Document Package Changes

Changes Made in Release 3.50

Changes in Package Configuration

The following documents have been added in this release.
- Video Import Dialog Overview, Video Import Dialog Reference
- System Software Theme Tutorial

Modified Documents

Major modifications of each document since the last release are listed below. (Minor corrections that have been made for clarification are excluded.)

System Software Overview

Modifications throughout the Document
- Corrected setting item names as follows.
  "PS Vita...", "PS Vita system..." to "System..."

Chapter 1: "Overview"
- Deleted Maps from the "Home Screen" section.

Chapter 3: "Setting Functions"
- Added the "Accessibility" section.
- "Settings Usable With Each Device for Development and Boot Parameter" section. Updated content to reflect latest specifications.

Chapter 4: "★Debug Settings Functions"
- "PSN℠ - NP Debug" section. "Display Indicating the Application Used a PSN℠ Web API That Requires Server Registration" item. Updated content to reflect latest specifications.
- Added the "PSN℠ - Web API Rate Limit Threshold" and "PSN℠ - Ignore NpTitleId set by API in Development Mode" sections.
- "System - Region Settings" section. Updated content to reflect latest specifications.
- "Debug Settings Usable With Each Device for Development and Boot Parameter" section. Updated content to reflect latest specifications.

Chapter 7: "Development Support Features by Application"
- "Individual Content Deletion Features" section.
  - "★ Delete Savedata" item. Added description that only the current user's account entry save data is the delete target.
  - Added the "★ Delete All Savedata" item.

Deleted Chapters/Sections/Items
- "Google Maps: Terms of Use" item (Chapter 3: "Setting Functions", "System" section)
- "Maps Application" section (Chapter 5: "Functions of Application")

Error Overview

Chapter 3: "Error Code List"
- "List" section
  - Added the following shortened error codes to the list.
    C2-15454-9, C4-17528-3 and onwards
  - Deleted the following shortened error code from the list.
    NP-12437-7

Application Development Process Overview

Chapter 2: "Application Package Configuration"
- Added the "Data Placement That Causes a Decrease in File Access Speed" section.

Chapter 3: "Mount Points"
- Added description about the video0: mount point.

Chapter 5: "Game", Chapter 6: "Patches (Game Updates)", Chapter 7: "Save Data", Chapter 8: "Additional Contents"
- Rewrote content overall for better readability.

Chapter 14: "Appendix 1: How to Install Packages"
- Added the "Condition to Install a Patch Package" and "Condition to Install an Additional Content Package" sections.
- "How to Use Installed Contents" section. Added description about patch application.

Added Chapter 16: "Appendix 3: Features to Install/Delete Save Data".

Chapter 17: "Troubleshooting"
- "Package Installation" section. Added description about how to handle an install error for an additional content package.

Programming Startup Guide

Chapter 5: "Resources that Can Be Used by an Application"
- "Memory Usable by Applications" section. Reviewed configuration and rewrote content.
- "Main Memory (LPDDR2 DRAM)" section. Added the "Memory Expansion Mode" item.

DevKit/TestKit Setup Guide

Modifications throughout the Document
- Updated screen shots given the update of the Visual Studio, SDK Manager, etc.

Chapter 2: "Installing Development Software"
- Changed content, such as, the install procedure, given the update of the SDK Manager.

Chapter 6: "Tutorials for Application Creation/Debugging/Performance Analysis"
- Rewrote content overall for better readability.

Development Kit Neighborhood Settings Guide

Modifications throughout the Document
- Changed the setting item names of "PS Vita", "PS Vita system" to "System"

Chapter 2: "Operation Method"

– "Items Requiring DevKit Reboot/Items Switched by PS TV Emulation Setting" section. Updated content to reflect latest specifications.

Chapter 3: "Overview of Setting Items"

– Added the "Accessibility" section.
– "★Debug Settings" section. "PSN(SM)" item. Added "Web API Rate Limit Threshold" and "Ignore NpTitleId set by API in Development Mode".

Graphics Programming Tutorial

Chapter 3: "Software: Performing Basic Graphics Tasks on PlayStation®Vita"

– "Setting up Display Buffers" section
  – Updated byte-alignment requirement for display buffers from 1-MB to 256-byte alignment.

TRC Compliant Shooting Game Creation Tutorial

Updates throughout the document

– Renames the solution filename of Visual Studio as follows.
  tutorial_shooting_game_trc_compliant_vs2010.sln to tutorial_simple_shooting_game.sln

Chapter 8: "Specifications and Implementation of Features Using the "near" System"

– "Details of the Features Using the "near" System" section. ""near" Application Start-Up" item. Deleted description of APIs to be removed and updated content to reflect latest specifications.

C and C++ Standard Libraries: Overview and Reference

Top page

– "Standard C++ Library" and "C++11 Library" sections. Added description about exception specifications.

<thread>

– "detach()" section. Fixed description because the function is not available.

<stdio.h>

– Added the "sceLibcFopenWithFD", "sceLibcFopenWithFH", "sceLibcGetFD" and "sceLibcGetFH" sections.

<functional>

– "bind" section. Changed description to match the specification of C++11.

Vector Math Library Reference

Modifications throughout the document

– Added copy constructors to various classes.

"sce::Vectormath::Simd" chapter

– "floatInVec Math Functions". Each section. Added "Notes" which give confirmation on the values returned.

Added the "Internal Functions" chapter.

libsysmodule Reference

"Constants" chapter

– "Module IDs" section. "Definition". Added `SCE_SYSMODULE_APPUTIL_EXT`

libfiber Overview

Chapter 3: "Using Fibers"

– "Basic APIs" section. "Fiber Interfaces" item. Added `sceFiberRenameSelf()` to the list.

libfiber Reference

"Functions" chapter

– Added the "sceFiberRenameSelf" section.

libfios2 Overview

Chapter 1: "Overview"

– Added the "Profiling" section.

