



***AEON Switch
3rd Party Integration
BluVoucher***



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1.6	Added 2 new fields to the Get Status Response and Redeem Voucher Response	Debasmita Sahu		30 March 2021

Aeon Switch Overview

The Aeon Switch is the on-line server that controls and co-ordinates transactions between retail devices and third parties. It contains modules that perform functions for merchant management and accounting, management of connections to third party suppliers such as cellular networks, application of the relevant business rules and device management.

The Aeon switch is extremely flexible and can accommodate a large variety of different devices and transaction types. The switch contains all the business rules, menu options and print formats, enabling new transaction types to be added without requiring software upgrades on the devices. This flexibility comes with the caveat that all transactions are performed on-line and in real-time, so reliable network connectivity is essential.

This document covers the XML protocol that can be used by 3rd parties to connect to the AEON platform for transaction processing.

Connecting to the AEON switch

The connection to an AEON switch from a 3rd party host is established via a preconfigured VPN or other predetermined secure connection. All connections are made via TCP/IP. The AEON switch is a powerful multithreaded server, so a host can open multiple simultaneous connections and perform transaction processing.

Testing and certification before a 3rd party is permitted to connect to the live AEON platform, the 3rd party is required to comply with the business and technical requirements as determined by BLTS. An AEON test server will be provisioned to facilitate this process.

Field Definitions

The following table describes the meanings of the field lengths and types mentioned in this document.

Type	Description	Example
I	Integer value.	1337
D	Decimal value.	13.37
Date	Date in yyyy-MM-dd hh:mm:ss format	2011-01-01 13:13:37
AN10	Fixed-length alpha-numeric value. Can also contain punctuation.	AN5: AB123 AN7: ABC_123
AN..10	Variable-length alpha-numeric value which may also contain punctuation.	AN5: AB AN7: AB-12
L..5	A variable-length list of elements.	L..2: <Parent> <Child>...</Child> <Child>...</Child> <Parent>



XML Specification

The connection to an AEON switch from a 3rd party host is established via a preconfigured VPN or other predetermined secure connection. All data requests and responses are XML strings that are communicated to the AEON switch via a TCP/IP socket connection. Each request and response is a simple string of plain text, terminated with a newline character.

Actions/Transactions

The following transactions are defined by this XML protocol.

Authentication

Before any transactions can be performed, the host must be authenticated by the server. If the authentication request is not validated, then all further transactions are rejected.

Redemption

Blu Voucher redemption will not load the requested airtime directly onto the client's mobile phone. Therefore, token numbers are required in the transaction.

Successful Transactions

All requests in the correct format should receive responses. If a transaction completes successfully, then the error-code will be 0.

Transaction Errors

Whenever a transaction error occurs, or the transaction cannot complete for any reason, The XML response will contain an appropriate error-code and a description of the error.

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Base Messaging Definition

Generic Request Structure

Example:

```
<request>
  <SessionId></SessionId>
  <EventType></EventType>
  <event>
    <Parameter1></Parameter1>
    <Parameter2></Parameter2>
  </event>
</request>
```

Definition:

Field	Detail
SessionId	Once authenticated, all requests require a valid session Id.
EventType	The event to perform.
event	Event parameters, these vary depending on the event requested.



Generic Response Structure

Example:

```
<response>
  <SessionId></SessionId>
  <EventType></EventType>
  <event>
    <EventCode></EventCode>
    <EventDescription></EventDescription>
  </event>
  <data>
    <Value1></Value1>
    <Value2></Value2>
  </data>
</response>
```

Definition:

Field	Detail
SessionId	Returns the current session Id.
EventType	Corresponds to the event type requested.
event.EventCode	Returns 0 on success, 1 on error.
event.EventDescription	String containing a description of the event status or error description
data	Values returned by requested event.



Error Response

Example:

```
<response>
  <SessionId>01234567890</SessionId>
  <EventType>TheEvent</EventType>
  <event>
    <EventCode>1</EventCode>
  </event>
  <data>
    <ErrorCode>123</ErrorCode>
    <ErrorText>An error occurred</ErrorText>
    <AEONErrorCode>111</ErrorCode>
    <AEONErrorText>An error occurred</ErrorText>
  </data>
</response>
```

Definition:

In the event of an error, an EventCode of 1 will be returned, and the data structure will contain exact details of the error.

