TANZANIA REVENUE AUTHORITY

VIRTUAL FISCAL DEVICE (VFD) INTEGRATION

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ENDPOINT URLS FOR TEST ENVIRONMENT

Endpoint for Registration

https://virtual.tra.go.tz/efdmsRctApi/api/vfdRegReq

Endpoint for Token

https://virtual.tra.go.tz/efdmsRctApi/vfdtoken

Endpoint for Receipt/Invoice posting

https://virtual.tra.go.tz/efdmsRctApi/api/efdmsRctInfo

Endpoint for Z report posting

https://virtual.tra.go.tz/efdmsRctApi/api/efdmszreport

Endpoint for verification of receipts/invoices (Verification URL)

https://virtual.tra.go.tz/efdmsRctVerify

ENDPOINT URLS FOR PRODUCTION ENVIRONMENT

Endpoint for Registration

https://vfd.tra.go.tz/api/vfdRegReq

Endpoint for Token

https://vfd.tra.go.tz/vfdtoken

Endpoint for Receipt/Invoice posting

https://vfd.tra.go.tz/api/efdmsRctInfo

Endpoint for Z report posting

https://vfd.tra.go.tz/api/efdmszreport

Endpoint for verification of receipts/invoices (Verification URL)

https://verify.tra.go.tz

See sample code on page 31 and abbreviations on page 37

EFDMS ENDPOINTS

1. **Registration**

   It is a onetime request. Taxpayer must send TIN to TRA in order to generate VFD number. Registration can be sent any time again in future in case VFD needs to retrieve original registration data and server will resend the same information that were sent in first attempt.

2. **Token**

   Token is a string of characters used as a second means of securing the API apart from the PKI. After registering VFD must send request to get token data and use the token in every request submitted. Token response will contain expiry time therefore billing VFD will only request new token when existing one has expired. Token time will be in seconds.

3. **Receipt/Invoice**

   Upon generation of receipt or invoice, VFD must submit respective receipt or invoice to TRA. Before submitting information VD must check existing token if valid otherwise request new token.

4. **Z report**

   After close of business, VFD must submit Z report, which is a summary of sales for the day. VFD should submit Z report of previous day the next day i.e. after midnight or before opening sales of next day.

5. **Verification**

   All receipts or invoices printed must be associated with verification information i.e. QR code, verification code. VFD must be able to generate verification information.

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INTEGRATION PARAMETERS

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Client = <mark>webapi</mark>

Routing-key for Receipt= <mark>vfdrct</mark>

Routing-key for Z report = <mark>vfdzreport</mark>

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<mark>Highlighted above integration parameters are constant for both Receipt and Z report posting.</mark>

Cert-serial – TRA will provide this only after Taxpayer has provided his/her TIN. Open certificate file and look for serial number

TIN- Taxpayer identification number for the seller. Taxpayer must provide his/her company TIN before starting integration

Certkey -TRA will provide during integration after taxpayer has provided his/her company TIN.

QR format: **verificationURL/{RCTVNUM}_{RCT_TIME}**

If RCTVNUM=**2E9LT636** and RCT_TIME=**17:29:01** and

VerificationURL for Test Environment= https://virtual.tra.go.tz/efdmsRctVerify

QR code generated will be: https://virtual.tra.go.tz/efdmsRctVerify/2E9LT636_172901

QR - Taxpayer system will generate QR and not TRA

Note: Verification link https://virtual.tra.go.tz/efdmsRctVerify **is for test environment only.**

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API INTEGRATION RULES

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1. Registration is a onetime request. In order to be able to access EFDMS taxpayer (seller) must send TIN number so TRA can register VFD for use

2. Registration data must be saved to taxpayer system database for later use.

3. When successful registered VFD will not be required to send registration again when submitting receipts/invoices.

4. TIN belongs to the seller and not the customer (buyer). There is a parameter for customer i.e. CUSTID

5. Cert-Serial is a serial number of certificate file (pfx) used to sign request where private key will be used in this case. (TRA provides)

6. GC, RCTNUM and Dc must be maintained by taxpayer's system

7. GC must always be equal to RCNUM and starts from one (1) and always increment for each invoice/receipt issued. Numbers should follow sequence without skipping

8. DC starts with 1 and increment until 23:59:59 (midnight) and after midnight DC resets (starts with 1 again when first invoice/receipt for a new day is issued)

9. Different receipts/invoices can never have same GC they must always be unique

10. Different receipts/invoices can never have same RCTNUM they must always be unique

11. Different receipts/invoices issued in the same day can never have same DC

12. ZNUM must always be same as RCT_DATE but in a number format i.e. YYYYMMDD

13. Current receipt/invoice can never have old ZNUM, RCT_DATE than previous receipt/invoice

14. Future receipts/invoices can never have old ZNUM, RCT_DATE

15. Future dates are not allowed, therefore when VFD generates receipts/invoices it must synchronize with NTP server to take current timestamp

16. If transaction is cancelled, next transaction should take not reuse transaction of cancelled transaction it should take new number in the sequence

17. Token will be requested only after expiry of current one, so before posting to TRA check if current token is valid and only post if is valid otherwise request new one

18. Token value must be saved to taxpayer system database

19. If for some reason if receipt is issued with wrong data but received success response, when sending again with correct data assign a new receipt number don't reuse same if you send same receipt the later will be treated as duplicate and wont saved because rctvnum is same.

20. If CUSTIDTYPE=1 i.e. TIN is chosen, we recommend to restrict input to only 9 digits meaning only numbers should be allowed because TIN is always a 9 digits number. CUSTIDTYPES for other IDs can remain open as string.

21. MOBILENUM should not contain + or spaces or dashes, it should in the format 255712XXXXXX or 0712XXXXXX

22. If VFD get success response it should not resubmit same transaction again.

23. If for any reason VFD does not receive response at all or receiving negative response (ACKCODE which is not 0) for specific invoice/receipt then when resubmitting the same invoice/receipt to TRA the VFD should submit the original xml content and not the modified the content this include also ZNUM and RCT_DATE, RCT_TIME must always be date of the first attempt and not the current date/time. This is to say monitor status of each receipt

and only when response with ACKCODE 0 returned consider receipt successful delivered to TRA

24. Print/send receipt/invoice to customer (do not wait for TRA response) and immediately send receipt to TRA (1 and 2 can either be concurrent or 2 can follow after 1)

25 For a specific receipt if no response is received VFD should keep try sending same request until it receives response.

