App Metadata Specification 5.1

Developer

Contents

Introduction

Overview

This document provides information on delivering app localizations and product information, In-App Purchases, and Game Center metadata to your existing apps. For In-App Purchases, you provide metadata on the additional features and functionality you sell from within your free or paid iOS and Mac OS apps. For Game Center, you provide metadata for leaderboards and achievements, as well as providing localizations.

App metadata is delivered to the App Store in the App Store Package format. An App Store Package is a directory that contains the data necessary to describe and deliver an app product. The directory includes an XML file containing metadata about the app product, the app localization screenshots, In-App Purchase screenshots, Game Center assets, such as Achievement and Leaderboard images, as well as any optional hosted content files. Each package represents one app product within the App Store. For each app product, you can deliver multiple In-App Purchases and Game Center leaderboards and achievements in the same package. Note that an app can have up to 10,000 In-App Purchases overall, but no more than 1000 `<in_app_purchase>` elements can be delivered in a single upload.

Even though the app metadata, In-App Purchases, and Game Center leaderboards and achievements are covered in separate chapters, you could deliver them all in one `<software_metadata>` element for a single app product as shown in "Basic App Metadata Example" (page 9). For more details about delivery, see "Delivery & Formatting Guidelines" (page 7).

About This Release

Date/Version	Changes Made
June 9, 2013 - Version 5.1	Added ability to deliver app metadata for an existing app set up using iTunes Connect. Content packages for non-consumable In-App Purchases can now be delivered through the feed. Added interval pricing validations. Reorganized the spec based on the new features.
October 23, 2012 - Version 5.0	First release of the App Metadata Specification. Note that even though this is the first release of the spec, the version number is 5.0 to match the current version of the schema.

What's New in App Metadata Specification 5.1?

App Metadata

You can now deliver app metadata for an existing app set up using iTunes Connect. App metadata includes localized titles, descriptions, what's new text, keywords, and screenshots, as well as territory rights, pricing, and availability.

Hosted Content

Hosted In-App Purchases can be delivered via an XML content package through the feed. The product type for hosted content must be `non-consumable`. Customers purchase non-consumable products only once. Services that do not expire or decrease with use, such as a new race track for a game app, are usually implemented as non-consumables. The non-consumable product is provided to all devices associated with the customer's iTunes account. Available for iOS and Mac OS X applications.

Interval Pricing

New validations have been added for interval pricing. Packages that do not adhere to the requirements will be blocked. See "Interval Pricing" (page 68) for a list of the requirements.

In addition to the validations, the `<start_date>` of the first interval within the `<intervals>` block is optional for the first interval. See "Interval Pricing Metadata Annotated" (page 71) for more information.

Corrections/Clarifications

Added the missing closing `</description>` tag in the example showing how to use CDATA. Clarified the `<cleared_for_sale>` tag.

Tag Changes

Added

> `<versions>` and `<version>`
>
> `<keywords>` and `<keyword>`
>
> `<version_whats_new>`
>
> `<software_url>`
>
> `<privacy_url>`
>
> `<support_url>`
>
> `<software_screenshots>` and `<software_screenshot>`
>
> `<allow_volume_discount>`
>
> `<has_hosted_content>`

`in-app-purchase-content` as a `type` attribute for `<asset>` used for hosted content

Changed

`<start_date>` of the first interval within the `<intervals>` block is now optional

Delivery & Formatting Guidelines

Package Format

You deliver app metadata (which includes localized titles, descriptions, what's new text, keywords, and app screenshots, as well as provide territory rights, pricing and availability), review screenshot files, and leaderboard and achievement images in the App Store Package format (`.itmsp`) through Transporter. Each App Store Package can contain localized app metadata and products for multiple territories, multiple In-App Purchases (up to 1000 in a single upload) for a single app, as well as achievements (up to 100) and leaderboards (up to 25).

An App Store Package is a directory with the extension `".itmsp"` and contains:

- an XML file named `metadata.xml` that describes the delivered content using the structure documented in this specification

- app screenshots files; for each locale, you must supply at least one screenshot for each supported device

- associated review screenshot file(s) for In-App Purchases (if delivering In-App Purchases)

- achievement and leaderboard images (can be localized) (if delivering Game Center achievements and/or leaderboards)

- optional asset file(s) for hosted content

For example, if the vendor identifier (the app's SKU in iTunes Connect) is CI0009, the package would consist of a directory named `CI0009.itmsp`, and would contain the files listed below for an app that includes both In-App Purchases and Game Center achievements and leaderboards and that includes hosted content.

Note: The filenames listed below for screenshots and images are sample filenames, not required filenames.

- metadata.xml (xml-formatted metadata for a specific delivered app)

- screen-en-US-ipad-1.png, screen-en-US-ipad-2.png, screen-fr-FR-ipad-1.png, screen-fr-FR-ipad-2.png, and so on as needed for each locale/device combination.

- screenshot-01.png, screenshot-02.png, and so on (review screenshot(s) for each In-App Purchase)

- after_achievement1_image.png, after_achievement2_image.png, leaderboard_easy_image.png, leaderboard_medium_image.png, leaderboard_hard_image.png for each achievement and/or leaderboard. Can be localized for each `<locale>`.

- com.cyberinteractive.hosted_content.pkg (included if the In-App Purchase contains hosted content). Note that the `.pkg` file is not an executable file; it just contains resources.

The name for the package directory must match the `<vendor_id>` provided in the accompanying metadata file and should follow the format `vendor_id.itmsp`. (The `<vendor_id>` is the SKU in iTunes Connect.) The names of the files within the package should correctly match the filenames provided in the accompanying XML. The metadata XML file must be immediately (at the top level) within the package directory.

See the *Transporter User Guide* available on iTunes Connect for information on how to deliver the package.

Metadata Details

Character Encoding

All metadata files must use UTF-8 Unicode character encoding. UTF-8 efficiently encodes non-Roman characters and helps to ensure that metadata displayed in the store is the same as was intended by the repertoire owner. Your metadata file should not contain a byte-order mark (BOM) as it is not necessary for UTF-8 encoded data files nor is it supported by iTunes at this time. Incorrectly encoded metadata files or files that include a BOM will cause delays or may prevent your content from importing.

This specification defines character lengths in bytes. Japanese language characters are represented in 3 bytes so be sure not to exceed the character lengths when including these characters.

Note that simply including encoding="UTF-8" in your XML declaration is not sufficient. The file itself must also be correctly encoded for accented characters and punctuation to appear correctly in the App Store.

Checksums

All content files (such as the review screenshots) delivered to App Store must include an industry-standard MD5 digest checksum, a measure that helps to guarantee that the files received by the App Store are correct and complete. Once received, the MD5 checksum contained in the metadata file is compared against the actual screenshot file received by the App Store. If any differences are detected, the screenshot file and the entire corresponding package are rejected. See the "Helpful Tools" (page 84) section of this document for tools that can generate MD5 checksums for your content.

Basic App Metadata Profile

Overview

The App Metadata profile is used to deliver metadata for your app, the app's In-App Purchases, and Game Center. App metadata includes localized titles, descriptions, what's new text, keywords, and screenshots, as well as territory rights, pricing and availability. You can also deliver In-App Purchases and Game Center metadata in one metadata.xml file.

> **Note:** Currently, you cannot create new apps or app versions through the feed; you must create the app version in iTunes Connect as described in the iTunes Connect Developer Guide. However, you can deliver localized titles, descriptions, what's new text, keywords, and screenshots, as well as product information to an existing app version.

Basic App Metadata Example

Below is an example metadata.xml file for a fictional game. The example includes In-App Purchases and Game Center metadata. To read an overview of In-App Purchases and read tag annotations, see "In-App Purchase Profile" (page 25). To read an overview of Game Center and read tag annotations, see "Game Center Profile" (page 51).

```
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>CyberInteractive</provider>
    <team_id>A9B8C7D6E5</team_id>
    <software>
        <vendor_id>CI0009</vendor_id>
        <software_metadata>
            <versions>
                <version string="1.1">
                    <locales>
                        <locale name="en-US">
                            <title>Touch Fighter</title>
```

```
                            <description>Challenging, action-filled combat game
with fighter jets and missiles.</description>
                            <keywords>
                                <keyword>combat</keyword>
                                <keyword>multi-player</keyword>
                                <keyword>jet fighters</keyword>
                            </keywords>
                            <version_whats_new>Fixed a bug.</version_whats_new>
                            <software_url>http://www.CITouchfighter.com/
</software_url>

                            <privacy_url>http://www.CITouchfighter.com/privacy/
</privacy_url>

                            <support_url>http://www.CITouchfighter.com/support/
</support_url>

                            <software_screenshots>
                                <software_screenshot display_target="iOS-iPad"
position="1">

                                    <file_name>screen-en-US-ipad-1.png</file_name>
                                    <size>286243</size>
                                    <checksum type="md5">3cefb7c5c37f6c868c0f4c
46dc16c415</checksum>

                                </software_screenshot>
                                <software_screenshot display_target="iOS-iPad"
position="2">

                                    <file_name>screen-en-US-ipad-2.png</file_name>
                                    <size>283624</size>
                                    <checksum type="md5">c37f6c8683cefb7c5c46dc1
6c4150f4c</checksum>

                                </software_screenshot>
                            </software_screenshots>
                        </locale>
                        <locale name="fr-FR">
                            <title>Touch Fighter</title>
                            <description>Jeu de combat complexe et rempli
d'action.</description>

                            <keywords>
```

```
                          <keyword>combat</keyword>
                          <keyword>multi-joueur</keyword>
                          <keyword>chasseur à réaction</keyword>
                       </keywords>
                       <version_whats_new>Bug corrigé.</version_whats_new>
                       <software_url>http://www.CITouchfighter.com/fr/
</software_url>
                       <privacy_url>http://www.CITouchfighter.com/fr/
privacy/</privacy_url>
                       <support_url>www.CITouchfighter.com/fr/
support/</support_url>
                       <software_screenshots>
                          <software_screenshot display_target="iOS-iPad"
position="1">
                             <file_name>screen-fr-FR-ipad-1.png</file_name>
                             <size>286243</size>
                             <checksum type="md5">3cefb7c5c37f6c868c0f4c4
6dc16c415</checksum>
                          </software_screenshot>
                          <software_screenshot display_target="iOS-iPad"
position="2">
                             <file_name>screen-fr-FR-ipad-2.png</file_name>
                             <size>283624</size>
                             <checksum type="md5">c37f6c8683cefb7c5c46dc
16c4150f4c</checksum>
                          </software_screenshot>
                       </software_screenshots>
                    </locale>
                    <locale name="ru-RU" remove="true"/>
                 </locales>
              </version>
           </versions>
           <products>
              <product>
                 <territory>WW</territory>
                 <sales_start_date>2010-05-25</sales_start_date>
```

```
                              <cleared_for_sale>true</cleared_for_sale>
                              <wholesale_price_tier>9</wholesale_price_tier>
                              <allow_volume_discount>false</allow_volume_discount>
                    </product>
                    <product>
                         <territory>RU</territory>
                         <cleared_for_sale>false</cleared_for_sale>
                    </product>
               </products>
               <in_app_purchases>
                    <in_app_purchase>
                         <product_id>com.cyberinteractive.touchfighter.
missiles.10</product_id>
                              <reference_name>10 missiles</reference_name>
                              <type>consumable</type>
                              <products>
                                   <product>
                                        <cleared_for_sale>true</cleared_for_sale>
                                        <wholesale_price_tier>3</wholesale_price_tier>
                                   </product>
                              </products>
                              <locales>
                                   <locale name="en-US">
                                        <title>10 Missiles</title>
                                        <description>This product provides an additional 10
missiles to take you on your way.</description>
                                        <!-- If the <type> is free-subscription or
auto-renewable, <publication_name> is required on initial delivery -->
                                        <publication_name>Good News Monthly</publication_name>
                                   </locale>
                              </locales>
                              <review_screenshot>
                                   <file_name>screenshot-01.png</file_name>
                                   <size>286243</size>
                                   <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c
</checksum>
```

```
                        </review_screenshot>
                        <review_notes>Some notes for the reviewer.</review_notes>
                    </in_app_purchase>
                    <in_app_purchase remove="true">
                        <product_id>obsolete_com.cyberinteractive.touchfighter.
missiles.15</product_id>
                    </in_app_purchase>
                </in_app_purchases>
                <game_center>
                    <achievements>
                        <achievement position="1">
                            <achievement_id>29.2.achievement.1</achievement_id>
                            <reference_name>Achievement One</reference_name>
                            <points>10</points>
                            <hidden>true</hidden>
                            <reusable>true</reusable>
                            <locales>
                                <locale name="en-US">
                                    <title>Achievement One</title>
                                    <before_earned_description>Find 10 gold
coins</before_earned_description>
                                    <after_earned_description>Awesome! You found 10
gold coins</after_earned_description>
                                    <achievement_after_earned_image>
                                        <file_name>after_achievement_image.png
</file_name>
                                        <size>286243</size>
                                        <checksum type="md5">c0f4c46dc16c4153cef37f
6c868b7c5c</checksum>
                                    </achievement_after_earned_image>
                                </locale>
                                <locale name="ru-RU" remove="true"/>
                            </locales>
                        </achievement>
                        <achievement remove="true">
                            <achievement_id>29.1.achievement.1</achievement_id>
```

```
                        </achievement>
                </achievements>
                <leaderboards>
                        <leaderboard default="true" position="1">
                                <leaderboard_id>29.easy</leaderboard_id>
                                <reference_name>Leaderboard One</reference_name>
                                <aggregate_parent_leaderboard>other_leaderboard_id
</aggregate_parent_leaderboard>
                                <sort_ascending>true</sort_ascending>
                                <score_range_min>0</score_range_min>
                                <score_range_max>1000</score_range_max>
                                <locales>
                                        <locale name="en-US">
                                                <title>Leaderboard One</title>
                                                <formatter_suffix>Points</formatter_suffix>
                                                <formatter_suffix_singular>Point
</formatter_suffix_singular>
                                                <formatter_type>INTEGER_DECIMAL_SEPARATOR
</formatter_type>
                                                <leaderboard_image>
                                                        <file_name>leaderboard1_image.png</file_name>
                                                        <size>286243</size>
                                                        <checksum
type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
                                                </leaderboard_image>
                                        </locale>
                                        <locale name="fr-FR" remove="true"/>
                                </locales>
                        </leaderboard>
                        <leaderboard remove="true">
                                <leaderboard_id>29.hard</leaderboard_id>
                        </leaderboard>
                </leaderboards>
        </game_center>
</software_metadata>
```

```
    </software>
</package>
```

Basic App Metadata Annotated

The annotations in this section cover the tags used for delivering the basic app localizations and product information. For annotations on In-App Purchases, see "Basic In-App Purchase Metadata Annotated" (page 27) and for Game Center annotations, see "Basic Game Center Metadata Annotated" (page 55).

```
<?xml version="1.0" encoding="UTF-8"?>
```
XML Declaration (*required*)

The character encoding of your document must be defined.

iTunes only accepts UTF-8 encoding as it efficiently encodes non-Roman characters.