Field	Detail
data.ErrorCode	Error Code from the List below.
data.ErrorText	String detailing the error.

NOTE: For a full list of product specific errors please refer to the Aeon SA Errors document



Authentication

Every new socket connection that is made to Aeon will need to authenticate using the Authentication Request.

Authentication Request

Example:

```
<request>
  <EventType>Authentication</EventType>
  <event>
    <UserPin>011234</UserPin>
    <DeviceId>345</DeviceId>
    <DeviceSer>234</DeviceSer>
    <TransType>BluVoucher</TransType>
    <Reference>12345</Reference>
  </event>
</request>
```

Definition:

Authentication details to be provided by BLD.

Field	Details
EventType	The event to perform
event.UserPin	PIN Code assigned to you.
event.DeviceId	Assigned Device Id
event.DeviceSer	Assigned Device serial Number
event.TransType	This contains the required transaction type to be performed upon successful authentication
event.Reference	External reference (OPTIONAL)

The reference field can be used to store your own reference number which will then be echoed back in the response.



Authentication Response

Example:

```
<response>
  <SessionId>93a60978-7926-4c96-babb-47ab9ca1cbd4</SessionId>
  <EventType>Authentication</EventType>
  <event>
    <EventCode>0</EventCode>
  </event>
  <data>
    <Reference>12345</Reference>
    <TransTypes>
      <TransType>BluVoucher</TransType>
      <TransType>...</TransType>
    </TransTypes>
  </data>
</response>
```

Definition:

Field	Details
SessionId	On successful authentication, the response will contain a unique session Id to be used for future requests.
EventType	Must correspond with event type in request
event.EventCode	Returns 0 on success
event.Reference	The echoed reference number. (OPTIONAL - only sent if it was set in the request)
data.TransTypes	Returns a list of all available Transaction Types if the request is successful



Get Blu Voucher Status

Get the voucher status

Get Status Request

Example:

```
<request>
  <SessionId>c438600e-c376-4fa8-a6a8-cbee334c67af</SessionId>
  <EventType>getVoucherStatus</EventType>
  <event>
    <Reference>12345</Reference>
    <SerialNumber>1234567890</SerialNumber>
    <VoucherPin>1234567890</VoucherPin>
  </event>
</request>
```

Definition:

Field	Details
SessionId	On successful login, the response will contain a unique session Id to be used for future requests.
EventType	The event to perform
event.Reference	External reference
event.SerialNumber	The voucher serial number (Optional - if Pin number is provided)
event.VoucherPin	The Voucher Pin (Optional - if Serial number is provided)

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Get Status Response

Example:

```
<response>
  <SessionId>93a60978-7926-4c96-babb-47ab9ca1cbd4</SessionId>
  <EventType>getVoucherStatus</EventType>
  <event>
    <EventCode>0</EventCode>
  </event>
  <data>
    <Reference>12345</Reference>
    <Status>
      <Code>1</Code>
      <Description>Available</Description>
      <Amount>55.20</Amount>
      <DateRedeemed>2018-12-03 12:03</DateRedeemed>
      <RedeemedReference>12345<RedeemedReference>
      <RedeemedVoucherSerialNumber>BL016C1E46AD2768</RedeemedVoucherSerialNumber>
      <RedeemedVoucherReference>0902834592</redeemedVoucherReference>
    </Status>
  </data>
</response>
```

Definition:

Field	Details
SessionId	On successful authentication, the response will contain a unique session Id to be used for future requests.
EventType	Must correspond with event type in request
event.EventCode	Returns 0 on success
data.Reference	The echoed reference number. (Optional - only sent if it was set in the request)
data.Status.Code	The voucher status code
data.Status.Description	The voucher status description
data.Amount	The value of the voucher in rand value, This will only be return when voucher is valid
data.DateRedeemed	The date the voucher was redeemed (Optional - this will only be returned if voucher were already redeemed)
data.RedeemedReference	The reference that was used if the voucher were already redeemed (Optional - this will only be returned if voucher were already redeemed)