Chapter 4: "Using a Dearchiver"

– Changed chapter title from "Using a Dearchiver to Access Compressed Data".
– "Accessing Files" section.
  – Changed section name from "Accessing Compressed Files".
  – "Accessing the Contents of a Mounted Archive" item. Clarified the default block size of a PSARC archive.

Chapter 5: "Using the RAM Cache to Improve Read I/O Performance"

– "Caching Archived Files" section
  – Changed section name from "Caching Compressed Files".

libfios2 Reference

"Defines" chapter

– "Define Summary" section
  – Added `SCE_FIOS_INVALID_LBA` and `SCE_FIOS_PSARC_DEARCHIVER_TEMP_BUFFERS`.

"Macros" chapter

– Added the "SCE_FIOS_PSARC_DEARCHIVER_WORK_BUFFER" section.

"Functions" chapter

– Added the "sceFiosCacheContainsFileRangeSync", "sceFiosCacheContainsFileSync", "sceFiosCacheFlushFileRangeSync", and "sceFiosCacheFlushFileSync" sections.
– "sceFiosDHOpen" section. "Notes". Updated the maximum number of supported directory entries.
– "sceFiosDHOpenSync" section. "Notes". Updated the maximum number of supported directory entries.

"Callback Functions" chapter

– Added the "SceFiosProfileCallback" section.

"Typedefs" chapter

– Added the "SceFiosIoProfileData", "SceFiosProfilingEvent", "SceFiosProfilingEventType", and "SceFiosSchedulerProfileData" sections.
– "SceFiosOpenFlags" section. "Enumeration Values". Added `SCE_FIOS_O_DIRECT`.
– "SceFiosOverlayType" section. "Enumeration Values". In `SCE_FIOS_OVERLAY_TYPE_NEWER`, clarified when `src` or `dst` is used.
– "SceFiosParams" section. "Members". Added `extraFlag1` and replaced `reserved6` with `pProfileCallback`.

PSP2PSARC User's Guide

Chapter 2: "Using the PSP2PSARC Tool"

- "Creating an Archive Using an XML File" section
  - "Adding Files to the Archive" item. Clarified that you should escape regular-expression characters in file names.

CES Library Overview

Chapter 2: "Feature Explanations and Usage Procedure"

- "Handling Unicode and Other CESs" section
  - "Types to handle Unicode and other encoded character string" item. Corrected errata as follows.
    `sceMbceUcsContextInit()` to `sceCesMbcsUcsContextInit()`
  - "Conversion of CESs between Unicode and other character sets through integrated functions" item. Corrected erratum as follows.
    `sceCesUcsStrGetEncoddingSize` to `sceCesUcsStrGetEncodingSize`

CES Library Reference

"Functions for Handling UCS Character Encoding Schemes" chapter

- "sceCesSetUcsPolicyOutputBom" section. "Examples". Corrected errata as follows.
  `SCE_CES_DISABLE` to `SCE_CES_OUTPUT_DISABLE`
- "sceCesSetUtf16StrEndian, sceCesSetUtf32StrEndian" section. "Examples". Corrected errata as follows.
  `SCE_CES_DISABLE` to `SCE_CES_DETECT_DISABLE`

"UCS Conversion Profiles of Multi-Byte Character Sets" chapter

- "sceCesUcsProfileInitSJis1997Cp932, sceCesUcsProfileInitSJis" section. "Description". Corrected errata as follows.
  `sceCesUcsProfileSJis()` to `sceCesUcsProfileInitSJis()`

System Software Theme Overview

Chapter 2: "Elements That Can Be Customized"

- "Elements That Can Be Customized on the Home Screen" section. Added the following elements that can be customized and updated Figure 1.
  - Absence/presence of shadows and font colors for the application name
  - Page indicator images
  - Notification indicator images

libLiveArea Reference

"Content Information Zone Update" chapter

- "sceLiveAreaUpdateFrameSync" and "sceLiveAreaUpdateFrameAsync" sections. "Description". Corrected
  `SCE_LIVEAREA_FLAG_TEMP_FRAME` to `SCE_LIVEAREA_FLAG_TEMP`

Common Dialog Overview

Chapter 1: "Library Overview"

- "Purpose and Features" and "Reference Materials" sections. Added description about the video import dialog.

Chapter 3: "Detailed Specifications"

– "Button Control" section. Changed the setting item name as follows.
"Control with Buttons on PS Vita System" to "Control with Buttons on This System"

Save Data User's Guide

Chapter 3: "Save Data Free Space"

– Reviewed document configuration and rewrote content throughout the chapter given the following changes.
  – Fixed the save data quota, as a general rule, to 1 GiB.
  – Updated calculations regarding save data size.

Chapter 8: "Notes Regarding the Speed of Save Data Writes"

– Added the "Number of Files/Directories" item.

Chapter 11: "How to Read Save Data from Another Title"

– "Save Data Transfer" section. Updated explanation regarding parameters to set to param.sfo.

Chapter 13: "Reference Information"

– Deleted the "Methods for Storing Save Data in Save Data Quota" section.

NP Friend List Dialog Overview

Chapter 1: "Library Overview"

– "Main Features" section. Updated Note given that the scheduled removal of APIs has been carried out.

NP Friend List Dialog Reference

"NP Friend List Dialog Call" chapter

– "sceNpFriendListDialogParamInit" and "sceNpFriendListDialogInit" sections. "Examples". Changed as follows.
`SCE_NP_FRIENDLIST_DIALOG_MODE_FRIENDLIST` to
`SCE_NP_FRIENDLIST_DIALOG_MODE_PLAYERHISTORY`

NP Profile Dialog Overview

Chapter 3: "Reference Information"

– Deleted the "Game Joining Presence Information Provided by NP Basic" section.

