in the first call, len cannot be specified as a size smaller than the DECI2 header (this will generate a PKTSIZE error).

The size of the data accepted by the DECI2 Manager will be returned. However, transmission may not be completed until the next DECI2_WRITE or DECI2_WRITEDONE event is generated, so the data must be saved.

On the EE, buf must be aligned on a 16-byte boundary.

Return value

1 or more	Size of data accepted by DECI2 Manager (not size of sent data)
-1 or less	Error code (INVALSOCK, INVALADDR, PKTSIZE, WOULDBLOCK)

sceDeci2ExSetEventFlag

Set event flag (IOP only)

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExSetEventFlag(

int *s,*	Socket descriptor
int *evfid,*	Event flag ID
unsigned long *bitpattern***)**	Bit pattern to set

Calling conditions

Call from an event handler

Description

Used in an event handler to set an event flag. Cannot be used with sceDeci2ExWakeupThread() or sceDeci2ExSignalSema() for the same socket.

Note that more than one event flag cannot be set for the same socket. Only one event flag should be specified for a given socket.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, INVALID)

sceDeci2ExSignalSema

Issue signal to semaphore (IOP only)

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExSignalSema(

int *s*,	Socket descriptor
int *semid***)**	ID of semaphore for which to send signal

Calling conditions

Call from an event handler

Description

Used in an event handler to signal a semaphore.

Cannot be used with sceDeci2ExWakeupThread() or sceDeci2ExSetEventFlag() for the same socket.

Note that more than one semaphore cannot be handled for the same socket.

Only one semaphore should be specified for a given socket.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, INVALID)

sceDeci2ExUnLock

Unlock

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExUnLock(	
int *s***)**	Socket descriptor

Calling conditions

Call from an event handler

Description

Deletes a lock.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, NOTLOCKED)

sceDeci2ExWakeupThread

Wake up sleeping thread (IOP only)

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ExWakeupThread(	
int *s*,	Socket descriptor
int *thid***)**	ID of thread to wake up

Calling conditions

Call from an event handler

Description

Used to wake up a sleeping thread in an event handler.

Cannot be used with sceDeci2ExSignalSema() or sceDeci2ExSetEventFlag() for the same socket.

Note that more than one thread cannot be awakened for the same socket.

Only one thread should be specified for a given socket.

Return value

1	Successful
-1 or less	Error code (INVALSOCK, INVALID)

sceDeci2Open

Register protocol driver

Library	*Introduced*	*Documentation Last Modified*
Deci2	2.0	March 26, 2001

Syntax

int sceDeci2Open(

unsigned short *protocol,*	Protocol number
void **opt,*	Pointer to user data passed to event handler for each protocol driver
void (**handler***)(int event, int param, void *opt))**	Handler which is notified of the event

Calling conditions

Can be called from a thread

Multi-thread safe (must be called in an interrupt-enabled state)

Description

Sets the desired protocol number and registers the protocol driver. The socket descriptor returned here is used in subsequent function calls.

All functions called from within event handlers and other functions that need to use shared variables should use opt to pass variables to the event handler rather than using global variables.

The event handler can be notified of the following events.

Table 1

DECI2_READ	1
DECI2_READDONE	2
DECI2_WRITE	3
DECI2_WRITEDONE	4
DECI2_CHSTATUS	5
DECI2_ERROR	6

The DECI2_READ event is first generated when a packet is first received and ends when all packet data has been received by the protocol driver. When receipt of a single packet is complete, a DECI2_READDONE is generated.

The DECI2_WRITE event is generated when the DECI2 manager receives a send request from the protocol driver and goes into a state where it can actually send. When transmission of a single packet is complete, a DECI2_WRITEDONE event is generated.

The DECI2_CHSTATUS and DECI2_ERROR events are generated when a DCMP status or error message needs to be sent to the protocol driver.

The event handler receives one parameter unique for each event type and event, and a pointer to the data set up by the protocol driver. The meaning of the various parameters are shown below.

Table 2

DECI2_READ	Size of delivered packet fragment
DECI2_READDONE:	0
DECI2_WRITE:	0
DECI2_WRITEDONE:	0
DECI2_CHSTATUS:	Pointer to DCMP status message
DECI2_ERROR:	Pointer to DCMP error message

Return value

1 or greater	Socket descriptor
-1 or less	Error code (INVALID, ALREADYUSE, MFILE)

sceDeci2Poll

Library	*Introduced*	*Documentation Last Modified*
deci2	2.2	March 26, 2001

Syntax

void sceDeci2Poll(

int *s***)**	Socket descriptor

Calling conditions

Can be called from a thread

Multi-thread safe

Description

Normally, there is no need to use this function.

Event handlers are usually called asynchronously as interrupt triggers, but this function monitors interrupts in interrupt-inhibited state with polling, then calls an event handler.

Return value

None

sceDeci2ReqSend

Request DECI2_WRITE event

Library	*Introduced*	*Documentation Last Modified*
deci2	2.0	March 26, 2001

Syntax

int sceDeci2ReqSend(

int *s*,	Socket descriptor
char *dest***)**	Destination node for packet

Calling conditions

Can be called from a thread

Multi-thread safe (must be called in an interrupt-enabled state)

Description

Makes a request to the DECI2 Manager to send a single packet's worth of data. When the DECI2 Manager receives this call and becomes ready for sending, a DECI2_WRITE event is generated.

A DECI2_WRITE event may be generated before this function is called and returns, so it is necessary to have the send data ready before calling.

More than one call can be made from the EE, and a DECI2_WRITE event will be generated for each call. On the IOP, more than one send request cannot be issued consecutively.

Return value

1	Successful
1 or less	Error code (INVALSOCK, WOULDBLOCK, NOROUTE)