26. Send one transaction at a time only send next transaction when current one has succeeded

27 For printed receipts/invoices, taxpayer must display verification information (QR and code) on the printout.

28 To avoid receipt/invoices being rejected ,escape special characters in receipt/invoice XML especially in customer name or items descriptions.

29. When TRA server is not accessible (OFFLINE), continue generating transactions as they occur but make sure you design a mechanism to save status of each transaction i.e. success or pending while keep checking for connection and later when TRA connection resumes automatically resend all pending transactions in the order.

30. Token will be requested only after expiry of current one, so before posting to TRA check if current token is valid and only post if is valid otherwise request new one

31. Token value must be saved to taxpayer billing system

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TEST CASES

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1. Post receipts/invoices with different CUSTIDTYPES as indicated in the API
2. Post receipts/invoices with discounts if any
3. Post receipts/invoices with multiple items having different tax codes if any as per API
4. For receipt post transactions with different payment types as indicated in the API
5. We recommend posting transactions in daily basis (this helps us checking sequence of DC, GC, ZNUM).
6. Post as many transactions as possible preferably from 100 and above.

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ERROR CODES

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REGISTRATION POSTING

ACKCODE	STATUS	DESCRIPTION	POSSIBLE REASON
0	**SUCCESS**	Success	
1	**FAIL**	Invalid Signature	Signature generated not in correct format. Signature generated with missing nodes, signature generated with empty lines in XML or
3	**FAIL**	Invalid TIN	TIN specified with dash or wrong TIN specified
4	**FAIL**	VFD Registration Approval required	Request posted without Client details, which is WEBAPI.
5	**FAIL**	Unhandled Exception	Contact TRA for further troubleshooting
6		Invalid Serial or Serial not Registered to Web API/TIN	CERTKEY is not registered to TIN sending registration request. Use only TIN and CERTKEY provided by TRA
7	**FAIL**	Invalid client header	Wrong client value specified
8	**FAIL**	Wrong Certificate used to Register Web API	Wrong certificate used

RECEIPT POSTING

ACKCODE	STATUS	DESCRIPTION	POSSIBLE REASON
0	**SUCCESS**	Success	
1	**FAIL**	Unhandled Exception	Contact TRA for further troubleshooting
2	**FAIL**	Invalid Signature	Signature not correct generated
3	**FAIL**	Failed to Queue	Failed to send request to queuing system
4	**FAIL**	Invalid Routing Key Header	Wrong routing key specified, check routing key value in z report section on page 21

5	**FAIL**	XSD Validation Failure	Incorrect data type for some nodes values in XML, missing nodes in XML, some nodes placed in wrong order in XML. Match format specified in API
6	**FAIL**	Invalid token Bearer	Mismatch of one of the following parameters in XML with those registered in the database: **RCTVCODE, REGID, certificate, TIN**
7	**FAIL**	Missing Routing Key Header	Routing key not specified
8	**FAIL**	Missing Cert-Serial Header	Cert-serial not specified

1.1. Receipt/invoice format

Billing system shall POST to EFDMS data in XML format containing the following information

1.1.1. Date of receipt/invoice in the format "YYYY-MM-DD"

1.1.2. Time of receipt/invoice in the format HH:MM: SS

1.1.3. TIN of the business owner

1.1.4. Registration number of virtual device

1.1.5. Serial number of virtual device

1.1.6. Customer ID type

1.1.7. Customer ID

1.1.8. Customer name

1.1.9. Customer mobile number

1.1.10. Receipt/Invoice number

1.1.11. Daily counter of receipts/Invoice

1.1.12. Global counter of receipts/Invoice

1.1.13. Report number

1.1.14. Receipt/ invoice verification number

1.1.15. Item ID

1.1.16. Item description

1.1.17. Item quantity

1.1.18. Tax code

1.1.19. Item amount

1.1.20. Amount exclusive of tax

1.1.21. Amount inclusive of tax

1.1.22. Discount

1.1.23. Payment type

1.1.24. Payment amount

1.1.25. Tax rate group

1.1.26. Amount exclusive of tax

1.1.27. Tax

1.1.28. Signature (will not be printed on the invoice/receipt rather in XML)

1.2. Receipt/Invoice XML Data type

Field	Type	Description	Remark
DATE	Date	Date of Issue	
TIME	Time	Time of the issue	
TIN	Number	TAX identification number of the business owner	
REGID	String	This is a unique ID issued to a virtual device (Taxpayer Billing System) upon a successful registration. User should not be able to program REGID, it should only be received from TRA server.	This parameter is contained in acknowledgment message after VFD submitted successful registration request
EFDSERIAL	String	This is the serial number assigned to the virtual device (Taxpayer Billing System) also as known as CERTKEY. This number is composed of two digits that represent the manufacturer code followed by two letters representing the Tanzania country code and followed by the serial number of the production. This information will be provided by TRA	Each virtual fiscal device should have a unique serial number to avoid matching with another virtual fiscal device(s). TRA will provide EFDSERIAL during integration

			The format of the serial number should be like this: Example: 10TZ100001
CUSTIDTYPE	Number	Buyer Used ID type. This can be one of the following 1=TIN 2=Driving License 3=Voters Number 4=Passport 5=NID (National Identity) 6=NIL (If there is no ID)	This is mandatory.
CUSTID	String	Identification Number corresponding to the type chosen	Mandatory if CUSTIDTYPE is not 6
CUSTNAME	String	Name of the Buyer.	Option
MOBILENUM	Number	Buyer's Mobile Number	Option
RCTNUM	Number	This represent receipt/invoice number of each transaction that is unique for every transaction. RCTNUM starts with 1 and continue with sequence throughout. It will keep incrementing for every transaction. RCTNUM will be equal to GC where this is a global counter.	i.e. 31, 32, 33.... 60 and this sequence should always increment by 1.
DC	Number	DC is the Daily Counter and is a sequence of receipts/ invoices issued for the day. DC will reset to 1 the following day up to the last receipt/ invoice issued	For example, if until end of day, you have issued 30 receipts/invoice then we will have receipts/invoices no. 1, 2, 3.... 30. As for the following day, the DC counting will reset to 1,2,3,…
GC	Number	GC is a global counter of the receipts/invoice issued from day one and shall keep	Example, if the last GC number for today after close of

