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# **SOFTWARE DEVELOPMENT ANDROID APP2APP INTENT**

**EDPS  
Version 0.5**

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## 1. Document history

Version	Date	Description
0.1	11/03/2024	<ul style="list-style-type: none"> <li>Initial Version</li> </ul>
0.2	14/03/2024	<ul style="list-style-type: none"> <li>Added transaction details operation</li> <li>Added isCancelled object</li> </ul>
0.3	26/03/2024	<ul style="list-style-type: none"> <li>Added close batch operation</li> <li>Major changes in aade object of sale transaction request and response</li> <li>Added app2app error codes</li> <li>Added new fields in merchant data</li> <li>Split CANCEL reverse mechanism to REVERSE operation</li> </ul>
0.4	01/04/2024	<ul style="list-style-type: none"> <li>Added warning about launchMode in AndroidManifest.xml</li> <li>Added application details operation</li> </ul>
0.5	30/04/2024	<ul style="list-style-type: none"> <li>Fix response close batch data</li> <li>Added open batch operation</li> <li>Removed requestType from request message. Use type in aade object.</li> </ul>

## 2. Technical design

An Android app typically has several activities. Each activity displays a user interface that lets the user perform a specific task, such as viewing a map or taking a photo. To take the user from one activity to another, your app must use an Intent to define your app's "intent" to do something.

App2App intent is designed to allow an application to communicate with the payment application effectively. The concept of the App2App intent is based on [android intent](#).

### 2.1 Warning intent parcelize limited size



**The size of information carried by intent is limited by binder.**

The Binder transaction buffer has a limited fixed size, currently **1MB**, which is shared by all transactions in progress for the process. Consequently, this exception can be thrown when there are many transactions in progress even when most of the individual transactions are of moderate size.

There are two possible outcomes when a remote procedure call throws **TransactionTooLargeException**. Either the client was unable to send its request to the service (most likely if the arguments were too large to fit in the transaction buffer), or the service was unable to send its response back to the client (most likely if the return value was too large to fit in the transaction buffer). It is not possible to tell which of these outcomes actually occurred. The client should assume that a partial failure occurred.

The upper limit may be different for different models and system versions.

## 2.2 Warning launchMode AndroidManifest.xml



**The launchMode of activity should be in standard mode.**

Setting launchMode to "standard" ensures that the Activity operates independently and maintains its own instance.

This prevents the loss of activity results since each instance of the Activity remains intact regardless of the state of other activities in the task stack. It's particularly useful when dealing with activities that rely heavily on user interactions and expect to receive results from other activities, as it ensures consistent behavior and proper handling of onActivityResult() calls.

If activity has the android:launchMode="singleTop" may lose the results of DeepLinkActivity

### 3. Software

#### 3.1 Architecture Concept

Each business use case below shows the JSON parameter structure used to pass the data inside an Intent. The individual elements within a JSON (JavaScript Object Notation) structure are typically referred to as "JSON objects" or "JSON data objects." Each object consists of key-value pairs, where the key is a string and the value can be a string, number, boolean, array, another JSON object, or null.

```
private val startSale =
    registerForActivityResult(ActivityResultContracts.StartActivityForResult())
    { result: ActivityResult ->
        val resultData = result.data?.getStringExtra("POS_PAYMENT_RESPONSE_EXTRA_KEY")
        Log.i("TestClass", "ResultData=[${resultData}]")
    }

fun executeTestCall() {
    val requestJson = "{\"operation\":\"SALE\",\"data\":{\"transaction\":{\"amount\":100}}}"

    val intent = Intent()
    intent.component = ComponentName("gr.edps.pax",
"gr.edps.pax.ui.activities.DeepLinkActivity")
    intent.putExtra("POS_PAYMENT_REQUEST_EXTRA_KEY", requestJson)
    startSale.launch(intent)
}
```

#### 3.2 References

ID	Description
O	The corresponding field is optional
M	The corresponding field is mandatory

### 3.3 Sale Operation

An example of the **request** of a regular transaction is depicted below:

```
{
  "requestId": "",
  "operation": "SALE",
  "version": 1,
  "data": {
    "transaction": {
      "amount": 124,
      "tip": 0,
      "installments": 0
    },
    "properties": {
      "language": "el",
      "printReceiptMode": "DEFAULT",
      "exitTime": -1
    }
  }
}
```

