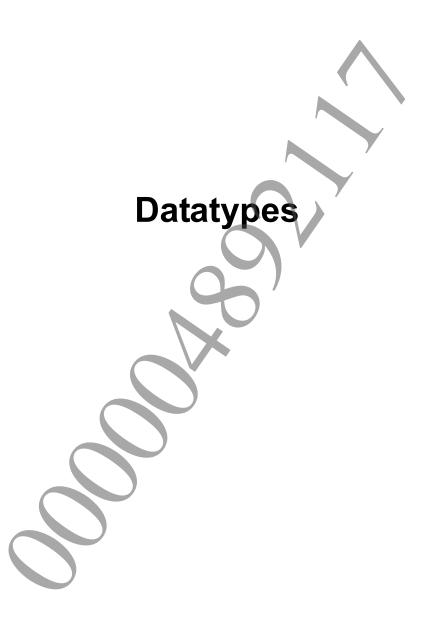
NP Signaling Library Reference

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SceNpSignalingConnectionInfo

Union for connection information

Definition

Members

rtt Round-trip time (microseconds)
bandwidth Estimated bandwidth (bits/second)

npId NPID

address IP address and port number packet_loss Packet loss percentage

Description

This datatype is for connection information.

A variable of this type is used when receiving information with sceNpSignalingGetConnectionInfo().

See Also

sceNpSignalingGetConnectionInfo()



SceNpSignalingNetInfo

Structure for network information

Definition

Members

sizeSize of structurelocal_addrLocal IP addressmapped_addrExternal IP addressnat_statusNAT status type

Description

This datatype is for network information.

A variable of this type is used when receiving information with sceNpSignalingGetLocalNetInfo() or sceNpSignalingGetPeerNetInfoResult().

See Also

sceNpSignalingGetLocalNetInfo(), sceNpSignalingGetPeerNetInfoResult()



SceNpSignalingMemoryInfo

Memory information

Definition

Members

totalMemSize Memory area size (bytes)

curMemUsage Current memory usage (bytes)

maxMemUsage Historic maximum memory usage (bytes)

reserved Reserved area

Description

This structure indicates the NP Signaling library heap area memory information. Specify it as an argument when executing <code>sceNpSignalingGetMemoryInfo()</code>.

See Also

sceNpSignalingGetMemoryInfo()





sceNpSignalingInit

Initialize library

Definition

Calling Conditions

Not multithread safe.

Arguments

poolSize
threadPriority
cpuAffinityMask
threadStackSize

Memory pool size for the library in bytes
Priority of internal thread
CPU affinity of internal thread
Stack size of internal thread in bytes

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552702	Already initialized.
ALREADY_INITIALIZED		sceNpSignalingInit() may have already been
		executed. Check the calling order.

For a list of the NP error codes, refer to each reference document.

Description

This function initializes the NP Signaling Library. Heap memory will be allocated for the library at initialization and NP Signaling library internal threads will be created. Specify the memory pool size for the NP Signaling Library for <code>poolsize</code>. Specify the stack size and priority of the internal thread to <code>threadStackSize</code> and <code>threadPriority</code>, respectively. Specify the CPU affinity of the internal thread to <code>cpuAffinityMask</code>.

When 0 is specified for threadStackSize and threadPriority, the default values will be set.

See Also

sceNpSignalingTerm()

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sceNpSignalingTerm

Terminate library

Definition

Calling Conditions

Not multithread safe.

Arguments

None

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		<pre>sceNpSignalingInit() may not have been called</pre>
		yet. Check the calling order

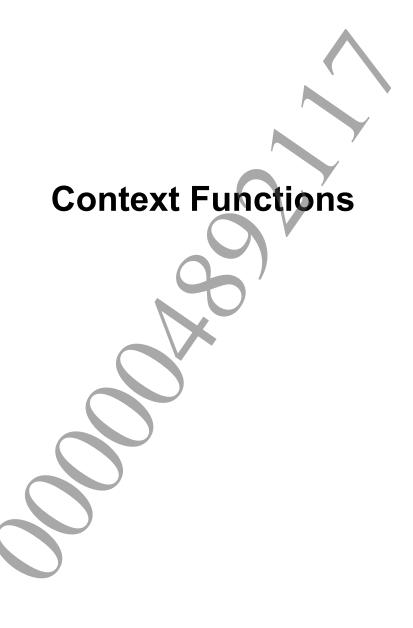
Description

This function terminates the NP Signaling library.

See Also

sceNpSignalingInit()





sceNpSignalingCreateCtx

Create context

Definition

Calling Conditions

Multithread safe.