Important: The metadata.xml file must not contain a byte-order mark (BOM).

XPath: `/package`

```
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
```
Package Container (*required*)

The `xmlns` (XML namespace) attribute is required and is used to declare the namespace to which the tags and attributes in the XML are expected to conform. The namespace must be: `http://apple.com/itunes/importer`.

The version attribute is required. Packages created to this specification must indicate `version="software5.1"`. The "software" portion of the attribute must be in lowercase letters.

XPath: `/package/provider`

```
<provider>CyberInteractiveProductions</provider>
```
Provider (*optional if <team_id> supplied*)

This value should be the iTunes-defined provider short name given for partner identification. If you do not know your provider short name, use the `<team_id>` tag to supply your team's Company/Organization ID. .

Example:
- `CyberInteractiveProductions`

- Minimum length: 1 character

XPath: `/package/team_id`

`<team_id>A9B8C7D6E5</team_id>`

Team Identifier (*optional if <provider> supplied*)

This value should be your team's Company/Organization ID given for developer identification. You can find this ID in your Organization Profile in the Member Center. The `<team_id>` must be 10 characters consisting of numbers and uppercase letters.

Example:

- `A9B8C7D6E5`

XPath: `/package/software`

`<software>`

Software (*required*)

Begins the software element block. Only one software element can be defined per package.

XPath: `/package/software/vendor_id`

`<vendor_id>CI0009</vendor_id>`

Vendor Identifier (*required, see restrictions*)

The permanent value that uniquely identifies the software app separately from any other software app given by the provider. This ID is used for tracking your assets and reporting. Vendor identifiers cannot be reused. The `vendor_id` is the app's SKU in iTunes Connect. The Vendor ID must be at least 2 characters but no more than 100 bytes.

Restrictions: The vendor identifier can only contain alphanumeric characters and underscore marks; it cannot contain spaces, dashes, ampersands, other punctuation, or symbols. The vendor identifier is case-sensitive and must not start with an underscore. If a Vendor ID is numeric, it is treated as a string, not numbers; a vendor identifier of '00000000012345' is not the same as '12345'. Vendor IDs must be at least two ASCII characters in length but have a limit of 100 ASCII characters.

XPath: `/package/software/software_metadata`

`<software_metadata>`

Software Metadata (*required*)

Begins the metadata element block that includes tags for describing the app.

XPath: `/package/software/software_metadata/versions`

`<versions>`

Versions (*optional*)

Begins the versions element block. Within the `<versions>` block, specify the version or versions to which the localizations apply. There are two potential versions (referenced by version number using the `<version>` tag):

- "live" applies to the version currently on the App Store.

- "in-flight" applies to the version that is being or has been submitted, but has not yet gone live.

You can target either one or both versions with localization updates, each within its own `<version>` block.

Note: If you are not delivering new locales or updating existing locales, you do not need to include the `<versions>` block.

XPath: `/package/software/software_metadata/versions/version`

`<version string="1.1">`

Version (*required within the <versions> block*)

The version of the app for which you are delivering localizations must match either the "live" or the "in-flight" iTunes Connect version. If you are not delivering new locales or updating existing locales for the version, you do not need to include the `<version>` tag. **You only need to include a version tag for the version or versions that you are updating; you can omit the version tag for any version that you are not currently updating.**

Note: This is the version as set in iTunes Connect for the app; not the version of the binary.

XPath: `/package/software/software_metadata/versions/version/locales/locale`

```
<locales>

    <locale name="en-US">
```

Locale Name (*required when delivering locales*)

Provides a mechanism to specify localizations for the app title, description, keywords, and screenshots. At least one locale must be provided for an app in the default language (set up on iTunes Connect); once that locale has been provided, either through iTunes Connect or through the feed, you do not need to keep delivering it unless you need to make changes.

Keep the following points in mind for locales:

- When delivering metadata for a version with locales, supply only the locales you are adding, changing, or removing (see the Remove Locale annotation below). You do not need to supply locales that have already been set up or delivered if you are not making changes to them.

- There must be at least one locale set up and it must be in the default language as set on iTunes Connect, but you do not need to supply it in the metadata delivery once it has been set up unless you are updating it.

The locale indicates both the language and the specific region where the language is spoken. To specify a locale, use a dash character to combine a language subtag with a region subtag. For example, the locale for English-language speakers in Great Britain is en-GB, while the locale for English-speaking residents of the United States is en-US. We recommend providing the region only when it adds useful information. See "Language Codes" (page 79) for a list of languages supported for apps.

Note: When updating existing localizations, send only the locales you are changing; you do not need to redeliver all existing locales.

XPath: `/package/software/software_metadata/versions/version/locales/locale/title`

```
<title>Touch Fighter</title>
```

Title (*required*)

The title (called App Name in iTunes Connect) of the app in the specified `<locale>` language. This title is displayed on the App Store. The title must be at least 2 characters but no more than 255 bytes. The title must be unique per locale per software type. For example, you cannot have two iOS apps called Touch Fighter, however you can have one iOS app called Touch Fighter and a Mac app called Touch Fighter. The title is exactly how your app will display on your customer's device based on their default language settings.

XPath: `/package/software/software_metadata/versions/version/locales/locale/description`

```
<description>Challenging, action-filled combat game with fighter jets and
missiles.</description>
```

Description (*required on initial delivery of a locale; otherwise optional*)

The description of the app in the specified `<locale>` language. It must be at least 10 characters but no more than 4000 characters. Use the description to describe the features and functionality of your app. This description is exactly how your app will display on your customer's device based on their default language settings.

Use plain text, not HTML. Line breaks are permitted.

XPath: `/package/software/software_metadata/versions/version/locales/locale/keywords/keyword`

```
<keywords>
  <keyword>combat</keyword>
  <keyword>multi-player</keyword>
  <keyword>fighter jets</keyword>
</keywords>
```

Keywords (*required on initial delivery of a locale; otherwise optional*)

One or more keywords that describe your app. Keywords are used to help customers find your app on the App Store effectively. You can supply single keywords or a phrase within a `<keyword>` tag, or you can supply multiple keywords separated by commas within a `<keyword>` tag (for example, `<keyword>education, fun, words</keyword>`). There is a limit of 100 characters for all keywords, including any commas. Customers can search your app by app name, company name, and keywords. **Note:** Make sure the keywords do not violate the rights or trademarks of any third parties. Keywords must be related to your app content and cannot contain offensive or trademarked terms, other app names, or company names. If you deliver a keyword that is trademarked or that references another app's name or company name, your app may be removed from the App Store.

XPath: `/package/software/software_metadata/versions/version/locales/locale/version_whats_new`

```
<version_whats_new>Fixed a bug.</version_whats_new>
```

What's New Text (*required on initial delivery of a new locale for a new app revision*)

Note: This tag is used only for apps that have been revised (for example, a 1.1 version). Do not use this tag for an app that is the first version (for example, 1.0). The version in this example is 1.1, so the "what's new" text is required.

Describes the changes in the language specified in the `locale` tag that have been made to the app revision being delivered. The text must be at least 4 characters but no more than 4000 characters. You must deliver this tag when adding a new locale to a revised app; the tag is optional when updating a locale of a revised app.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_url`

`<software_url>http://www.CITouchfighter.com</software_url>`

Marketing URL (*optional*)

The website where users get more information about the app. The URL must be at least 2 characters but no more than 255 bytes.

To remove a marketing URL previously delivered, send the tag without a value (called an "empty" tag) using one of the following:

```
<software_url></software_url>

<software_url/>
```

XPath: `/package/software/software_metadata/versions/version/locales/locale/privacy_url`

`<privacy_url>http://www.CITouchfighter.com/privacy/</privacy_url>`

Privacy Policy URL (*required on initial delivery of a new locale if an app includes auto-renewable or free subscription In-App Purchases; optional on update of locale*)

A URL that links to your company's privacy policy. Privacy policy URLs are required for all apps that offer auto-renewable or free subscriptions. Customers see this URL on their invoice and on the subscription confirmation email they receive.

You can remove a privacy URL previously delivered only if all auto-renewable or free subscription In-App Purchases have been removed from the app. To remove the URL, send the tag without a value (called an "empty" tag) using one of the following:

```
<privacy_url></privacy_url>

<privacy_url/>
```

XPath: `/package/software/software_metadata/versions/version/locales/locale/support_url`

`<support_url>http://www.CITouchfighter.com/support/</support_url>`

Support URL (*required on initial delivery of a locale; otherwise optional*)

The support website you plan to provide for users having questions regarding the app. The support URL must lead to actual contact information so that your users can contact you regarding app issues, general feedback, and feature enhancement requests. The URL must be at least 2 characters but no more than 255 bytes.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_screenshots`

`<software_screenshots>`

Software Screenshots (*required on initial delivery of a locale*)

Begins the Software Screenshots element block. For each locale, you must supply at least one screenshot for each supported device.

Note: Screenshots can be added, changed, or removed, however, if you're supplying the screenshot information at all, you must send all screenshots by supplying the entire `<software_screenshots>` block, not just the ones being updated. You can also reorder the screenshots by supplying all the screenshots in the new positions within the `<software_screenshots>` block.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_screenshots/software_screenshot`

`<software_screenshot display_target="iOS-iPad" position="1">`

Software Screenshot (*required on initial delivery for each locale*)

A screenshot of your app. The first screenshot (designated as `position="1"`) is the first screenshot that appears on your app product page on the App Store and the device App Store when viewed from the user's device. You can deliver up to four additional optional screenshots for each display type. All subsequent screenshots will appear in numbered order on the App Store, in the same order in which they designated with the `position` attribute.

Use the required `display_target` attribute to indicate the device for the screenshot you are delivering:
- iOS-3.5-in

- iOS-4-in

- iOS-iPad

- Mac

A locale must have at least one screenshot for each supported `display_target`.
The `position` attribute is required and the position number must start with 1, should be consecutive, with no gaps between numbers.
For screenshot size and other requirements, see "Screenshot Requirements for Apps" (page 76).
To remove a screenshot, redeliver the `<software_screenshots>` block, omitting the screenshot you want to remove and renumbering the remaining screenshots. To change the order of the screenshots, redeliver the `<software_screenshots>` block with the correct `position` numbers.
Important: Do not scale up the screenshot artwork if it is smaller than the minimum required size.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_screenshots/software_screenshot/file_name`

```
<file_name>screen-en-US-ipad-1.png</file_name>
```

File Name (*required*)

The name of the screenshot.

Important: File names are case sensitive and spaces are not allowed.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_screenshots/software_screenshot/size`

```
<size>286243</size>
```

File Size (*required*)

The size in bytes of the screenshot file. Do not include any commas nor period delimiters.

XPath: `/package/software/software_metadata/versions/version/locales/locale/software_screenshots/software_screenshot/checksum`

```
<checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
```

Checksum (*required*)

The MD5 checksum of the screenshot file. See the "Checksums" (page 8) section for more information.

```
  </software_screenshot>
</software_screenshots>
```

XPath: `/package/software/software_metadata/versions/version/locales/locale`

```
<locale name="ru-RU" remove="true"/>
```

Remove Locale (*optional*)

To remove a locale, deliver the `<locale>` tag and use the `name` attribute to specify which locale to remove and set the attribute `remove` to `"true"`.

Note: You cannot remove the locale of the default language (as set in iTunes Connect or set with the attribute `default="true"` in the `<locale>` tag).

```
    </locale>
  </locales>
```

XPath: `/package/software/software_metadata/products/product`

```
<products>

  <product>
```

Product (*optional*)

For each app, you can deliver information on the product, such as pricing and whether it is cleared for sale. You can set the price tier and schedule price tier changes for the future by setting start and end dates using the `<intervals>` tag. See "Interval Pricing" (page 68) for information on how to deliver interval pricing.

XPath: `/package/software/software_metadata/products/product/territory`

```
<territory>WW</territory>
```

Product Territory (*required within the <product> block*)

The product territory specifies where the app is cleared for sale. You must specify `WW` (World Wide) as the territory because the price tiers, dates, and volume discount must be the same across all territories. You can deliver additional `<product>` blocks for specific territories to indicate that the app is not to be sold in that territory. See the `<cleared_for_sale>` annotation below. When specifying the territories, you must use a valid ISO 3166 alpha-2 country code. Note that some countries in the ISO 3166 alpha-2 country list contain other countries (for example, United States includes Puerto Rico).

For a list for ISO 3166-1 alpha 2 codes, see http://www.iso.org/iso/home/standards/country_codes/iso-3166-1_decoding_table.htm.

