PSN℠ Commerce Programming Guide

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1 About This Document

This document describes the development process of applications that will use the commerce service provided on PSN℠.

First, the types and attributes of products that can be handled through the PlayStation®Store will be described, along with typical examples and the kinds of processing the application will use in handling them.

Next, an outline of the products distributed through the PlayStation®Store, and the development of applications that purchase products from the PlayStation®Store, will be provided.

Finally, development support features such as wallet charging and Title Store previews will be described.

2 **Product Configuration and Handling**

Product Types and Attributes

Products distributed through the PlayStation®Store are configured using a combination of the following two types of products.

- DRM content: Software and data downloaded by the user and saved to a memory card
- Service entitlement: Entitlement data managed on the server of PSN℠, with an expiration time or a limited number of usage times (ticketing)

Product attributes can be used for setting "eligibility rules", which show or hide products in the PlayStation®Store according to the user's past purchases.

Product types and attributes are described in more detail in the document "PSN℠ Commerce Service Overview".

Examples of Products

The most typical examples of products that can be realized using the PSN℠ commerce service are described below, along with their technical points.

Downloadable Games

Stand-alone, full-set game applications (downloadable games) can be distributed as DRM content. It is also possible to distribute free demos/trial editions of game packages as subset applications.

Create an NPDRM package of the application with the executable file, data files, and content information files, and register this package as DRM content.

When a downloadable game is purchased, it is automatically installed to the memory card. It can be booted by selecting it from the system software.

Downloadable Items

Data of additional items, characters, and scenarios to be used in the game can be distributed as DRM content. Such data can be placed in the Title Store so that it is available for purchase only from the applicable application.

Create an NPDRM package of the data for distribution and the content information files (required for game data), and register this package as DRM content.

When such data is purchased, it is automatically installed to the appropriate memory card and the application can reference it as a file in the additional contents. The application must be programmed to check if files of additional items exist in the additional contents directory, and then use them if found.

Consumable Items

Ammunition and fuel are examples of consumable items, which can be used only a certain number of times in the game. Such items can be realized using service entitlements, which is the right to consume an item a certain number of times. When a service entitlement is purchased, the number of times that the user can use the item will be increased.

When creating a service entitlement for a consumable item, set the number of usable times.

Before using an item, the application must use the NP Auth library ticketing API to check the number of usable times left in the item. This information is available on the server of PSN℠. When the item is consumed, the application must again use the ticketing API to notify the server of PSN℠ of this event.

Restricted Items and Features

Items and features can be made usable in the game for a set period of time after they are purchased. The entitlement can also be set to be automatically re-purchased when this period of validity expires.

When creating a service entitlement for such restricted items or features, set the time of expiration.

The application must use the NP Auth library ticketing API to see if the entitlement is valid and then lock or unlock the item/feature in the game according to the result. This entitlement information is available on the server of PSN℠.

Subscription Network Services

MMORPG and other fee-based subscription services can be provided on the game server using service entitlements with expiration times. Such services can be realized as described above, or the game server (instead of the client application) can be used to verify the validity of the user's entitlement.

When using the game server for verifying the validity, the client application obtains the ticket from the server of PSN℠ using the NP Auth library ticketing API and then sends it to the game server. The game server then uses the Ticket Checker Module (TCM) to verify the entitlement information in the ticket and thereby control accesses to the server.

> **Note**
> If you are planning to use subscription network services, please contact SCE.

3 Overview of the Development Process

Before Starting Development

Registration is required before starting development of products and applications that use the PSN℠ commerce service. For more information, contact SCE through the PlayStation®Vita Developer Network website (https://psvita.scedev.net/).

Also, it is necessary to configure network settings correctly and create an account ("sign up") in order to access the server of PSN℠ from the Development Kit/Testing Kit. For more information regarding this procedure, refer to the document "PSN℠ Overview".