Arguments

npId NP ID to associate with context (application's own NP ID)
 handler Callback function
 arg Address to be passed to callback function as an argument
 ctxId Area to store obtained context ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_ NOT_INITIALIZED	0x80552701	Not initialized. sceNpSignalingInit() has not been called, or sceNpSignalingTerm() has already been called. Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552703	Could not allocate memory.
OUT_OF_MEMORY		This code indicates that memory could not be
		allocated from the NP Signaling library heap memory.
		It is possible that the heap memory size specified with
		sceNpSignalingInit() is too small.
SCE_NP_SIGNALING_ERROR_	0x80552704	Exceeded the maximum number of contexts that can
CTXID_NOT_AVAILABLE		be created.
		The application can have up to 8 contexts at one time.
		Check if there are unnecessary contexts that can be
		deleted.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for npId
		or ctxId. Check the argument values.

For a list of the NP error codes, refer to each reference document.

This function creates a context. To npId, pass the NP ID of the application obtained with sceNpManagerGetNpId(). If the function terminates normally, the context ID will be returned to ctxId.

Examples

Notes

The maximum number of contexts that can exist at one time is 8 (SCE NP SIGNALING CTX MAX).

See Also

sceNpSignalingDestroyCtx(), sceNpManagerGetNpId()

sceNpSignalingDestroyCtx

Delete context

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.

For a list of the NP error codes, refer to each reference document.

Description

This function deletes a context. Simultaneously, all ACTIVE and PENDING connections of the context will become INACTIVE.

Examples

Notes

This function also returns SCE OK for calls for context IDs that do not exist.

See Also

sceNpSignalingCreateCtx()

sceNpSignalingSetCtxOpt

Set context options

Definition

Calling Conditions

Multithread safe.

Arguments

Specify the following value to optname.

Value	(Number)	Description
SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_	PROBE 1	Measure estimated bandwidth

When optname is SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE, specify one of the following values to optval.

Value		(Number)	Description
SCE_NP_SIGNALING_CTX_OP	_BANDWIDTH_PROBE_ENABLE	1	Enable (default)
SCE NP SIGNALING CTX OP:	BANDWIDTH PROBE DISABLE	0	Disable

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that an invalid value was specified
		for optname or optval. Check the argument values.

For a list of the NP error codes, refer to each reference document.

This function sets the options of the specified context.

Examples

See Also

sceNpSignalingGetCtxOpt()

sceNpSignalingGetCtxOpt

Get context options

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID optname Option

optval Area to store the value obtained

Specify the following value to optname.

Value				(Number)	Description
SCE_NP_SI	GNALING_CTX_	OPT_BANDWIDTH	PROBE	1	Measure estimated bandwidth

When optname is SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE, one of the following values will be set to optval.

Value	(Number)	Description
SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE_ENABLE	1	Enabled (default)
SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE_DISABLE	0	Disabled

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that an invalid value was specified
		for optname or optval. Check the argument values.

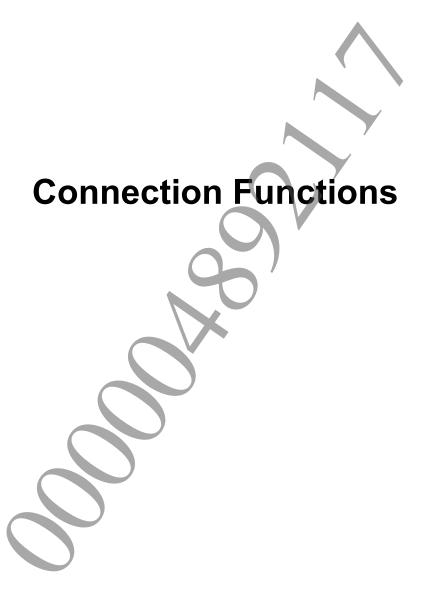
For a list of the NP error codes, refer to each reference document.

This function obtains the value set to an option of the specified context. Specify the macro of the option to optname. The result will return to *optval.

Examples

See Also

sceNpSignalingSetCtxOpt()



sceNpSignalingActivateConnection

Activate connection

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID

npId NP ID of communication targetconnId Area to store obtained connection ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

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Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552703	Could not allocate memory.
OUT_OF_MEMORY		This code indicates that memory could not be
		allocated from the NP Signaling library heap memory.
		It is possible that the heap memory size specified with
		sceNpSignalingInit() is too small.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x8055270d	Could not obtain the connection ID.
CONNID_NOT_AVAILABLE		This code indicates that the unique ID allocated to a
		connection could not be obtained. This error does not
		occur during normal usage.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for npId
		or connId. Check the argument values.
SCE_NP_SIGNALING_ERROR_	0x80552716	Specified one's own NP ID.
OWN_NP_ID		This code indicates that one's own NP ID was
		specified for npId. One's own NP ID cannot be
		specified for connection.
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Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552717	Number of connections exceeded 64.
TOO_MANY_CONN		Up to 64 connections (in the PENDING or ACTIVE
		state) can exist at one time.