For more information on ISO codes, see http://www.davros.org/misc/iso3166.html

XPath: `/package/software/software_metadata/products/product/sales_start_date`

```
<sales_start_date>2010-05-25</sales_start_date>
```

Sales Start Date (*optional*)

The date this app is available for purchase in the App Store. This field must be in `YYYY-MM-DD` format. The `<sales_start_date>` tag is allowed only within the WW territory; sales start dates must be the same across all territories.

Important: Omitting this tag will make the app available for sale immediately.

XPath: `/package/software/software_metadata/products/product/cleared_for_sale`

```
<cleared_for_sale>true</cleared_for_sale>
```

Cleared For Sale (*required within the <product> block*)

Indicates whether or not this app can be sold in the specified product territory. Accepted values are `true` and `false` in English. The `<cleared_for_sale>` tag can be used for non-WW territories.

To indicate that the app is not to be sold in the territory, set `<cleared_for_sale>` to `false` for the specified `<territory>`. Send the `<product>` block with the `<cleared_for_sale>` and `<territory>` tags only; you do not need to supply any other tags within the `<product>` block.

XPath: `/package/software/software_metadata/products/product/wholesale_price_tier`

`<wholesale_price_tier>9</wholesale_price_tier>`

Wholesale Price Tier (*required for WW territory*)

The wholesale price tier for the app. Must be a wholesale price tier number as specified in the contract with Apple. The `<wholesale_price_tier>` tag is allowed only within the WW territory; the price tier must be the same across all territories.

Review your contract to verify the tiers available to you. If an invalid price tier is provided, the App Store reserves the right to reject the package. To request technical assistance, use the Contact Us page in iTunes Connect at http://itunesconnect.apple.com/contactus.

See "Interval Pricing" (page 68) for information on how to deliver interval pricing.

XPath: `/package/software/software_metadata/products/product/allow_volume_discount`

`<allow_volume_discount>false</allow_volume_discount>`

Allow Volume Discount (*optional*)

For iOS apps only. Use this tag to indicate that the app is eligible for discounts for educational institutions. Accepted values are `true` and `false` in English. The `<allow_volume_discount>` tag is allowed only within the WW territory; the volume discount must be the same across all territories.

```
  </product>
</products>
```

```
    . . .
    </software_metadata>
  </software>
</package>
```

In-App Purchase Profile

Overview

This document provides information on delivering In-App Purchases to the App Store. In-App Purchases allow you to sell additional features and functionality from within your free or paid iOS and Mac OS apps. The following lists a few examples of how different types of apps might use In-App Purchases:

- Add premium features to the basic version of an app
- Allow the user to purchase and download new books using a book reader app
- Offer new environments (levels) to explore in a game
- Allow the player of a game to purchase experience points or virtual property
- Provide access to a turn-by-turn map service
- Offer a subscription to a digital magazine or newsletter

In-App Purchase allows you to embed a store directly within your app. This In-App Purchase store collects payments securely (including customer authorization) for the additional content your customers purchase. Then, it notifies your app that it can provide items the customer purchased. You must provide additional functionality in your app to support In-App Purchases, including unlocking built-in features or downloading content from your own servers. Read your licensing agreement to learn what you may sell and how you are required to provide those products in your application.

In-App Purchase functionality requires iOS 3.0 or higher for iOS apps and Mac OS 10.7 or higher for Mac OS apps. You use Store Kit Framework to integrate In-App Purchase content into your app. For more information, refer to the iTunes Connect Developer Guide and In-App Purchase Programming Guide.

> **Note:** To offer In-App Purchases in your apps, you will need to have the latest Paid Applications contract in effect with Apple. Your Team Agent can request the latest Paid contract in iTunes Connect. Your Team Agent will also need to click through the latest Program License Agreement in the Member Center.

In-App Purchase Examples Overview

The following In-App Purchase examples are used to deliver In-App Purchases to an app that has already been delivered to the App Store. The examples describe how to deliver the following:

- Consumable In-App Purchase
- Auto-renewable subscription In-App Purchase
- Non-consumable In-App Purchase with content hosted by Apple

You can also deliver pricing intervals for an In-App Purchase, which is described in "Interval Pricing" (page 68).

Basic In-App Purchase Metadata Example

Below is an example metadata.xml file for a basic (consumable) In-App Purchase.

```
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>CyberInteractive</provider>
    <team_id>A9B8C7D6E5</team_id>
    <software>
        <vendor_id>CI0009</vendor_id>
        <software_metadata>
        <. . .>
            <in_app_purchases>
                <in_app_purchase>
                    <product_id>com.cyberinteractive.touchfighter.
missiles.10</product_id>
                    <reference_name>10 missiles</reference_name>
                    <type>consumable</type>
                    <products>
                        <product>
                            <cleared_for_sale>true</cleared_for_sale>
                            <wholesale_price_tier>3</wholesale_price_tier>
                        </product>
                    </products>
                    <locales>
```

```
                    <locale name="en-US">

                            <title>10 Missiles</title>

                            <description>This product provides an additional 10
missiles to take you on your way.</description>

                            <!-- If the <type> is free-subscription or
auto-renewable, <publication_name> is required on initial delivery -->

                            <publication_name>Good News Monthly</publication_name>

                    </locale>

                </locales>

                <review_screenshot>

                    <file_name>screenshot-01.png</file_name>

                    <size>286243</size>

                    <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c
</checksum>

                </review_screenshot>

                <review_notes>Some notes for the reviewer.</review_notes>

            </in_app_purchase>

            <in_app_purchase remove="true">

                    <product_id>obsolete_com.cyberinteractive.touchfighter.
missiles.15</product_id>

            </in_app_purchase>

        </in_app_purchases>

    <. . .>

    </software_metadata>

  </software>

</package>
```

Basic In-App Purchase Metadata Annotated

```
<?xml version="1.0" encoding="UTF-8"?>
```
XML Declaration (*required*)

The character encoding of your document must be defined.

iTunes only accepts UTF-8 encoding as it efficiently encodes non-Roman characters.

Important: The metadata.xml file must not contain a byte-order mark (BOM).

XPath: `/package`

`<package xmlns="http://apple.com/itunes/importer" version="software5.1">`

Package Container (*required*)

The `xmlns` (XML namespace) attribute is required and is used to declare the namespace to which the tags and attributes in the XML are expected to conform. The namespace must be: `http://apple.com/itunes/importer`.

The version attribute is required. Packages created to this specification must indicate `version="software5.1"`. The "software" portion of the attribute must be in lowercase letters.

XPath: `/package/provider`

`<provider>CyberInteractiveProductions</provider>`

Provider (*optional if <team_id> supplied*)

This value should be the iTunes-defined provider short name given for partner identification. If you do not know your provider short name, use the `<team_id>` tag to supply your team's Company/Organization ID. .

Example:
- `CyberInteractiveProductions`

- Minimum length: 1 character

XPath: `/package/team_id`

`<team_id>A9B8C7D6E5</team_id>`

Team Identifier (*optional if <provider> supplied*)

This value should be your team's Company/Organization ID given for developer identification. You can find this ID in your Organization Profile in the Member Center. The `<team_id>` must be 10 characters consisting of numbers and uppercase letters.

Example:

- `A9B8C7D6E5`

XPath: `/package/software`

`<software>`

Software (*required*)

Begins the software element block. Only one software element can be defined per XML delivery.

XPath: `/package/software/vendor_id`

`<vendor_id>CI0009</vendor_id>`

Vendor Identifier (*required, 2-100 characters, see restrictions*)

The permanent value that uniquely identifies the software app (not the In-App Purchase) separately from any other software app given by the provider. This ID is used for tracking your assets and reporting. Vendor identifiers cannot be reused. The `vendor_id` is the app's SKU in iTunes Connect.

Restrictions: The vendor identifier can only contain alphanumeric characters and underscore marks; it cannot contain spaces, dashes, ampersands, other punctuation, or symbols. The vendor identifier is case-sensitive and must not start with an underscore. If a Vendor ID is numeric, it is treated as a string, not numbers; a vendor identifier of '00000000012345' is not the same as '12345'. Vendor IDs must be at least two ASCII characters in length but have a limit of 100 ASCII characters.

XPath: `/package/software/software_metadata`

`<software_metadata>`

Software Metadata (*required*)

Begins the metadata element block that includes tags for describing the In-App Purchase.

XPath: `/package/software/software_metadata/in_app_purchases`

`<in_app_purchases>`

In-App Purchases (*optional*)

Begins the In-App Purchases element block. Within the In-App Purchases block, you can deliver one or more In-App Purchases, as well as remove an existing In-App Purchase (described below). Even if you are delivering only one In-App Purchase, you must wrap it within an `<in_app_purchases>` tag.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase`

`<in_app_purchase>`

In-App Purchase (*At least one <in_app_purchase> is required if <in_app_purchases> block is supplied*)

Identifies an individual In-App Purchase. You can define multiple `<in_app_purchase>` blocks as needed, up to 10,000 for each app. However, no more than 1000 `<in_app_purchase>` elements can be delivered in a single upload.

XPath: /package/software/software_metadata/in_app_purchases/in_app_purchase/product_id

```
<product_id>com.cyberinteractive.touchfighter.missiles.10</product_id>
```

Product ID (*required; up to 255 characters*)

A unique identifier for the In-App Purchase. It can be composed of letters, numbers, underscores (_), and periods (.). For example, `com.company.app_name.productid`.

When your app communicates with the App Store, it uses product identifiers to retrieve the configuration data you provided for the product. Later, when a customer wants to purchase a product, your app identifies the product to be purchased using its product identifier.

The product identifier is also used for reporting purposes and therefore must be unique across all of your applications and add-ons. You cannot edit the product ID after delivering your In-App Purchase. Once you use a product ID for one In-App Purchase, you cannot use it again.

XPath: /package/software/software_metadata/in_app_purchases/in_app_purchase/reference_name

```
<reference_name>10 missiles</reference_name>
```

Reference Name (*required*)

A unique name for the In-App Purchase. You can use up to 255 characters and it must be unique within the app. The reference name is displayed in iTunes Connect and in sales and trends reports. It is not displayed on the App Store.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/type`

```
<type>consumable</type>
```

Type (*required*)

Describes the product type of your In-App Purchase from the viewpoint of the App Store. The In-App Purchase type cannot be changed once your In-App Purchase has been delivered. There are four In-App Purchase types available for use:

- `consumable`: users must purchase consumable products each time they need the item. One-time services, such as fish food in a fishing app, are usually implemented as consumables. Available for iOS and Mac OS X applications.

- `non-consumable`: users purchase non-consumable products only once. Services that do not expire or decrease with use, such as a new race track for a game app, are usually implemented as non-consumables. The non-consumable product is provided to all devices associated with the user's iTunes account. Available for iOS and Mac OS X applications.

- `subscription`: used for services with a limited duration, for example, a non-renewable subscription to a stock price feed. Subscriptions can be purchased multiple times by the user. For information on how to deliver renewable subscriptions, see "Auto Renewable In-App Purchase Metadata Example" (page 36).

- `free-subscription`: used to put free subscription content in Newsstand. Once a user signs up for a free subscription, it will be available on all devices associated with the user's Apple ID. Note that free subscriptions do not expire and can only be offered in Newsstand-enabled apps. The tag `<publication_name>` (described below) is required on initial delivery of the free subscription.

Note: If you are not using auto-renewal, you must implement your own renewal mechanism in your app and you must deliver the subscriptions through an external server you provide. Subscriptions must be provided on all devices associated with a user and you must also provide the infrastructure to deliver subscriptions to multiple devices. Your app must contain code that recognizes when the subscription is due to expire. It must also prompt the user to purchase a new subscription. To eliminate these steps, provide an auto-renewable subscription as described in "Auto Renewable In-App Purchase Metadata Example" (page 36).

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product`

```
<products>
    <product>
```
Product (*required*)

For each In-App Purchase, you must supply information on the product, such as pricing and whether it is cleared for sale. You can set the price tier and schedule price tier changes for the future by setting start and end dates using the `<intervals>` tag. See "Interval Pricing" (page 68) for information on how to deliver interval pricing.
Note: The `<products>` block must contain one and only one `<product>`.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/cleared_for_sale`

`<cleared_for_sale>true</cleared_for_sale>`

Cleared For Sale (*required*)

Specifies whether the In-App Purchase is cleared for sale. Must be `true` or `false` in English.

Note: Setting `<cleared_for_sale>` to `false` does *not* permanently delete an In-App Purchase from your app. To delete an In-App Purchase, add the attribute `remove="true"` to an `<in_app_purchase>` tag and supply the `<product_id>` as shown at the bottom of this table below.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/wholesale_price_tier`

`<wholesale_price_tier>9</wholesale_price_tier>`

Wholesale Price Tier (*required*)

The wholesale price tier for the In-App Purchase. Must be a wholesale price tier number as specified in your contract with Apple.

If the `<type>` is `consumable`, `subscription`, `non-consumable`, or `auto-renewable`, the price tier must not be 0, (which indicates it is free). If the `<type>` is `free-subscription`, the price tier must be 0.

Review your contract to verify the tiers available to you. If an invalid price tier is provided, the App Store reserves the right to reject the package. To request technical assistance, use the Contact Us page in iTunes Connect at http://itunesconnect.apple.com/contactus.

```
  </product>
</products>
```

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/locales/locale`

```
<locales>
  <locale name="en-US"/>
```

Locale Name (*required*)

Identifies the language of the product. The locale indicates both the language and the specific region where the language is spoken.