InvitationDialog Library Overview

Chapter 2: "Using the Dialog"

– "Preparation" section. Added the "Allocate Memory Pools of libssl and libhttp" item.
– "Basic Usage Procedure" section. "(2) Call the invitation dialog". Added explanation of the content displayed in the invitation dialog.

Chapter 3: "Reference Information"

– Added "Display of Game Icons and Title Names for Titles Under Development" section.

InvitationDialog Library Reference

"Parameter Settings" chapter

- "SceInvitationDialogOptions" section. "Description". Added explanation of 0x0 in the table.

"Obtaining the Invitation Dialog Call Result" chapter

- "SceInvitationDialogResult" section. "Description"
  - Added explanation regarding the error codes that can be stored in `errorCode` and added references and a list table.
  - Added specific examples in the description fields for the following values that can be stored in `result`. `SCE_COMMON_DIALOG_RESULT_OK`, `SCE_COMMON_DIALOG_RESULT_USER_CANCELED`
- "sceInvitationDialogGetResult" section. "Return Values". Added `SCE_COMMON_DIALOG_ERROR_NOT_IN_USE`.

"Constants" chapter

- Added explanation of other error codes and reference details in "List of Return Codes".

GameCustomDataDialog Library Overview

Chapter 2: "Using the Dialog"

- "Preparation" section. Added the "Allocate Memory Pools of libssl and libhttp" item.

Chapter 3: "Reference Information"

- Added the "Display of Game Icons and Title Names for Titles Under Development" section.

GameCustomDataDialog Library Reference

"Parameter Settings" chapter

- "SceGameCustomDataDialogDataParam" section. Added explanation regarding the character code and maximum length of `dataDetail`.
- "SceGameCustomDataDialogOptions" section. "Description". Added explanation of 0x0 to the table.

"Obtaining the Game Custom Data Dialog Call Result" chapter

- "SceGameCustomDataDialogResult" section. "Description"
  - Added explanation regarding the error codes that can be stored in `errorCode` and added references and a list table.
  - Added specific examples in the description fields for the following values that can be stored in `result`. `SCE_COMMON_DIALOG_RESULT_OK`, `SCE_COMMON_DIALOG_RESULT_USER_CANCELED`
- "sceGameCustomDataDialogGetResult" section. "Return Values". Added `SCE_COMMON_DIALOG_ERROR_NOT_IN_USE`.

"Constants" chapter

- Added explanation of other error codes and reference details in "List of Return Codes".

Application Utility Overview

Chapter 1: "Library Overview"

- "Files" section
  - Added apputil/apputil_ext.h, libSceAppUtilExt_stub.a, and libSceAppUtilExt_stub_weak.a to the list of files.
  - Added explanation for using extension features.
- "Used Resources" section. List of resources. Added "64 KiB when PRX for extended features is loaded" to the description field for Footprint.
- "Sample Programs" section. Added the "sample_code/system/api_videoimport_dialog/" item.

– "Functions" section. Added `sceAppUtilExtVideoMount()` and `sceAppUtilExtVideoUmount()` to "For content data mount".

Chapter 3: "Provided Features"

– "Content Data Mount Related Features" section
– Added description that the maximum number of virtual drives that can be mounted at the same time for each mount feature is two.
– Added the "Video Mount Feature" item.

Application Utility Reference

"Constants" chapter

– Added the "Drive Names" section.

"Structures" chapter

– "SceAppUtilSaveDataSlotParam" section. "Description". Added explanation of the *userParam*, *sizeKiB*, and *modifiedTime* member variables.

"Functions" chapter

– "sceAppUtilSaveDataSlotCreate" section. "Arguments". Corrected errata as follows.
  mode to *mountPoint*
– "sceAppUtilSaveDataSlotSearch" section. "Return Values". Deleted `SCE_APPUTIL_ERROR_SAVEDATA_SLOT_NOT_FOUND`
– "sceAppUtilPhotoMount" and "sceAppUtilMusicMount" sections.
  – "Return Values". Added `SCE_APPUTIL_ERROR_MOUNT_NUM_LIMIT_OVER`.
  – "Description". Added description that the maximum number of virtual drives that can be mounted at the same time for each mount feature is two.
– Added the "sceAppUtilExtVideoMount" and "sceAppUtilExtVideoUmount" sections.

"Error Codes" chapter

– "Parameter Error Codes" section. Updated the list of definitions.

libnet Overview

Chapter 2: "Using the Library"

– "Reference Information" section. Changed the "UDPP2P and TCP over UDPP2P Socket Loopback" item to the "UDPP2P and TCP Over UDPP2P Socket Loopback and Broadcasts" item.

libnet Reference

"DNS Resolver Functions" chapter

– "sceNetResolverStartNtoa" and "sceNetResolverStartAton" sections. "Return Values". Added the `SCE_NET_EMFILE` error code.

"Socket Options" chapter

– Added the "SCE_NET_IP_DONTFRAG" section.

libhttp Reference

"HTTP Communication Processing Functions" chapter

– "sceHttpSendRequest" section. "Return Values". Added the `SCE_HTTP_ERROR_EAGAIN` error code. Moreover, moved a part of the explanation from "Notes" to "Description" and updated explanation regarding the behavior of the blocking/non-blocking mode.

"Response Status Acquisition Functions" chapter
- − Added the "sceHttpSetInflateGZIPEnabled" section.

GameUpdate Library Overview

Chapter 3: "Precautions"
- − Added the "libnet Initialization When Using the GameUpdate Library" section.

Teleport Library Overview

Chapter 1: "Library Overview"
- − "Teleport", "Purpose and Characteristics" and "Main Features" sections. Rewrote contents for clarification.

PSN℠ Overview

Chapter 1: "Overview of Features"
- − "Features Provided by PSN℠" section. "Friends/Presence" item. Updated Note given the removal of APIs for handling friend information with an upper limit of 100 friends.