For a list of the NP error codes, refer to each reference document.

Description

This function activates a connection with the specified NP ID. If the function terminates normally, an INACTIVE connection will transition to the PENDING state. Notification of transitions in connection state (ESTABLISHED events and DEAD events) will be carried out with callback functions.

Examples

Notes

If sceNpSignalingActivateConnection() is called for a connection that is already ACTIVE, the call will be successful, and there will be another notification of the ESTABLISHED event.

See Also

sceNpSignalingDeactivateConnection(), sceNpSignalingTerminateConnection()



sceNpSignalingDeactivateConnection

Deactivate connection

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID connId Connection ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
4		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING ERROR	0x8055270e	Specified connection does not exist.
CONN_NOT_FOUND		This code indicates that the connection with the ID
		connId either does not exist or is in the INACTIVE
		state.
		Make sure that the values specified to the arguments
		are correct.

For a list of the NP error codes, refer to each reference document.

Description

This function deactivates the connection of the specified connection ID.

Examples

Notes

After this function is called, there will be no more notification of transitions in the connection state (ESTABLISHED events and DEAD events).

See Also

sceNpSignalingActivateConnection(), sceNpSignalingTerminateConnection()

sceNpSignalingTerminateConnection

Terminate connection

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID connId Connection ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
4		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x8055270e	Specified connection does not exist.
CONN_NOT_FOUND		This code indicates that the connection with the ID
		connId either does not exist or is in the INACTIVE
		state.
		Make sure that the values specified to the arguments
		are correct.

For a list of the NP error codes, refer to each reference document.

This function terminates the connection of the specified connection ID. If the function terminates normally, the connection will transition to the INACTIVE state.

If the connection is in the PENDING or ACTIVE state, the communication target will be notified of SCE_NP_SIGNALING_ERROR_TERMINATED_BY_PEER and a DEAD event. If the caller had the connection also activated in another context, SCE_NP_SIGNALING_ERROR_TERMINATED_BY_MYSELF and a DEAD event will be notified.

Examples

Notes

After this function is called, there will be no more notification of transitions in the connection state (ESTABLISHED events and DEAD events).

See Also

sceNpSignalingActivateConnection(), sceNpSignalingDeactivateConnection()





sceNpSignalingGetConnectionStatus

Get status of connection

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID Connection ID

connStatus Area to store obtained connection state peerAddr Area to store obtained IP address of peer

peerPort Area to store obtained port number of peer (network byte order)

One of the following values will be set to connStatus.

Value	(Number)	Description
SCE_NP_SIGNALING_CONN_STATUS_INACTIVE	0	Connection (ID=connId) is
		INACTIVE
SCE_NP_SIGNALING_CONN_STATUS_PENDING	1	Connection (ID=connId) is
		PENDING
SCE NP SIGNALING CONN STATUS ACTIVE	2	Connection (ID=connId) is ACTIVE

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for
		connStatus. Check the argument values.

For a list of the NP error codes, refer to each reference document.

This function obtains the status of the connection specified with <code>connId</code>. <code>peerAddr</code> and <code>peerPort</code> are valid only when <code>connStatus</code> returns <code>SCE NP SIGNALING CONN STATUS ACTIVE</code>.

Examples

Notes

If a connection with a <code>connId</code> ID does not exist, This function sets SCE NP SIGNALING CONN STATUS INACTIVE to <code>connStatus</code> and returns SCE OK.



sceNpSignalingGetConnectionInfo

Get connection information

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID connId Connection ID

code Target information code

info Area to store obtained information

One of the following values will be set to code.

Value	(Number)	Description
SCE_NP_SIGNALING_CONN_INFO_RTT	1	Round-trip time (microseconds)
SCE_NP_SIGNALING_CONN_INFO_BANDWIDTH	2	Estimated bandwidth
		(bits/second)
SCE_NP_SIGNALING_CONN_INFO_PEER_NPID	3	NP ID of peer
SCE_NP_SIGNALING_CONN_INFO_PEER_ADDRESS	4	IP address and port number of
		peer
SCE_NP_SIGNALING_CONN_INFO_MAPPED_ADDRESS	5	Your own IP address and port
		number as seen from your peer
SCE_NP_SIGNALING_CONN_INFO_PACKET_LOSS	6	Packet loss percentage

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552714	Connection is in the progress of being established.
CONN_IN_PROGRESS		The connection specified in connId is in the progress
		of being established, and the information specified
		with code cannot be obtained yet.
		Make sure that the values specified to the arguments
		are correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for
		info. Check the argument values.