Product and Application Development

The development of applications that access the PlayStation®Store for purchasing items and entitlements, as well as the development of DRM content used by such applications will be described below.

(1) Create and Test DRM Content Locally

First, create the program and data to be distributed as DRM content. The main points regarding this step are as follows. (For more information, refer to the document "Package Generator User's Guide".)

- Create a GameData type NPDRM package and save to the memory card or other media
- Select **Install Package Files** in the system software to install the NPDRM package
- Check that the data is correctly installed as game data and that it can be correctly used by the application

Figure 1 Create and Test DRM Content Locally
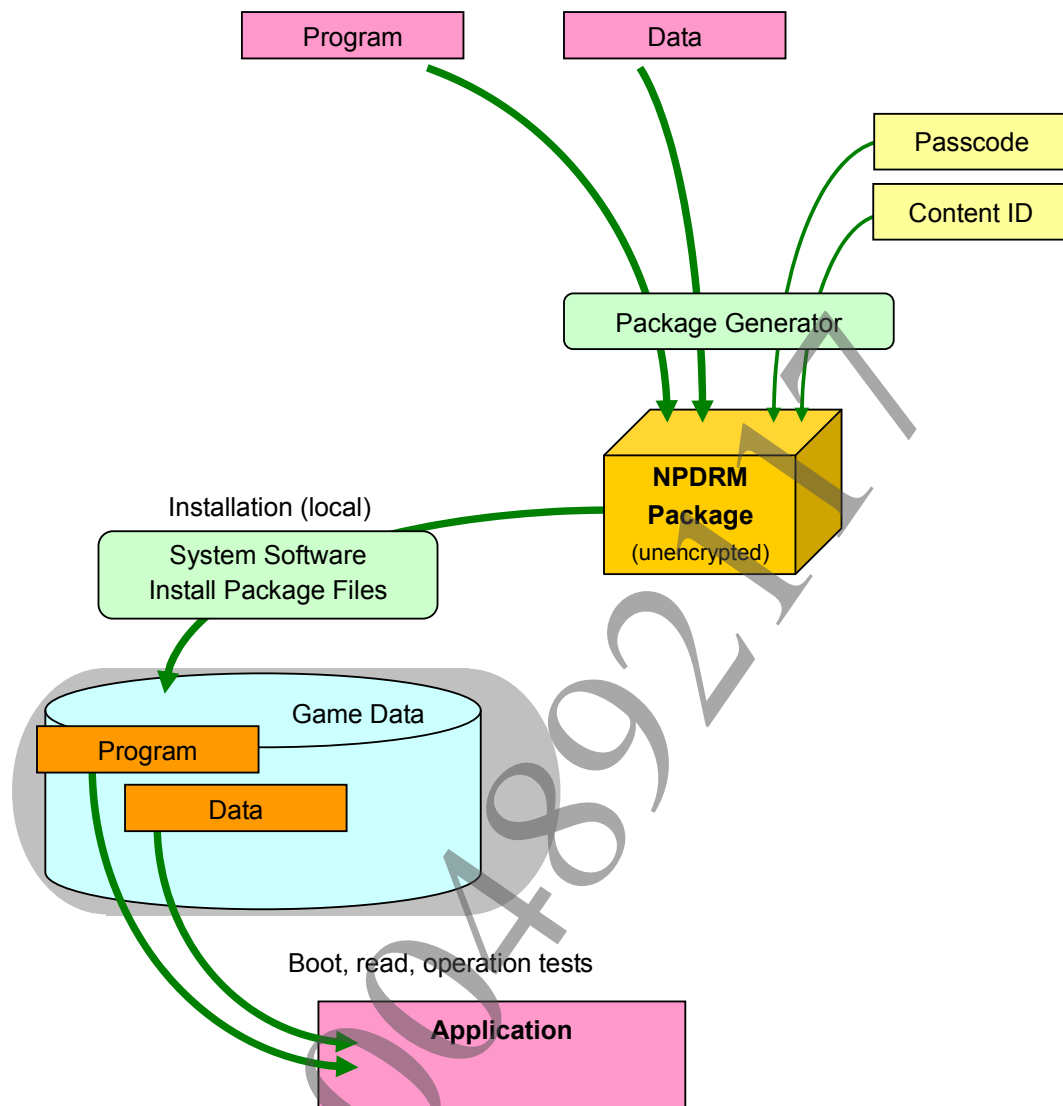


