

SDP Solution

API Reference (DataSync, SOAP)

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1 Overview

About This Chapter

- 1.1 API Functions
- 1.2 Level of Requirement for Parameters
- 1.3 Request Format
- 1.4 Response Format
- 1.5 Namespace
- 1.6 SOAPAction

1.1 API Functions

The SDP provides data synchronization capability application programming interfaces (APIs) for third-party applications (App for short) to connect to it and use its data synchronization capability to synchronize subscription relationships. App is generally developed by various partners of the SDP.

NOTE

Partners are the enterprises and individuals who sign a contract and cooperate with carriers in utilizing the SDP. Partners include SPs, CPs, Developers, and Enterprises. In this document, partners are mainly the SPs, Developers, and Enterprises who use APIs for secondary development.

[Table 1-1](#) describes functions of DataSync capability APIs provided by the SDP.

Table 1-1 Functions of DataSync capability APIs

Function	Description	API
Subscription relationship synchronization	<p>The SDP (functioning as the client) invokes an API to synchronize subscription relationships to the App (functioning as the server).</p> <p>Partners must code the App based on the API field requirements so that the App can correctly parse and respond to requests received from the SDP. The App must send a response to the SDP within 30 seconds.</p>	SyncOrderRelation

Function	Description	API
MSISDN change synchronization	The SDP (functioning as the client) invokes an API to synchronize user MSISDN to the App (functioning as the server). Partners must code the App based on the API field requirements so that the App can correctly parse and respond to requests received from the SDP. The App must send a response to the SDP within 30 seconds.	SyncMSISDNChange

1.2 Level of Requirement for Parameters

The App must develop APIs based on the level of requirement for each parameter.

Table 1-2 Level of requirement for parameters

Type	Description
Mandatory	A parameter is always mandatory in a request. Parameters with the Mandatory requirement are used for access authentication or service processing. If a parameter with the Mandatory requirement is left empty in a request, access authentication or service processing fails and the request fails.
Conditional	A parameter is mandatory or optional in specified conditions. Parameters with the Conditional requirement are used for access authentication or service processing in specified conditions. If the specified conditions is met but a parameter with the Conditional requirement is left empty in a request, access authentication or service processing fails and the request fails.
Optional	A parameter is always optional. Parameters with the Optional requirement are not used for service processing.

1.3 Request Format

The SDP provides the SOAP request in the following format:

```
<soapenv:Envelope>
  <soapenv:Header>
    <parameter>...</parameter>
  ...
</soapenv:Header>
  <soapenv:Body>
    <parameter>...</parameter>
  ...
```

```
</soapenv:Body>  
</soapenv:Envelope>
```

Table 1-3 Request format

Element	Description
<soapenv:Envelope>	Root element in a request, which specifies the namespace.
<soapenv:Header>	Request header. Parameters in this element are defined by the SDP and are mainly information to be processed by the SDP services, including access authentication parameters.
<soapenv:Body>	Request body. Parameters in this element comply with the SOAP protocol.

**NOTE**

When Apps invoke SDP APIs, requests cannot contain the following XML characters: & > < ' "

If the preceding characters are really required, you must add escape characters before such characters. Otherwise, SDP APIs will fail to be invoked.

1.4 Response Format

Success Response Format

The SDP provides the SOAP API success responses in the following format:

```
<soapenv:Envelope>  
  <soapenv:Body>  
    <parameter>...</parameter>  
  ...  
</soapenv:Body>  
</soapenv:Envelope>
```

Table 1-4 Success response format

Element	Description
<soapenv:Envelope>	Root element in a success response, which specifies the namespace.
<soapenv:Body>	Success response body. Parameters in this element comply with the SOAP protocol.