For a list of the NP error codes, refer to each reference document.

Description

This function obtains information of the connection specified with <code>connId</code>. To <code>code</code>, specify the code of the information to be obtained.

Examples

Notes

When SCE_NP_SIGNALING_CONN_INFO_PEER_NPID is specified to code, information can be obtained even when the connection specified in connId is in the progress of being established. When a value other than SCE_NP_SIGNALING_CONN_INFO_PEER_NPID is specified, the SCE_NP_SIGNALING_ERROR_CONN_IN_PROGRESS error will return if the connection specified in connId is not established (either the ESTABLISHED event must be returned or the PEER_ACTIVATED event must be notified).



sceNpSignalingGetConnectionFromNpId

Get the connection ID from the NP ID

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID

npId NP ID of communication targetconnId Area to store obtained connection ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x8055270e	Specified connection does not exist.
CONN_NOT_FOUND		This code indicates that the connection with the ID
		connId either does not exist or is in the INACTIVE
		state.
		Make sure that the values specified to the arguments
		are correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for npId
		or connId. Check the argument values.

For a list of the NP error codes, refer to each reference document.

This function obtains the connection ID corresponding to the specified NP ID.

A connection ID can be obtained regardless of the connection state (for example, even for a connection that has been activated by a peer but not yet locally; a deactivated connection; etc.). Thus, you cannot use the return value of this function to evaluate the connection state. To evaluate the connection state, use sceNpSignalingGetConnectionStatus() after obtaining the connection ID.

Examples

sceNpSignalingGetConnectionFromPeerAddress

Get the connection ID from the address of a peer

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID
peerAddr IP address of peer

peerPort Port number of peer (network byte order)
connId Area to store obtained connection ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_ NOT_INITIALIZED	0x80552701	Not initialized. sceNpSignalingInit() has not been called, or sceNpSignalingTerm() has already been called. Check the calling order.
SCE_NP_SIGNALING_ERROR	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x8055270e	Specified connection does not exist.
CONN_NOT_FOUND		This code indicates that a connection corresponding to
		the specified peerAddr and peerPort either does
		not exist or is in the INACTIVE state.
		Make sure that the values specified to the arguments
		are correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for
		connId. Check the argument values.

For a list of the NP error codes, refer to each reference document.

This function obtains the connection ID for the connection corresponding to the specified IP address and port number of a peer. The connection ID of a connection in the ACTIVE state can be obtained.

Examples



sceNpSignalingGetLocalNetInfo

Get own network information

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID

info Area to store obtained network information

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

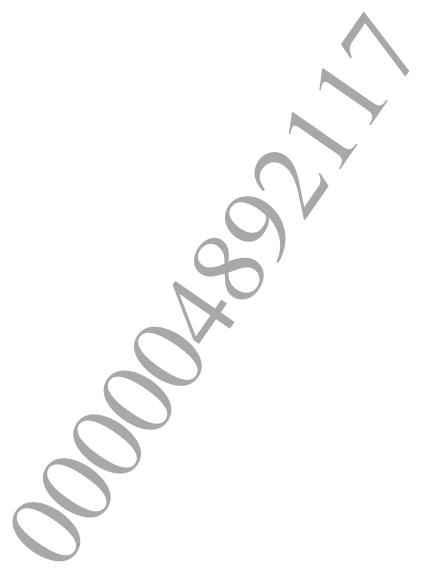
Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_ NOT INITIALIZED	0x80552701	Not initialized. sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called. Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified to info,
		or an incorrect value was specified to the size
		member of the specified SceNpSignalingNetInfo
		structure.
		Check the values specified to the arguments and the
		size member of the SceNpSignalingNetInfo
		structure.

For a list of the NP error codes, refer to each reference document.

Description

This function obtains one's own network information.

Call this function after storing the size of the structure to the <code>size</code> member of the network information structure <code>SceNpSignalingNetInfo</code>. If the external IP address is invalid, <code>SCE_NET_INADDR_ANY</code> will be stored to the <code>mapped addr</code> member.



sceNpSignalingGetPeerNetInfo

Request network information of communication target

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID

npId NP ID of communication target

reqId Area to store the request ID

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552703	Could not allocate memory.
OUT_OF_MEMORY		This code indicates that memory could not be
		allocated from the NP Signaling library heap memory.
		It is possible that the heap memory size specified with
		sceNpSignalingInit() is too small.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552706	Could not obtain the request ID.
REQID_NOT_AVAILABLE		This code indicates that the unique ID allocated to a
		request could not be obtained. This error does not
		occur during normal usage.
SCE_NP_SIGNALING_ERROR_	0x80552708	Error in creating a protocol message.
PARSER_CREATE_FAILED		This code indicates that an error occurred while
		creating a network information request message. This
		error does not occur during normal usage.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for npId
		or reqId. Check the argument values.