11

		incrementing throughout the life of the VFD	business is 1000 Then the value of GC when you open business next day will be 1001
ZNUM	Number	ZNUM for VFDs will be a number in format of (YYYYMMDD) e.g. 20190626 and this will change on Daily Basis i.e. ZNUM for Today: 20191018, ZNUM for yesterday: 20191017, ZNUM for tomorrow: 20191019. ZNUM is date of transaction written in number format.	
RCTVNUM	String	A receipt/invoice verification number composes of RECEIPTCODE and GC i.e. GC appended to RECEIPTCODE. During registration, a VFD will be provided with RECEIPTCODE	Example. Format description RECEIPTCODE: AAAA11, GC:9 RCTVNUM: AAAA119 This filed is mandatory
ITEMS	RecordSet	Contains ITEM	
ITEM	RecordSet	RecordSet that contains details of the Item	
TOTALS	RecordSet	Record that contains totals of the receipts/invoice	
PAYMENTS	RecordSet	RecordSet that contains payment	
VATTOTALS	RecordSet	Nett and Tax Amounts Totals	

ItemRecordSet

Field	Type	Description	Remark
ID	String	Standard Item Code	
DESC	String	Name of items can either be standard or entered by user	
QTY	Number	Quantity	
TAXCODE	Number	Applicable tax on the item 1= Standard Rate (**18%**) 2= Special Rate (**0%**) 3= Zero rated (**0%**) 4= Special Relief (**0%**) 5= Exempt (**0%**)	1 for vatable 2 for special rate 3 for zero rated 4 for special relief 5 for exempt
AMT	Double	Total Amount Inclusive of taxes	

Receipt/invoice TotalsRecordSet

| Field	Type	Description	Remark
TOTALTAXEXCL	Double	Subtotal Totals	Total amount of all the items exclusive of taxes
TOTALTAXINCL	Double	Grand Total	Total amount of all the items inclusive of taxes
DISCOUNT	Double	Total Discount	Amount discounted from the total of all the items exclusive of tax

PaymentsRecordSet

Field	Type	Description	Remark
PMTTYPE	String	Payment types 1. CASH 2. CHEQUE 3. CCARD 4. EMONEY	For **RECEIPTS** use payments types CASH, CHEQUE, CCARD or EMONEY

		5. INVOICE	For **INVOICES** use INVOICE only
PMTAMOUNT	Double	Payment amount based on payment type used	

VATTotalsRecordSet

Field	Type	Description	Remark
VATRATE	Char	Identifier of the Tax rate **A= 18** (Standard Rate for VAT items) **B= 0** (Special Rate) **C= 0** (Zero rated for Non-VAT items) **D= 0** (Special Relief for relieved items) **E= 0** (Exempt items)	
NETTAMOUNT	Double	Nett Sales exclusive of taxes	
TAXAMOUNT	Double	Tax Amount for the Rate	

1.3. Message Flow
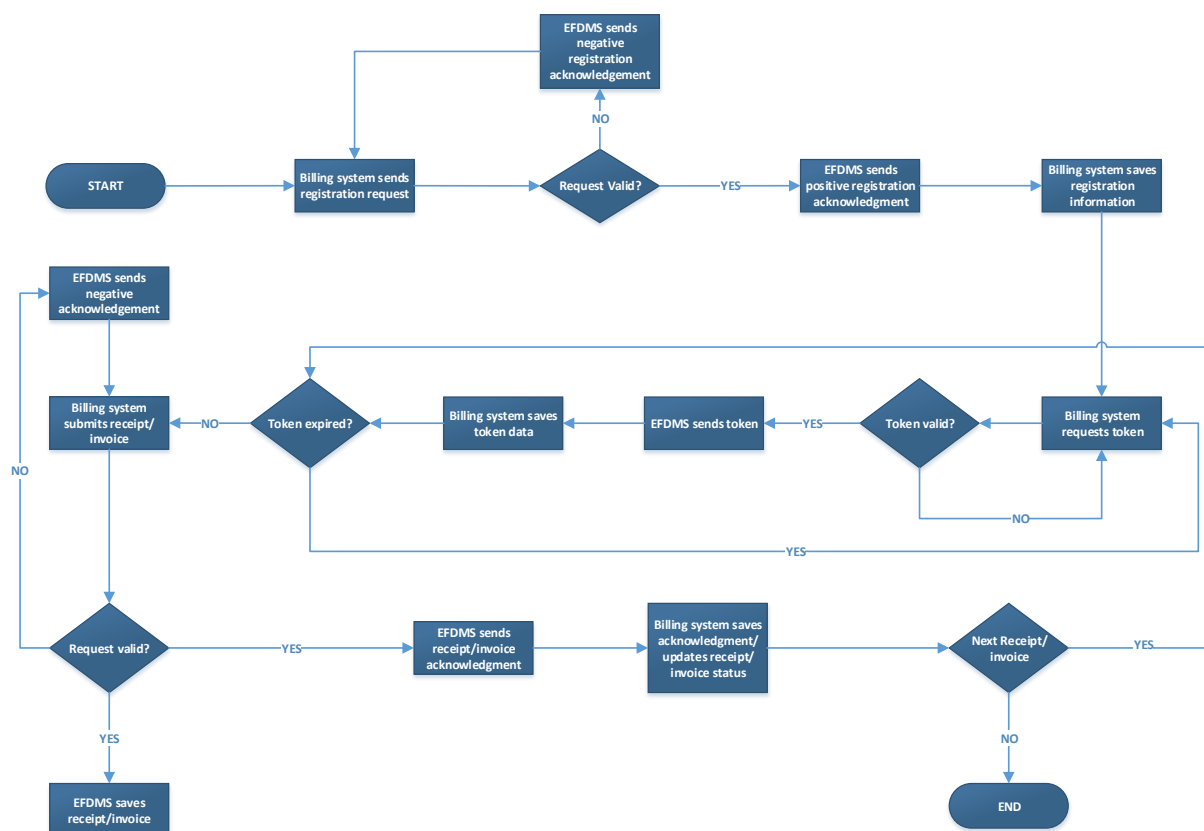
2.7.1 Registration

Message request header

A message request from taxpayer billing system to the EFDMS include the following information

Parameter	Value
Content-Type	Application/xml
Cert-Serial	Serial of the Key certificate to be provided by TRA. Should be base64 encoded.
Client	webapi

Message request body

All message request from taxpayer billing systems to the EFDMS shall be enclosed in root (envelope) tag called **<EFDMS>**

Tag	Description
<EFDMS>	Root tag of the message request
<REGDATA>	Tag that contains two tags <TIN> and <CERTKEY>
<TIN>	Taxpayer Identification Number of the business owner
<CERTKEY>	Vendor serial number which uniquely identify taxpayer billing system
<EFDMSSIGNATURE>	Using PKCS12 standard, signature obtained by Hashing <REGDATA></REGDATA> using SHA 1 with RSA then result encoded to base64.