Error Response Format

The SDP provides the SOAP API error responses in the following format:

```
<soapenv:Envelope>
  <soapenv:Body>
    <soapenv:Fault>
      <parameter>...</parameter>
    ...

    <detail>
      <parameter>...</parameter>
    ...
  </detail>
</soapenv:Fault>
</soapenv:Body>
</soapenv:Envelope>
```

Table 1-5 Error response format

Element	Description
<soapenv:Envelope>	Root element in an error response, which specifies the namespace.
<soapenv:Body>	Error response body, contains the <soapenv:Fault> and <detail> elements. This element specifies the error code and error details.
<soapenv:Fault>	Error code and description. For details about error responses, see 4 API Error Responses .
<detail>	Error details, which are the same as the <soapenv:Fault> element information.

1.5 Namespace

Partners must follow the specified namespaces of data types when developing DataSync capability APIs.

- [Table 1-6](#) describes the namespaces of DataSync capability APIs.
- The namespace of data types used by the DataSync capability APIs is http://www.csapi.org/schema/parlayx/data/v1_0.

Table 1-6 Namespaces of DataSync capability APIs

Namespace	API
http://www.csapi.org/wsdldata/v1_0	<ul style="list-style-type: none">• SyncOrderRelation• SyncMSISDNChange

1.6 SOAPAction

Leave the **SOAPAction** parameter empty.

The following is an example of the **SOAPAction** parameter setting in an HTTP header:

```
SOAPAction: ""
```


2 Interface for Subscription Relationship Synchronization

About This Chapter

2.1 Process

2.2 SyncOrderRelation

2.1 Process

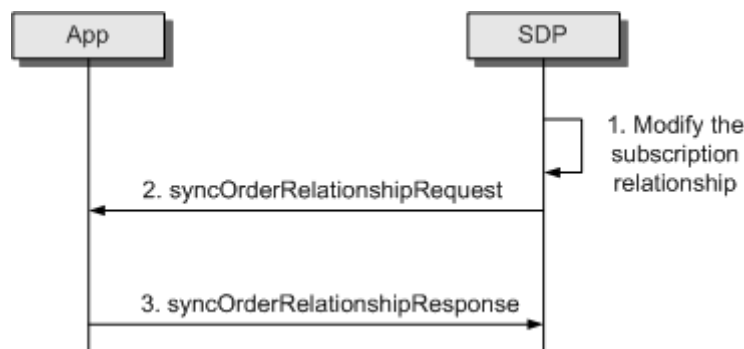
When a user subscription relationship is generated or modified on the SDP, the SDP uses the SyncOrderRelation interface to synchronize the subscription relationship to App.

The SDP uses the SyncOrderRelation interface to synchronize subscription relationships when:

- A user subscribes to a product on the portal or using an SMS message.
- The carrier subscribes to or unsubscribes from a product for a user.
- Automatic renewal of subscription to a product fails.
- A user unsubscribes from a product on the portal or using an SMS message.

Figure 2-1 shows the process of synchronizing a subscription relationship.

Figure 2-1 Process of synchronizing a subscription relationship to a third party



2.2 SyncOrderRelation

2.2.1 API Function

The SDP (functioning as the client) invokes an API to synchronize subscription relationships to the App (functioning as the server).

Partners must code the App based on the API field requirements so that the App can correctly parse and respond to requests received from the SDP. The App must send a response to the SDP within 30 seconds.

2.2.2 Request URI

The request URI is the destination URI of SyncOrderRelation messages sent by the SDP to the App. The URI is defined by the App.

2.2.3 Request

The SDP functions as the client and sends a **SyncOrderRelationRequest** message to the App.