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Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552716	Specified one's own NP ID.
OWN_NP_ID		This code indicates that one's own NP ID was
		specified for npId.
		To obtain one's own network information, use
		sceNpSignalingGetLocalNetInfo().

For a list of the NP error codes, refer to each reference document.

Description

This function obtains the network information of the communication target specified with NP ID.

This function only issues a request and upon normal termination, the request ID is returned to reqId. Success or failure in actually obtaining the network information is notified as an event by a callback function. When a success is notified, the result can be obtained by calling

sceNpSignalingGetPeerNetInfoResult() with the request ID specified.

sceNpSignalingCancelPeerNetInfo

Cancel request of network information of communication target

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID reqId Request ID

Return Values

Returns 0 for normal termination.

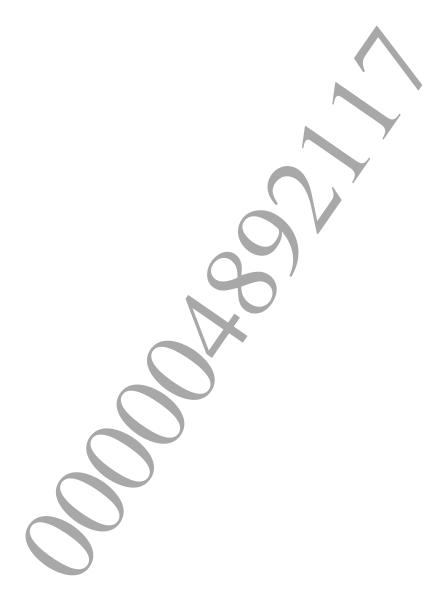
Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
4		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING ERROR	0x80552707	Specified request ID does not exist.
REQ_NOT_FOUND		This code indicates that the request with the ID reqId
		does not exist, or was cancelled, or its results were
		obtained.
		Make sure that the values specified to the arguments
		are correct.

For a list of the NP error codes, refer to each reference document.

Description

This function cancels the request to obtain the network information of the specified request ID.



sceNpSignalingGetPeerNetInfoResult

Get network information of communication target

Definition

Calling Conditions

Multithread safe.

Arguments

ctxId Context ID
reqId Target request ID

info Area to store obtained network information

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552705	Specified context does not exist.
CTX_NOT_FOUND		This code indicates that the context with the ID ctxId
		either was not created or was deleted.
		Make sure that the value specified to the argument is
		correct.
SCE_NP_SIGNALING_ERROR_	0x80552713	Specified result does not exist.
RESULT_NOT_FOUND		This code indicates that the request with the ID reqId
		does not exist, or was cancelled, or its transaction is
		currently in progress, or its results were obtained.
		Results cannot be obtained twice for the same request
		ID.
		Make sure that the values specified to the arguments
		are correct.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified to info,
		or an incorrect value was specified to the size
		member of the specified SceNpSignalingNetInfo
		structure.
		Check the values specified to the arguments and the
		size member of the SceNpSignalingNetInfo
		structure.

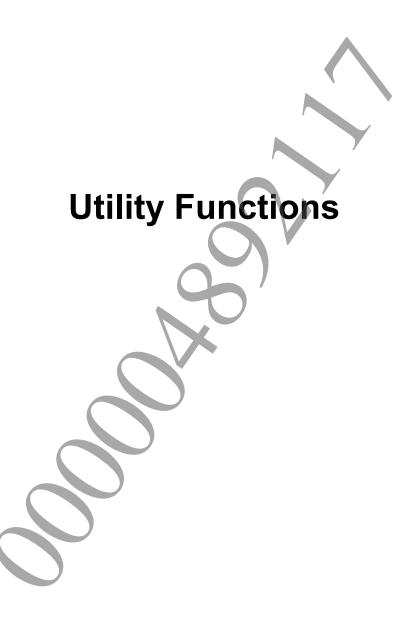
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For a list of the NP error codes, refer to each reference document.

Description

This function obtains the result of the network information specified with the request ID.