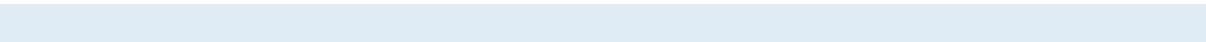
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<i>data.RedeemedVoucherSerialNumber</i>	<i>The unique voucher serial number of the voucher that has been redeemed.</i>
<i>data.RedeemedVoucherReference</i>	<i>A unique transaction reference referring back to the initial vend of the voucher that has been redeemed.</i>

Status Codes:

<i>Code</i>	<i>Description</i>
<i>1</i>	<i>Inactive</i>
<i>2</i>	<i>Active</i>
<i>3</i>	<i>Black Listed</i>
<i>4</i>	<i>Expired</i>
<i>5</i>	<i>Redeemed</i>
<i>6</i>	<i>Cancelled</i>
<i>7</i>	<i>Pending</i>



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ANNEXURE A: VOUCHER RESPONSE EXAMPLE

Redeem Blu Voucher

Redeem voucher

Redeem Voucher Request

Example:

```
<request>
  <SessionId>c438600e-c376-4fa8-a6a8-cbee334c67af</SessionId>
  <EventType>redeemVoucher</EventType>
  <event>
    <Reference>12345</Reference>
    <amount>10</amount>
    <PIN>1234567890</PIN>
  </event>
</request>
```

Definition:

Field	Details
SessionId	On successful login, the response will contain a unique session Id to be used for future requests.
EventType	The event to perform
event.Reference	External reference (Optional)
event.amount	Amount to be redeemed
event.PIN	The voucher PIN number

Redeem Voucher Response

Example:

```
<response>
  <SessionId>93a60978-7926-4c96-babb-47ab9ca1cbd4</SessionId>
  <EventType>redeemVoucher</EventType>
  <event>
    <EventCode>0</EventCode>
  </event>
  <data>
    <Reference>12345</Reference>
    <Status>
      <Code>3</Code>
      <Description>Redeemed</Description>
      <Amount>10</Amount>
      <RedeemedVoucherSerialNumber>BL016C1E46AD2768</RedeemedVoucherSerialNumber>
      <RedeemedVoucherReference>0902834592</redeemedVoucherReference>
    </Status>
    <voucher>
      <TransRef>152736592</TransRef>
      <PIN>8276840941191701</PIN>
      <Serial>BL016C1E46AD2768</Serial>
      <Amount>40.0</Amount>
      <Ref>3508564</Ref>
      <Barcode>6009802367896</Barcode>
      <Reprint>false</Reprint>
      <Date>2019-01-18 12:15:29</Date>
      <ExpiryDate>2021-01-18 12:15:29</ExpiryDate>
      <Text>
        [Refer to Annexure A : Redeem Voucher Response Sample]
      </Text>
      <PrintLines>
        [Refer to Annexure A : Redeem Voucher Response Sample]
      </PrintLines>
      <Shift>2</Shift>
      <TransSeq>34</TransSeq>
      <Reference>49287_1547806527505</Reference>
    </voucher>
  </data>
</response>
```

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```
</data>
</response>
```

Definition:

Field	Details
SessionId	On successful authentication, the response will contain a unique session Id to be used for future requests.
EventType	Must correspond with event type in request
event.EventCode	Returns 0 on success
data.voucher.Reference	The echoed reference number. (Optional - only sent if it was set in the request)
Data.voucher	Only returned on partial redemption. **This is a new voucher that's generated and has its own pin. Use this new pin to redeem the new voucher.
data.voucher.Status.Code	The redeem voucher status code
data.voucher.status.Description	The voucher description (obtained by top-up server)
data.voucher.Status.Amount	The value of the voucher in rand value, that's were successfully redeemed.
data.RedeemedVoucherSerialNumber	The unique voucher serial number of the voucher that has been redeemed.
data. RedeemedVoucherReference	A unique transaction reference referring back to the initial vend of the voucher that has been redeemed.
data.voucher.Reference	The echoed client reference number, if sent in request. (Optional)
data.voucher.TransRef	The transaction reference number.
data.voucher.PIN	The voucher PIN number (Use this pin to redeem)
data.voucher.Serial	The serial number of the voucher.
data.voucher.Amount	The retail value of the voucher.
data.voucher.Ref	The voucher reference number.
data.voucher.Date	The date of the transaction.
Data.voucher.ExpiryDate	The voucher expiry date.
data.voucher.BarCode	The bar code of the voucher. (OPTIONAL) (EAN13 OR CODE39)
data.voucher.Reprint	Indicates that this is a reprint. (OPTIONAL - will only appear on reprints)
data.voucher.Text	Various text fields defined for the voucher type. **Refer to Annexure A for a detailed Response example.
Data.voucher.printlines	Print data **Refer to Annexure A for a detailed Response example.
data.voucher.Recon	If you submitted a Recon tag on the GetVoucher request, it will be returned here, with the addition of the "trxld" attribute which represents the Aeon transaction ID.



Error Codes

Errors which occur during the processing of Blu voucher transactions:

Blu Voucher Provider Status Messages

Code	Message
0	Successful
1	Function not available
2	Invalid Session
3	Technical Error
6	Invalid Input
7	Invalid Voucher
8	Invalid Pin

Annexure A: Redeem Voucher Response Example