Object	Format	Type	Description
requestId	string	O	The requestId is intricately crafted to be unique for each request, eliminating the possibility of ambiguity or confusion in the matching process of request with the database. It may be comprised of alphanumeric characters, numeric values, or a combination thereof. It is needed to connect the financial transaction with the deeplink request. By default, the field is empty.
operation	string	M	Refers to the type of operation taking place. The list of operations is as follows: <ul style="list-style-type: none"> <li>• <b>“SALE”</b>: Make a payment transaction,</li> <li>• <b>“CANCEL”</b>: Return the amount issued for a not- settled payment transaction to the customer. If the transaction being cancelled is the last that has taken place, then the reversal behavior will be triggered,</li> <li>• <b>“REFUND”</b>: Return the amount issued for a settled payment transaction to the customer.</li> </ul>
version	number	M	This field is crucial for identifying the version of deeplink being used. It is used to eliminate any

			<p>inconsistencies or conflicts that may occur because of the changes implemented between versions.</p> <p>If the version provided is higher than the one in force, then the request will be declined.</p>
data	JSON object	M	The object “data” is comprised of the JSON objects “ <b>transaction</b> ” and “ <b>properties</b> ”.
transaction	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>amount,</b></li> <li>• <b>tip,</b></li> <li>• <b>installments.</b></li> </ul>
amount	number	M	Refers to the amount of the transaction.
tip	number	O	Refers to the tip amount of the transaction. (The field of amount does not include the one of tip.)
installments	number	O	Refers to the number of installments of payments.
properties	JSON object	O	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>language,</b></li> <li>• <b>printReceiptMode,</b></li> <li>• <b>exitTime.</b></li> </ul>
language	string	O	<p>Refers to the language in which the app will be displayed. The value “<b>el</b>” is used for the Greek language, while the value “<b>en</b>” is used for the English one.</p> <p>The default value is set by the payment application’s configuration.</p>
printReceiptMode	string	O	<p>Refers to the receipt that is going to be printed after the transaction is approved. The default value is “<b>DEFAULT</b>”, which means that the value will be set by the payment application’s configuration. There is also the option “<b>DISABLE_PRINT</b>” for disabling the printing of a receipt. You may choose between the printing of the merchant’s receipt only with “<b>MERCHANT_PRINT</b>”, or the customer’s receipt only by “<b>CUSTOMER_PRINT</b>”. Otherwise, there is the option for printing both the merchant and the customer’s receipt by using “<b>PRINT_BOTH</b>”.</p>



exitTime	number	0	Refers to the behavior of the payment application when the transaction (and printing, if enabled) is completed. By entering the value “-1” the payment application awaits the user’s interaction, while the value “0” suggests that the app will be exited automatically after the transaction completion (and after the printing, if enabled).
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An example of the **response** of a regular transaction is depicted below:

```
{
  "operation": "SALE",
  "version": 1,
  "terminalSN": "1852207391",
  "result": "000",
  "data": {
    "uuid": "4c9a5193-4a4d-4b7f-b842-501315a7beb4",
    "createdTime": 1706788954362,
    "cardData": {
      "captureType": "CONTACTLESS",
      "bin": "467514",
      "aid": "A0000000031010",
      "type": "VISA",
      "maskedPan": "***** * 3842",
      "expDate": "1224"
    },
    "transactionData": {
      "type": "SALE",
      "finalCode": "PV1",
      "amount": 14,
      "redemptionAmount": 0,
      "tip": 0,
      "totalAmount": 14,
      "installments": 0,
      "batchNo": 31,
      "sequenceNo": 40,
      "referenceNo": "031040",
      "authorizationCode": "777777",
      "bankId": "014",
      "cryptogram": "1224",
      "isReconciled": false,
      "isCancelled": false
    },
    "merchantData": {
      "mid": "E000000101",
      "tid": "01234001",
      "name": "Name",
      "address": "Address",
      "city": "Athens",
      "postCode": "123 45",
      "country": "Greece",
      "phone": "6990000123"
    },
    "applicationData": {
      "appVersion": "2.0.10"
    }
  }
}
```