Example

- Subscription example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:syncOrderRelation
xmlns:ns1="http://www.csapi.org/schema/parlayx/data/sync/v1_0/local">
      <ns1:userID>
        <ID>8619800000001</ID>
        <type>0</type>
      </ns1:userID>
      <ns1:spID>001100</ns1:spID>
      <ns1:productID>1000000423</ns1:productID>
      <ns1:serviceID>0011002000001100</ns1:serviceID>
      <ns1:serviceList>0011002000001100</ns1:serviceList>
      <ns1:updateType>1</ns1:updateType>
      <ns1:updateTime>20130723082551</ns1:updateTime>
      <ns1:updateDesc>Addition</ns1:updateDesc>
      <ns1:effectiveTime>20130723082551</ns1:effectiveTime>
      <ns1:expiryTime>20361231160000</ns1:expiryTime>
      <ns1:extensionInfo>
        <item>
          <key>accessCode</key>
          <value>20086</value>
        </item>
        <item>
          <key>chargeMode</key>
          <value>0</value>
        </item>
        <item>
          <key>MDSPSUBEXPMODE</key>
          <value>1</value>
        </item>
      </ns1:extensionInfo>
    </ns1:syncOrderRelation>
  </soapenv:Body>
</soapenv:Envelope>
```

```
<item>
  <key>objectType</key>
  <value>1</value>
</item>
<item>
  <key>isFreePeriod</key>
  <value>>false</value>
</item>
<item>
  <key>payType</key>
  <value>0</value>
</item>
<item>
  <key>transactionID</key>
  <value>504016000001307231624304170004</value>
</item>
<item>
  <key>orderKey</key>
  <value>9990000000000000194</value>
</item>
<item>
  <key>keyword</key>
  <value>sub</value>
</item>
<item>
  <key>cycleEndTime</key>
  <value>20130822160000</value>
</item>
<item>
  <key>durationOfGracePeriod</key>
  <value>-1</value>
</item>
<item>
  <key>serviceAvailability</key>
  <value>0</value>
</item>
<item>
  <key>channelID</key>
  <value>1</value>
</item>
<item>
  <key>TraceUniqueID</key>
  <value>504016000001307231624304170005</value>
</item>
<item>
  <key>operCode</key>
  <value>zh</value>
</item>
<item>
  <key>rentSuccess</key>
  <value>true</value>
</item>
<item>
  <key>try</key>
  <value>>false</value>
```

```
        </item>
        <item>
            <key>shortMessage</key>
            <value>Hello world.</value>
        </item>
    </ns1:extensionInfo>
</ns1:syncOrderRelation>
</soapenv:Body>
</soapenv:Envelope>
```

- Unsubscription example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <ns1:syncOrderRelation
xmlns:ns1="http://www.csapi.org/schema/parlayx/data/sync/v1_0/local">
            <ns1:userID>
                <ID>8619800000001</ID>
                <type>0</type>
            </ns1:userID>
            <ns1:spID>001100</ns1:spID>
            <ns1:productID>1000000423</ns1:productID>
            <ns1:serviceID>0011002000001100</ns1:serviceID>
            <ns1:serviceList>0011002000001100</ns1:serviceList>
            <ns1:updateType>2</ns1:updateType>
            <ns1:updateTime>20130723094953</ns1:updateTime>
            <ns1:updateDesc>Deletion</ns1:updateDesc>
            <ns1:effectiveTime>20130723082551</ns1:effectiveTime>
            <ns1:expiryTime>20130723094952</ns1:expiryTime>
            <ns1:extensionInfo>
                <item>
                    <key>updateReason</key>
                    <value>1</value>
                </item>
                <item>
                    <key>payType</key>
                    <value>0</value>
                </item>
                <item>
                    <key>transactionID</key>
                    <value>504016000001307231748315161003</value>
                </item>
                <item>
                    <key>orderKey</key>
                    <value>999000000000000194</value>
                </item>
                <item>
                    <key>MDSPSUBEXPMODE</key>
                    <value>1</value>
                </item>
                <item>
                    <key>objectType</key>
                    <value>1</value>
                </item>
                <item>
```

```
<key>chargeMode</key>
<value>0</value>
</item>
<item>
  <key>accessCode</key>
  <value>20086</value>
</item>
<item>
  <key>keyword</key>
  <value>unsub</value>
</item>
<item>
  <key>channelID</key>
  <value>1</value>
</item>
<item>
  <key>TraceUniqueID</key>
  <value>504016000001307231748315161006</value>
</item>
<item>
  <key>rentSuccess</key>
  <value>true</value>
</item>
<item>
  <key>try</key>
  <value>false</value>
</item>
<item>
  <key>shortMessage</key>
  <value>Hello world.</value>
</item>
</ns1:extensionInfo>
</ns1:syncOrderRelation>
</soapenv:Body>
</soapenv:Envelope>
```