(2) Upload to the Development Environment

Upload the NPDRM package to the development environment and register it as DRM content to generate product and catalog information. Create the service entitlement in the development environment at this time as well. The main points regarding this step are as follows.

- Upload the NPDRM package to the Drop Point
- Use the Network Platform Management Tool (NPMT) to edit product and catalog information
- Use the NPMT to create service entitlements

Figure 2 Upload to the Development Environment
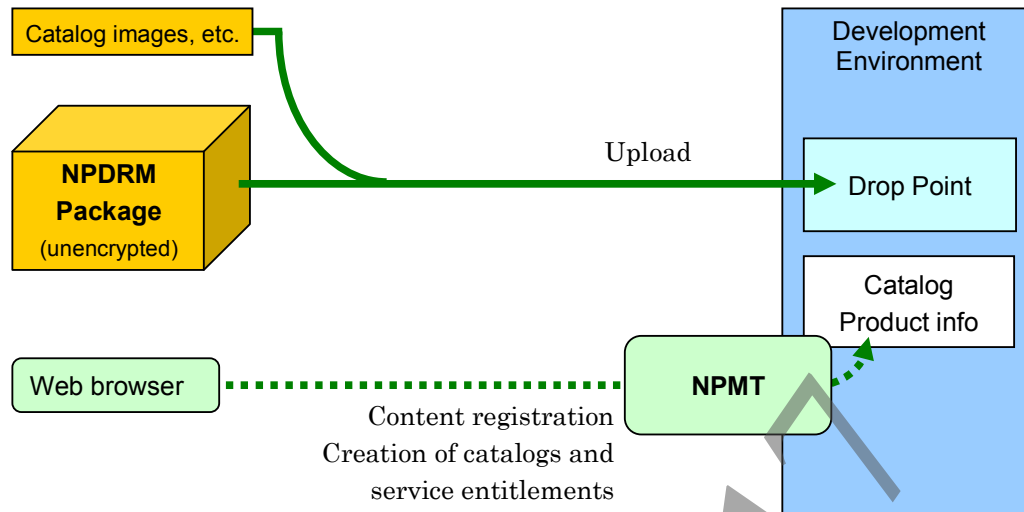
(3) Test in the Development Environment

The application must use the NP IN-GAME Commerce 2 library to access the PlayStation®Store in order to browse and purchase products. Test that this processing is correctly implemented by browsing and purchasing products created in the development environment.

Test to make sure that the content can be correctly downloaded and saved as game data, and that it can be correctly used in the application. (If the product can be purchased, it should work correctly since the subsequent processing has already been tested locally.)

