

# 1. First

I purchase a product, and verifyReceipt, got this response

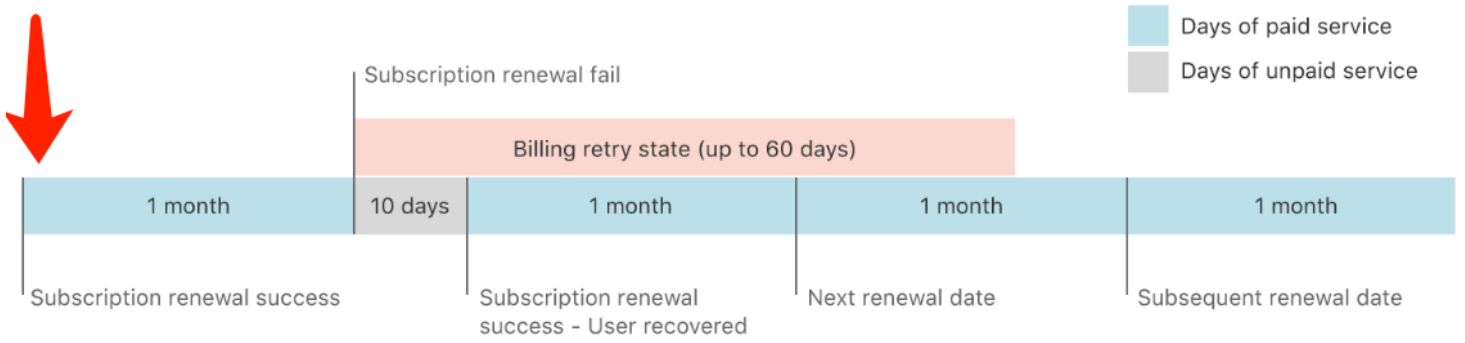
```
1 {
2     .... // To long, not show
3     "pending_renewal_info": [
4         {
5             "auto_renew_product_id": "${auto_renew_product_id}",
6             "product_id": "${product_id}",
7             "original_transaction_id": "2000000397130188",
8             "auto_renew_status": "1"
9         }
10    ],
11    "status": 0
12 }
```

And then I call [Get All Subscription Statuses](#) and Decode `JWSRenewalInfo`, got the response as below:

```
1 {
2     "autoRenewProductId": "${autoRenewProductId}",
3     "autoRenewStatus": 1,
4     "environment": "Sandbox",
5     "originalTransactionId": "2000000397130188",
6     "productId": "${productId}",
7     "recentSubscriptionStartDate": 1692846158000,
8     "renewalDate": 1692846458000,
9     "signedDate": 1692846208530
10 }
```

The response from old api, `pending_renewal_info` field don't have `is_in_billing_retry_period`, and `auto_renew_status` is `1`, indicate that subscription will be renewal as normal

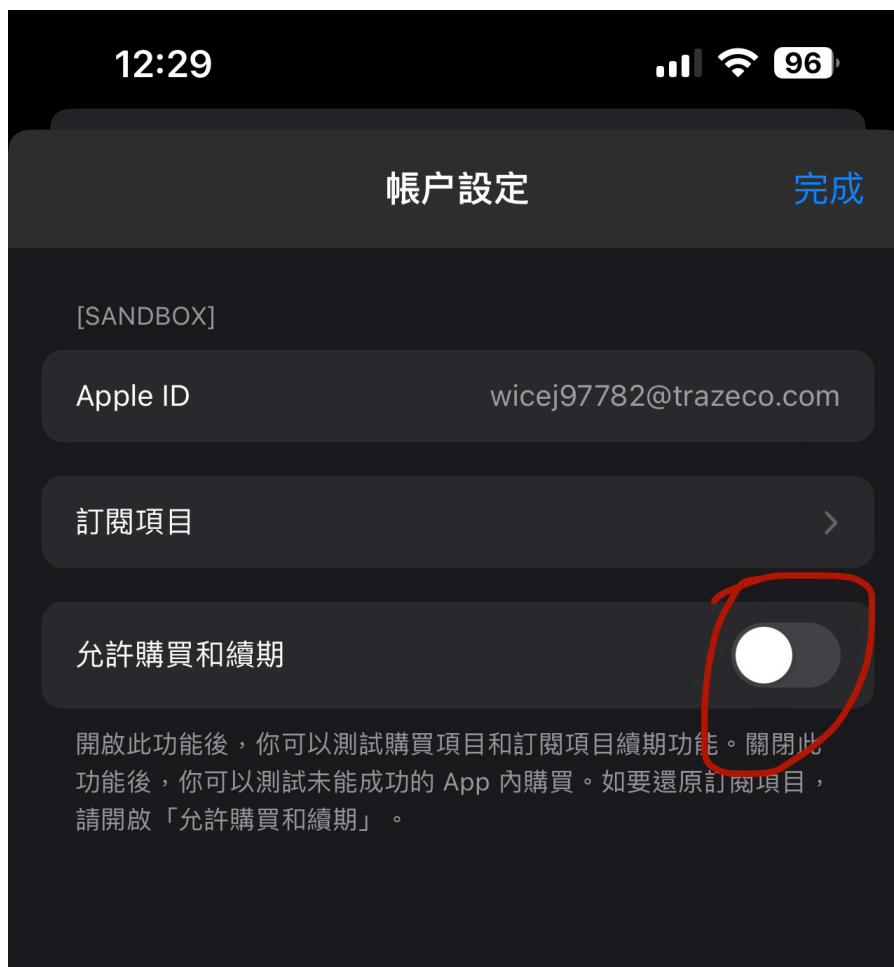
The response from new api, `isInBillingRetryPeriod` field doesn't appear, and `autoRenewStatus` is `1`