Object	Format	Type	Description
operation	string	M	<p>It refers to the type of operation taking place. The list of operations is as follows:</p> <ul style="list-style-type: none"> <li>• <b>“SALE”</b>: Make a payment transaction,</li> <li>• <b>“CANCEL”</b>: Return the amount issued for a not- settled payment transaction to the customer. If the transaction being cancelled is the last that has taken place, then the reversal behavior will be triggered,</li> <li>• <b>“REFUND”</b>: Return the amount issued for a settled payment transaction to the customer.</li> </ul>
version	number	M	<p>This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.</p> <p>If the version provided is higher than the one in force, then the request will be declined.</p>
terminalSN	string	M	Refers to the terminal’s serial number.
result	string	M	<p>It refers to the result of the transaction that has taken place.</p> <p>The value <b>“000”</b> indicates that the transaction has been <b>approved</b>. Any other value suggests that the transaction has been declined.</p>
data	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>uuid,</b></li> <li>• <b>createdTime,</b></li> <li>• <b>cardData,</b></li> <li>• <b>transactionData,</b></li> <li>• <b>merchantData,</b></li> <li>• <b>applicationData.</b></li> </ul>
uuid	string	O	It refers to the <b>ID</b> of the original transaction (Sale, or Refund).
createdTime	number	M	It refers to the <b>time</b> that the transaction has taken place.

cardData	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>captureType,</b></li> <li>• <b>bin,</b></li> <li>• <b>aid,</b></li> <li>• <b>type,</b></li> <li>• <b>maskedPan,</b></li> <li>• <b>expDate.</b></li> </ul>
captureType	string	O	<p>It refers to the card entry type and can have the following values:</p> <ul style="list-style-type: none"> <li>• <b>MANUAL_ENTRY,</b></li> <li>• <b>MAIL_TELEPHONE_ORDER,</b></li> <li>• <b>MAGNETIC,</b></li> <li>• <b>MAGNETIC_FALLBACK,</b></li> <li>• <b>CONTACT,</b></li> <li>• <b>CONTACTLESS.</b></li> </ul>
bin	string	O	<p>It refers to the six (6) first digits of the pan of the card.</p>
aid	string	O	<p>It stands for Application Identifier. It is a unique identifier that specifies the payment application within the chip card.</p>
type	string	O	<p>It refers to the card type name and can have the following values:</p> <ul style="list-style-type: none"> <li>• <b>MASTERCARD,</b></li> <li>• <b>MAESTRO,</b></li> <li>• <b>VISA,</b></li> <li>• <b>VISA ELECTRON,</b></li> <li>• <b>UPI,</b></li> <li>• <b>AMEX,</b></li> <li>• <b>DINERS.</b></li> </ul>
maskedPan	string	O	<p>It refers to the pan of the card, after it has undergone a process of masking. The digits that are displayed will be the last four (4) of the pan.</p>
expDate	string	O	<p>It refers to the card's expiration date. The input value should follow the format "<b>MMYY</b>" where MM refers to the month and YY to the year.</p>
transactionData	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>type,</b></li> <li>• <b>finalCode,</b></li> </ul>