Figure 3 Test Purchasing of Content
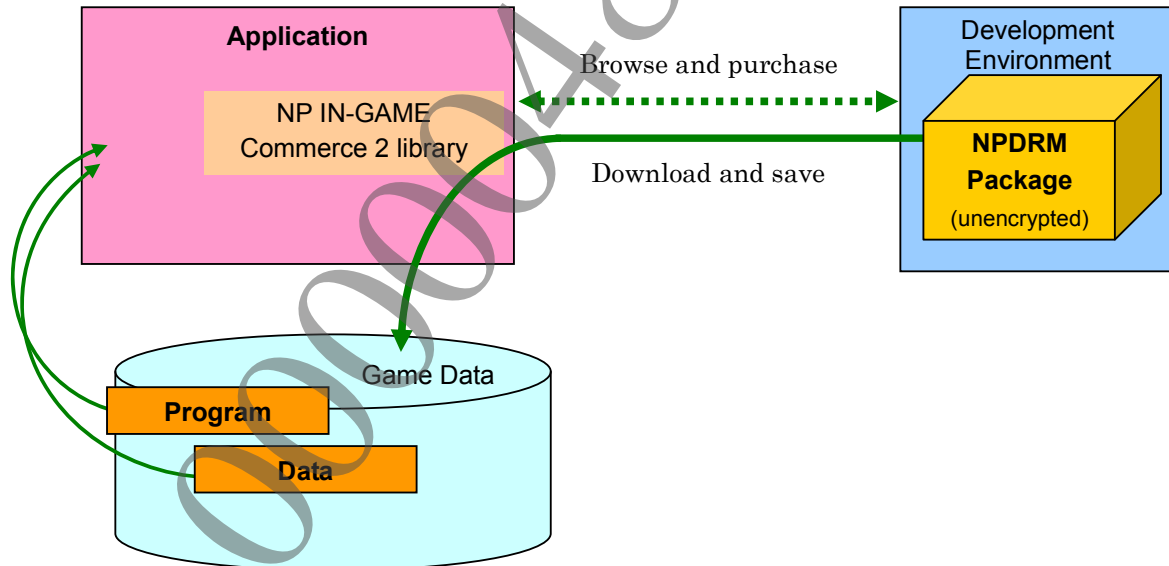
For service entitlements, use the NP Auth library ticketing API to check whether or not the user has the right to use an item or feature. Test that this processing is correctly implemented.

Figure 4 Test Purchasing of Service Entitlements
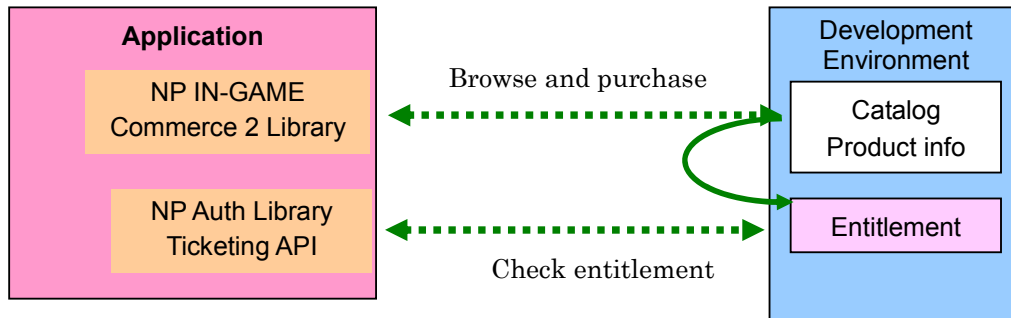
(4) QA

After testing by the licensee in the development environment, the product will be published to the QA environment, where SCE QA will conduct testing.

(5) Release

After all testing, the product will be transferred to the production environment and be made available to the end user. At this time, the final encryption process will be executed on the product.