```
<response>
  <SessionId>93a60978-7926-4c96-babb-47ab9ca1cbd4</SessionId>
  <EventType>redeemVoucher</EventType>
  <event>
    <EventCode>0</EventCode>
  </event>
  <data>
    <Reference>12345</Reference>
    <Status>
      <Code>3</Code>
      <Description>Redeemed</Description>
      <Amount>10</Amount>
    </Status>
    <voucher>
      <TransRef>152736592</TransRef>
      <PIN>8276840941191701</PIN>
      <Serial>BL016C1E46AD2768</Serial>
      <Amount>40.0</Amount>
      <Ref>3508564</Ref>
      <Barcode>6009802367896</Barcode>
      <Reprint>false</Reprint>
      <Date>2019-01-18 12:15:29</Date>
      <ExpiryDate>2021-01-18 12:15:29</ExpiryDate>
      <Text>
        <Header>...</Header>
        <Body>...</Body>
        <Help>Customer Care: SMS 'help' to 30505.</Help>
        <Footer>No Refunds - Vouchers cannot be re printed</Footer>
      </Text>
      <PrintLines>
        <line f="L">
          <![CDATA[0]]>
        </line>
        <line f="H">
          <![CDATA[Blu Approved - the power of]]>
        </line>
        <line f="H">
          <![CDATA[prepaid]]>
        </line>
      </PrintLines>
    </voucher>
  </data>
</response>
```

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```

<line f="N"/>
<line f="E">
    <![CDATA[Gerhards Test Customer]]>
</line>
<line f="E">
    <![CDATA[Voucher]]>
</line>
<line f="N"/>
<line f="E">
    <![CDATA[Chat 4 Change Vodacom Voucher]]>
</line>
<line f="O"/>
<line f="H">
    <![CDATA[TO RECHARGE DIAL:]]>
</line>
<line f="H">
    <![CDATA[*130*888*8144 9100 5686 5801#]]>
</line>
<line f="O"/>
<line f="N"/>
<line f="O"/>
<line f="A">
    <![CDATA[Amount :          20.00]]>
</line>
<line f="A">
    <![CDATA[Serial :    BL01352607E4770C]]>
</line>
<line f="A">
    <![CDATA[Ref   :          601]]>
</line>
<line f="A">
    <![CDATA[Date   :    03/02/2014 07:40:36]]>
</line>
<line f="A">
    <![CDATA[Expiry :    03/02/2016 07:40:36]]>
</line>
<line f="A">
    <![CDATA[Cashier :          Gerhard]]>
</line>
<line f="N"/>
<line f="H">

```

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```
<![CDATA[Customer Care: SMS 'help' to]]>
</line>
<line f="H">
    <![CDATA[30505.]]>
</line>
<line f="N"/>
<line f="H">
    <![CDATA[No Refunds - Vouchers cannot be]]>
</line>
<line f="H">
    <![CDATA[re printed]]>
</line>
<line f="O"/>
<line f="Q">
    <![CDATA[12354895487]]>
</line>
<line f="O"/>
<line f="H">
    <![CDATA[- Print Done -]]>
</line>
<line f="O"/>
<line f="O"/>
<line f="O"/>
<line f="Z"/>
</PrintLines>
<Shift>2</Shift>
<TransSeq>34</TransSeq>
<Reference>49287_1547806527505</Reference>
</voucher>
</data>
</response>
```