Call this function after storing the size of the structure to the <code>size</code> member of the network information structure <code>SceNpSignalingNetInfo</code>. If the external IP address is invalid, <code>SCE_NET_INADDR_ANY</code> will be stored to the <code>mapped addr</code> member.



sceNpSignalingGetMemoryInfo

Get memory information (for development)

Definition

Calling Conditions

Multithread safe.

Arguments

memInfo Pointer to area storing the memory information

Return Values

Returns 0 for normal termination.

Returns a negative value for errors. The main error codes are shown below. Note, however, that the application must not malfunction even if other error codes are returned.

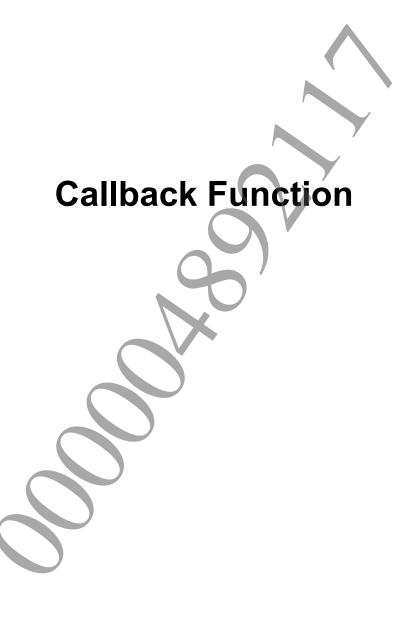
Value	(Number)	Description
SCE_NP_SIGNALING_ERROR_	0x80552701	Not initialized.
NOT_INITIALIZED		sceNpSignalingInit() has not been called, or
		sceNpSignalingTerm() has already been called.
		Check the calling order.
SCE_NP_SIGNALING_ERROR_	0x80552715	Specified an invalid value for an argument.
INVALID_ARGUMENT		This code indicates that NULL was specified for
		memInfo. Check the argument values.

For a list of the NP error codes, refer to each reference document.

Description

This function obtains memory information regarding the heap area to be used by the NP Signaling library.

When this function is executed, the size of the heap area, the current memory usage volume, and the maximum memory usage in the past, can be obtained. Use this function in application development and check the memory size required by your application.



SceNpSignalingHandler

NP Signaling callback function

Definition

Arguments

ctxId Context ID

subjectId ID of target for which an event occurred

event Type of event (SCE NP SIGNALING EVENT XXX)

errorCode Errorcode

arg Argument specified when context was created

One of the following values will be passed to <code>event</code> (further extension may be implemented in the future - program your application so that it does not malfunction when other values are passed).

Value	(Number)	Description
SCE_NP_SIGNALING_EVENT_DEAD	0	Connection (ID=subjectId)
	/	became INACTIVE
SCE_NP_SIGNALING_EVENT_ESTABLISHED	1	Connection (ID=subjectId)
		became ACTIVE
SCE_NP_SIGNALING_EVENT_NETINFO_ERROR	2	Request of network information
		(ID=subjectId) caused an error
SCE_NP_SIGNALING_EVENT_NETINFO_RESULT	3	Request of network information
		(ID=subjectId) was successful
SCE_NP_SIGNALING_EVENT_PEER_ACTIVATED	10	Connection (ID=subjectId) has
		been activated from the peer side
SCE_NP_SIGNALING_EVENT_PEER_DEACTIVATED	11	Connection (ID=subjectId) has
		been deactivated on the peer side
SCE_NP_SIGNALING_EVENT_MUTUAL_ACTIVATED	12	Connection (ID=subjectId) has
		been activated on both sides - local
		and peer

The main error codes passed to errorCode when event is SCE_NP_SIGNALING_EVENT_DEAD are shown below. (Note, however, that the application must not malfunction even if other error codes are returned.)