Figure 5 QA and Release

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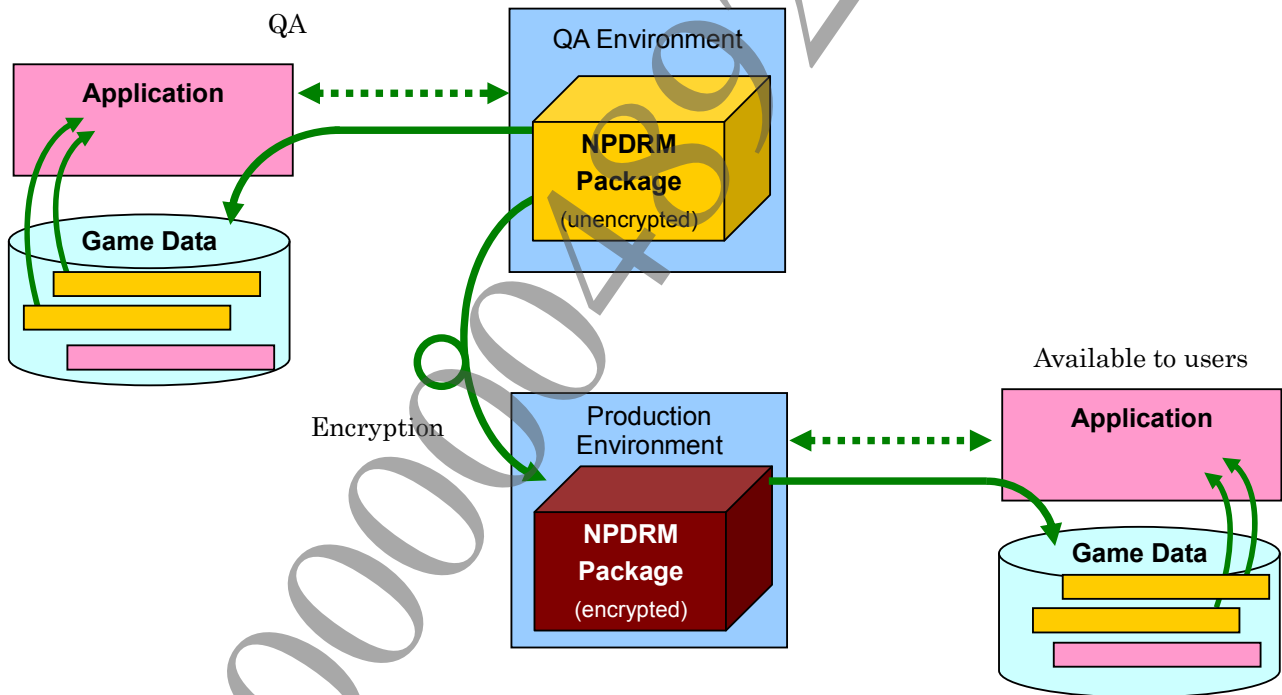
4 Development Support Functions

Wallet Charging

For checkout processing to complete, there must be at least the price of the content charged to the user's wallet.

Wallets can be charged using the Account Management menu in the system software.

In the development environment, wallets can be charged as necessary using the following credit card information or the following numbers of the prepaid cards for PlayStation®Store.

Credit Card

- Credit card number   See table below
- Expiration date   Any
- Address   Any
- Name   Any
- CVC code   Any 3-digit number

Country/Region	Card Type	Card Number
SCEA countries	VISA	4444 4444 4444 4448
SCEE/SCEJ/SCE Asia countries (excluding Korea)	VISA	4111 1111 1111 1111

*Unless specially noted, the above credit card numbers can be used in the development environment (only) by an account in a country/region supported by the PlayStation®Store as described in the "PSN℠ Commerce Service Overview" document. However, server support may be delayed for a newly-added country/region.

Prepaid Card for PlayStation®Store

Country/Region	Card Number	Charged Price
Argentina	P25L-7TNE-FEH8	50.00 USD
Australia	5L85-4HFF-3A9B	80.00 AUD
Austria	D828-PEFE-L29H	50.00 EUR
Bahrain	286F-HJNJ-EQGP	50.00 USD
Belgium	RPQB-T7F5-NDG5	50.00 EUR
Brazil	FPJQ-F7NA-RJ2Q	85.00 BRL
Bulgaria	K2P5-TAN5-MD9M	100.00 BGN
Canada	7NE3-KHFR-TT63	50.00 CAD
Chile	HJDD-QKNK-44J6	50.00 USD
Colombia	D4CG-TNN9-KFBD	50.00 USD
Croatia	5MBD-B2FK-LCBT	350,00 HRK
Cyprus	985A-PLNE-QLEA	50.00 EUR
Czech Republic	L45D-3NFM-DKRM	1,500.00 CZK
Denmark	FPKN-5HFN-C7CB	400.00 DKK
Finland	3PGN-QDFF-Q2RJ	50.00 EUR
France	Q5A3-2PF4-KPP4	50.00 EUR
Germany	R6PN-44FA-L4G9	50.00 EUR
Greece	P2PH-T8FM-R55N	50.00 EUR
Hong Kong	5E2N-42FG-48NE	160.00 HKD
Hungary	GRAK-6GN2-KC8B	15000.00 HUF
Iceland	GHJQ-PTNR-TQR9	50.00 EUR
India	2T45-E6F2-JHLJ	2,500 INR
Indonesia	GKD5-6NFA-7TG7	175,000 IDR