Example of registration request message

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <EFDMS>
   - <REGDATA>
        <TIN>216273612</TIN>
        <CERTKEY>10TZ162172</CERTKEY>
     </REGDATA>
     <EFDMSSIGNATURE>MNwmfblEfw+n4LP1f+k3LViijhbP0Dvn5JTOqs/PhnmTQSJuywuaKDHQWQWQQWQQII==</EFDMSSIGNATURE>
  </EFDMS>
```

Example of registration acknowledgment message

```xml
<?xml version="1.0"?>
- <EFDMS>
   - <EFDMSRESP>
        <ACKCODE>0</ACKCODE>
        <ACKMSG>Registration Successful</ACKMSG>
        <REGID>TZ01225591</REGID>
        <SERIAL>10TZ333374</SERIAL>
        <UIN>09VFDWEBAPI-1234567892222222220TZ333374</UIN>
        <TIN>222222222</TIN>
        <VRN>NOT REGISTERED</VRN>
        <MOBILE>255755999110</MOBILE>
        <ADDRESS>71200</ADDRESS>
        <STREET>SINZA A</STREET>
        <CITY>Dar es Salaam</CITY>
        <COUNTRY>TANZANIA</COUNTRY>
        <NAME>JUMA HASSAN </NAME>
        <RECEIPTCODE>VP3E9L</RECEIPTCODE>
        <REGION>Kinondoni</REGION>
        <ROUTINGKEY>vfdrct</ROUTINGKEY>
        <GC>1</GC>
        <TAXOFFICE>Tax Office Kinondoni</TAXOFFICE>
        <USERNAME>aadanmtd8490mhmsh</USERNAME>
        <PASSWORD>M81J;KH99hasasas=</PASSWORD>
        <TOKENPATH>vfdtoken</TOKENPATH>
      - <TAXCODES>
           <CODEA>18</CODEA>
           <CODEB>10</CODEB>
           <CODEC>0</CODEC>
           <CODED>0</CODED>
        </TAXCODES>
     </EFDMSRESP>
     <EFDMSSIGNATURE>evT0PvgdpixCzeKZ7MIpGriNgZPMsvhfq+TfJP7a9brpZ3Tfw+iA51JxECgPAeAv
     </EFDMSSIGNATURE>
  </EFDMS>
```

Data types for registration acknowledgement

Field	Data Type	Mandatory	Description
EFDMSRESP			Registration Information Envelop
ACKCODE	Int(1)	Yes	0 means success. Else it would be an error code
ACKMSG	String (50)	Yes	Describes the ACKCODE above
REGID	String (50)	Yes	VFD System Registration Id
SERIAL	String (14)	Yes	VFD System Serial Number also known as CERTKEY or EFDSERIAL
UIN	String	Yes	User identification number issued by TRA once Taxpayer has been registered in EFDMS
TIN	Number	Yes	Tax Identification Number of business owner
VRN	String	Yes	Vat Registration Number
MOBILE	String	Yes	Mobile/Telephone number
STREET	String	Yes	Street
CITY	String	Yes	City
ADDRESS	String	Yes	Tax Payer's Address
COUNTRY	String	Yes	Country
NAME	String(100)	Yes	Tax Payer Trading Name
RECEIPTCODE	String	Yes	Also known as, RCTVCODE represents a unique code issued during registration.
REGION	String	Yes	Tax Region
GC	Number	Yes	GC is a global counter of the receipts/invoice issued from day one and shall keep incrementing. i.e. how many total receipts signed till date
TAXOFFICE	String	Yes	Tax Payer's Tax Office
USERNAME	String	Yes	Username to be used for Token Request
PASSWORD	String	Yes	Secret Key to be used for Token Request
TOKENPATH	String	Yes	URL Path for Token Request
TAXCODE	Char	Yes	Applicable tax on the item 1=Standard (CODEA) 2=Special rate(CODEB) 3=Zero Rated (CODEC) 4=Special Relief(CODED)

2.7.2. Token Request

EFDMS uses Tokens for message exchange between EFDMS and Tax Payer Billing System. All request that will be send to the server must be accompanied with valid token in the message header, which will be validated by the server and if the token is valid, then the billing system will able to access and post the transaction.

A token is a piece of data that has no meaning or use on its own, but combined with the correct tokenization system, becomes a vital player in securing the Web API. Token-based authentication works by ensuring that each request to the server is send together with a signed token, which the server verifies for authenticity and only then responds to the request. Token will be provide in seconds therefore taxpayer billing systems should be programmed in a way to only request new token when current one expires.

Token generated will have lifetime in **seconds**; the taxpayer billing system should always save token time and check the time now against the token time before posting the receipt/invoice. If the token time has expired, that is when taxpayer-billing system requests a new one. This mechanism helps taxpayer-billing systems to operate fast as opposed to requesting new token every time when posting receipt/invoice since it involves adding claims to each token that would end up slowing the process.

Token request body

Token request message shall include three parameters as shown in the following table

Note: Request form should **x-www-form-urlencoded**

Key	Value
Username	Username of VFD. Username is found in the acknowledgment message sent to taxpayer billing system after successful registration request
Password	Password of VFD. Password is found in the acknowledgment message sent to taxpayer billing system after successful registration request
grant_type	password

Example of Token message

```
{
    "access_token":"c3h4pIurCN85yOUJA1B--brtlnpvwAIVbNq-lD-
wId3aUXHm2j6FweyZ0mLFitANgQ4vsotkdF7cR3F3GNdzwGPWUk28xACPLNPUnn
sVPH9iWKaGiX_kpuKEhKLclRrcianjfg5BgpSAMg5tuughggghzwG9867WJlcox7QGv
2RbZGoxzh8kW4QW6E278GFTa0V746tTZVs8lMGxLOjnoBA8jaBtZOig66pvHrdysajk
l;lkjdhfjdsklkdsjgfhvjhskllkjfdjjsdjklaW5rVcjCFP8HlHJRfnWfb2LASB6ix605ezyrEnh-
8bEoUWiJP4D_z82yvKyk4cnmIAN3vgaKWAg1fWW8pd_dNjhklLASKJDSSJ",
    "token_type": "bearer",
    "expires_in": 86399
}
```

2.7.3 Receipt/invoice Posting

Message request header

A message request from taxpayer billing system to the EFDMS include the following information

Parameter	Value
Content-Type	Application/xml
Routing-Key	vfdrct
Cert-Serial	Serial of the Key certificate provided. Should be base64 encoded.
Authorization	bearer token_value i.e. it should start with word **bearer** followed by **space** then followed by **current token value**

Message request body for receipt/invoice