To specify a locale, use a dash character to combine a language designator with a region subtag. For example, the locale for English-language speakers in Great Britain is en-GB, while the locale for English-speaking residents of the United States is en-US. We recommend providing the region only when it adds useful information. See "Language Codes" (page 79) for a list of languages supported for In-App Purchases.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/locales/locale/title`

```
<title>10 Missiles</title>
```

Title (*required*)

The title of the In-App Purchase in the specified `<locale>` language. This title is displayed on the App Store. The title must be at least 2 characters but no more than 75 bytes. This title is exactly how your In-App Purchase will display on your customer's device based on their default language settings.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/locales/locale/description`

```
<description>This product provides an additional 10 missiles to take you on your
way.</description>
```

Description (*required*)

The description of the In-App Purchase in the specified `<locale>` language. It must be at least 10 characters but no more than 255 bytes. This description is exactly how your In-App Purchase will display on your customer's device based on their default language settings.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/locales/locale/publication_name`

```
<publication_name>Good News Monthly</publication_name>
```

Publication Name (*required on initial delivery for free subscriptions*)

If the In-App Purchase `<type>` is `free-subscription`, you must supply the title of the free subscription for each locale at the time you first deliver the In-App Purchase. The publication name must be at least 2 characters and no more than 30 characters. This value will be displayed in dialogs presented to customers. This value must be unique and can't be reused across multiple apps. The `<publication_name>` tag is not allowed for In-App Purchases of types `consumable`, `subscription`, or `non-consumable`.

Note: Make sure the publication names do not violate the rights or trademarks of any third parties. The publication name should not reference any particular format, such as "iPad Version." Publication names are reviewed by Apple.

```
    </locale>
  </locales>
```

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_screenshot`

`<review_screenshot>`

Review Screenshot (*required on initial delivery*)

A screenshot of your In-App Purchase in action used for review purposes only. Your In-App Purchase screenshot will not display on the App Store or on a user's device. The screenshot should be a clear picture of your In-App Purchase in action. The screenshot can be JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) in RGB color mode. Each In-App Purchase can have only one screenshot associated with it.

For iOS IAPs, screenshot size should be one of the following: 640 x 960, 640 x 920, 640 x 1136, 640 x 1096, 960 x 640, 960 x 600, 1024 x 768, 1024 x 748, 768 x 1024, 768 x 1004, 1136 x 640, 1136 x 600, 2048 x 1536, 2048 x 1496, 1536 x 2048, or 1536 x 2008.

For OS X IAPs, the size should be one of the following: 1280 x 800, 1440 x 900, 2560 x 1600, 2880 x 1800.

If you are sending an update, review screenshots are not required.

Important: Do not scale up the screenshot artwork if it is smaller than the minimum required size.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_screenshot/file_name`

`<file_name>screenshot-01.png</file_name>`
File Name (*required*)
The name of the review screenshot.
Important: File names are case sensitive and spaces are not allowed.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_screenshot/size`

`<size>286243</size>`

File Size (*required*)

The size in bytes of the screenshot file. Do not include any commas nor period delimiters.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_screenshot/checksum`

`<checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>`
Checksum (*required*)
The MD5 checksum of the screenshot file. See the "Checksums" (page 8) section for more information.

`  </review_screenshot>`

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_notes`

```
<review_notes>Some notes for the reviewer.</review_notes>
```

Review Notes (*optional*)

Use this tag to give demo account information with full access to Apple for purposes of reviewing your In-App Purchase. The information you include in the tag is visible only to the App Review team; it will not appear on the App Store. The maximum length for review notes is 4000 bytes.

The following lists some examples of what to include in this tag:

- If your In-App Purchase requires specific settings, user registrations, or account information prior to submission to the App Store, be sure to include that information.

- If the In-App Purchase delivers streaming video over the cellular network, include a test stream URL.

- Include general instructions or other relevant information about your In-App Purchase that you think would be useful for the review process.

To remove existing notes, supply an empty `<review_notes>` notes tag: `<review_notes></review_notes>`

```
</in_app_purchase>
```

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase`

```
<in_app_purchase remove="true">
```

In-App Purchase (*required*)

To remove an obsoleted In-App Purchase, include an `<in_app_purchase>` block and set the attribute `remove` to `"true"`.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/product_id`

```
<product_id>com.obsolete_com.cyberinteractive.touchfighter.missiles.15</product_id>
```

Product ID (*required; up to 255 characters*)

A unique identifier for the In-App Purchase you are removing.

```
        </in_app_purchase>
      </in_app_purchases>
    </software_metadata>
  </software>
</package>
```

Auto Renewable In-App Purchase Metadata Example

Below is an example metadata.xml file for an In-App Purchase that is automatically renewed. Auto-Renewable Subscription products allow the user to purchase in-app content for a set duration of time. At the end of that duration, the subscription will renew itself, unless the customer opts out or cancels the subscription.

Auto-renewable subscriptions are delivered to all devices associated with the user's Apple ID. When you set up an auto-renewable subscription, you specify the duration(s) that you offer. When a duration ends, the App Store automatically renews the subscription. If the user opts out of the renewal, the subscription expires at the end of that duration. Make sure that your app can determine whether a subscription is currently active and renewable by leveraging the built-in receipt mechanism of Store Kit.

Before you begin:
- Before you can create Auto-Renewable Subscriptions, you must first generate a shared secret. A shared secret is a unique code that you should use when you make the call to our servers for your In-App Purchase receipts. Without a shared secret, you will not be able to test auto-renewable subscriptions in the sandbox mode, nor will you be able to make them available in the App Store. You can generate a shared secret from the Manage In-App Purchases page for an app in iTunes Connect. See the iTunes Connect Developer Guide for details.

Auto-Renewable Subscriptions require the value `auto-renewable` in the `<type>` tag; no other values are allowed. You deliver auto-renewable subscriptions using the `<family>` tag. All In-App Purchases within the `<family>` tag must be the same content, but with different durations. For example, suppose your In-App Purchase is for a Game Review Magazine and you want to offer both a 6-month and a 1-year subscription. To do this, include two `<in_app_purchase>` blocks within a `<family>`, one offering a 6-month duration and the other offering a 1-year duration—it is the same magazine offered for two different durations.

The Family is also used to group your subscription offerings on the customer's Manage Subscriptions page in iTunes on the desktop and in the App Store on the device. This provides visibility to your other offerings and potential upsell opportunities.

The example below shows the delivery of an In-App Purchase `<family>` only, however, the `<family>` block can be delivered together with other In-App Purchases.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>CyberInteractive</provider>
    <team_id>A9B8C7D6E5</team_id>
```

```xml
    <software>
        <vendor_id>CI0009</vendor_id>
        <software_metadata>
            <in_app_purchases>
                <family name="Sports Page">
                    <locales>
                        <locale name="en-US">
                            <title>Sports Page</title>
                            <description>All the latest sports news from around
the world.</description>
                            <publication_name>Sports Page</publication_name>
                        </locale>
                    </locales>
                    <review_screenshot>
                        <file_name>Sports_Page.png</file_name>
                        <size>286243</size>
                        <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c
</checksum>
                    </review_screenshot>
                    <review_notes></review_notes>
                    <in_app_purchase>
                        <product_id>Sports_Page_6month</product_id>
                        <type>auto-renewable</type>
                        <duration>6 Months</duration>
                        <free_trial_duration>1 Month</free_trial_duration>
                        <bonus_duration>1 Month</bonus_duration>
                        <products>
                            <product>
                                <cleared_for_sale>true</cleared_for_sale>
                                <wholesale_price_tier>3</wholesale_price_tier>
                            </product>
                        </products>
                    </in_app_purchase>
                    <in_app_purchase>
                        <product_id>Sports_Page_1year</product_id>
                        <type>auto-renewable</type>
```

```
                    <duration>1 Year</duration>
                    <bonus_duration>2 Months</bonus_duration>
                    <products>
                        <product>
                            <cleared_for_sale>true</cleared_for_sale>
                            <wholesale_price_tier>3</wholesale_price_tier>
                        </product>
                    </products>
                </in_app_purchase>
            </family>
        </in_app_purchases>
    </software_metadata>
</software>
</package>
```

Auto Renewable In-App Purchase Metadata Annotated

```
<?xml version="1.0" encoding="UTF-8"?>
```

XML Declaration (*required*)

The character encoding of your document must be defined.

iTunes only accepts UTF-8 encoding as it efficiently encodes non-Roman characters.

Important: The metadata.xml file must not contain a byte-order mark (BOM).

XPath: `/package`

```
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
```

Package Container (*required*)

The `xmlns` (XML namespace) attribute is required and is used to declare the namespace to which the tags and attributes in the XML are expected to conform. The namespace must be: `http://apple.com/itunes/importer`.

The version attribute is required. Packages created to this specification must indicate `version="software5.1"`. The "software" portion of the attribute must be in lowercase letters.

XPath: `/package/provider`

```
<provider>CyberInteractive</provider>
```

Provider (*required, iTunes-supplied*)

This value should be the iTunes-defined provider short name given for partner identification. If you do not know your provider short name, use the `<team_id>` tag to supply your team's Company/Organization ID.

Example:

- `Acme|Productions`

- Minimum length: 1 character

XPath: `/package/team_id`

```
<team_id>A9B8C7D6E5</team_id>
```

Team Identifier (*optional if <provider> supplied*)

This value should be your team's Company/Organization ID given for developer identification. You can find this ID in your Organization Profile in the Member Center. The `<team_id>` must be 10 characters consisting of numbers and uppercase letters.

Example:
- `A9B8C7D6E5`

XPath: `/package/software`

```
<software>
```

Software (*required*)

Begins the software element block. Only one software element can be defined per XML delivery.

XPath: `/package/software/vendor_id`

```
<vendor_id>CI0009</vendor_id>
```

Vendor Identifier (*required, 2-100 characters, see restrictions*)

The permanent value that uniquely identifies the software app separately from any other software app given by the provider. This ID is used for tracking your assets and reporting. Vendor identifiers cannot be reused. The `vendor_id` is the app's SKU in iTunes Connect.

Restrictions: The vendor identifier can only contain alphanumeric characters and underscore marks; it cannot contain spaces, dashes, ampersands, other punctuation, or symbols. The vendor identifier is case-sensitive and must not start with an underscore. If a Vendor ID is numeric, it is treated as a string, not numbers; a vendor identifier of '00000000012345' is not the same as '12345'. Vendor IDs must be at least two ASCII characters in length but have a limit of 100 ASCII characters.

XPath: `/package/software/software_metadata`

`<software_metadata>`

Software Metadata (*required*)

Begins the metadata element block that includes tags for describing the In-App Purchase.

XPath: `/package/software/software_metadata/in_app_purchases`

`<in_app_purchases>`

In-App Purchases (*required*)

Begins the In-App Purchases element block.

XPath: `/package/software/software_metadata/in_app_purchases/family`

`<family name="Sports Page">`

Family (*required*)

Identifies a renewable subscription. The `name` attribute identifies the name of the subscription (magazine, newspaper, newsletter, and so on). For each subscription duration you offer, define an `<in_app_purchase>` block. All In-App Purchases within the `<family>` tag must be the same content, but with different durations. For example, suppose your In-App Purchase is for a Game Review Magazine and you want to offer both a 6-month and a 1-year subscription. To do this, include two `<in_app_purchase>` blocks, one offering a 6-month duration and the other offering a 1-year duration—it is the same magazine offered for two different durations.

Within the `<family>` block but outside an `<in_app_purchase>` block, you specify the `<locales>` and the `<review_screenshot>`.

XPath: `/package/software/software_metadata/in_app_purchases/family/locales/locale`

`<locales>`
  `<locale name="en-US"/>`

Locale Name (*required*)

Identifies the language of the renewable subscription. The locale indicates both the language and the specific regions where the language is spoken.

Note: The `<locales>` entered here apply to all In-App Purchases within the `<family>` block. You cannot include the `<locales>` block within each individual `<in_app_purchase>` block.

To specify a locale, use a dash character to combine a language designator with a region subtag. For example, the locale for English-language speakers in Great Britain is en-GB, while the locale for English-speaking residents of the United States is en-US. We recommend providing the region only when it adds useful information. See "Language Codes" (page 79) for a list of languages supported for In-App Purchases.

XPath: `/package/software/software_metadata/in_app_purchases/family/locales/locale/title`

`<title>Sports Page</title>`

Title (*required*)

The title of the renewable subscription in the specified `<locale>` language. This title is displayed on the App Store and on the Manage App Subscriptions page on the user's device. The title must be at least 2 characters but no more than 255 bytes. This title is exactly how your In-App Purchase will display on your customer's device based on their default language settings. The title will be the same for all durations within the same Auto-Renewable Subscription.

Note: Do not reference subscription durations in the title.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/locales/locale/description`

`<description>All the latest sports news from around the world.</description>`

Description (*required*)

The description of the renewable subscription in the specified `<locale>` language. It must be at least 10 characters but no more than 75 bytes. This description is exactly how your In-App Purchase will display on your customer's device based on their default language settings.

Note: Do not reference subscription durations in the description.

XPath: `/package/software/software_metadata/in_app_purchases/family/locales/locale/publication_name`

`<publication_name>Sports Page</publication_name>`

Publication Name (*required*)

The Publication Name field should contain the title of your magazine, newspaper, journal, or similar content for the specific locale. Publication Name is required and must be at least 2 characters and no more than 30 bytes. This value will be displayed in the "Share Your Information?" opt-in dialog presented to customers when they purchase the renewable subscription In-App Purchase. This value must be unique and can't be reused across multiple apps.

Note: Make sure the publication names do not violate the rights or trademarks of any third parties. The publication name should not reference any particular format, such as "iPad Version." Publication names are reviewed by Apple.