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Country/Region	Card Number	Charged Price
Ireland	AM8T-NMF8-8A39	50.00 EUR
Israel	5KMA-6JN9-PF27	250.00 ILS
Italy	B676-EEFD-KQ6K	50.00 EUR
Japan	M2LN-NHFM-66H9	10,000 JPY
Korea	BK7N-HCFE-EG92	50,000 KRW
Kuwait	5HP5-GJNB-BK68	50.00 USD
Lebanon	AH59-LKN7-F68M	50.00 USD
Luxembourg	77DP-66F5-F2JL	50.00 EUR
Malaysia	EPCA-7GFF-EDGE	60.00 MYR
Malta	5JED-33NH-HL4E	50.00 EUR
Mexico	EHJP-44FF-CCAB	50.00 USD
Netherland	BQ77-98FP-CCQK	50.00 EUR
New Zealand	4M2P-6JFP-M4QG	100.00 NZD
Norway	TQTD-QEFN-QNEJ	400.00 NOK
Oman	84T7-QFND-CLGB	50.00 USD
Peru	379R-L2NM-AHC5	50.00 USD
Poland	AGCF-FCF4-CPQT	200.00 PLN
Portugal	F6BN-DJF7-R9E9	50.00 EUR
Qatar	GKBC-H8NF-3JP6	50.00 USD
Romania	3CED-G8NA-N797	100.00 RON
Russia	83NT-9QF2-QBQ6	1,500 RUB
Saudi Arabia	DP8B-85FK-P93A	50.00 USD
Singapore	4CAT-6MF6-KGND	40.00 SGD
Slovakia	M82J-46NK-DL7T	50.00 EUR
Slovenia	HC5A-J9FN-RA2D	50.00 EUR
South Africa	RFP5-8NFA-NNPD	500.00 ZAR
Spain	6HC2-MEF9-77QE	50.00 EUR
Sweden	37GT-AGFQ-3QTJ	400.00 SEK
Switzerland	8LCJ-7CFA-333C	80.00 CHF
Taiwan	7DKD-5CF5-J7H2	600 TWD
Thailand	25JK-GQF7-QBM9	1,000.00 THB
Turkey	P8KT-63FK-G33A	100,00 TRY
UAE	E3TE-TLF8-ETNK	50.00 USD
UK	QGFF-LMFL-5CE6	50.00 GBP
Ukraine	3LPG-88NT-55DJ	400.00 UAH
United States	77R2-CLFC-7AK9	50.00 USD

Title Store Preview

On the Development Kit/Testing Kit, the system software provides a preview function for the Title Store.

(1) Sign in

Sign in with an account that has access rights to the catalog of the title to preview.

(2) Set the Service ID

In the system software menu, select **Settings** -> **★Debug Settings** -> **PSN℠** -> **Service ID**. IME Dialog will be displayed. Input the Service ID.

Example: IV0002-NPXS00004_00

(3) Preview

In the system software home screen, select ★**Store Preview (Regional Store)** to boot up an application to display the global catalog for the regional store in the development environment, and select ★**Store Preview (Title Store)** to boot up an application to display the in-game catalog for the Title Store.

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