## 2. Second

And then I switch off `allow purchase and renewal` in `Settings >> App Store >>`

`SANDBOX ACCOUNT`



And then the subscription occur billing issue

```

1 {
2     .... // To long, not show
3     "pending_renewal_info": [
4         {
5             "expiration_intent": "2",

```

```

6      "grace_period_expires_date": "2023-08-24 03:10:38
Etc/GMT",
7      "auto_renew_product_id": "${auto_renew_product_id}",
8      "is_in_billing_retry_period": "1",
9      "grace_period_expires_date_pst": "2023-08-23 20:10:38
America/Los_Angeles",
10     "product_id": "${product_id}",
11     "grace_period_expires_date_ms": "1692846638000",
12     "original_transaction_id": "2000000397130188",
13     "auto_renew_status": "1"
14   }
15 ],
16   "status": 0
17 }

```

```

"pending_renewal_info": [
  {
    "auto_renew_product_id": "${auto_renew_product_id}",
    "product_id": "${product_id}",
    "original_transaction_id": "2000000397130188",
    "auto_renew_status": "1"
  }
]

```

```

1 "pending_renewal_info": [
2   {
3     "expiration_intent": "2",
4     "grace_period_expires_date": "2023-08-24 03:10:38 Etc/GMT",
5     "auto_renew_product_id": "${auto_renew_product_id}",
6     "is_in_billing_retry_period": "1",
7     "grace_period_expires_date_pst": "2023-08-23 20:10:38 America/Los_Angeles",
8     "product_id": "${product_id}",
9     "grace_period_expires_date_ms": "1692846638000",
10    "original_transaction_id": "2000000397130188",
11    "auto_renew_status": "1"
12  }
13 ]

```

```

1 {
2   "autoRenewProductId": "${autoRenewProductId}",
3   "autoRenewStatus": 1,
4   "environment": "Sandbox",
5   "expirationIntent": 2,
6   "gracePeriodExpiresDate": 1692846638000,
7   "isInBillingRetryPeriod": true,
8   "originalTransactionId": "2000000397130188",
9   "productId": "${productId}",
10  "recentSubscriptionStartDate": 1692846158000,
11  "renewalDate": 1692846458000,
12  "signedDate": 1692846492186
13 }

```

```

1 {
2   "autoRenewProductId": "${autoRenewProductId}",
3   "autoRenewStatus": 1,
4   "environment": "Sandbox",
5   "originalTransactionId": "2000000397130188",
6   "productId": "${productId}",
7   "recentSubscriptionStartDate": 1692846158000,
8   "renewalDate": 1692846458000,
9   "signedDate": 1692846208530
10 }