NP Library Overview

Chapter 2: "Accounts"
- − "Account Information" section.
    - − "Language Used" item. Deleted the wrong description about changes after sign up.
    - − Added Note regarding information that can be confused with account information.
- − "Libraries Related to Accounts" section. "NP Library" item. Added explanation regarding account information.

Chapter 4: "Using the Library"
- − "Regularly-performed Processing" section. "(1) Poll sceNpCheckCallback()". Added explanation regarding the function call.

NP Library Reference

"Obtaining Information" chapter
- − "sceNpManagerGetAccountRegion" section. "Description". Added note regarding the support state of a country, region, and language code.

"General Function" chapter
- − "sceNpCheckCallback" section. "Description". Added explanation regarding the function call.

"User Information Structures" chapter
- − "SceNpMyLanguages" section. "Description". Added the following value as a value that can be stored in the *language1*, *language2*, or *language3* argument.
    - − SCE_NP_LANG_FRENCH_CA: French (Canada)

NpWebApi Library Overview

Chapter 1: "Library Overview"
- − "Reference Materials" section. Made a change to only reference the "PSN℠ Web API Overview" document regarding PSN℠ Web APIs.

Chapter 2: "Using the Library"

– "Basic Procedure" section

– Added description regarding how to use `sceNpWebApiSendRequest2()` and deleted description regarding how to use the previously-used API.

– "Push Event Receiving" item. Removed Push event types and unified description as newly added "extended Push event" related APIs.

Chapter 3: "Notes"

– "Connection Handling by libhttp and Multi-thread Processing" section. Changed as follows.
`sceNpWebApiSendRequest()` to `sceNpWebApiSendRequest2()`

– "Online State and Push Events" section. Deleted description on the service Push event.

NpWebApi Library Reference

Modifications throughout the Document

– In each of the following sections, added description that the API will be removed in the future and also added note on maintaining compatibility.
"sceNpWebApiGetErrorCode", "sceNpWebApiGetHttpStatusCode", "sceNpWebApiSendRequest", and "sceNpWebApiSendMultipartRequest" sections.

– Updated the sections wherever APIs to be removed are described.

– Added note on maintaining compatibility in each of the sections in the "Push Events" and "Service Push Events" chapters.

"Requests" chapter

– Added the "SceNpWebApiResponseInformationOption" and "sceNpWebApiSendRequest2" sections.

– "sceNpWebApiGetErrorCode" section. "Description". Deleted description regarding `SCE_NP_WEBAPI_ERROR_INVALID_HTTP_STATUS_CODE`.

– "sceNpWebApiReadData" section. Added "Notes".

"Multiple Parts" chapter

– Corrected as follows: `SceNpWebApiMultipartParameter` to `SceNpWebApiMultipartPartParameter`

– "sceNpWebApiSendMultipartRequest" section. Added "Notes".

– Added the "sceNpWebApiSendMultipartRequest2" section.

Added the "Extended Push Events" chapter

– Moved the "sceNpWebApiAbortHandle", "sceNpWebApiCreateHandle", and "sceNpWebApiDeleteHandle" sections from the "Service Push Events" chapter to this chapter.

"Common Constants" chapter

– Added the "SCE_NP_WEBAPI_EXTD_PUSH_EVENT_EXTD_DATA_KEY_LEN_MAX" and "SCE_NP_WEBAPI_NP_SERVICE_NAME_NONE" sections.

– "Return Codes" section

– Added the following to the explanation of `SCE_NP_WEBAPI_ERROR_INVALID_HTTP_STATUS_CODE`. "(will not return from the APIs in this library)"

– Added `SCE_NP_WEBAPI_ERROR_EXTD_PUSH_EVENT_FILTER_NOT_FOUND`, `SCE_NP_WEBAPI_ERROR_EXTD_PUSH_EVENT_CALLBACK_NOT_FOUND`, `SCE_NP_WEBAPI_ERROR_AFTER_SEND`, `SCE_NP_WEBAPI_ERROR_NP_TITLE_DAT_NOT_FOUND`, and `SCE_NP_WEBAPI_ERROR_TITLE_ID_NOT_MATCHED_TO_NP_TITLE_ID`.

NP Basic Library Overview

Chapter 1: "Library Overview"

– "Main Features" section. Updated Note given that the scheduled API removal was carried out.

NP Basic Library Reference

"Sending/Receiving InGame Data Messages" chapter

– "sceNpBasicRegisterInGameDataMessageHandler" section. "Return Values". Added
SCE_NP_BASIC_ERROR_INVALID_ARGUMENT.

"Join Game Acknowledgment" chapter

– Updated "Description" of each API given that the scheduled API removal was carried out.

"Constants" chapter

– "Error Codes Used by NP Basic Library" section. Deleted the following description from the explanation of
SCE_NP_BASIC_ERROR_BUSY.
"Tokens have been used up"

NP Signaling Library Reference

Modifications throughout the Document

– "sceNpSignalingCreateCtx", "sceNpSignalingActivateConnection",
"sceNpSignalingGetConnectionFromNpId", and "sceNpSignalingGetPeerNetInfo" sections. Added const
to *npId.

"Get Network Information Functions" chapter

– "sceNpSignalingGetLocalNetInfo" and "sceNpSignalingGetPeerNetInfoResult" sections. "Description".
Corrected description regarding the value that is stored when an external IP address is invalid.

NP Auth Library Overview

Chapter 3: "Usage of Authorization Code Related Features"

– "Overview" section. Corrected the wrong description in "Figure 1 Assigning Access Rights to Application
Servers".