Message Header Parameters

None.

Message Body Parameters

[Table 2-1](#) describes parameters in a **syncOrderRelationRequest** message body.

Table 2-1 Parameters in a SyncOrderRelationRequest message body

Parameter	Type	Length	Level of Requirement	Description
userID	UserID	-	Mandatory	User ID and user type. For details, see UserID .
spID	String	21	Mandatory	ID of the partner to which the product belongs.

Parameter	Type	Length	Level of Requirement	Description
				<p>The ID is automatically allocated by the SDP to the SP after successful registration.</p> <p>To obtain the ID, use the registered account to log in to the SDP management portal and query the account information, or obtain it from the notification email after successful registration.</p> <p>[Example] 000201</p>
productID	String	21	Mandatory	<p>Product ID.</p> <p>The ID is automatically allocated by the SDP when a third party or the carrier releases a subscribable product. An SP can log in to the SDP management portal and query service information for the ID.</p> <p>[Example] 1000000201</p>
serviceID	String	21	Mandatory	<p>ID of the service to which the product belongs.</p> <p>The ID is automatically allocated by the SDP when a third party releases a service. An SP can log in to the SDP management portal and query service information for the ID.</p> <p>NOTE When the product is a bundle product, the value is the Bundle ID.</p> <p>[Example] 0003042000001075</p>
serviceList	String	1024	Optional	<p>List of subservice IDs.</p> <p>The value varies according to the product type.</p> <ul style="list-style-type: none"> If the product is a bundle product, the value is IDs of subservices in the bundle. Separate multiple subservice IDs by vertical bars (). If the product is a non-bundle product, the value is the same as the serviceID value. <p>[Example] 0003042000001075 0003042000001076</p>

Parameter	Type	Length	Level of Requirement	Description
updateType	int	2	Mandatory	Operation type. <ul style="list-style-type: none"> 1: Add 2: Delete 3: Update [Example] 1
updateTime	String	14	Mandatory	Time when the subscription relationship is updated (UTC time). [Format] yyyyMMddHHmmss [Example] 20130227000000
updateDesc	String	255	Optional	Description about the update of the subscription relationship. When the extensionInfo field contains the UpdateReason field, the UpdateReason field specifies the subscription relationship update reason. <ul style="list-style-type: none"> UpdateReason =2 <ul style="list-style-type: none"> ◆ 7698: The product is automatically unsubscribed from at the end of the grace period. ◆ 7699: The product is automatically unsubscribed from at the end of the suspension period. UpdateReason =3 <ul style="list-style-type: none"> ◆ 7330: The user account balance is insufficient. ◆ 7333: An internal charging error occurs on the SDP. ◆ 7271: The SDP does not have sufficient charging information to perform rating. ◆ 7999: Other errors occur. [Example] Add a new subscription.
effectiveTime	String	14	Optional	Time when the subscription relationship takes effect (UTC time). [Format] yyyyMMddHHmmss

Parameter	Type	Length	Level of Requirement	Description
				[Example] 20130227000000
expiryTime	String	14	Optional	Time when the subscription relationship expires (UTC time). [Format] yyyyMMddHHmmss [Example] 20130327000000
extensionInfo	NamedParameterList	-	Optional	Extended information. For the NamedParameterList information, see Table 2-3 . For the extended fields transmitted by NamedParameterList , see Table 2-5 .