```
    </locale>
  </locales>
```

XPath: `/package/software/software_metadata/in_app_purchases/family/review_screenshot`

`<review_screenshot>`

Review Screenshot (*required on initial delivery*)

A screenshot of your renewable subscription In-App Purchase used for review purposes only. Your In-App Purchase screenshot will not display on the App Store or on a user's device. The screenshot should be a clear picture of your In- App Purchase and can be JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) in RGB color mode. Each `<family>` can have only one screenshot associated with it.

For iOS IAPs, screenshot size should be one of the following: 640 x 960, 640 x 920, 640 x 1136, 640 x 1096, 960 x 640, 960 x 600, 1024 x 768, 1024 x 748, 768 x 1024, 768 x 1004, 1136 x 640, 1136 x 600, 2048 x 1536, 2048 x 1496, 1536 x 2048, or 1536 x 2008.

For OS X IAPs, the size should be one of the following: 1280 x 800, 1440 x 900, 2560 x 1600, 2880 x 1800.

Note: The `<review_screenshot>` entered here applies to all In-App Purchases within the `<family>` block. You cannot include the `<review_screenshot>` block within each individual `<in_app_purchase>` block.

Important: Do not scale up the screenshot artwork if it is smaller than the required size.

XPath: `/package/software/software_metadata/in_app_purchases/family/review_screenshot/file_name`

`<file_name>Sports_Page.png</file_name>`

File Name (*required*)

The name of the review screenshot.

Important: File names are case sensitive and spaces are not allowed.

XPath: `/package/software/software_metadata/in_app_purchases/family/review_screenshot/size`

`<size>286243</size>`

File Size (*required*)

The size in bytes of the screenshot file. Do not include any commas nor period delimiters.

XPath: `/package/software/software_metadata/in_app_purchases/family/review_screenshot/checksum`

`<checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>`

Checksum (*required*)

The MD5 checksum of the screenshot file. See the "Checksums" (page 8) section for more information.

`</review_screenshot>`

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/review_notes`

`<review_notes>Some notes for the reviewer.</review_notes>`

Review Notes (*optional*)

Use this tag to give demo account information with full access to Apple for purposes of reviewing your In-App Purchase. This information you include in the tag is visible only to the App Review team; it will not appear on the App Store. These review notes apply to the family, not an individual In-App Purchase within a `<family>`. The maximum length for review notes is 4000 bytes.

The following lists some examples of what to include in this tag:

- If your In-App Purchase requires specific settings, user registrations, or account information prior to submission to the App Store, be sure to include that information.

- If the In-App Purchase delivers streaming video over the cellular network, include a test stream URL.

- Include general instructions or other relevant information about your In-App Purchase that you think would be useful for the review process.

To remove existing notes, supply an empty `<review_notes>` notes tag:

`<review_notes></review_notes>`

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase`

`<in_app_purchase>`

In-App Purchase (*required*)

Identifies a subscription duration (`<in_app_purchase>`) within the `<family>`. You can define multiple `<in_app_purchase>` blocks as needed for the durations you plan to offer.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/product_id`

`<product_id>Sports_Page_6month</product_id>`

Product ID (*required; up to 255 characters*)

A unique identifier for the In-App Purchase. It can be composed of letters, numbers, underscores (_), and periods (.). For example, `com.company.app_name.productid`.

When your app communicates with the App Store, it uses product identifiers to retrieve the configuration data you provided for the product. Later, when a customer wants to purchase a product, your app identifies the product to be purchased using its product identifier.

The product identifier is also used for reporting purposes and therefore must be unique across all of your applications and add-ons. You cannot edit the product ID after delivering your In-App Purchase. Once you use a product ID for one In-App Purchase, you cannot use it again.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/type`

`<type>auto-renewable</type>`

Type (*required*)

Describes the product type of your In-App Purchase from the viewpoint of the App Store. The In-App Purchase type cannot be changed once your In-App Purchase has been delivered. For renewable subscriptions, the type must be `auto-renewable`.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/duration`

`<duration>6 Months</duration>`

Duration (*required*)

Identifies the length of the subscription you are offering with this In-App Purchase. A subscription duration is the length of time between auto-renewals. You must add at least one `<duration>`. Note that each duration can only be used once per family. Accepted values are:

> 7 Days
>
> 1 Month
>
> 2 Months
>
> 3 Months
>
> 6 Months
>
> 1 Year

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/free_trial_duration`

`<free_trial_duration>1 Month</free_trial_duration>`

Free Trial Duration (*optional; newsstand apps only*)

Use `<free_trial_duration>` to offer customers a trial subscription to your newsstand app. The possible durations are dependent upon the length of the renewable subscription In-App Purchase. For example, you wouldn't have a 3-month trial if the length of the subscription is 7 days. See "Free Trial and Bonus Durations" (page 50) for a list of values accepted for each subscription duration.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/bonus_duration`

`<bonus_duration>1 Month</bonus_duration>`

Bonus Duration (*optional*)

Use `<bonus_duration>` to offer customers a subscription extension as an incentive when they opt in to share their contact information with you for marketing purposes. The bonus duration is available only when the customer initially subscribes; not on subsequent renewals. The possible durations are dependent upon the length of the renewable subscription In-App Purchase. For example, you wouldn't have a 3-month bonus if the length of the subscription is 7 days. See "Free Trial and Bonus Durations" (page 50) for a list of values accepted for each subscription duration.

Note: You can view the customer's opted-in information in the Sales and Trends module of iTunes Connect.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/products/product`

`<products>`
  `<product>`

Product (*required*)

For each renewable subscription duration, you must supply information on the product, such as pricing and whether it is cleared for sale. You can set the price tier and schedule price tier changes for the future by setting start and end dates using the `<intervals>` tag as shown in "Interval Pricing" (page 68).
Note: The `<products>` block must contain one and only one `<product>`.

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/products/product/cleared_for_sale`

`<cleared_for_sale>true</cleared_for_sale>`

Cleared For Sale (*required*)

Specifies whether the In-App Purchase is cleared for sale. Must be `true` or `false` in English. If you set `<cleared_for_sale>` to `false`, this duration will not be available for purchase from within the app.

Note: Setting `<cleared_for_sale>` to `false` does *not* permanently delete an In-App Purchase from your app. To delete an In-App Purchase, add the attribute `remove="true"` to an `<in_app_purchase>` tag and supply the `<product_id>` as shown in "Basic In-App Purchase Metadata Example" (page 26).

XPath: `/package/software/software_metadata/in_app_purchases/family/in_app_purchase/products/product/wholesale_price_tier`

`<wholesale_price_tier>9</wholesale_price_tier>`

Wholesale Price Tier (*required*)

The wholesale price tier for the renewable subscription duration. Must be a wholesale price tier number as specified in your contract with Apple. The price tier must not be 0, (which indicates it is free). Review your contract to verify the tiers available to you. If an invalid price tier is provided, the App Store reserves the right to reject the package. To request technical assistance, use the Contact Us page in iTunes Connect at http://itunesconnect.apple.com/contactus.

```
        </product>
      </products>
```

```
    </in_app_purchase>
   </family>
  </in_app_purchases>
  </software_metadata>
 </software>
</package>
```

Hosted In-App Purchase Metadata Example

Non-consumable In-App Purchases can be hosted by Apple so you do not need to maintain your own servers. The product type for hosted content must be `non-consumable`. Hosted content can be additional resources, but not executables. Examples include filters on a camera app, a level map for a game, add-on videos, images, or a magazine issue. Customers purchase non-consumable products only once. Services that do not expire or decrease with use, such as a new race track for a game app, are usually implemented as non-consumables. The non-consumable product is provided to all devices associated with the customer's iTunes account, and available for iOS and Mac OS X applications.

Below is an example metadata.xml file for a non-consumable In-App Purchase. The In-App Purchase is a single issue of a magazine. This example delivers both the metadata for the content, and the asset.

```
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>FreestonePress</provider>
    <team_id>7D6EA9B8C5</team_id>
    <software>
        <vendor_id>com.freestonepress.guidebooks</vendor_id>
        <software_metadata>
            <in_app_purchases>
                <in_app_purchase>
                    <product_id>com.freestonepress.guidebooks.bodega</product_id>
                    <reference_name>Bodega Guide</reference_name>
                    <type>non-consumable</type>
                    <products>
```

```xml
                    <product>
                        <cleared_for_sale>true</cleared_for_sale>
                        <wholesale_price_tier>3</wholesale_price_tier>
                    </product>
                </products>
                <locales>
                    <locale name="en-US">
                        <title>Bodega Guide</title>
                        <description>This publication is a travel guide to
Bodega, one volume of the series on small towns in Sonoma County.</description>
                    </locale>
                </locales>
                <review_screenshot>
                    <file_name>screenshot-01.png</file_name>
                    <size>286243</size>
                    <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c
</checksum>
                </review_screenshot>
                <review_notes>Some notes for the reviewer.</review_notes>
                <has_hosted_content>true</has_hosted_content>
                <software_assets>
                    <asset type="in-app-purchase-content">
                        <data_file>
                            <file_name>com.freestonepress.guidebooks.bodega.pkg
</file_name>
                            <size>286243</size>
                            <checksum type="md5">c0f4c46dc16c4153cef37f6c
868b7c5c</checksum>
                        </data_file>
                    </asset>
                </software_assets>
            <in_app_purchase>
        </in_app_purchases>
    </software_metadata>
</software>
```

```
</package>
```

Hosted In-App Purchase Metadata Annotated

Only the tags relevant to hosted content are annotated below. See "Basic In-App Purchase Metadata Annotated" (page 27) for information on the other tags.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/type`

`<type>non-consumable</type>`

Type (*required*)

The product type for hosted content must be `non-consumable`. The In-App Purchase type cannot be changed once your In-App Purchase has been delivered. Customers purchase non-consumable products only once. Services that do not expire or decrease with use, such as a new race track for a game app, are usually implemented as non-consumables. The non-consumable product is provided to all devices associated with the customer's iTunes account. Available for iOS and Mac OS X applications.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/has_hosted_content`

`<has_hosted_content>true</has_hosted_content>`

Hosted Content (*optional*)

Indicates that your in-app purchase is hosted by Apple, not on your own servers. Currently, only non-consumable in-app purchases can be hosted. Acceptable values are `true` or `false`.

Keep the following in mind when sending the `<has_hosted_content>` tag:

- If the In-App Purchase is not currently live, you can remove the files by changing `true` to `false`. You do not need to send an empty `<software_assets>` block for removal).

- If the In-App Purchase is currently live and is not content-hosted, supplying the `true` value triggers version creation. If the In-App Purchase is not live, or if it is live and is already hosted, no version creation is triggered.

- Once the `<has_hosted_content>` tag has been set to `true` and the content is live, you cannot change the value to `false`.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/software_assets`