NP Matching 2 Library Reference

"Initialization and Termination Functions" chapter

– "sceNpMatching2Init" section. "Description". Added description that the default value will be used
internally when 0 is specified to *threadPriority* and *threadStackSize*

"Error Codes" chapter

– "List of Error Codes" section. "Definition". "Client Errors". Deleted unnecessary explanation from the
explanation of SCE_NP_MATCHING2_ERROR_ABORTED.

NP TUS Library Reference

Modifications throughout the Document

– "Return Values" of the following functions. Changed the error code when 0 is specified to the *arrayNum*
argument from SCE_NP_COMMUNITY_ERROR_INSUFFICIENT_ARGUMENT to
SCE_NP_COMMUNITY_ERROR_INVALID_ARGUMENT.

    – `sceNpTusSetMultiSlotVariable()`,`sceNpTusSetMultiSlotVariableVUser()`,
`sceNpTusGetMultiSlotVariable()`,`sceNpTusGetMultiSlotVariableVUser()`,
`sceNpTusGetMultiSlotVariableAsync()`,`sceNpTusGetMultiSlotVariableVUserAsync()`,
`sceNpTusGetMultiUserVariable()`,`sceNpTusGetMultiUserVariableVUser()`,
`sceNpTusGetMultiUserVariableAsync()`,`sceNpTusGetMultiUserVariableVUserAsync()`,
`sceNpTusDeleteMultiSlotVariable()`,`sceNpTusDeleteMultiSlotVariableVUser()`,
`sceNpTusDeleteMultiSlotVariableAsync()`,
`sceNpTusDeleteMultiSlotVariableVUserAsync()`,`sceNpTusGetMultiSlotDataStatus()`,
`sceNpTusGetMultiSlotDataStatusVUser()`,`sceNpTusGetMultiSlotDataStatusAsync()`,
`sceNpTusGetMultiSlotDataStatusVUserAsync()`,`sceNpTusGetMultiUserDataStatus()`,
`sceNpTusGetMultiUserDataStatusVUser()`,`sceNpTusGetMultiUserDataStatusAsync()`,
`sceNpTusGetMultiUserDataStatusVUserAsync()`,`sceNpTusDeleteMultiSlotData()`,
`sceNpTusDeleteMultiSlotDataVUser()`,`sceNpTusDeleteMultiSlotDataAsync()`,and
`sceNpTusDeleteMultiSlotDataVUserAsync()`

"Datatypes" chapter

– Added the "SceNpTusGetFriendsVariableOptParam" and "SceNpTusGetFriendsDataStatusOptParam" sections.

"Context Operation Functions" chapter

– "sceNpTusCreateRequest" section. "Return Values". Added the `SCE_NP_COMMUNITY_ERROR_TOO_MANY_OBJECTS` error code.

"TUS Variable Operation Functions" chapter

– "sceNpTusSetMultiSlotVariableAsync, sceNpTusSetMultiSlotVariableVUserAsync" section. "Return Values". Added description for when 0 is specified to the *arrayNum* argument in the explanation for the `SCE_NP_COMMUNITY_ERROR_INVALID_ARGUMENT` error code.

– "sceNpTusGetFriendsVariable" and "sceNpTusGetFriendsVariableAsync" sections. "Definition". Changed the type of the *option* argument as follows. Moreover, deleted "Notes".
`void` to `SceNpTusGetFriendsVariableOptParam`

– "sceNpTusTryAndSetVariable, sceNpTusTryAndSetVariableVUser" and "sceNpTusTryAndSetVariableAsync, sceNpTusTryAndSetVariableVUserAsync" sections. "Return Values". Added the `SCE_NP_COMMUNITY_ERROR_INVALID_TYPE` error code.

"TUS Data Operation Functions" chapter

– "sceNpTusGetMultiSlotDataStatus, sceNpTusGetMultiSlotDataStatusVUser" section. "Return Values". Changed the error code as follows when a value exceeding 64 is specified to the *arrayNum* argument.
`SCE_NP_COMMUNITY_ERROR_TOO_MANY_NPID` : 0x80550719
to
`SCE_NP_COMMUNITY_ERROR_TOO_MANY_SLOTID` : 0x80550718

– "sceNpTusGetFriendsDataStatus" and "sceNpTusGetFriendsDataStatusAsync" sections. "Definition". Changed the type of the *option* argument as follows. Moreover, deleted "Notes".
`void` to `SceNpTusGetFriendsDataStatusOptParam`

NP Trophy Library Reference

"Trophy Configuration Data/Trophy Record Obtaining" chapter

– "SceNpTrophyData" section. "Definition". Changed the following.
reserved[3] to *reserved*[4]

– "sceNpTrophyGetTrophyInfo" section. "Examples". Corrected errata as follows.
`SceNpTrophyTrophyDetails` to `SceNpTrophyDetails`
`SceNpTrophyTrophyData` to `SceNpTrophyData`

"Datatypes" chapter

– "SceNpTrophyId" section. "Definition". Corrected errata as follows.
`SCE_NP_TROPHY_INVALID_ID` to `SCE_NP_TROPHY_INVALID_TROPHY_ID`

"Common Constants" chapter

– "Data Sizes" section. Added `SCE_NP_TROPHY_NUM_MAX`.

NP ScoreRanking Library Reference

"Datatypes" chapter
– "SceNpScoreRankData" section. Corrected the order of members to align with the header.
– Added the"SceNpScoreGetFriendRankingOptParam" section.

"Communication Processing Functions" chapter
– "sceNpScoreRecordScore" section
  – "Arguments". Added description that NULL can be specified if registration is not required in the explanation of *scoreComment* and *gameInfo*.
  – "Return Values". Added the condition by which SCE_NP_COMMUNITY_ERROR_INVALID_ARGUMENT returns.
– "sceNpScoreRecordScoreAsync" and "sceNpScoreRecordGameData" sections. "Return Values". Added the condition by which SCE_NP_COMMUNITY_ERROR_INVALID_ARGUMENT returns.
– "sceNpScoreGetFriendsRanking" and "sceNpScoreGetFriendsRankingAsync" sections. Changed the type of the *option* argument from void* to SceNpScoreGetFriendRankingOptParam*. Moreover, updated the explanation of "Arguments" and "Description".