			<ul style="list-style-type: none"> <li>• <b>amount,</b></li> <li>• <b>redemptionAmount,</b></li> <li>• <b>tip,</b></li> <li>• <b>totalAmount,</b></li> <li>• <b>installments,</b></li> <li>• <b>batchNo,</b></li> <li>• <b>sequenceNo,</b></li> <li>• <b>referenceNo,</b></li> <li>• <b>authorizationCode,</b></li> <li>• <b>bankId,</b></li> <li>• <b>cryptogram,</b></li> <li>• <b>isReconciled,</b></li> <li>• <b>isCancelled.</b></li> </ul>
type	string	O	<p>It refers to the type of the original transaction that has taken place. More specifically, if the transaction taking place is a Sale, then the type will be "SALE" as well. In the case of a Cancellation, then the type will display the type of the original transaction, e.g. "SALE" or "REFUND".</p>
finalCode	string	O	<p>It refers to the TRM which stands for Terminal Risk Management. It is comprised of three (3) characters.</p> <p>The first character can be comprised of the following values:</p> <ul style="list-style-type: none"> <li>• <b>T</b> = Manual Entry,</li> <li>• <b>T</b> = Mail Telephone Order,</li> <li>• <b>D</b> = Magnetic,</li> <li>• <b>D</b> = Magnetic Fallback,</li> <li>• <b>C</b> = Contact,</li> <li>• <b>P</b> = Contactless.</li> </ul> <p>The second character can be comprised of the following values:</p> <ul style="list-style-type: none"> <li>• <b>p</b> = Offline PIN,</li> <li>• <b>P</b> = Online PIN,</li> <li>• <b>@</b> = Signature,</li> <li>• <b>V</b> = Verified by phone,</li> <li>• <b>-</b> = No CVM performed.</li> </ul> <p>The third character can be comprised of the following values:</p> <ul style="list-style-type: none"> <li>• <b>1</b> = Online Transaction,</li> <li>• <b>2</b> = Offline Transaction.</li> </ul>

amount	number	O	It refers to the original amount of the transaction.
redemptionAmount	number	O	It refers to the <b>redeemed amount</b> of the transaction. More specifically it refers to the amount that will be subtracted from the original amount.
tip	number	O	It refers to the tip amount of the transaction. (The field of amount does not include the one of tip.)
totalAmount	number	O	It refers to the amount that is calculated after adding the <b>tip</b> to the <b>amount</b> and subtracting <b>the redemptionAmount</b> .
installments	number	O	It refers to the number of installments of payments.
batchNo	number	O	It refers to the number of the batch in which the transaction has taken place.
sequenceNo	number	O	It refers to the number in which the transaction has taken place in the batch, e.g. the first transaction is 1, the second transaction is 2 and so forth.
referenceNo	string	O	It refers to the host approved reference number.
authorizationCode	string	O	It refers to the <b>authorization response code</b> provided by the issuer of the payment card to the merchant.
bankId	string	O	It refers to the bank identifier of the financial transaction: <ul style="list-style-type: none"> <li>• <b>011</b> (NBG),</li> <li>• <b>014</b> (Alpha Bank/ Nexi),</li> <li>• <b>016</b> (Attica Bank),</li> <li>• <b>017</b> (Piraeus Bank),</li> <li>• <b>026</b> (Eurobank/ Worldline).</li> </ul>
cryptogram	string	O	It refers to a piece of data generated by the communication between the chip card and the terminal during the transaction.
isReconciled	boolean	M	It indicates the status of the transaction. If the transaction is <b>not-settled</b> , then its value will be <b>false</b> , otherwise it will be <b>true</b> .
isCancelled	boolean	M	It indicates the status of the transaction. If the transaction is <b>not-cancelled</b> , then its value will be <b>false</b> , otherwise it will be <b>true</b> .

merchantData	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>mid,</b></li> <li>• <b>tid,</b></li> <li>• <b>name,</b></li> <li>• <b>address,</b></li> <li>• <b>city,</b></li> <li>• <b>postCode,</b></li> <li>• <b>country,</b></li> <li>• <b>phone.</b></li> </ul>
mid	string	M	It indicates the merchant's <b>ID</b> .
tid	string	M	It indicates the terminal's <b>ID</b> .
terminalName	string	M	It indicates the <b>name</b> of the terminal.
merchantName	string	M	It indicates the merchant's <b>name</b> .
merchantAddress	string	M	It indicates the merchant's <b>address</b> .
applicationData	JSON object	M	<p>It is a JSON object that is comprised of the following field:</p> <ul style="list-style-type: none"> <li>• <b>appVersion.</b></li> </ul>
appVersion	string	M	It indicates the current <b>version</b> of the application.