```
<software_assets>

  <asset type="in-app-purchase-content">

    <data_file>

       <file_name>com.freestonepress.guidebooks.bodega.pkg</file_name>

       <size>286243</size>

       <checksum type="md5">c0f4cc4153cef37f6c868b7c5c46dc16</checksum>

    </data_file>

  </asset>

</software_assets>
```

Software Assets (*optional*)

Use the `<software_assets>` block to deliver the In-App Purchase content that will be hosted by Apple. The asset `type` must be `"in-app-purchase-content"`. The data file must be in `.pkg` format (built by Xcode). The `<file_name>`, `<size>`, and `<checksum>` tags are required within the `<data_file>` block.

If the In-App Purchase content has already been delivered and the checksum is different, the following apply:

- If the content is not currently live, the existing data file will be replaced.

- If the content is currently live, a new version will be created.

Note: Currently, only one asset file may be included in the `<software_assets>` block.

Free Trial and Bonus Durations

The length of time you can offer for free trials and bonus subscription extensions varies depending on the duration of the original subscriptions.

Subscription Length	Available Free Trial Durations (Newsstand apps only)	Available Bonus Durations
7 days	7 days	7 days
1 month	7 days	7 days
	1 month	1 month
2 months	7 days	7 days
	1 month	1 month
3 months	1 month	1 month
6 months	1 month	1 month
	2 months	2 months
1 year	1 month	1 month
	2 months	2 months
	3 months	3 months

Game Center Profile

Overview

Game Center is Apple's social gaming network. This chapter provides information on delivering Game Center metadata for leaderboards and achievements, as well as providing localizations.

Use iTunes Connect to enable your app for Game Center testing, and deliver the XML to set up your leaderboards and achievements. Then use Game Kit Framework to integrate Game Center content into your app. When you are ready to distribute your app, enable your specific app version for Game Center and submit it to the App Store.

> **Note:** Leaderboards and achievements can be set up using iTunes Connect or through the metadata XML feed. So, it is possible that your game has some existing leaderboards and/or achievements. When sending leaderboard and achievement metadata (including localizations) through the feed, you are indicating that what you are sending is the current state of that leaderboard or achievement. For example, if you are adding or modifying a leaderboard or achievement, include it and the localizations that you want to add or modify in the metadata. If there is an existing leaderboard or achievement and you want to keep it as is, you can omit the leaderboard or achievement from the metadata XML. Likewise, you can omit the localizations that are to be kept as is.

Game Center functionality requires iOS 4.1 and later. For more information, refer to the iTunes Connect Developer Guide and Game Center Programming Guide.

About Achievements and Leaderboards

Achievements are specific goals that the user can accomplish by reaching a milestone or performing an action within your game (for example, "find 10 gold coins" or "capture the flag in less than 30 seconds"). You can customize the text that describes an achievement, the number of points a player earns by completing an achievement, and the image that is displayed after an achievement has been earned. A player can see their earned achievements within the Game Center app; they can also compare their achievements with those earned by a friend.

Leaderboards allow your game to post scores to the Game Center service where they can later be viewed by players. When you add leaderboards to your game, you decide how the game's scores are interpreted and displayed. For example, you can customize a score so that it appears as time, money, or an arbitrary value (for example, "points" or "laps"). You can choose to create multiple categories of leaderboards — for example, you might display a different leaderboard for each level of difficulty your game supports. You can also create combined leaderboards that take the players from the single leaderboards and rank them all together. Finally, your game can retrieve the scores stored in the leaderboard.

Adding leaderboards and achievements to your game is optional. Note that once a leaderboard or achievement is available to the user for any version of your app, it cannot be deleted.

> **Note:** To send single or group leaderboards or achievements for review with a specific version of your app, you must use iTunes Connect; this can't be done through the feed.

About Groups

Groups allow you to share your leaderboard and achievement data between apps. There is no restriction on the type of apps that can belong to a group, but an app can belong to only one group. Apps within a group can still have different default leaderboards.

To share leaderboards and achievements between apps, first set up the group in iTunes Connect. In addition, a group can't exist without containing at least one app, so you need to add the app (or apps) to the group using iTunes Connect. You cannot create groups using the XML feed, but you can send group leaderboard or group achievement metadata through the feed. The app you want to associate with the group leaderboard or group achievement should be a member of that group.

Basic Game Center Metadata Example

Below is an example metadata.xml file for delivering achievements and leaderboard metadata.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>CyberInteractive</provider>
    <team_id>A9B8C7D6E5</team_id>
    <software>
        <vendor_id>CI0009</vendor_id>
        <software_metadata>
```

```
<. . .>
    <game_center>
        <achievements>
            <achievement position="1">
                <achievement_id>29.2.achievement.1</achievement_id>
                <reference_name>Achievement One</reference_name>
                <points>10</points>
                <hidden>true</hidden>
                <reusable>true</reusable>
                <locales>
                    <locale name="en-US">
                        <title>Achievement One</title>
                        <before_earned_description>Find 10 gold
coins</before_earned_description>
                        <after_earned_description>Awesome! You found 10
gold coins</after_earned_description>
                        <achievement_after_earned_image>
                            <file_name>after_achievement_image.png
</file_name>
                            <size>286243</size>
                            <checksum
type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
                        </achievement_after_earned_image>
                    </locale>
                    <locale name="fr-FR" remove="true"/>
                </locales>
            </achievement>
            <achievement remove="true">
                <achievement_id>29.1.achievement.1</achievement_id>
            </achievement>
        </achievements>
        <leaderboards>
            <leaderboard default="true" position="1">
                <leaderboard_id>29.easy</leaderboard_id>
                <reference_name>Leaderboard One</reference_name>
                <aggregate_parent_leaderboard>other_leaderboard_id
```

```xml
</aggregate_parent_leaderboard>
                        <sort_ascending>true</sort_ascending>
                        <score_range_min>0</score_range_min>
                        <score_range_max>1000</score_range_max>
                        <locales>
                            <locale name="en-US">
                                <title>Leaderboard One</title>
                                <formatter_suffix>Points</formatter_suffix>
                                <formatter_suffix_singular>Point
</formatter_suffix_singular>
                                <formatter_type>INTEGER_DECIMAL_SEPARATOR
</formatter_type>
                                <leaderboard_image>
                                    <file_name>leaderboard1_image.png</file_name>
                                    <size>286243</size>
                                    <checksum
type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
                                </leaderboard_image>
                            </locale>
                            <locale name="fr-FR" remove="true"/>
                        </locales>
                    </leaderboard>
                    <leaderboard remove="true">
                        <leaderboard_id>29.hard</leaderboard_id>
                    </leaderboard>
                </leaderboards>
            </game_center>
        </software_metadata>
    </software>
</package>
```

Basic Game Center Metadata Annotated

```
<?xml version="1.0" encoding="UTF-8"?>
```
XML Declaration (*required*)

The character encoding of your document must be defined.

iTunes only accepts UTF-8 encoding as it efficiently encodes non-Roman characters.

Important: The metadata.xml file must not contain a byte-order mark (BOM).

XPath: `/package`

```
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
```
Package Container (*required*)

The `xmlns` (XML namespace) attribute is required and is used to declare the namespace to which the tags and attributes in the XML are expected to conform. The namespace must be: `http://apple.com/itunes/importer`.

The version attribute is required. Packages created to this specification must indicate `version="software5.1"`. The "software" portion of the attribute must be in lowercase letters.

XPath: `/package/provider`

```
<provider>CyberInteractiveProductions</provider>
```
Provider (*optional if <team_id> supplied*)

This value should be the iTunes-defined provider short name given for partner identification. If you do not know your provider short name, use the `<team_id>` tag to supply your team's Company/Organization ID.

Example:
- CyberInteractiveProductions

- Minimum length: 1 character

XPath: `/package/team_id`

```
<team_id>A9B8C7D6E5</team_id>
```
Team Identifier (*optional if <provider> supplied*)

This value should be your team's Company/Organization ID given for developer identification. You can find this ID in your Organization Profile in the Member Center. The `<team_id>` must be 10 characters consisting of numbers and uppercase letters.

Example:

- A9B8C7D6E5

XPath: `/package/software`

`<software>`

Software (*required*)

Begins the software element block. Only one software element can be defined per XML delivery.

XPath: `/package/software/vendor_id`

`<vendor_id>CI0009</vendor_id>`

Vendor Identifier (*required, 2-100 characters, see restrictions*)

The permanent value that uniquely identifies the software app separately from any other software app given by the provider. This ID is used for tracking your assets and reporting. Vendor identifiers cannot be reused. The `vendor_id` is the app's SKU in iTunes Connect.

Restrictions: The vendor identifier can only contain alphanumeric characters and underscore marks; it cannot contain spaces, dashes, ampersands, other punctuation, or symbols. The vendor identifier is case-sensitive and must not start with an underscore. If a Vendor ID is numeric, it is treated as a string, not numbers; a vendor identifier of '00000000012345' is not the same as '12345'. Vendor IDs must be at least two ASCII characters in length but have a limit of 100 ASCII characters.

XPath: `/package/software/software_metadata`

`<software_metadata>`

Software Metadata (*required*)

Begins the metadata element block that includes tags for describing Game Center metadata.

XPath: `/package/software/software_metadata/game_center`

`<game_center>`

Game Center (*optional*)

Begins the Game Center element block. Within the Game Center block, you can deliver one or more achievements and leaderboards.

XPath: `/package/software/software_metadata/game_center/achievements`

`<achievements>`

Achievements (*optional*)

Begins the achievements element block. Within the achievements block, you can deliver one or more achievements, as well as remove an existing achievement (described below). Even if you are delivering only one achievement, you must wrap it within an `<achievements>` tag.

XPath: `/package/software/software_metadata/game_center/achievements/achievement`

`<achievement position="1">`

Achievement (*At least one <achievement> is required if <achievements> block is supplied*)

Identifies an individual achievement. You can define multiple `<achievement>` blocks as needed up to 100. The maximum number of achievements you can create is 100 for each app. For example, if you already have 90 achievements defined, and you submit an import package that adds 20 more achievements, delivery will fail.

The `position` attribute determines the order in which the achievements are presented to users. You can change the order on the app's Game Center page or by sending a metadata update.

Note that once an achievement is available to the user for any version of your app, it cannot be deleted.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/achievement_id`

`<achievement_id>29.2.achievement.1</achievement_id>`

Achievement ID (*required; up to 100 characters*)

A unique identifier for the achievement. It can be composed of letters, numbers, underscores (_), and periods (.). This ID is limited to 100 characters. Your Achievement ID is a permanent setting and cannot be changed.

If the achievement is part of a group, prepend the achievement ID with the `grp.` prefix, for example, `grp.time_challenge`. Note that before sending group achievement metadata using the XML feed, you must first set up the group in iTunes Connect.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/reference_name`

`<reference_name>Achievement One</reference_name>`

Reference Name (*required*)

A unique name for the achievement. You can use up to 255 characters and it must be unique within the app. This is an internal reference used when searching for the achievement within iTunes Connect. It is not displayed on the App Store.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/points`

`<points>10</points>`

Points (*required*)

The point value that this achievement is worth. There is a minimum of 0 (zero) points and a maximum of 100 points per achievement and a maximum of 1000 points total for all achievements (up to 100 achievements are allowed). An achievement that is more difficult or more time consuming to earn should be worth more points.

Note that you cannot change the points after the achievement has gone live.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/hidden`

`<hidden>true</hidden>`

Hidden (*required*)

Setting the value to `true` hides the achievement on Game Center until a player has achieved it. Must be set to `true` or `false` in English. If you do not supply the `<hidden>` tag, the value is `false` by default and the achievement will not be hidden. Most achievements should be immediately visible to the player. However, you might hide an achievement if it is intended to be a surprise or if it is available only when the player purchases additional content.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/reusable`

`<reusable>true</reusable>`

Reusable (*optional*)

Setting the value to `true` indicates that the user can earn the achievement more than once. Must be set to `true` or `false` in English. If you do not supply the `<reusable>` tag, the value is `false` by default and the user can earn the achievement only once.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/locales/locale`

```
<locales>
    <locale name="en-US"/>
```

Locale Name (*required*)

Provides a mechanism to supply localizations of the achievement title, descriptions, and image. If your app is available in multiple countries, you should localize the achievements for each country. If the achievement is new, you must supply localizations for at least one locale. If you are delivering a metadata update, and you are not modifying locale information, you can omit the `<locales>` block and `<locale>` tag(s).

The locale indicates both the language and the optional, specific region where the language is spoken. To specify a locale, use a dash character to combine a language with a region subtag. For example, the locale for English-language speakers in Great Britain is en-GB, while the locale for English-speaking residents of the United States is en-US. We recommend providing the region only when it adds useful information. See "Language Codes" (page 79) for a list of languages supported for Game Center.

Note: To remove a locale, use the `remove` attribute, for example, `<locale name="fr-FR" remove="true"/>`. You can't remove the last remaining locale; you must have at least one locale.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/locales/locale/title`

`<title>Achievement One</title>`

Localized Title (*required*)

The localized title of the achievement in the specified `<locale>` language as you would like it to appear in Game Center. The title must be at least 2 characters but no more than 50 bytes.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/locales/locale/before_earned_description`

`<before_earned_description>Find 10 gold coins</before_earned_description>`

Localized Before Earned Description (*required*)

The description of the achievement in the specified `<locale>` language as it will appear to Game Center users before they have earned it. This description should clearly explain what the player must do to earn the reward. It must be at least 2 characters but no more than 200 bytes.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/locales/locale/after_earned_description`

`<after_earned_description>Awesome! 10 gold coins</after_earned_description>`

Localized After Earned Description (*required*)

The description of the achievement in the specified `<locale>` language as it will appear to Game Center users after they have earned it. This description should clearly state what they accomplished. It must be at least 2 characters but no more than 200 bytes.

XPath: `/package/software/software_metadata/game_center/achievements/achievement/locales/locale/achievement_after_earned_image`

```
<achievement_after_earned_image>
 <file_name>after_achievement_image.png</file_name>
 <size>286243</size>
 <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
</achievement_after_earned_image>
```

Localized Image (*required if <locale> is new*)

Delivers a localized image to be displayed when a player completes the achievement. This image is for the completed achievement only. Incomplete achievements always display a standard image provided by Game Center. The image must be JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) in RGB color mode and must be 512 x 512 pixels or 1024 x 1024 pixels.

Important: Do not scale up the image if it is smaller than the minimum required size.

File Name (*required*)

The name of the image. File names are case sensitive and spaces are not allowed.

File Size (*required*)

The size in bytes of the image file. Do not include any commas nor period delimiters.

Checksum (*required*)

The MD5 checksum of the image file. See the "Checksums" (page 8) section for more information.

```
  </locale>
</locales>
</achievement>
```

XPath: /package/software/software_metadata/game_center/achievements/achievement

```
<achievement remove="true">

   <achievement_id>29.1.achievement.1</achievement_id>

</achievement>
```

Achievement (*optional*)

To remove an achievement, include the `<achievement>` block, set the attribute `remove` to `"true"`, and indicate the Achievement ID to remove. Note that you cannot remove an achievement after it has gone live.

```
</achievements>
```

XPath: /package/software/software_metadata/game_center/leaderboards

```
<leaderboards>
```

Leaderboards (*optional*)

Begins the leaderboards element block. Within the leaderboards block, you can deliver one or more leaderboards, as well as remove an existing Leaderboard (described below). Even if you are delivering only one leaderboard, you must wrap it within a `<leaderboards>` tag.

XPath: /package/software/software_metadata/game_center/leaderboards/leaderboard

```
<leaderboard default="true" position="1">
```

Leaderboard (*At least one <leaderboard> is required if <leaderboards> block is supplied*)

Identifies an individual leaderboard. You can define multiple `<leaderboard>` blocks as needed, up to 25 for each app. For example, you might have a leaderboard for each game level: Easy, Medium, and Hard.

Use the `default` attribute when you have multiple leaderboards and you want to indicate that this leaderboard is the default leaderboard (the first leaderboard that the user sees on the device). Each app can have only one default leaderboard. Note that you can move the default from one leaderboard to another by including both leaderboards in the package, omitting the `default="true"` from the current default leaderboard (or setting it to `"false"`) and specifying `default="true"` for the new default leaderboard.

The `position` attribute determines the order in which the leaderboards are presented to users. You can change the order on the app's Game Center page or by sending a metadata update.

Note that once a leaderboard is available to the user for any version of your app, it cannot be deleted.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/leaderboard_id`

`<leaderboard_id>29.easy</leaderboard_id>`

Leaderboard ID (*required; up to 100 characters*)

A unique identifier for the leaderboard. It can be composed of letters, numbers, underscores (_), and periods (.). This ID is limited to 100 characters. Your Leaderboard ID is a permanent setting and cannot be changed. Note that the Leaderboard ID is equivalent to the "category" in Game Kit API.