"Constants" chapter
– Added the "SCE_NP_SCORE_MAX_SELECTED_FRIENDS_NUM" section.

Activity System Overview

Chapter 5: "Gameplay and the Activity System"
– "Action Links" section. "http/https scheme" item. Deleted the description of the Maps application given its deletion.

NP Activity Library Reference

"Post Processing" chapter
– "sceNpActivityPostAppStartupStatus" section. "Return Values". Deleted the SCE_NP_ACTIVITY_ERROR_INVALID_URI_SCHEME error code that was not being returned.

NP Message Reference

"Common Definitions" chapter
– "SceNpMessageId" section. "Members". Added description to the explanation of *term* to specify NULL.
– "SceNpMessageEntry" section. "Description". Added that the value will be 0x00 if the *messageFlag* member is unread.

"Initialization Functions of NP Message Library" chapter
– "sceNpMessageInitWithParam" and "sceNpMessageInit" sections. "Return Values". Deleted the SCE_NP_MESSAGE_ERROR_ABORTED error code that was not being returned.

"NP Message Library Operating Functions" chapter
– "sceNpMessageAbort" section. "Return Values". Deleted the SCE_NP_MESSAGE_ERROR_INVALID_ARGUMENT and SCE_NP_MESSAGE_ERROR_ABORTED error codes that were not being returned.

"Termination Functions of NP Message Library" chapter
– "sceNpMessageTerm" section. "Return Values". Deleted the SCE_NP_MESSAGE_ERROR_INVALID_ARGUMENT error code that was not being returned.

NP Party Library Reference

"Functions" chapter

- "sceNpPartyGetMemberSessionInfo" section
  - "Arguments". Updated description of *sceNpPartyGetMemberSessionInfo*.
  - "Return Values". Corrected the value SCE_NP_PARTY_ERROR_MEMBER_NOT_FOUND to SCE_NP_PARTY_ERROR_PARTY_MEMBER_NOT_FOUND.

NP Toolkit Library Overview

Chapter 8: "Matching"

- "List of Functions" section. Table 15: Matching-Related Functions. Added registerRoomMessageCallback() and sendRoomMessage().

Added Chapter 19: "Game Custom Data" and Chapter 20: "Challenges".

NP Toolkit Library Reference

"sce::Toolkit::NP" chapter

- Added the "ChallengeBinaryDataResult", "ChallengeRecipientList", "ChallengeStatus", "ConsumeChallengeResult", "LocalizedMetadata", "NotifyChallengeResult", "ReceivedChallengeList", and "RetrieveChallenges" sections.
- Deleted the "FriendInfoRequest", "GameCustomDataMessage", "InviteMessage", "MessageData", "PresenceDetails", "Request", and "SnsPostFacebook" sections.
- "GameCustomDataGameData" section. "Members". Added *availablePlatforms* and deleted *platform*.
- "GameCustomDataItem" sections. "Members". Added *message* and *attachmentDetail*.
- "NpSessionInformation" sections. "Members". Added *platform*.
- "NpUser" sections. "Members". Changed *presenceInfo* to *presence*.
- "SceNpGamePresenceStatus" sections. Updated "Description".
- "ServiceType" sections. "Enumeration Values". Added challenges.

Added the "sce::Toolkit::NP::AttachmentDetail" chapter, "sce::Toolkit::NP::AttachmentURL" chapter, "sce::Toolkit::NP::ChallengeConsumeRequest" chapter, "sce::Toolkit::NP::ChallengeGetDataRequest" chapter, "sce::Toolkit::NP::ChallengeGetItemListRequest" chapter, "sce::Toolkit::NP::ChallengeGetItemRequest" chapter, "sce::Toolkit::NP::ChallengeRecvDetails" chapter, "sce::Toolkit::NP::ChallengeResponseRequest" chapter, "sce::Toolkit::NP::Challenges" chapter, "sce::Toolkit::NP::Challenges::Interface" chapter, and "sce::Toolkit::NP::ChallengeSendRequest" chapter.

"sce::Toolkit::NP::CreateNpSessionRequest" chapter

- "sce::Toolkit::NP::CreateNpSessionRequest" section. "Fields". Added *lockFlag* field.

"sce::Toolkit::NP::Event" chapter

- "sce::Toolkit::NP::Event" section. "Fields". Updated *webRequestInfo* description.
- "UserEvent" section. Added commerceGotBgdlStatus, challengesRetrieveListResult, challengesRetrieveResponsesResult, challengesRetrieveChallengesResult, challengesSendChallengeResult, challengesNotifyChallengeResult, challengesConsumeResult, challengesInspectItemResult, and challengesDataRetrieveResult enumerators.

Added the "sce::Toolkit::NP::GameCustomData" chapter, "sce::Toolkit::NP::GameCustomData::Interface" chapter, and "sce::Toolkit::NP::InviteMessage" chapter
"sce::Toolkit::NP::Matching::Interface" chapter

- Added the "kickMember" section.

"sce::Toolkit::NP::MessageData" chapter

– "sce::Toolkit::NP::MessageData" section. "Fields". Added `attachmentURL`, `availablePlatforms`, `dialogFlag` and `npSessionId` fields.

– Added the "MessageData" section.

"sce::Toolkit::NP::NpSessionDetailedInformation" chapter

– "sce::Toolkit::NP::NpSessionDetailedInformation" section. "Fields". Added `locked` field.

"sce::Toolkit::NP::TusSetDataInputParams" chapter

– "sce::Toolkit::NP::TusSetDataInputParams" section. "Fields". Added `lastChangedDate` and `requiredLastChangeUser` fields.