### 3.4 Sale Operation with AADE

An example of the **request** of an AAE transaction is depicted below:

```
{
  "requestId": "",
  "operation": "SALE",
  "version": 1,
  "data": {
    "transaction": {"amount": 124, "tip": 0, "installments": 0},
    "properties": {"language": "el", "printReceiptMode": "DEFAULT", "exitTime": -1},
    "aade": {
      "type": 0,
      "uid": "123456",
      "mark": "656543",
      "tid": "12345678",
      "preloaded": false,
      "amountData": { "vat": 24, "net": 100, "total": 124 },
      "additionalData": {
        "referenceVatNumber": "0123456789"
      },
      "ecrToken": {
        "input":
          "A/S321/F190:978:2/D20231025115530/RSSS77880021/H133/T192/M0/QF7556B09"
      },
      "provider": {
        "id": "12",
        "input":
          "7C4A8D09CA3762AF61E59520943DC26494F8941B;656543;2024-03-27T13:50:22.473;12.40;10.00;2.40;12.40;12345678",
        "signature":
          "MEQCIF0PK1+WkEkCwk8CnzcDvA3UR4hGdKtogWHsCHZ6ssuGAiB4GIZCz+zS1ua92uJQ9R+/tQETbrd1lXWEEIj61g2GFw=="
      }
    }
  }
}
```

Object	Format	Type	Description
aade	JSON object	M	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>type</b>,</li> <li>• <b>uid</b>,</li> <li>• <b>mark</b>,</li> <li>• <b>tid</b>,</li> <li>• <b>preloaded</b>,</li> </ul>



			<ul style="list-style-type: none"> <li>• <b>amountData,</b></li> <li>• <b>vat,</b></li> <li>• <b>net,</b></li> <li>• <b>total,</b></li> <li>• <b>additionalData,</b></li> <li>• <b>referenceVatNumber,</b></li> <li>• <b>ecrToken,</b></li> <li>• <b>input,</b></li> <li>• <b>provider,</b></li> <li>• <b>id,</b></li> <li>• <b>input,</b></li> <li>• <b>signature.</b></li> </ul>
type	number	O	<p>It is a dynamic controller and it changes the request's behavior.</p> <ul style="list-style-type: none"> <li>• <b>"0"</b> refers to the regular behavior with 24hours validation,</li> <li>• <b>"1"</b> refers to restaurant with 2hours validation</li> </ul> <p>If it doesn't contain in request then it will be 0 by default</p>
uid	string	O	
mark	string	O	
tid	string	O	
preloaded	boolean	O	
amountData	JSON object	O	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>vat,</b></li> <li>• <b>net,</b></li> <li>• <b>total.</b></li> </ul>
ecrToken	JSON object	O	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>input</b></li> </ul>
provider	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li>• <b>id,</b></li> <li>• <b>input,</b></li> </ul>

			<ul style="list-style-type: none"><li>• <b>signature</b></li></ul>
--	--	--	--

An example of the **response** of an AADE transaction is depicted below:

```
{
  "operation": "SALE",
  "version": 1,
  "terminalSN": "1852207391",
  "result": "000",
  "data": {
    "uuid": "4c9a5193-4a4d-4b7f-b842-501315a7beb4",
    "createdTime": 1706788954362,
    "cardData": { "captureType": "CONTACTLESS", "bin": "467514", "aid":
"A0000000031010", "type": "VISA", "maskedPan": "***** 3842", "expDate": "1224" },
    "transactionData": { "type": "SALE", "finalCode": "PV1", "amount": 14,
"redemptionAmount": 0, "tip": 0, "totalAmount": 14, "installments": 0, "batchNo": 31,
"sequenceNo": 40, "referenceNo": "031040", "authorizationCode": "777777", "bankId": "014",
"cryptogram": "1224", "isReconciled": false, "isCancelled": false },
    "merchantData": {
      "mid": "E000000101",
      "tid": "01234001",
      "name": "Name",
      "address": "Address",
      "city": "Athens",
      "postCode": "123 45",
      "country": "Greece",
      "phone": "6990000123"
    },
    "applicationData": {
      "appVersion": "2.0.10"
    },
    "aade": {
      "acquirerId": "138",
      "batchNo": 31,
      "sequenceNo": 40,
      "approvalCode": "444444",
      "transactionId": "tr1;138;29823796224;444444",
      "provider": {
        "id": "12",
        "signature":
"MEQCIF0PK1+WkEkCwk8CnzcDvA3UR4hGdKtogWHsCHZ6ssuGAiB4GIZCz+zS1ua92uJQ9R+/tQ
ETbrd1IXWEEIj61g2GFw=="
      }
    }
  }
}
```