If the leaderboard is part of a group, prepend the leaderboard ID with the `grp.` prefix, for example, `grp.level1_easy`. Note that before sending group leaderboard metadata using the XML feed, you must first set up the group in iTunes Connect.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/reference_name`

`<reference_name>Leaderboard One</reference_name>`

Reference Name (*required*)

A unique name for the leaderboard. You can use up to 255 characters and it must be unique within the app. This is an internal reference used when searching for the leaderboard within iTunes Connect. It is not displayed on the App Store.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/aggregate_parent_leaderboard`

`<aggregate_parent_leaderboard>other_leaderboard_id</aggregate_parent_leaderboard>`

Aggregate Parent Leaderboard (*optional*)

Identifies the aggregate parent leaderboard, if any. An aggregate parent leaderboard (also referred to as combined leaderboard in iTunes Connect) joins and ranks together the players from multiple single leaderboards. You must have at least two single leaderboards before you can create an aggregate parent leaderboard, and the leaderboards cannot be combined unless they have the same score format and sort order.

You can create the leaderboards and their aggregate parent leaderboard in the same XML feed, as long as the score format and sort order are the same. You could alternatively set up the parent leaderboard in iTunes Connect or in a previous XML delivery.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/sort_ascending`

`<sort_ascending>true</sort_ascending>`

Sort (*required*)

Setting the value to `true` sorts the scores on the leaderboard from low to high; the lowest scores will be displayed first. Must be set to `true` or `false` in English. If you do not supply the `<sort_ascending>` tag, the value is `false` by default and the leaderboard scores will be displayed from high to low.

For example, a racing game that records scores as the time required to complete a track would rank scores in ascending order; the lowest score (fastest time) is the best score. A game that measures scores in the amount of wealth earned would choose descending order (setting `<sort_ascending>` to `false`). The best score is always displayed at the top of the list.

Note that you cannot change the sort order after the app has gone live.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/score_range_min`

`<score_range_min>0</score_range_min>`

Score Range Minimum (*optional*)

Defines the minimum score in the range using 64-bit signed integers. The values must be between the long min (-2^63) and long max (2^63 - 1). Any scores outside of this range will be deleted. Score range minimum and maximum values are optional, but if they are added then both values must be set and they must not be equal.

See the tag `<formatter_type>` (below) to set the score format (for example, time, points, or money).

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/score_range_max`

`<score_range_max>1000</score_range_max>`

Score Range Maximum (*optional*)

Defines the maximum score in the range using 64-bit signed integers. The values must be between the long min (-2^63) and long max (2^63 - 1). Any scores outside of this range will be deleted. Score range minimum and maximum values are optional, but if they are added then both values must be set and they must not be equal.

See the tag `<formatter_type>` (below) to set the score format (for example, time, points, or money).

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale`

```
<locales>

   <locale name="en-US"/>
```

Locale Name (*required*)

Provides a mechanism to supply localizations of the leaderboard title, score suffix, score format, and leaderboard image. If your app is available in multiple countries, you should localize the leaderboards for each country. If the leaderboard is new, you must supply localizations for at least one locale. If you are delivering a metadata update, and you are not modifying locale information, you can omit the `<locales>` block and `<locale>` tag(s).

The locale indicates both the language and the optional, specific region where the language is spoken. To specify a locale, use a dash character to combine a language with a region subtag. For example, the locale for English-language speakers in Great Britain is en-GB, while the locale for English-speaking residents of the United States is en-US. We recommend providing the region only when it adds useful information. See "Language Codes" (page 79) for a list of languages supported for Game Center.

Note: To remove a locale, use the `remove` attribute, for example, `<locale name="fr-FR" remove="true"/>`. You can't remove the last remaining locale; you must have at least one locale.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale/title`

```
<title>Leaderboard One</title>
```

Localized Title (*required*)

The localized title of the leaderboard in the specified `<locale>` language as you would like it to appear in Game Center. The title must be at least 2 characters but no more than 50 bytes.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale/formatter_suffix`

```
<formatter_suffix>Points</formatter_suffix>
```

Score Format Suffix (*optional*)

Specifies the plural suffix to use for the score in the specified `<locale>` language as it will appear to Game Center users. This will be added to the end of scores, in the plural form, displayed on your leaderboard. This is useful for clarifying the type of score your app uses.

For example, a game might choose Integer as the formatting type and " point" and " points" as the English localization for singular and plural values of that score. For example, if you reported a score of 10, the score would be formatted as "10 points". Other games might use the same formatting type, but provide different localized strings (" laps", " coins").

Note: A leading space is not added to the suffix by default. If you want a leading space after the value, you must add it when you define your suffixes, for example, " laps" or " points".

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale/formatter_suffix_singular`

`<formatter_suffix_singular>Point</formatter_suffix_singular>`

Score Format Suffix Singular (*optional*)

Specifies the singular suffix to use for the score in the specified `<locale>` language as it will appear to Game Center users. This will be added to the end of scores, in the singular form, displayed on your leaderboard. This is useful for clarifying the type of score your app uses.

The languages supported for localizations of `<formatter_suffix_singular>` are:

Dutch: nl

English (United Kingdom): en-GB

English (United States): en-US

German (Germany): de

Italian: it

Portuguese (Portugal): pt-PT

Spanish (Spain): es-ES

Swedish: sv

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale/formatter_type`

`<formatter_type>INTEGER_COMMA_SEPARATOR</formatter_type>`

Score Format Type (*required*)

Indicates the type of format in which you want scores for this app to be expressed in your leaderboard—integer, fixed point, elapsed time, or money. This will determine how your scores are displayed on your leaderboard for the specified language. For example, if your app is scored with money, you may want to specify different types of money based on the language you select. See "Supported Formats for Score Format Type" (page 66) for a list of accepted score formats. Note that the score format type cannot be changed after the app has gone live.

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard/locales/locale/leaderboard_image`

```
<leaderboard_image>
 <file_name>leaderboard1_image.png</file_name>
 <size>286243</size>
 <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c</checksum>
</leaderboard_image>
```

Localized Image (*required if <locale> is new*)

Delivers a localized image that represents the leaderboard. The image must be JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) in RGB color mode and must be 512 x 512 pixels or 1024 x 1024 pixels.

Important: Do not scale up the image if it is smaller than the minimum required size.

File Name (*required*)

The name of the image. File names are case sensitive and spaces are not allowed.

File Size (*required*)

The size in bytes of the image file. Do not include any commas nor period delimiters.

Checksum (*required*)

The MD5 checksum of the image file. See the "Checksums" (page 8) section for more information.

```
   </locale>
  </locales>
</leaderboard>
```

XPath: `/package/software/software_metadata/game_center/leaderboards/leaderboard`

```
<leaderboard remove="true">
   <leaderboard_id>29.hard</leaderboard_id>
</leaderboard>
```

Leaderboard (*optional*)

To remove a leaderboard, include the `<leaderboard>` block, set the attribute `remove` to `"true"`, and indicate the Leaderboard ID to remove. Note that you cannot remove a leaderboard after it has gone live.

```
      </leaderboards>
    </game_center>
   </software_metadata>
  </software>
</package>
```

Supported Formats for Score Format Type

Integer	INTEGER_COMMA_SEPARATOR
	INTEGER_DECIMAL_SEPARATOR
Fixed Point - To 1 Decimal	FIXED_POINT_1_PLACE_WITH_COMMA_SEPARATOR
	FIXED_POINT_1_PLACE_WITH_DECIMAL_SEPARATOR
Fixed Point - To 2 Decimals	FIXED_POINT_2_PLACE_WITH_COMMA_SEPARATOR
	FIXED_POINT_2_PLACE_WITH_DECIMAL_SEPARATOR
Fixed Point - To 3 Decimals	FIXED_POINT_3_PLACE_WITH_COMMA_SEPARATOR
	FIXED_POINT_3_PLACE_WITH_DECIMAL_SEPARATOR
Elapsed Time - To the Minute	ELAPSED_TIME_TO_MINUTE
Elapsed Time - To the Second	ELAPSED_TIME_TO_SECOND
Elapsed Time - To the Hundredth of a Second	ELAPSED_TIME_TO_HUNDREDTH_OF_SECOND
Money - Whole Numbers	MONEY_DOLLAR_WHOLE_WITH_COMMA_SEPARATOR
	MONEY_EURO_WHOLE_WITH_DECIMAL_SEPARATOR
	MONEY_EURO_WHOLE_WITH_SPACE_SEPARATOR
	MONEY_POUND_WHOLE_WITH_COMMA_SEPARATOR
	MONEY_KR_WHOLE_WITH_COMMA_SEPARATOR
	MONEY_FR_WHOLE_WITH_SPACE_SEPARATOR
	MONEY_YEN_WHOLE_WITH_COMMA_SEPARATOR

Money - 2 Decimals	MONEY_DOLLAR_2DECIMALS_WITH_COMMA_SEPARATOR
	MONEY_EURO_2DECIMALS_WITH_DECIMAL_SEPARATOR
	MONEY_EURO_2DECIMALSE_WITH_SPACE_SEPARATOR
	MONEY_POUND_2DECIMALS_WITH_COMMA_SEPARATOR
	MONEY_KR_2DECIMALS_WITH_COMMA_SEPARATOR
	MONEY_FR_2DECIMALS_WITH_SPACE_SEPARATOR

Interval Pricing

Overview

Pricing intervals allow you to schedule price tier changes for an app and for In-App Purchases over time. This is useful for sales and other temporary pricing changes that have a definite beginning and end date, as well as permanent pricing changes that have no end date. For example, you could offer a promotional price for a month, and then return to the regular price. You can set a price tier `<start_date>` (the date that the new tier will take effect on the App Store), and a price tier `<end_date>` (the date that the tier will no longer be in effect and will revert to the previously set price tier). You can set up as many price tier changes as you want in advance and the app or In-App Purchase will change prices on your effective dates. Omitting the `<end_date>` tag means that the interval will last until the start date of the following interval. If no further intervals are specified, the price will remain in effect indefinitely.

> **Note:** You are not required to use interval pricing. Use intervals only when you want the price to change at a specified date in the future.

If you provide interval pricing, you must follow these requirements or delivery will fail:

- Gaps between intervals are not allowed.
- For the first interval, the `<start_date>` tag must either be omitted (meaning that the interval implicitly starts immediately) or it must contain a value that is no later than the current date. For subsequent intervals, the `<start_date>` may be any point in the future.
- The end date of the first interval must not be earlier than the `<sales_start_date>`.
- The last interval must have no end date.

> **Note:** If the In-App Purchase is new, you must supply an interval that starts either today or a date in the past and that does not have an end date. This ensures that there is always a price available for all dates in the future.

Keep the following in mind when delivering interval pricing:

- An unlimited number of intervals are allowed; however, for each interval, there is a period of several hours where the product will be unavailable for sale while the price is changed.

- Once intervals are delivered for a given product, the classic pricing model (as outlined in the "Basic App Metadata Profile" (page 9)) may no longer be used.

- Intervals are date-specific and not time-specific. Your app will be available based on the time zone used for each territory, for example, in the US, the app will be available no later than midnight Pacific time (PT) on the date specified in the `<sales_start_date>` tag.

- The minimum interval duration is one day, and each change will take several hours to appear in the store while the cache is updated.

- If two intervals overlap, the last interval specified in a given metadata update will take precedence.

- You can leave out the `<end_date>` and the price will not change again. If no `<end_date>` is supplied, the interval does not end and remains in effect indefinitely.

- If you would like to preserve planned scheduled changes, your product updates should contain all known pricing intervals from the date of delivery forward. Otherwise, new pricing information, particularly where there is no start or end date may impact previously-delivered scheduled changes.

Interval Pricing Metadata Example

The example XML below shows how to deliver an app and an In-App Purchase with pricing intervals. Note that you do not need to deliver the `<versions>` block if you are just updating the pricing for the app.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="software5.1">
    <provider>CyberInteractive</provider>
    <team_id>A9B8C7D6E5</team_id>
    <software>
        <vendor_id>CI0009</vendor_id>
        <software_metadata>
            <products>
                <product>
                    <territory>WW</territory>
                    <sales_start_date>2010-05-25</sales_start_date>
                    <cleared_for_sale>true</cleared_for_sale>
                    <intervals>
                        <interval>
                            <start_date>2010-05-25</start_date>
                            <end_date>2010-06-25</end_date>
```

```
                    <wholesale_price_tier>9</wholesale_price_tier>
                </interval>
                <interval>
                    <start_date>2010-06-25</start_date>
                    <wholesale_price_tier>7</wholesale_price_tier>
                </interval>
            </intervals>
        </product>
        <product>
            <territory>FR</territory>
            <cleared_for_sale>true</cleared_for_sale>
        </product>
    </products>
    <in_app_purchases>
        <in_app_purchase>
            <product_id>com.cyberinteractive.touchfighter.
missiles.10</product_id>
            <reference_name>10 missiles</reference_name>
            <type>consumable</type>
            <products>
                <product>
                    <cleared_for_sale>true</cleared_for_sale>
                    <intervals>
                        <interval>
                            <start_date>2010-05-25</start_date>
                            <end_date>2010-06-25</end_date>
                            <wholesale_price_tier>9</wholesale_price_tier>
                        </interval>
                        <interval>
                            <start_date>2010-06-25</start_date>
                            <wholesale_price_tier>7</wholesale_price_tier>
                        </interval>
                    </intervals>
                </product>
            </products>
```

```
                      <locales>

                           <locale name="en-US">

                                <title>10 Missiles</title>

                                <description>This product provides an additional 10
 missiles to take you on your way.</description>