Value	(Number)	Description
SCE NP SIGNALING ERROR	0x80552703	Could not allocate memory.
OUT OF MEMORY		This code indicates that memory could not be
		allocated from the NP Signaling library heap memory.
		It is possible that the heap memory size specified with
		sceNpSignalingInit() is too small.
SCE NP SIGNALING ERROR	0x80552708	Error in creating a protocol message.
PARSER CREATE FAILED		This code indicates that an error occurred while
		creating a signaling message. This error does not
		occur during normal usage.
SCE NP SIGNALING ERROR	0x80552709	Error in parsing a protocol message.
PARSER_FAILED		This code indicates that an error occurred while
		parsing a signaling message. This error does not occur
		during normal usage.
SCE_NP_SIGNALING_ERROR_	0x8055270c	No response from peer.
PEER_NOT_RESPONDING		This code indicates that there is no response from the
		peer to the signaling message.
		Either the peer signed out, or the connection with the
		PSN™ server is disrupted (for either the peer or for
		oneself).
SCE_NP_SIGNALING_ERROR_	0x8055270f	Cannot reach peer.
PEER_UNREACHABLE		This code indicates that UDP connection tests with the
		peer failed and a connection could not be established.
		The NAT type of the peer (or oneself) or firewalls in
		the path could be the problem.
SCE_NP_SIGNALING_ERROR_	0x80552710	Is in the INACTIVE state due to peer request.
TERMINATED_BY_PEER		This code indicates that the peer did not activate the
		connection, or deactivated it, or terminated it.
SCE_NP_SIGNALING_ERROR_	0x80552711	Request timed out.
TIMEOUT		This code indicates that UDP keep-alive packets timed
		out.
		There may be network disruptions in the path to the
		peer.
SCE_NP_SIGNALING_ERROR	0x80552718	Is in the INACTIVE state due to own request.
TERMINATED_BY_MYSELF		This code indicates that the connection was
		terminated by oneself.

The main error codes passed to <code>errorCode</code> when <code>event</code> is <code>SCE_NP_SIGNALING_EVENT_NETINFO_ERROR</code> are shown below. (Note, however, that the application must not malfunction even if other error codes are returned.)

Value	(Number)	Description		
SCE_NP_SIGNALING_ERROR_	0x80552703	Could not allocate memory.		
OUT_OF_MEMORY		This code indicates that memory could not be		
		allocated from the NP Signaling library heap memory.		
		It is possible that the heap memory size specified with		
		sceNpSignalingInit() is too small.		
SCE_NP_SIGNALING_ERROR_	0x80552708	Error in creating a protocol message.		
PARSER_CREATE_FAILED		This code indicates that an error occurred while		
		creating a network information request message. This		
		error does not occur during normal usage.		
SCE_NP_SIGNALING_ERROR_	0x80552709	Error in parsing a protocol message.		
PARSER_FAILED		This code indicates that an error occurred while		
		parsing a network information request message. This		
		error does not occur during normal usage.		
SCE_NP_SIGNALING_ERROR_	0x8055270c	No response from peer.		
PEER_NOT_RESPONDING		This code indicates that there is no response from the		
		peer to the network information request message.		
		Either the peer signed out, or the connection with the		
		PSN [™] server is disrupted (for either the peer or for		
		oneself).		

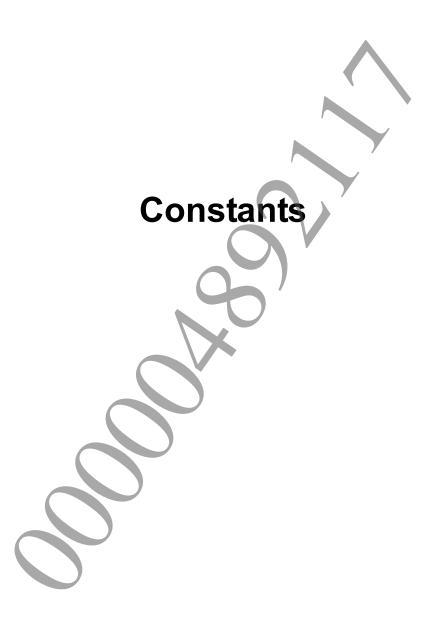
For a list of the NP error codes, refer to each reference document.

Description

This is the callback function for event notification from the NP Signaling library to an application. It is specified with sceNpSignalingCreateCtx().

See Also

sceNpSignalingCreateCtx()



Maximum Number of Contexts

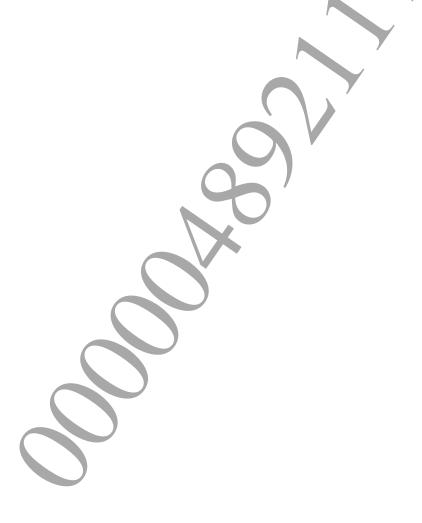
Maximum number of contexts that can be open simultaneously

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_CTX_MAX	8	Maximum number of contexts that can be open at one
		time

Description

This constant represents the maximum number of contexts that can be open at one time.



Context Options

Context options

Definition

Value	(Number)	Description
SCE NP SIGNALING CTX OPT BANDWIDTH PROBE	1	Measure predicted bandwidth

When the option is SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE, the possible values are as follows. The value applies to all the connections for the specified context.