"sce::Toolkit::NP::UpdateNpSessionRequest" chapter

– "sce::Toolkit::NP::UpdateNpSessionRequest" section. "Fields". Added `lockFlag`, `maxSlots` and `sessionFlag` fields.

"Defines" chapter

– "Define Summary" section

  – Added `SCE_TOOLKIT_NP_ATTACHMENT_DATA_URL_LENGTH`, `SCE_TOOLKIT_NP_CHALLENGES_NOT_A_CHALLENGE`, `SCE_TOOLKIT_NP_CHALLENGES_RETRIEVE_TYPE_ALL`, `SCE_TOOLKIT_NP_CHALLENGES_RETRIEVE_TYPE_CHALLENGE`, `SCE_TOOLKIT_NP_CHALLENGES_RETRIEVE_TYPE_RESPONSE`, `SCE_TOOLKIT_NP_CHALLENGES_SEND_ATTACHMENT_MAX_SIZE`, `SCE_TOOLKIT_NP_CHAR_LENGTH_128`, `SCE_TOOLKIT_NP_CHAR_LENGTH_256`, `SCE_TOOLKIT_NP_CHAR_LENGTH_512`, `SCE_TOOLKIT_NP_CHAR_LENGTH_64`, `SCE_TOOLKIT_NP_CUSTOM_DATA_MAX_DATA_DESCRIPTION_LEN`, `SCE_TOOLKIT_NP_CUSTOM_DATA_MAX_DATA_NAME_LEN`, `SCE_TOOLKIT_NP_CUSTOM_DATA_MAX_NP_LANG_CODE_LEN`, `SCE_TOOLKIT_NP_CUSTOM_DATA_MAX_SIZE`, `SCE_TOOLKIT_NP_CUSTOM_DATA_MAX_USER_MESSAGE_LEN`, `SCE_TOOLKIT_NP_DATE_LENGTH`, `SCE_TOOLKIT_NP_DIALOG_TYPE_USER_EDITABLE`, `SCE_TOOLKIT_NP_DIALOG_TYPE_USER_NON_EDITABLE`, `SCE_TOOLKIT_NP_GAME_CUSTOM_DATA_TYPE_ATTACHMENT_DATA`, `SCE_TOOLKIT_NP_GAME_CUSTOM_DATA_TYPE_ATTACHMENT_URL`, `SCE_TOOLKIT_NP_MAX_IMAGE_SIZE`, `SCE_TOOLKIT_NP_SESSION_DEFAULT`, and `SCE_TOOLKIT_NP_SESSION_LOCKED` and `SCE_TOOLKIT_NP_SESSION_UNLOCKED`.

  – Deleted `SCE_TOOLKIT_NP_MESSAGE_TYPE_APP_AATTACHMENT_DATA`.

PSN℠ Commerce Service Overview

Chapter 4: "Various Information"

– "Countries/Regions, Languages and Currencies Supported by PlayStation®Store" section. Added Bahrain, Cyprus, Iceland, Lebanon, Malta, Oman, Romania, and Slovakia.

PSN℠ Commerce Programming Guide

Chapter 4: "Development Support Functions"

– "Wallet Charging" section. "Prepaid Card for PlayStation®Store" item. Added Bahrain, Cyprus, Iceland, Lebanon, Malta, Oman, Romania, and Slovakia.

Controller Service Overview

Chapter 3: "Precautions"

– Added the "Button Assignments of Accessibility" section.

NGS Overview

Chapter 1: "NGS Overview"

– "Supported Audio Formats" section. Added a Note that NGS does not support ATRAC9™ Band Extension.

Scream Library Reference

Modifications throughout the document

– In addition to a large number of changes due to an extensive set of feature additions in this release, this version of the "Scream Library Reference" document also includes a large number of changes due to other factors, including separation of the "Scream Library Reference" into NGS- and NGS2-specific versions, a thorough content audit, and restructuring of the document.

– The feature-related changes are described in the Release Notes (SDK), but due to the large volume, the other changes are not detailed in this document.

libcodecengine Reference

"Debug APIs" chapter

– "sceCodecEnginePmonGetProcessorLoad" section. "Description". Clarified restriction regarding the performance measurement time of the Codec Engine.

libaudiodec Overview

Chapter 1: "Library Overview"

– "Features" section. "CELP" item. Added 6600/ 8700/ 9900/ 10700/ 11800/ 12200 bps as supported bit rates.

Chapter 4: "Notes"

– Added the"ATRAC9™ Band Extension Support" section.

libaudiodec Reference

"Constants" chapter

– "Maximum Size of Elementary Streams" section. "Definition". Changed the number of SCE_AUDIODEC_CELP_MAX_ES_SIZE from 24 to 27.

– "CELP Bit Rate" section. "Definition". Added the following.
SCE_AUDIODEC_CELP_BIT_RATE_6600BPS,
SCE_AUDIODEC_CELP_BIT_RATE_8700BPS,
SCE_AUDIODEC_CELP_BIT_RATE_9900BPS,
SCE_AUDIODEC_CELP_BIT_RATE_10700BPS,
SCE_AUDIODEC_CELP_BIT_RATE_11800BPS, and
SCE_AUDIODEC_CELP_BIT_RATE_12200BPS

libaudioenc Overview

Chapter 1: "Library Overview"

– "Purpose and Features" section. "CELP" item. Added 6600/ 8700/ 9900/ 10700/ 11800/ 12200 bps as supported bit rates.

libaudioenc Reference

"Constants" chapter

– "Maximum Size of Elementary Streams" section. "Definition". Changed the number of
  `SCE_AUDIODEC_CELP_MAX_ES_SIZE` from 24 to 27.