```xml
<?xml version="1.0" encoding="UTF-8"?>
<EFDMS>
  <RCT>
    <DATE>2020-01-27</DATE>
    <TIME>12:49:55</TIME>
    <TIN>192941215</TIN>
    <REGID>TZ010077713</REGID>
    <EFDSERIAL>10TZ100200</EFDSERIAL>
    <CUSTIDTYPE>6</CUSTIDTYPE>
    <CUSTID/>
    <CUSTNAME>Juma Khassim</CUSTNAME>
    <MOBILENUM>919707354053</MOBILENUM>
    <RCTNUM>2026783</RCTNUM>
    <DC>30</DC>
    <GC>202</GC>
    <ZNUM>20200127</ZNUM>
    <RCTVNUM>Z4V1NU202</RCTVNUM>
    <ITEMS>
      <ITEM>
        <ID>1</ID>
        <DESC>Payment to cement bags</DESC>
        <QTY>1</QTY>
        <TAXCODE>1</TAXCODE>
        <AMT>20</AMT>
      </ITEM>
    </ITEMS>
    <TOTALS>
      <TOTALTAXEXCL>16.95</TOTALTAXEXCL>
      <TOTALTAXINCL>20</TOTALTAXINCL>
      <DISCOUNT>0.00</DISCOUNT>
    </TOTALS>
    <PAYMENTS>
      <PMTTYPE>EMONEY</PMTTYPE>
      <PMTAMOUNT>20</PMTAMOUNT>
    </PAYMENTS>
    <VATTOTALS>
      <VATRATE>A</VATRATE>
      <NETTAMOUNT>16.95</NETTAMOUNT>
      <TAXAMOUNT>3.05</TAXAMOUNT>
    </VATTOTALS>
  </RCT>
  <EFDMSSIGNATURE>AEa/TKoBJ4qkhmPFNYkpXLx2QheZtXHikVtX5BppK4PlEyNdlgosw2cqEp0sylImk1uKtdq
  </EFDMSSIGNATURE>
</EFDMS>
```

Message acknowledgement for receipt/invoice

```xml
<?xml version="1.0"?>
<EFDMS>
  <RCTACK>
    <RCTNUM>1</RCTNUM>
    <DATE>2020-01-31</DATE>
    <TIME>08:08:03</TIME>
    <ACKCODE>0</ACKCODE>
    <ACKMSG>Success</ACKMSG>
  </RCTACK>
  <EFDMSSIGNATURE>NOUSX8NDTLmzuOFlW72753TnfK/Z8RNQU4zKKSDJKDAejUYSft5q/qZtW+du3A+na5Zk31H0dItHKMudg5w==</EFDMSSIGNATURE>
</EFDMS>
```

Data type for receipt/invoice acknowledgment

Field	Data Type	Mandatory?	Description
RCTACK			Receipt/invoice Acknowledgement Envelop
RCTNUM	Int	Mandatory	Receipt/invoice Number for the posted receipt/invoice
DATE	DateAndTime	Mandatory	Transaction Date YYYY-MM-DD
TIME	DateAndTime	Mandatory	Transaction Time HH24:MI:SS
ACKCODE	Int(1)	Mandatory	0 means success. Else it would be an error code
ACKMSG	String(50)	Mandatory	Describes the ACKCODE above

2.7.4. Z Report

Message request header

A message request from taxpayer billing system to the EFDMS include the following information

Parameter	Value/Description
Content-Type	Application/xml
Routing-Key	vfdzreport
Cert-Serial	Serial of the Key certificate provided. Should be base64 encoded
Authorization	bearer token_value i.e. it should start with word **bearer** followed by **space** then followed by **current token value**

Message request body for Z report

```xml
<?xml version="1.0"?>
- <EFDMS>
    - <ZREPORT>
        <DATE>2021-01-18</DATE>
        <TIME>23:30:00</TIME>
        - <HEADER>
            <LINE>TANZANIA LIMITED</LINE>
            <LINE>OHIO STREET</LINE>
            <LINE>MOBILE: +255 999 137 325</LINE>
            <LINE>DAR ES SALAAM, TANZANIA</LINE>
        </HEADER>
        <VRN>12345678A</VRN>
        <TIN>222222222</TIN>
        <TAXOFFICE>Tax Office Ilala</TAXOFFICE>
        <REGID>TZ0152284</REGID>
        <ZNUMBER>20210118</ZNUMBER>
        <EFDSERIAL>10TZ100092</EFDSERIAL>
        <REGISTRATIONDATE>2021-01-08</REGISTRATIONDATE>
        <USER>09VFDWEBAPI-10131758722222222210TZ100092</USER>
        <SIMIMSI>WEBAPI</SIMIMSI>
        - <TOTALS>
            <DAILYTOTALAMOUNT>123000.00</DAILYTOTALAMOUNT>
            <GROSS>35516483.00</GROSS>
            <CORRECTIONS>0.00</CORRECTIONS>
            <DISCOUNTS>0.00</DISCOUNTS>
            <SURCHARGES>0.00</SURCHARGES>
            <TICKETSVOID>0</TICKETSVOID>
            <TICKETSVOIDTOTAL>0.00</TICKETSVOIDTOTAL>
            <TICKETSFISCAL>2</TICKETSFISCAL>
            <TICKETSNONFISCAL>0</TICKETSNONFISCAL>
        </TOTALS>
        - <VATTOTALS>
            <VATRATE>A-18.00</VATRATE>
            <NETTAMOUNT>104237.29</NETTAMOUNT>
            <TAXAMOUNT>18762.71</TAXAMOUNT>
            <VATRATE>B-0.00</VATRATE>
            <NETTAMOUNT>0.00</NETTAMOUNT>
            <TAXAMOUNT>0.00</TAXAMOUNT>
            <VATRATE>C-0.00</VATRATE>
            <NETTAMOUNT>0.00</NETTAMOUNT>
            <TAXAMOUNT>0.00</TAXAMOUNT>
            <VATRATE>D-0.00</VATRATE>
            <NETTAMOUNT>0.00</NETTAMOUNT>
            <TAXAMOUNT>0.00</TAXAMOUNT>
            <VATRATE>E-0.00</VATRATE>
            <NETTAMOUNT>0.00</NETTAMOUNT>
            <TAXAMOUNT>0.00</TAXAMOUNT>
        </VATTOTALS>
        - <PAYMENTS>
            <PMTTYPE>CASH</PMTTYPE>
            <PMTAMOUNT>0.00</PMTAMOUNT>
            <PMTTYPE>CHEQUE</PMTTYPE>
            <PMTAMOUNT>0.00</PMTAMOUNT>
            <PMTTYPE>CCARD</PMTTYPE>
            <PMTAMOUNT>0.00</PMTAMOUNT>
            <PMTTYPE>EMONEY</PMTTYPE>
            <PMTAMOUNT>0.00</PMTAMOUNT>
            <PMTTYPE>INVOICE</PMTTYPE>
            <PMTAMOUNT>123000.00</PMTAMOUNT>
        </PAYMENTS>
        - <CHANGES>
            <VATCHANGENUM>0</VATCHANGENUM>
            <HEADCHANGENUM>0</HEADCHANGENUM>
        </CHANGES>
        <ERRORS/>
        <FWVERSION>3.0</FWVERSION>
        <FWCHECKSUM>WEBAPI</FWCHECKSUM>
    </ZREPORT>
    <EFDMSSIGNATURE>aPXNm4RsOJL1z3FHbBi5FLmZg9VLH/GYN8fBZ3VGr9QYKnIXdNHiMiF7BLH6pc9+wPxsI==</EFDMSSIGNATURE>
</EFDMS>
```