```

```

1 {
2   "autoRenewProductId": "${autoRenewProductId}",
3   "autoRenewStatus": 1,
4   "environment": "Sandbox",
5   "expirationIntent": 2,
6   "gracePeriodExpiresDate": 1692846638000,
7   "isInBillingRetryPeriod": true,
8   "originalTransactionId": "2000000397130188",
9   "productId": "${productId}",
10  "recentSubscriptionStartDate": 1692846158000,
11  "renewalDate": 1692846458000,
12  "signedDate": 1692846492186
13 }

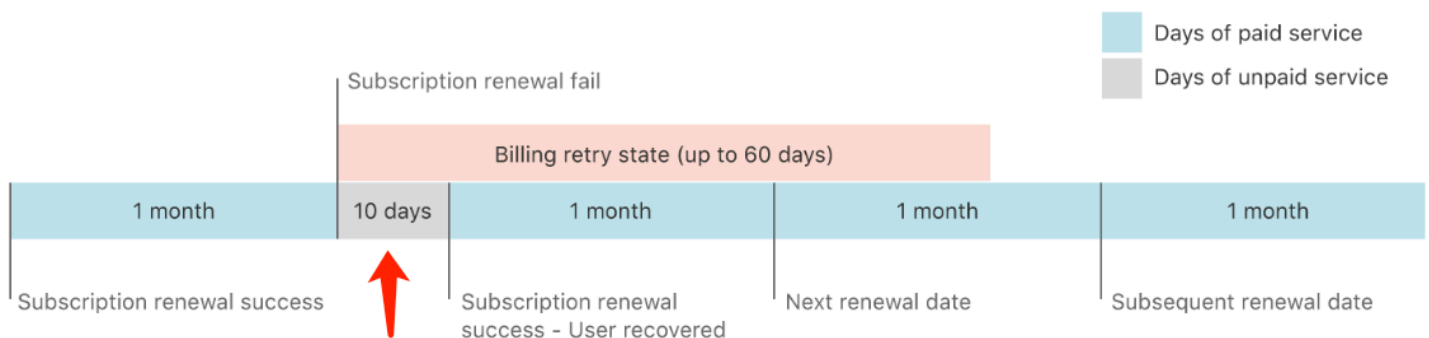
```

From old api,

- `is_in_billing_retry_period` in `pending_renewal_info` appear and value is `1`, indicate that apple attempt to retry charge,
- the `grace_period_expires_date_ms` indicate that if user fix issue before this, apple would treat this subscription as normal.
- And the `auto_renew_status` is still `1`, so subscription is not end.
- `expiration_intent` appear and value is `2`, means that subscription expire because of billing issue

From new api,

- `isInBillingRetryPeriod` appear and value is `true`
- `gracePeriodExpiresDate` appear
- `autoRenewStatus` is still `1`
- `expirationIntent` appear and value is `2`



## Third

After grace period expires, I query again

```
1 {
2   "receipt": {
3     .... // To long, not show
4     "request_date_ms": "1692846798519"
5   },
6   .... // To long, not show
7   "pending_renewal_info": [
8     {
9       "expiration_intent": "2",
10      "grace_period_expires_date": "2023-08-24 03:10:38
    Etc/GMT",
```

```

11         "auto_renew_product_id": "${auto_renew_product_id}",
12         "is_in_billing_retry_period": "1",
13         "grace_period_expires_date_pst": "2023-08-23 20:10:38
America/Los_Angeles",
14         "product_id": "${product_id}",
15         "grace_period_expires_date_ms": "1692846638000",
16         "original_transaction_id": "2000000397130188",
17         "auto_renew_status": "1"
18     }
19 ],
20     "status": 0
21 }

```

```

1 {
2     "autoRenewProductId": "${autoRenewProductId}",
3     "autoRenewStatus": 1,
4     "environment": "Sandbox",
5     "expirationIntent": 2,
6     "gracePeriodExpiresDate": 1692846638000,
7     "isInBillingRetryPeriod": true,
8     "originalTransactionId": "2000000397130188",
9     "productId": "${productId}",
10    "recentSubscriptionStartDate": 1692846158000,
11    "renewalDate": 1692846458000,
12    "signedDate": 1692846699991
13 }

```

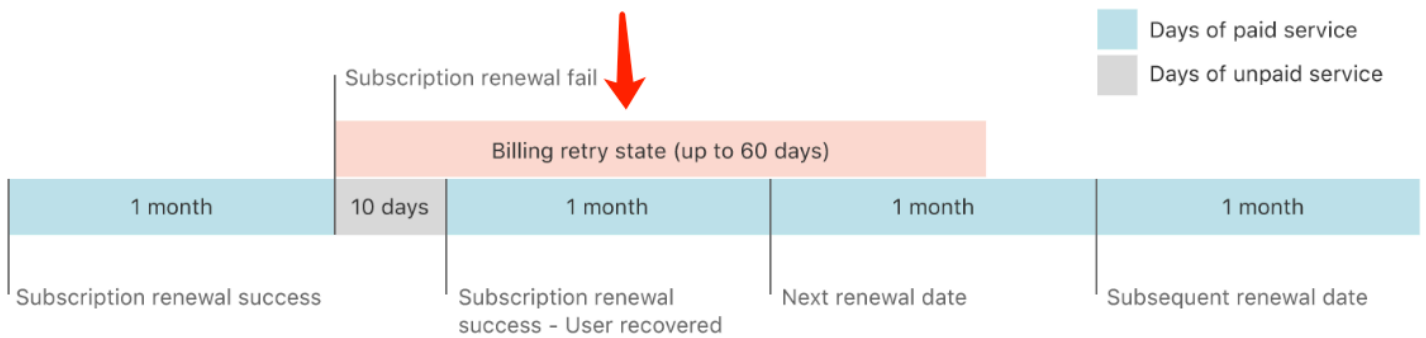
## Old api

- `is_in_billing_retry_period` is still `1`
- `auto_renew_status` is still `1`
- but compare `request_date_ms` in `receipt` to `grace_period_expires_date_ms` can know that is out of grace period, but `is_in_billing_retry_period` is still `1`, so still in billing-retry state