– "CELP Bit Rate" section. "Definition". Added the following.
  `SCE_AUDIOENC_CELP_BIT_RATE_6600BPS,`
  `SCE_AUDIOENC_CELP_BIT_RATE_8700BPS,`
  `SCE_AUDIOENC_CELP_BIT_RATE_9900BPS,`
  `SCE_AUDIOENC_CELP_BIT_RATE_10700BPS,`
  `SCE_AUDIOENC_CELP_BIT_RATE_11800BPS,` and
  `SCE_AUDIOENC_CELP_BIT_RATE_12200BPS`

Mp4Rec Library Reference

"Datatypes" chapter

– "SceMp4RecInitParam" section. To improve readability, updated the explanations of
  `encoderPhyContSize` and `avRecPhyContSize` in "Members" and of `pEncoderPhyContPtr` and
  `pAvRecPhyContPtr` in "Description".

libatrac Overview

Chapter 4: "Notes"

– "Limitations" section. Added the "ATRAC9™ Band Extension Support" item.

libatrac Reference

Modifications throughout the Document

– "sceAtracReleaseHandle" section in "Controlling ATRAC™ Handle" chapter and each function's "Notes" in
  "Decoding", "Streaming Process", "Sub Buffer Process", "Decoder Information Setting Process" and
  "Obtaining Decoder Information" chapter. Clarified that the applicable function is not multithread safe for
  the same handle and is multithread safe for different handles.

libgxm Overview

Chapter 6: "Using the Rendering API"

– "Writable Uniform Buffers" section
  – Deleted information on vertex fence synchronization and deleted "Writing and Reading in the Same Job"
    item.

libgxm Reference

"Rendering API" chapter

– Deleted the "sceGxmVertexFence" section.

libsystemgesture Overview

Chapter 2: "libsystemgesture Usage Procedure"

– "libsystemgesture touch gesture recognition flow" section and "Basic Usage Procedure" section's "(7)
  Update of touch gesture recognizers" item. Clarified description that the higher-level gesture recognizer
  must be updated every time a primitive touch gesture is updated.

Chapter 4: "Precautions"

    – "Parameters Used in libsystemgesture" section. Deleted the description that parameter values are provisional.

libsystemgesture Reference

"Functions" chapter

    – "sceSystemGestureUpdateTouchRecognizer" section. "Description". Clarified description that the higher-level gesture recognizer must be updated every time a primitive touch gesture is updated.

libsmart Reference

"TargetTracking APIs" chapter

    – "sceSmartTargetTrackingQuery2" section

        – "Return Values". Updated the explanation for SCE_SMART_ERROR_INVALID_VALUE and SCE_SMART_ERROR_INVALID_POINTER

        – "Description". Added the following descriptions.
"When one or the other is not needed, specify NULL for the corresponding argument (*outResult* or *outTimestamp*)".

Crash Reporting System Overview

Chapter 2: "System Overview"

    – "System Response to a Crash" section. "Crash Data Uploads" item. Added "Note" clarifying that in order to avoid Crash Reporting Server overload, the number of crash reports received is limited.

    – "Validity Period on the Crash Reporting System" section. Changed the usage of the Crash Reporting System from 6 months to 10 years.

Chapter 3: "Using the Crash Reporting Server"

    – "Crash Data Views" section. In accordance with the addition of the "Callstack Explorer" view, added simple explanations of operations to the view format explanations and rewrote text.

    – "Obtaining the Core File for Debugging" section. Added explanation of the core file that is downloaded as a file in the zip format.

    – Added the "Restrictions" section.

libperf Overview

Chapter 1: "Library Overview"

    – "Reference Materials" section. "Cortex-A9 Technical Reference Manual Revision: r3p0" item. Added description on the supported version of events specific to Cortex-A9; following, changed reference as follows.
"Cortex-A9 Technical Reference Material" to "Cortex-A9 Technical Reference Manual Revision: r3p0"

libperf Reference

"Functions" chapter

    – "scePerfArmPmonSelectEvent" section. "Description". Changed reference as follows.
"Cortex-A9 Technical Reference Material" to "Cortex-A9 Technical Reference Manual Revision: r3p0"

libdeci4p Overview

Chapter 1: "Library Overview"

- – "Sample Program" section. Corrected the sample path as follows.
  sample/sample_code/developer_tools/api_libdeci4p/
  to
  sample_code/developer_tools/api_deci4p/
- – "Reference Materials" section. Added the "Neighborhood and Utility User's Guide" document.

Chapter 2: "Using the Library"

- – "Data Sending/Receiving" section (formerly "Basic Procedure" section)
  - – Reviewed configuration given the addition of the feature to execute applications on the development host computer.
  - – Added explanation for "(2) Send/receive data to/from the DECI4p socket".
  - – Updated the "Registering Callback" item.
  - – Added `sceKernelDeci4pRegisterCallback()` to the list of APIs in "Main APIs Used for Sending/Receiving Data" item (formerly "Main APIs Used for Basic Processing" item).
- – Added the "Application Execution in a Development Host Computer" section.

libdeci4p Reference

"libdeci4p Processing" chapter

- – Added the "SceKernelDeci4pCreateHostProcessParam", "SceKernelDeci4pCreateHostProcessResult", "SceKernelDeci4pHostProcessExitCallback", "SceKernelDeci4pHostProcessExitInfo", "sceKernelDeci4pCreateHostProcess", "sceKernelDeci4pCreateHostProcessAndWait" and the "Constants" sections.
- – "Return Codes" section. Added `SCE_KERNEL_ERROR_DECI4P_ILLEGAL_PARAM`, `SCE_KERNEL_ERROR_DECI4P_INTERRUPTED`, `SCE_KERNEL_ERROR_DECI4P_HOST_PROCESS_DISABLED`, `SCE_KERNEL_ERROR_DECI4P_HOST_CREATE_PROCESS`, and `SCE_KERNEL_ERROR_DECI4P_HOST_TOOMANY_PROCESS`