```xml
<?xml version="1.0"?>
<EFDMS>
    <ZREPORT>
        <DATE>2020-06-03</DATE>
        <TIME>05:53:04</TIME>
        <HEADER>
        <LINE>TEST TAXPAYER</LINE>
        <LINE>PLOT:125/126/127,MAGOMENI STREET</LINE>
        <LINE>TEL NO:+255 999999</LINE>
        <LINE>DAR ES SALAAM,TANZANIA</LINE>
        <!--HEADER DETAILS FOR TAXPAYER AS PER REGISTRATION ACKNOWLEDGEMNT-->
        </HEADER>
        <VRN>12345678A</VRN>
        <TIN>222222222</TIN>
        <TAXOFFICE>TEST REGION</TAXOFFICE>
        <REGID>TZ0100082639</REGID>
        <ZNUMBER>20201005</ZNUMBER>
        <EFDSERIAL>10TZ107372</EFDSERIAL>
        <REGISTRATIONDATE>2019-08-15</REGISTRATIONDATE>
        <USER>09VFDWEBAPI-11111111122222222210TZ107372</USER>
        <SIMIMSI>WEBAPI</SIMIMSI>
        <!--FIX SIMIMSI TO WEBAPI-->
        <TOTALS>
        <DAILYTOTALAMOUNT>2143250.00</DAILYTOTALAMOUNT>
        <!--SUM OF ALL SALES FOR THE DAY-->
        <GROSS>513880841.00</GROSS>
        <!--CUMMULATIVE SALES FROM DAY ONE TO PRESENT-->
        <CORRECTIONS>0.00</CORRECTIONS>
        <!--FIX CORRECTIONS TO ZERO-->
        <DISCOUNTS>0.00</DISCOUNTS>
        <!--TOTAL DISCOUNTS ISSUED -->
        <SURCHARGES>0.00</SURCHARGES>
        <TICKETSVOID>0</TICKETSVOID>
        <!--TOTAL NUMBER OF TICKETS VOIDED/CANCELLED IN THE SYSTEM AND THEREFORE NOT SENT TO TRA. --
>
        <TICKETSVOIDTOTAL>0.00</TICKETSVOIDTOTAL>
        <!--TOTAL AMOUNT OF TICKETS VOIDED/CANCELLED IN THE SYSTEM AND THEREFORE NOT SENT TO TRA. --
>
        <TICKETSFISCAL>36</TICKETSFISCAL>
```

<!--TOTAL FISCAL RECEIPT ISSUED-->

<TICKETSNONFISCAL>6</TICKETSNONFISCAL>

<!-- TOTAL NUMBER OF RECEIPTS NOT SENT TO TRA AS A RESULT OF VOID/CANCEL -->

</TOTALS>

<VATTOTALS>

<VATRATE>A-18.00</VATRATE>

<NETTAMOUNT>1816313.55</NETTAMOUNT>

<!--TOTAL ECXLUSIVE OF TAX FOR VAT ITEMS-->

<TAXAMOUNT>326936.45</TAXAMOUNT>

<!--TOTAL VAT FOR THE DAY-->

<VATRATE>B-0.00</VATRATE>

<NETTAMOUNT>0.00</NETTAMOUNT>

<TAXAMOUNT>0.00</TAXAMOUNT>

<VATRATE>C-0.00</VATRATE>

<NETTAMOUNT>0.00</NETTAMOUNT>

<!--TOTAL SALES FOR ZERO RATED ITEMS FOR THE DAY-->

<TAXAMOUNT>0.00</TAXAMOUNT>

<!--TAX WILL ALWYAS BE ZERO-->

<VATRATE>D-0.00</VATRATE>

<NETTAMOUNT>0.00</NETTAMOUNT>

<!--TAX WILL ALWYAS BE ZERO-->

<TAXAMOUNT>0.00</TAXAMOUNT>

<VATRATE>E-0.00</VATRATE>

<!--TOTAL SALES FOR ZERO RATED ITEMS FOR THE DAY-->

<NETTAMOUNT>0.00</NETTAMOUNT>

<!--TAX WILL ALWYAS BE ZERO-->

<TAXAMOUNT>0.00</TAXAMOUNT>

</VATTOTALS>

<PAYMENTS>

<PMTTYPE>CASH</PMTTYPE>

<PMTAMOUNT>2143250.00</PMTAMOUNT>

<!--TOTAL sales of all receipts paid by CASH-->

<PMTTYPE>CHEQUE</PMTTYPE>

<PMTAMOUNT>0.00</PMTAMOUNT>

<!--TOTAL sales of all receipts paid by CHEQUE-->

<PMTTYPE>CCARD</PMTTYPE>

<PMTAMOUNT>0.00</PMTAMOUNT>

<!--TOTAL sales of all receipts paid by CREDIT CARD-->

<PMTTYPE>EMONEY</PMTTYPE>