### 3.5 Reversal Operation

```
{
  "requestId": "",
  "operation": "REVERSE",
  "version": 1,
  "data": {
    "originalTransaction": {
      "uuid": "99ec868a-bf76-4293-9baf78a1b23cb06c"
    },
    "properties": {
      "language": "el",
      "printReceiptMode": "DEFAULT",
      "exitTime": -1
    }
  }
}
```

Object	Format	Type	Description
requestId	string	O	The requestId is intricately crafted to be unique for each request, eliminating the possibility of ambiguity or confusion in the matching process of request with the database. It may be comprised of alphanumeric characters, numeric values, or a combination thereof. It is needed to connect the financial transaction with the deeplink request. By default, the field is empty.
operation	string	M	Refers to the type of operation taking place. In this case the operation is <b>"CANCEL"</b> , which corresponds to the returning of the amount issued for a not- settled payment transaction to the customer. If the transaction being cancelled is the last that has taken place, then the reversal behavior will be triggered.
version	number	M	This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.

			If the version provided is higher than the one in force, then the request will be declined.
data	JSON object	M	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>originalTransaction,</b></li> <li>• <b>properties.</b></li> </ul>
originalTransaction	JSON object	M	It is a JSON object that is comprised of the following field: <ul style="list-style-type: none"> <li>• <b>uuid.</b></li> </ul>
uuid	string	M	It refers to the <b>ID</b> of the original transaction (Sale, or Refund).
properties	JSON object	O	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>language,</b></li> <li>• <b>printReceiptMode,</b></li> <li>• <b>exitTime.</b></li> </ul>
language	string	O	Refers to the language in which the app will be displayed. The value " <b>el</b> " is used for the Greek language, while the value " <b>en</b> " is used for the English one. The default value is set by the payment application's configuration.
printReceiptMode	string	O	Refers to the receipt that is going to be printed after the transaction is approved. The default value is " <b>DEFAULT</b> ", which means that the value will be set by the payment application's configuration. There is also the option " <b>DISABLE_PRINT</b> " for disabling the printing of a receipt. You may choose between the printing of the merchant's receipt only with " <b>MERCHANT_PRINT</b> ", or the customer's receipt only by " <b>CUSTOMER_PRINT</b> ". Otherwise, there is the option for printing both the merchant and the customer's receipt by using " <b>PRINT_BOTH</b> ".
exitTime	number	O	Refers to the behavior of the payment application when the transaction (and printing, if enabled) is completed. By entering the value " <b>-1</b> " the payment application awaits the user's interaction, while the value " <b>0</b> " suggests that the app will be exited automatically after the transaction completion (and after the printing, if enabled).



### 3.6 Cancel Operation

```
{
  "requestId": "",
  "operation": "CANCEL",
  "version": 1,
  "data": {
    "originalTransaction": {
      "uuid": "99ec868a-bf76-4293-9baf78a1b23cb06c"
    },
    "properties": {
      "language": "el",
      "printReceiptMode": "DEFAULT",
      "exitTime": -1
    }
  }
}
```

Object	Format	Type	Description
requestId	string	O	The requestId is intricately crafted to be unique for each request, eliminating the possibility of ambiguity or confusion in the matching process of request with the database. It may be comprised of alphanumeric characters, numeric values, or a combination thereof. It is needed to connect the financial transaction with the deeplink request. By default, the field is empty.
operation	string	M	Refers to the type of operation taking place. In this case the operation is “ <b>CANCEL</b> ”, which corresponds to the returning of the amount issued for a not- settled payment transaction to the customer. If the transaction being cancelled is the last that has taken place, then the reversal behavior will be triggered.
version	number	M	This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.