## New api

- `isInBillingRetryPeriod` is still `true`
- `autoRenewStatus` is still `1`
- but compare `signedDate` to `gracePeriodExpiresDate` can know that is out of

grace period, but `isInBillingRetryPeriod` is still `true`, so still in billing-retry state



## Fourth

After specific time, subscription is out of billing-retry state

```
1 {
2     .... // To long, not show
3     "pending_renewal_info": [
4         {
5             "expiration_intent": "2",
6             "grace_period_expires_date": "2023-08-24 03:10:38
7 Etc/GMT",
8             "auto_renew_product_id": "${auto_renew_product_id}",
9             "is_in_billing_retry_period": "0",
10            "grace_period_expires_date_pst": "2023-08-23 20:10:38
11 America/Los_Angeles",
12            "product_id": "${product_id}",
13            "grace_period_expires_date_ms": "1692846638000",
14            "original_transaction_id": "2000000397130188",
15            "auto_renew_status": "0"
16        }
17    ],
18    "status": 0
19 }
```

```
1 "pending_renewal_info": [
2   {
3     "expiration_intent": "2",
4     "grace_period_expires_date": "2023-08-24 03:10:38 Etc/GMT",
5     "auto_renew_product_id": "${auto_renew_product_id}",
6     "is_in_billing_retry_period": "0",
7     "grace_period_expires_date_pst": "2023-08-23 20:10:38 America/Los_Angeles",
8     "product_id": "${product_id}",
9     "grace_period_expires_date_ms": "1692846638000",
10    "original_transaction_id": "2000000397130188",
11    "auto_renew_status": "0"
12  }
13 ]
```

```
1 "pending_renewal_info": [
2   {
3     "expiration_intent": "2",
4     "grace_period_expires_date": "2023-08-24 03:10:38 Etc/GMT",
5     "auto_renew_product_id": "${auto_renew_product_id}",
6     "is_in_billing_retry_period": "1",
7     "grace_period_expires_date_pst": "2023-08-23 20:10:38 America/Los_Angeles",
8     "product_id": "${product_id}",
9     "grace_period_expires_date_ms": "1692846638000",
10    "original_transaction_id": "2000000397130188",
11    "auto_renew_status": "1"
12  }
13 ]
```

```

1  {
2      "autoRenewProductId": "${autoRenewProductId}",
3      "autoRenewStatus": 0,
4      "environment": "Sandbox",
5      "expirationIntent": 2,
6      "gracePeriodExpiresDate": 1692846638000,
7      "isInBillingRetryPeriod": false,
8      "originalTransactionId": "2000000397130188",
9      "productId": "${productId}",
10     "recentSubscriptionStartDate": 1692846158000,
11     "renewalDate": 1692846458000,
12     "signedDate": 1692847034603
13 }

```

```

1 {
2   "autoRenewProductId": "${autoRenewProductId}",
3   "autoRenewStatus": 1,
4   "environment": "Sandbox",
5   "expirationIntent": 2,
6   "gracePeriodExpiresDate": 1692846638000,
7   "isInBillingRetryPeriod": true,
8   "originalTransactionId": "2000000397130188",
9   "productId": "${productId}",
10  "recentSubscriptionStartDate": 1692846158000,
11  "renewalDate": 1692846458000,
12  "signedDate": 1692846699991
13 }

```

```

1 {
2   "autoRenewProductId": "${autoRenewProductId}",
3   "autoRenewStatus": 0,
4   "environment": "Sandbox",
5   "expirationIntent": 2,
6   "gracePeriodExpiresDate": 1692846638000,
7   "isInBillingRetryPeriod": false,
8   "originalTransactionId": "2000000397130188",
9   "productId": "${productId}",
10  "recentSubscriptionStartDate": 1692846158000,
11  "renewalDate": 1692846458000,
12  "signedDate": 1692847034603
13 }

```

## Old api

- `auto_renew_status` become `0`, so subscription is end
- `is_in_billing_retry_period` become `0`, indicate that apple stop try to charge user, so subscription is end totally

## New api

- `autoRenewStatus` become `0`
- `isInBillingRetryPeriod` become `false`