```
                    <PMTAMOUNT>0.00</PMTAMOUNT>

                    <!--TOTAL sales of all receipts paid by EMONEY-->

                    <PMTTYPE>INVOICE</PMTTYPE>

                    <PMTAMOUNT>0.00</PMTAMOUNT>

                    <!--SUM of for all invoices. This is for INVOICES alone-->

                    </PAYMENTS>

                    <CHANGES>

                    <VATCHANGENUM>0</VATCHANGENUM>

                    <!--Fix VATCHANGENUM to 0-->

                    <HEADCHANGENUM>0</HEADCHANGENUM>

                    <!--Fix HEADCHANGENUM to 0-->

                    </CHANGES>

                    <ERRORS></ERRORS>

                    <!--For VFD leave ERROR node empty like shown-->

                    <FWVERSION>3.0</FWVERSION>

                    <!--Fix firmware version to 3.0-->

                    <FWCHECKSUM>WEBAPI</FWCHECKSUM>

                    <!--Fix checksum to WEBAPI-->

            </ZREPORT>

            <EFDMSSIGNATURE>ksjluae884343iifoow299343oeoi0234923429342249o2449</ EFDMSSIGNATURE >

    </EFDMS>
```

Data Type for Z report posting

Field	Data Type	Description	Remarks
DATE	Date	Date of the Z report	
TIME	Time	Time of the issue	
HEADER	Recordset	Contains Header lines	
LINE	String	Inside Header, define Name, Address, TIN, VRN, Telephone etc. as programmed in EFD and printed on each receipt	Can be multiple, minimum 4 header lines and maximum 8 header lines
VRN	String	VAT registration number	If taxpayer is registered on VAT should show its VRN, if not registered should be left blank
TIN	String	TAX identification number	TIN of the seller
TAXOFFICE	String	Name of the Tax office where a taxpayer submits his/her returns	

REGID	String	This is a unique ID issued to a fiscal device upon a successful registration. The REGID must not be programmed by user or technician and must only be received from server.	REGID parameter is contained in acknowledgment message after VFD submitted successful registration request
ZNUMBER	Integer	ZNUM for VFDs will be a number in format of (YYYYMMDD) e.g. 20190626 and this will change on Daily Basis i.e. ZNUM for Today: 20191018, ZNUM for yesterday: 20191017, ZNUM for tomorrow: 20191019. ZNUM is date of transaction written in number format.	
EFDSERIAL	String	This is the serial number of the fiscal device. This number is composed of two digits which represent the manufacturer code followed by two letters representing the Tanzania country code and followed by the serial number of the production.	Each fiscal device should have a unique serial number to avoid matching with another fiscal device(s) The format of the serial number should be like this: Example: 01TZ100311
REGISTRATIONDATE	Date	Date when the fiscal device has been registered/Fiscalized	
USER	String	Identification number of the taxpayer	UIN value
SIMIMSI	String	International Mobile Subscriber Identity (IMSI) for sim card used in the EFD Machine	Fix value to **WEBAPI**
TOTALS	RecordSet	Record that contains totals and each kind of counter since the last Z Report	
VATTOTALS	RecordSet	Nett and Tax Amounts Totals	
PAYMENTS	RecordSet	RecordSet that contains payments	
CHANGES	Recordset	This includes VAT rates, header changes	Will further contain VATChanges, HeaderChanges
ERRORS	RecordSet	Any Errors Contained	Leave this node empty with both tags
FWVERSION	String	Firmware Version	Fix value to 3.0
FWCHECKSUM	String	Firmware Checksum	Fix value to WEBAPI

Z Report TotalsRecordSet

Field	Type	Description	Remark
DAILYTOTALAMOUNT	Double	Total Sales Amount Inclusive of Tax	Sum of all Sales For The Day
GROSS	Double	Accumulative Total	Cumulative Sales From Day One To Present
CORRECTIONS	Double	Any Corrections made	Fix Value For TotalCorrection To Zero
DISCOUNTS	Double	Discounts for the Day	TOTAL DISCOUNTS ISSUED
SURCHARGES	Double	Extra Charges added	Fix Value For Totalsurchage To Zero
TICKETSVOID	Integer	Number of voided tickets	Total number of tickets voided/cancelled in the system and therefore not sent to TRA
TICKETSVOIDTOTAL	Double	Amount of all voided receipts	Total amount of tickets voided/cancelled in the system and therefore not sent to TRA
TICKETSFISCAL	Integer	Number of fiscal receipts	Total fiscal receipt/invoices issued
TICKETSNONFISCAL	Integer	Number of non-fiscal receipts issued by the machine	Total number of tickets voided/cancelled in the system and therefore not sent to TRA

VATTotalsRecordSet

Field	Type	Description	Remark
VATRATE	Char	Identifier of the vatrate (A,B,C…)	
NETTAMOUNT	Double	Nett Sales exclusive of taxes	
TAXAMOUNT	Double	Tax Amount for the Rate	

PaymentsRecordSet

Field	Type	Description	Remark
PMTTYPE	String	Payment type can be CASH CHEQUE CCARD EMONEY INVOICE	
PMTAMOUNT	Double	Payment amount based on payment type used	

ChangesRecordSet

Field	Type	Description	Remark
VATCHANGENUM	Integer	Number of changes on VAT rates	Fix value to zero
HEADCHANGENUM	Integer	Number of changes on Header	Fix value to zero

Data type for Z report acknowledgment

Field	Data Type		Description
ZACK			Z-Report Acknowledgement Envelop
ZNUMBER	Int	Mandatory	Z-Report Number for the posted receipt
DATE	DateAndTime	Mandatory	Report Date YYYY-MM-DD
TIME	DateAndTime	Mandatory	Report Time HH24:MI:SS
ACKCODE	Int(1)	Mandatory	0 means success. Else it would be an error code
ACKMSG	String(50)	Mandatory	Describes the ACKCODE above

Digital Signature Security

Signature generation:

1. Registration

   To get signature use private key provided to sign body section **<REGDATA></REGDATA>** using SHA1 algorithm with RSA

2. Receipt posting

   To get signature use private key provided to sign body section **<RCT></RCT>** using SHA1 algorithm with RSA

3. Z Report posting

   To get signature use private key provided to sign body section **<ZREPORT></ ZREPORT >**

   using SHA1 algorithm with RSA

SAMPLE CODE FOR REFERENCE

Please refer this

```
<!--

PHP EXAMPLE TO SEND SIGNED EFD MESSAGE REQUEST DATA TO TRA AND

VERIFY SIGNED RESPONSE GENERATED BY TRA

Intended Users: TAX PAYERS

Prepared by: Richard Kazimoto

Date: 23 September, 2019.