			If the version provided is higher than the one in force, then the request will be declined.
data	JSON object	M	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>originalTransaction,</b></li> <li>• <b>properties.</b></li> </ul>
originalTransaction	JSON object	M	It is a JSON object that is comprised of the following field: <ul style="list-style-type: none"> <li>• <b>uuid.</b></li> </ul>
uuid	string	M	It refers to the <b>ID</b> of the original transaction (Sale, or Refund).
properties	JSON object	O	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>language,</b></li> <li>• <b>printReceiptMode,</b></li> <li>• <b>exitTime.</b></li> </ul>
language	string	O	Refers to the language in which the app will be displayed. The value " <b>el</b> " is used for the Greek language, while the value " <b>en</b> " is used for the English one. The default value is set by the payment application's configuration.
printReceiptMode	string	O	Refers to the receipt that is going to be printed after the transaction is approved. The default value is " <b>DEFAULT</b> ", which means that the value will be set by the payment application's configuration. There is also the option " <b>DISABLE_PRINT</b> " for disabling the printing of a receipt. You may choose between the printing of the merchant's receipt only with " <b>MERCHANT_PRINT</b> ", or the customer's receipt only by " <b>CUSTOMER_PRINT</b> ". Otherwise, there is the option for printing both the merchant and the customer's receipt by using " <b>PRINT_BOTH</b> ".
exitTime	number	O	Refers to the behavior of the payment application when the transaction (and printing, if enabled) is completed. By entering the value " <b>-1</b> " the payment application awaits the user's interaction, while the value " <b>0</b> " suggests that the app will be exited automatically after the transaction completion (and after the printing, if enabled).





### 3.7 Refund Operation

```
{
  "requestId": "",
  "operation": "REFUND",
  "version": 1,
  "data": {
    "transaction": {
      "amount": 1,
      "tip": 0,
      "installments": 0
    },
    "properties": {
      "language": "el",
      "printReceiptMode": "DEFAULT",
      "exitTime": -1
    }
  }
}
```

Object	Format	Type	Description
requestId	string	O	The requestId is intricately crafted to be unique for each request, eliminating the possibility of ambiguity or confusion in the matching process of request with the database. It may be comprised of alphanumeric characters, numeric values, or a combination thereof. It is needed to connect the financial transaction with the deeplink request. By default, the field is empty.
operation	string	M	<ul style="list-style-type: none"> <li>Refers to the type of operation taking place. In this case the operation is <b>"REFUND"</b>, which corresponds to the returning of the amount issued for a settled payment transaction to the customer.</li> </ul>
version	number	M	<p>This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.</p> <p>If the version provided is higher than the one in force, then the request will be declined.</p>

data	JSON object	M	The object “data” is comprised of the JSON objects “ <b>transaction</b> ” and “ <b>properties</b> ”.
transaction	JSON object	M	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>amount</b>,</li> <li>• <b>tip</b>,</li> <li>• <b>installments</b>.</li> </ul>
amount	number	M	Refers to the amount of the transaction.
tip	number	O	Refers to the tip amount of the transaction. (The field of amount does not include the one of tip.)
installments	number	O	Refers to the number of installments of payments.
properties	JSON object	O	It is a JSON object that is comprised of the following fields: <ul style="list-style-type: none"> <li>• <b>language</b>,</li> <li>• <b>printReceiptMode</b>,</li> <li>• <b>exitTime</b>.</li> </ul>
language	string	O	Refers to the language in which the app will be displayed. The value “ <b>el</b> ” is used for the Greek language, while the value “ <b>en</b> ” is used for the English one. The default value is set by the payment application’s configuration.
printReceiptMode	string	O	Refers to the receipt that is going to be printed after the transaction is approved. The default value is “ <b>DEFAULT</b> ”, which means that the value will be set by the payment application’s configuration. There is also the option “ <b>DISABLE_PRINT</b> ” for disabling the printing of a receipt. You may choose between the printing of the merchant’s receipt only with “ <b>MERCHANT_PRINT</b> ”, or the customer’s receipt only by “ <b>CUSTOMER_PRINT</b> ”. Otherwise, there is the option for printing both the merchant and the customer’s receipt by using “ <b>PRINT_BOTH</b> ”.
exitTime	number	O	Refers to the behavior of the payment application when the transaction (and printing, if enabled) is completed. By entering the value “ <b>-1</b> ” the payment application awaits the user’s interaction, while the value “ <b>0</b> ” suggests that the app will be

			exited automatically after the transaction completion (and after the printing, if enabled).
--	--	--	---