Table 2-2 UserID parameters

Parameter	Type	Length	Level of Requirement	Description
ID	String	30	Mandatory	User ID. If the user is a mobile phone user, this value is a mobile number containing the country code. [Example] 8613012312123
type	int	2	Mandatory	User type. <ul style="list-style-type: none">0: mobile phone user.10: user fake ID11: email user18: Internet user (added user type in the Saudi Arabia Mobily office). [Example] 0

Table 2-3 NamedParameterList parameters

Parameter	Type	Length	Level of Requirement	Description
item	NamedParameter [0...unbounded]	-	Optional	Data type corresponding to the extended field, which consists of key and value . For the NamedParameters information, see Table 2-3 .

Table 2-4 NamedParameter parameters

Parameter	Type	Length	Level of Requirement	Description
key	String	-	Mandatory	ID of the extended field. The value is specified by the SDP. [Example] try
value	String	-	Mandatory	Value of the key. [Example] true

Table 2-5 Extended parameters transmitted in extensionInfo

Key	Value		
Parameter	Type	Length	Description
accessCode	String	30	Product access code. The SDP obtains the value during subscription relationship synchronization. When a third party releases a subscribable product on the SDP management portal, the third party sets product access code if the product can be subscribed to by SMS message. [Example] 1
chargeMode	int	4	Charging period of the product. The value is set when a third party releases a subscribable product on the SDP management portal. <ul style="list-style-type: none">0: month10: multiday13: multimonth

Key	Value		
Parameter	Type	Length	Description
			<ul style="list-style-type: none"> 18: day 19: week 20: multiweek [Example] 0
MDSPS UBEXP MODE	String	1	Expiration mode of a subscription relationship upon unsubscription. <ul style="list-style-type: none"> 1: expires immediately 2: expires next week [Example] 1
objectType	String	1	Type of the pricing object. <ul style="list-style-type: none"> 1: Service 2: Content 3: Category 4: Package [Example] 1
isFreePeriod	boolean	-	Indicates whether the subscription is repeated during the period free of charge. <ul style="list-style-type: none"> true: yes false: no
payType	int4	-	Payment type. <ul style="list-style-type: none"> 0: postpaid user 1: prepaid user [Example] 0
transactionID	String	-	Transaction ID. The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The SP ignores this parameter. [Example] 100001200101110623021721000011
orderKey	String	20	Subscription relationship key that uniquely identifies a subscription record. For services that do not support automatic renewal, each subscription generates a subscription relationship record and generates a new key.

Key	Value		
Parameter	Type	Length	Description
			[Example] 999000000000000194
keyword	String	100	Subscription and unsubscription command words. When a third party releases a subscribable product on the SDP management portal, the third party sets the subscription and unsubscription command words if the product can be subscribed to by SMS message. If multiple command words are set, the SDP writes any of them to the request during subscription relationship synchronization. [Example] sub
cycleEndTime	String	14	End time of the bill cycle (UTC time). [Format] yyyyMMddHHmmss [Example] 20130227000000
durationOfGracePeriod	String	4	Grace period of the product. NOTE <ul style="list-style-type: none">This parameter is displayed only when updateType is set to 1 and updateType is set to 3.If the grace period is not set, set this parameter to -1. [Unit] Day [Example] 5
updateReason	int	4	Update reason. When updateType is set to 2 , the possible reasons are as follows: <ul style="list-style-type: none">1: A user unsubscribes from a product.2: Rental fails to be collected upon subscription renewal.3: Unsubscription is triggered when the charging fails upon the first subscription.4: Unsubscription is triggered when the service status is abnormal.5: Unsubscription is triggered when the user status is abnormal. [Example] 1