                           </locale>

                      </locales>

                      <review_screenshot>

                           <file_name>screenshot-01.png</file_name>

                           <size>286243</size>

                           <checksum type="md5">c0f4c46dc16c4153cef37f6c868b7c5c
 </checksum>

                      </review_screenshot>

                      <review_notes>Some notes for the reviewer.</review_notes>

                 </in_app_purchase>

             </in_app_purchases>

         </software_metadata>

     </software>

 </package>
```

Interval Pricing Metadata Annotated

Only the tags relevant to interval pricing are annotated. See "Basic App Metadata Annotated" (page 15) and "Basic In-App Purchase Metadata Annotated" (page 27) for annotations on other tags.

XPath: `/package/software/software_metadata/products/product`

```
<products>

   <product>
```

Product (*required if providing intervals*)

For each app, you must supply information on the product, such as pricing and whether it is cleared for sale. You can set the price tier and schedule price tier changes for the future by setting start and end dates using the `<intervals>` tag.

XPath: `/package/software/software_metadata/products/product/cleared_for_sale`

`<cleared_for_sale>true</cleared_for_sale>`

Cleared For Sale (*required*)

Specifies whether the app is cleared for sale in the specified territory. Must be `true` or `false` in English.

XPath: `/package/software/software_metadata/products/product/intervals`

`<intervals>`

Interval Declaration (*required*)

The beginning of a group of intervals for a specific product. product, for all countries in which the product is available

Note: The `<intervals>` block can only be delivered within the WW territory; other territories can only have the `<cleared_for_sale>` tag (and the `<territory>` tag). This is because all territories must have the same sales start date and same price tier.

XPath: `/package/software/software_metadata/products/product/intervals/interval`

`<interval>`

Interval (*required*)

The beginning of an individual interval for a specific product, for all countries in which the product is available.

XPath: `/package/software/software_metadata/products/product/intervals/interval/start_date`

`<start_date>2010-05-25</start_date>`

Interval Start Date (*optional*)

The start date for the given interval in YYYY-MM-DD format. For the first interval, the `<start_date>` tag must either be omitted (meaning that the interval implicitly starts immediately) or it must contain a value that is no later than the current date. For subsequent intervals, the `<start_date>` may be any point in the future.

XPath: `/package/software/software_metadata/products/product/intervals/interval/end_date`

`<end_date>2010-06-25</end_date>`

Interval End Date (*optional*)

The end date for the given interval. This may be any point at least 24 hours after the interval's start date and must follow the YYYY-MM-DD format. If the end date is not specified, the interval will last until the start date of the following interval. If no further intervals are specified, the interval will last indefinitely.

XPath: `/package/software/software_metadata/products/product/intervals/interval/wholesale_price_tier`

`<wholesale_price_tier>9</wholesale_price_tier>`

Wholesale Price Tier (*required*)

The wholesale price tier for the app for the given interval. Must be a wholesale price tier number as specified in your contract with Apple.

Review your contract to verify the tiers available to you. If an invalid price tier is provided, App Store reserves the right to reject the package. To request technical assistance, use the Contact Us page in iTunes Connect at http://itunesconnect.apple.com/contactus.

```
    </interval>
  </intervals>

 </product>
</products>
```

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product`

```
<in_app_purchases>

  <in_app_purchase>

    <products>

      <product>
```

Product (*required if providing intervals*)

For each In-App Purchase, you must supply information on the product, such as pricing and whether it is cleared for sale. You can set the price tier and schedule price tier changes for the future by setting start and end dates using the `<intervals>` tag.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/cleared_for_sale`

`<cleared_for_sale>true</cleared_for_sale>`

Cleared For Sale (*required*)

Specifies whether the In-App Purchase is cleared for sale. Must be `true` or `false` in English.

Note: Setting `<cleared_for_sale>` to `false` does *not* permanently delete an In-App Purchase from your app. To delete an In-App Purchase, add the attribute `remove="true"` to an `<in_app_purchase>` tag and supply the `<product_id>` as shown in "Basic In-App Purchase Metadata Example" (page 26).

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/intervals`

`<intervals>`

Interval Declaration (*required*)

The beginning of a group of intervals for a specific product.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/intervals/interval`

`<interval>`

Interval (*required*)

The beginning of an individual interval for a specific product. Any number of intervals may be provided in any initial product delivery or subsequent update.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/intervals/interval/start_date`

`<start_date>2010-05-25</start_date>`

Interval Start Date (*optional*)

The start date for the given interval YYYY-MM-DD format. For the first interval, the `<start_date>` tag must either be omitted (meaning that the interval implicitly starts immediately) or it must contain a value that is no later than the current date (except for new In-App Purchases—see the following paragraph). For subsequent intervals, the `<start_date>` may be any point in the future.

If the In-App Purchase is new, you must supply an interval that doesn't have an end date; the start date must be either today, in the past, or no start date at all. This ensures that there is always a price available for all dates in the future.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/intervals/interval/end_date`

`<end_date>2010-06-25</end_date>`

Interval End Date (*optional*)

The end date for the given interval. This may be any point at least 24 hours after the interval's start date and must follow the YYYY-MM-DD format. If the end date is not specified, the interval will last until the start date of the following interval. If no further intervals are specified, the interval will last indefinitely.

XPath: `/package/software/software_metadata/in_app_purchases/in_app_purchase/products/product/intervals/interval/wholesale_price_tier`

`<wholesale_price_tier>9</wholesale_price_tier>`

Wholesale Price Tier (*required*)

The wholesale price tier for the In-App Purchase for the given interval. Must be a wholesale price tier number as specified in your contract with Apple.

If the `<type>` is `consumable`, `subscription`, `non-consumable`, or `auto-renewable`, the price tier must not be 0, (which indicates it is free). If the `<type>` is `free-subscription`, the price tier must be 0.

Review your contract to verify the tiers available to you. If an invalid price tier is provided, App Store reserves the right to reject the package. To request technical assistance, use the Contact Us page in iTunes Connect at http://itunesconnect.apple.com/contactus.

```
      </interval>
    </intervals>
```

```
            </product>                                        75
        </products>

    </in_app_purchase>
</in_app_purchase>
```

Screenshot Requirements

Overview

This chapter lists the screenshot requirements for apps and In-App Purchases.

Screenshot Requirements for Apps

iPhone and iPod touch Screenshots	For best results, do not include the iPhone status bar in your screenshots, and follow these requirements: • 640 x 920 pixels for hi-res portrait (without status bar) minimum • 640 x 960 pixels for hi-res portrait (full screen) maximum • 960 x 600 pixels for hi-res landscape (without status bar) minimum • 960 x 640 pixels for hi-res landscape (full screen) maximum • 72 ppi, RGB, flattened, no transparency • High-quality JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) image file format.
iPhone 5 and iPod touch (5th gen) Screenshots	For best results, do not include the iPhone status bar in your screenshots, and follow these requirements: • 640 x 1096 pixels for portrait (without status bar) minimum • 640 x 1136 pixels for portrait (full screen) maximum • 1136 x 600 pixels for landscape (without status bar) minimum • 1136 x 640 pixels for landscape (full screen) minimum • 72 ppi, RGB, flattened, no transparency • High-quality JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) image file format.

iPad Screenshots	For best results, do not include the iPad status bar in your screenshots and follow these requirements: 1024 x 748 pixels for landscape (without status bar) minimum 1024 x 768 pixels for landscape (full screen) maximum 2048 x 1496 pixels for hi-res (without status bar) minimum 2048 x 1536 pixels for hi-res landscape (full screen) maximum 768 x 1004 pixels for portrait (without status bar) minimum 768 x 1024 pixels for portrait (full screen) maximum 1536 x 2008 pixels for hi-res portrait (without status bar) minimum 1536 x 2048 pixels for hi-res portrait (full screen) maximum 72 ppi, RGB, flattened, no transparency - High-quality JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) image file format.
OS X Apps	For best results, follow these requirements: 16:10 aspect ratio 72 ppi, RGB, flattened, no transparency - High-quality JPEG (`.jpg` or `.jpeg`) or PNG (`.png`) image file format. 1280 x 800 pixels 1440 x 900 pixels 2560 x 1600 2880 x 1800 pixels

Screenshot Requirements for In-App Purchases

iOS IAPs	
	• 640 x 960
	• 640 x 920
	• 640 x 1136
	• 640 x 1096
	• 960 x 640
	• 960 x 600
	• 1024 x 768
	• 1024 x 748
	• 768 x 1024
	• 768 x 1004
	• 1136 x 640
	• 1136 x 600
	• 2048 x 1536
	• 2048 x 1496
	• 1536 x 2048
	• 1536 x 2008
OS X IAPs	• 1280 x 800 pixels
	• 1440 x 900 pixels
	• 2560 x 1600
	• 2880 x 1800 pixels

Language Codes

The table below lists the supported languages for use with the `<locale>` tag. The languages supported for Game Center are a subset of the languages listed below. The checkmark appears in the appropriate column to indicate that language is supported.

As a best practice when specifying a language, use the "region" subtag (for example, the `US` of `en-US`) only when it supplies useful information, such as spelling variations between countries; otherwise provide only the "language" portion of the tag. For example, for Italian, use `<language>it</language>` instead of `<language>it-IT</language>` because the Italian language does not have any regional variations.

In cases where specifying a region is appropriate, use the hyphen character to combine a language with a region subtag. This identifies both the language and the specific location where the language is spoken. For example, this makes it possible to distinguish between Canadian French (fr-CA) and French (fr-FR) as spoken in France.

The language codes are formatted according to the best practices recommended by the Internet Engineering Task Force (IETF) in a group of documents known collectively as BCP 47, and in particular, RFC 5646 (http://tools.ietf.org/html/rfc5646), which is part of BCP 47. An overview of these best practices is provided here: http://www.w3.org/International/articles/language-tags/.

Description	RFC 5646 Language Code	Supported for Software and In-App Purchases	Supported for Game Center
Chinese (Simplified)	cmn-Hans	√	√
Chinese (Traditional)	cmn-Hant	√	√
Danish	da	√	√
Dutch	nl	√	√
English (Australia)	en-AU	√	
English (Canada)	en-CA	√	
English (United Kingdom)	en-GB	√	√

Description	RFC 5646 Language Code	Supported for Software and In-App Purchases	Supported for Game Center
English (United States)	en-US	√	√
Finnish	fi	√	√
French (Canada)	fr-CA	√	
French (France)	fr-FR	√	√
German	de	√	√
Greek	el	√	√
Indonesian	id	√	√
Italian	it	√	√
Japanese	ja	√	√
Korean	ko	√	√
Malay	ms	√	√
Norwegian	no	√	√
Portuguese (Brazil)	pt-BR	√	√
Portuguese (Portugal)	pt-PT	√	√
Russian	ru	√	√
Spanish (Mexico)	es-MX	√	
Spanish (Spain)	es-ES	√	√
Swedish	sv	√	√
Thai	th	√	√
Turkish	tr	√	√

Description	RFC 5646 Language Code	Supported for Software and In-App Purchases	Supported for Game Center
Vietnamese	vi	√	√

Frequently Encountered Issues

Accented characters such as é and ü don't appear correctly in my titles and descriptions.

Make sure you are correctly encoding your metadata in UTF-8. You can use one of the XML Metadata Production tools listed in the Helpful Tools section. There is an XML tool called xmllint that will help identify problems with your XML encodings. You can also try previewing your XML in a browser that renders XML trees such as Firefox.

How do I create a checksum for my files?

Apple accepts file checksums using the industry standard MD5 message digest. There are a variety of tools available to produce an MD5 checksum. See the tools listed in "Helpful Tools" (page 84).

I'm not familiar with XML. Where can I find a general tutorial for XML?

W3Schools	Tizag Tutorials	XML: A Beginner's Guide
http://www.w3schools.com/xml/	http://www.tizag.com/xml-Tutorial/	by Dave Mercer http://www.amazon.com/

Some letters in XML have to be rewritten, what is that about? What's wrong with my ampersand? My XML isn't valid!

XML uses a small set of characters to denote structure in the document. If you need to use these characters within content in your XML file, you need to let the XML file know that the characters are not being used as structure by "escaping" them. For example the letters < and > designate an element tag marker, so if you have a value of "giant > midget" in your XML, you need to escape the greater than character with a set of characters called an entity. The entity for greater than ">" is ">", thus making your previous statement "giant > midget". If you cannot rewrite these characters, see the next section regarding using a Character Data (CDATA) block.

Here are the characters that need to be escaped, and their equivalent entities:

Character	Escaped Equivalent
>	>
<	<

Character	Escaped Equivalent
&	&

I cannot rewrite my characters. Is there another option? What is CDATA?

XML does offer another solution when rewriting reserved characters is not possible. Element text may be enclosed in a special structure called a character data block CDATA. In a CDATA block, the <, >, and & characters are allowed; the only thing not allowed is the CDATA block closing sequence "]]>" which is unlikely to occur in your text.

Here's an example using entity escaping:

<description>If giant > midget, then take midget & giant.</description>

And here is an example using a CDATA block:

<description><![CDATA[if giant > midget, then take midget & giant.]]></description>

Both of these examples are correct and acceptable. For further explanation, see http://www.w3schools.com/xml/xml_cdata.asp. Note the characters must still be encoded in UTF-8.

I don't have a value for an element that is shown in the XML.

For elements marked optional for which you have no value, Apple requires that you remove the tag entirely from the XML rather than leaving the element empty. If the element is marked required, you may not omit the element.

Helpful Tools

These products are neither endorsed nor supported by Apple.

XML Metadata Production		
Oxygen XML Editor Mac, Windows, Linux http://www.oxygenxml.com/	Exchanger XML Editor Mac, Windows, Linux http://www.exchangerxml.com/	Altova XML Spy Windows http://www.altova.com/
XML Debugging		
Firefox Mac, Windows, Linux http://www.mozilla.com/firefox/	xmllint Mac OS X, BSD http://developer.apple.com/	
MD5 Checksum		
md5 Mac OS X, BSD http://developer.apple.com/	md5sum Windows http://www.nullriver.com/	