### 3.8 Transaction Details Operation

#### Request

```
{
  "operation": "TRANSACTION_DETAILS",
  "version": 1,
  "data": {
    "originalTransaction": {
      "uuid": "3db2514f-e55d-4895-b595-34134d586603"
    }
  }
}
```

Object	Format	Type	Description
operation	string	M	<ul style="list-style-type: none"> <li>Refers to the type of operation taking place. In this case the operation is <b>"TRANSACTION_DETAILS"</b>, which corresponds to the getting details of transaction that is stored in Payment.</li> </ul>
version	number	M	<p>This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.</p> <p>If the version provided is higher than the one in force, then the request will be declined.</p>
data	JSON object	M	<p>It is a JSON object that is comprised of the following fields:</p> <ul style="list-style-type: none"> <li><b>originalTransaction</b></li> </ul>
originalTransaction	JSON object	M	<p>It is a JSON object that is comprised of the following field:</p> <p><b>uuid.</b></p>
uuid	string	M	<p>It refers to the <b>ID</b> of the original transaction (Sale, Refund or Cancel).</p>

### 3.9 Application Details Operation

#### Request

```
{  
  "operation": "APPLICATION_DETAILS",  
  "version": 1  
}
```

### 3.10 Open/Close Batch Operation

#### Request

```
{
  "operation": "CLOSE_BATCH",
  "version": 1
}
```

Object	Format	Type	Description
operation	string	M	<ul style="list-style-type: none"> <li>Refers to the type of operation taking place. In this case the operation is <b>"CLOSE_BATCH"</b>, which corresponds to the close batch of open batch.</li> <li>Refers to the type of operation taking place. In this case the operation is <b>"OPEN_BATCH"</b>, which corresponds to the return of sums of current open batch in terminal.</li> </ul>
version	number	M	<p>This field is crucial for identifying the version of deeplink being used. It is used to eliminate any inconsistencies or conflicts that may occur because of the changes implemented between versions.</p> <p>If the version provided is higher than the one in force, then the request will be declined.</p>

## Response

```
{  
    "operation": "CLOSE_BATCH",  
    "version": 1,  
    "terminalSN": "1852207391",  
    "result": "000",  
    "data": {  
        "uuid": "",  
        "createdTime": 1712061795366,  
        "batchData": {  
            "batchNo": 2,  
            "termBatchTotals":  
                "00100000000000100000000000000000000000000000000000000"  
        },  
        "merchantData": {  
            "mid": "E000000101",  
            "tid": "01234001",  
            "name": "Novidea",  
            "address": "Tauros",  
            "city": "Athens",  
            "postCode": "123 45",  
            "country": "Greece",  
            "phone": "6990000123"  
        },  
        "applicationData": {  
            "appVersion": "1.5.10"  
        }  
    }  
}
```

**Example:** 02100000000209000100000000010000100000000010000000000000000000

Close Batch structure:

sales count: 021

sales sum (in cents): 000000002090

```
void sales count: 001
```

```
void sales sum (in cents): 000000000100
```

refunds count: 001

```
refunds sum(in cents): 000000000100
```

```
void refunds count: 000
```

```
void refunds sum(in cents): 000000000000
```



## 4. Error codes tables

### 4.1 App2App error codes table

Error code	Description
30000	Activity intent is null
30001	Extra request key not exist
30002	Extra request key is empty
30003	Malformed format Json
30004	Network is not available
30005	User exit action
30010	Transaction amount is not exist
30011	Transaction amount is negative or zero
30012	Transaction with tip is not applicable
30013	Transaction with installments is not applicable
30014	Transaction with moto is not applicable
30030	Original transaction UUID is not exist
30031	Original transaction UUID malformed format
30035	Original transaction couldn't be found
30036	Cannot process transaction because it is settled
30037	Cannot process transaction because it is already cancelled
30038	Cannot process transaction because original transaction is void
30050	Batch is empty
30051	Batch generic failure
30100	AADE provider id couldn't be found in file
30101	AADE signature couldn't verified
30105	AADE transaction amount is higher than erp amount
30106	AADE erp date is not within hours range (2 or 24 hours)

## 4.2 Financial error codes table