Key	Value		
Parameter	Type	Length	Description
serviceAvailability	String	10	<p>Indicates whether users can use the service in the grace period.</p> <ul style="list-style-type: none">0: yes1: no <p>NOTE</p> <ul style="list-style-type: none">This parameter is displayed only when updateType is set to 1 and updateType is set to 3.If the grace period is not set, set this parameter to -1. <p>[Example]</p> <p>0</p>
channelID	Int	4	<p>Operation channel.</p> <ul style="list-style-type: none">1: web2: SMS3: USSD4: IVR5: CC (CRM)6: PDA7: XHTML (WAP 2) (This value is used in the SDP baseline version.)10: Promotion (This value is used for requests sent by the Promotion.)21: ODP99: Other100: SP website101: UE(User Equipment)102: MDSP CC Portal105: PCClient110: IVR Call Out111: SDP Web Tool (CS)112: SDP Web Tool (Admin)113: SDP Web Tool (CP)115: MMS120: channel of unsubscription caused by user deregistration124: channel of unsubscription caused by the blacklist125: SP website (added channel type in the MTN project, which is used for subscription on the SP website.) <p>[Example]</p>

Key	Value		
Parameter	Type	Length	Description
			1
TraceUniqueID	String	30	Transaction ID. The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The SP ignores this parameter. [Example] 100001200101110623021721000011
operCode	String	40	Operation code. This parameter specifies the subscription language type. <ul style="list-style-type: none">zhen The parameter is automatically set based on the language selected by the user during subscription on the portal. [Example] zh
rentSuccess	boolean	N/A	Indicates whether the monthly rental is successfully deducted. <ul style="list-style-type: none">true: yesfalse: no This parameter is valid only when updateType is set to 3 . [Example] true
try	boolean	N/A	Indicates whether the product is in the trial user period. <ul style="list-style-type: none">true: yesfalse: no A trial use period can be set when an SP releases a subscribable product supporting automatic subscription renewal. [Example] true
shortMessage	String	512	Content of the SMS message or the product command word. [Example] Hello world.

2.2.4 Response

The App functions as the server, processes **SyncOrderRelation** messages received from the SDP, and sends **SyncOrderRelationResponse** messages to the SDP.

This topic provides a success response example and describes parameters in the response. If a request fails, the App sends an error response that contains an error code. For details about error responses, see API Error Responses.

Example

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:loc="http://www.csapi.org/schema/parlayx/data/sync/v1_0/local">
  <soapenv:Header/>
  <soapenv:Body>
    <loc:syncOrderRelationResponse>
      <loc:result>0</loc:result>
      <loc:resultDescription>OK</loc:resultDescription>
    </loc:syncOrderRelationResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

Message Body Parameters

[Table 2-6](#) describes parameters in a **SyncOrderRelationResponse** message body.

Table 2-6 Parameters in a SyncOrderRelationResponse message body

Parameter	Type	Level of Requirement	Description
result	String	Mandatory	<ul style="list-style-type: none">0: The request succeeds.Other values: The request is abnormal. For the error codes, see 2.2.5 Error Codes.
resultDescription	String	Mandatory	Description of the subscription relationship synchronization result.
extensionInfo	NamedParameter List	Optional	Extended parameter. No extended information.

2.2.5 Error Codes

[Table 2-7](#) describes **SyncOrderRelation** error codes that the App may return upon an exception.

Table 2-7 SyncOrderRelation error codes

Error Code	Description	Cause
1211	The field format is incorrect or the	The Format value is incorrect or in

Error Code	Description	Cause
	value is invalid.	an incorrect format in the body of the subscription relationship synchronization request.
2030	The subscription relationship already exists.	The subscription relationship already exists in the SP system.
2031	The subscription relationship does not exist.	The subscription relationship does not exist in the SP system.
2032	The service does not exist.	The service to which the product belongs does not exist.
2033	The service is unavailable.	The service to which the product belongs is in an abnormal status.
2034	The service is unavailable.	The service to which the product belongs cannot be subscribed to.
2500	An internal system error occurred.	An internal error occurs in the SP system.