Value	(Number)	Description
SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE_ENABLE	1	Enabled (default)
SCE_NP_SIGNALING_CTX_OPT_BANDWIDTH_PROBE_DISABLE	0	Disabled

Description

These constants represent the types of context options.



Event Types

Types of event notified by callback function

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_EVENT_DEAD	0	Connection became INACTIVE
SCE_NP_SIGNALING_EVENT_ESTABLISHED	1	Connection became ACTIVE
SCE_NP_SIGNALING_EVENT_NETINFO_ERROR	2	Request of network information
		caused an error
SCE_NP_SIGNALING_EVENT_NETINFO_RESULT	3	Request of network information
		was successful
SCE_NP_SIGNALING_EVENT_PEER_ACTIVATED	10	Connection has been activated
		from the peer side
SCE_NP_SIGNALING_EVENT_PEER_DEACTIVATED	11	Connection has been deactivated
		on the peer side
SCE_NP_SIGNALING_EVENT_MUTUAL_ACTIVATED	12	Connection has been activated on
		both sides - local and peer

Description

These constants represent the types of event notified by the callback function. Events are expected to be added in the future.



Connection States

Current connection status

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_CONN_STATUS_INACTIVE	0	INACTIVE state
SCE_NP_SIGNALING_CONN_STATUS_PENDING	1	PENDING state
SCE_NP_SIGNALING_CONN_STATUS_ACTIVE	2	ACTIVE state

Description

These constants represent the current state of the connection.



Connection Information Code

Connection information to obtain

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_CONN_INFO_RTT	1	Round-trip time (microseconds)
SCE_NP_SIGNALING_CONN_INFO_BANDWIDTH	2	Estimated bandwidth
		(bits/second)
SCE_NP_SIGNALING_CONN_INFO_PEER_NPID	3	NP ID of peer
SCE_NP_SIGNALING_CONN_INFO_PEER_ADDRESS	4	IP address and port number of
		peer
SCE_NP_SIGNALING_CONN_INFO_MAPPED_ADDRESS	5	Your own IP address and port
	\	number as seen from your peer
SCE_NP_SIGNALING_CONN_INFO_PACKET_LOSS	6	Packet loss percentage

Description

This constant represents the type of connection information to obtain.



NAT Status Type

NAT status type

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_NETINFO_NAT_STATUS_UNKNOWN	0	Unknown
SCE_NP_SIGNALING_NETINFO_NAT_STATUS_TYPE1	1	Type 1
SCE_NP_SIGNALING_NETINFO_NAT_STATUS_TYPE2	2	Type 2
SCE_NP_SIGNALING_NETINFO_NAT_STATUS_TYPE3	3	Type 3

Description

These constants represent the NAT status type in the network information.



Default Memory Pool Size

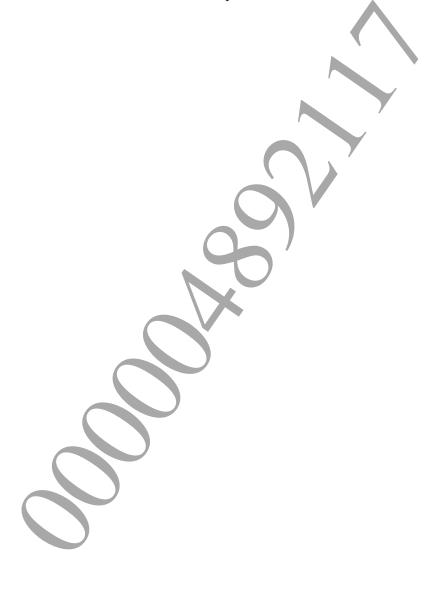
Default memory pool size

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_POOLSIZE_DEFAULT	128*1024	Default memory pool size for the library

Description

This constant is the size to be used when 0 is specified for poolSize with sceNpSignalingInit().



Default Internal Thread Priority

Default internal thread priority

Definition

Macro	Value	Description
SCE_NP_SIGNALING_THREAD_	SCE_KERNEL_DEFAULT_	Internal thread default priority
PRIORITY_DEFAULT	PRIORITY_USER	

Description

This constant is the priority to be used when 0 is specified for threadPriority with sceNpSignalingInit().



Default Internal Thread Stack Size

Default internal thread stack size

Definition

Value	(Number)	Description
SCE_NP_SIGNALING_THREAD_STACK_SIZE_DEFAULT	16 * 1024	Internal thread default stack
		size

Description

This constant is the priority to be used when 0 is specified for threadStackSize with sceNpSignalingInit().