-->


<?php



//******Variables*****Retrieved From Database********

$TIN='111111111';

$VRN='';

$certKey='10TZ999999';

$DC=1;

$RCTNUM=1;

$GC=$RCTNUM;

$ZNUM='20190930';

//**********Send Details to TRA*****************

//**General Info******

$xml_doc = "<?xml version='1.0' encoding='UTF-8'?>";

$efdms_open = "<EFDMS>";

$efdms_close = "</EFDMS>";

$efdms_signatureOpen="<EFDMSSIGNATURE>";

$efdms_signatureClose="</EFDMSSIGNATURE>";

//***Extract Client Public and Private Digital Signatures****
```

```php
$cert_store = file_get_contents('vfdClient.pfx');

$clientSignature = openssl_pkcs12_read($cert_store, $cert_info, 'Password');


$privateKey= $cert_info['pkey'];

$publicKey = openssl_get_privatekey($privateKey);

$certBase=base64_encode('15 70 1e 15 39 94 7e ab 46 1f 0c f1 33 bc ac c9');

//***Compute Signature with SHA1************************


$payloadData="<REGDATA><TIN>$TIN</TIN><CERTKEY>$certKey</CERTKEY></REGDATA>";

$payloadDataSignature=sign_payload_plain($payloadData,$publicKey);

$signedMessageRegistration
=$xml_doc.$efdms_open.$payloadData.$efdms_signatureOpen.$payloadDataSignature.$efdms_signatureClose.$efdms_close;


//****Step 1***Send Request To TRA for Registration**********


$urlReceipt = 'https://virtual.tra.go.tz/efdmsRctApi/api/vfdRegReq';

$headers = array(

'Content-type: Application/xml',

'Cert-Serial: ' . $certBase,

'Client: WEBAPI'

);


$registrationACK=sendRequest($urlReceipt,$headers,$signedMessageRegistration);

$xmlACKRegistration = new SimpleXMLElement($registrationACK);


$ackCode = $xmlACKRegistration ->EFDMSRESP->ACKCODE;



//****Step 2***Send Request To TRA for Token Authentication**********


if($ackCode==0) // 0- Response Code for Successful Registration************

{
```

```php
$username= $xmlACKRegistration ->EFDMSRESP->USERNAME;

$password= $xmlACKRegistration ->EFDMSRESP->PASSWORD;

$routingKey=$xmlACKRegistration ->EFDMSRESP->ROUTINGKEY;

$registrationID=$xmlACKRegistration ->EFDMSRESP->REGID;

$receiptCode=$xmlACKRegistration ->EFDMSRESP->RECEIPTCODE;

$UIN=$xmlACKRegistration ->EFDMSRESP->UIN;


$urlReceipt = 'https://virtual.tra.go.tz/efdmsRctApi/vfdtoken';

$headers = '';

$authenticationData= "username=$username&password=$password&grant_type=password";


echo $authenticationData;


$tokenACKData=sendRequest($urlReceipt,$headers,$authenticationData);

//$token = $tokenACKData['access_token'];

$token = "4uMgpgRXgnWRL1PHfZq20Cy2PMG5VgshatGgsVN5roS_94TDjuJKcX95oaexRvrsh3k6065YZI5FO6G2dKImnwV_FsilpL-
WKpDqUTODKjEdWoy8ukh5r_p5wMQe82jk26Z-
Aoz7oqNU4DtnV_ogvdt5ol_hmQRGIQc6RLqRKXSTsEmSuae16rcHOnV0WfpdJuuqhv2UZzQCcGprFF6YaLUIWVowNE1MyjUmyHT
W1WB88isOvUWtO2iecHapiE9hpJhEjvL6kKZYYIme1BCYiYZwA95detEViUzjrPdpUkAKRVZJocHCp324KQTnuTdnU9R_9z0MVQVD
dGMuDJADZr1tN1-jTsAo-ry_H4C-Q96eYZZuzTVB4pnVUVEF-
elCvQGvRT2g7H8PhK4Xzgx50z6Z6cosuwSGhvMy1ekemSAknZsf71Hqao7_bpA_A4YP_";

}

else

{

$ackMsg=$xmlACKRegistration ->EFDMSRESP->ACKMSG;

echo 'Error '.$ackMsg;

exit();

}

//****Step 3***Post Receipt to TRA**********

//**Generata Payload Data

$RCTVNUM=$receiptCode.$GC;

$payloadData="<RCT><DATE>2019-09-
25</DATE><TIME>11:38:00</TIME><TIN>111111111</TIN><REGID>TZ090055567</REGID><EFDSERIAL>10TZ999999</EFDSER
IAL><CUSTIDTYPE>1</CUSTIDTYPE><CUSTID>111222333</CUSTID><CUSTNAME>Richard
Kazimoto</CUSTNAME><MOBILENUM>0713655545</MOBILENUM><RCTNUM>1</RCTNUM><DC>1</DC><GC>1</GC><ZNU
M>20190625</ZNUM><RCTVNUM>GU72D81</RCTVNUM><ITEMS><ITEM><ID>1</ID><DESC>Sponsorship deal to TRA
FC</DESC><QTY>1</QTY><TAXCODE>1</TAXCODE><AMT>20000.01</AMT></ITEM></ITEMS><TOTALS><TOTALTAXEXCL>180
```

00.00</TOTALTAXEXCL><TOTALTAXINCL>38000.0</TOTALTAXINCL><DISCOUNT>0.00</DISCOUNT></TOTALS><PAYMENTS><PMTTYPE>CASH</PMTTYPE><PMTAMOUNT>50000.00</PMTAMOUNT><PMTTYPE>CHEQUE</PMTTYPE><PMTAMOUNT>100000.00</PMTAMOUNT><PMTTYPE>CCARD</PMTTYPE><PMTAMOUNT>68000.00</PMTAMOUNT><PMTTYPE>EMONEY</PMTTYPE><PMTAMOUNT>0.00</PMTAMOUNT></PAYMENTS><VATTOTALS><VATRATE>A</VATRATE><NETTAMOUNT>100000.00</NETTAMOUNT><TAXAMOUNT>16500.00</TAXAMOUNT><VATRATE>B</VATRATE><NETTAMOUNT>100000.00</NETTAMOUNT><TAXAMOUNT>0.00</TAXAMOUNT><VATRATE>C</VATRATE><NETTAMOUNT>100000.00</NETTAMOUNT><TAXAMOUNT>0.00</TAXAMOUNT></VATTOTALS></RCT>";

```php
$payloadDataSignatureReceipt=sign_payload_plain($payloadData,$publicKey);

$signedMessageReceipt
=$xml_doc.$efdms_open.$payloadData.$efdms_signatureOpen.$payloadDataSignatureReceipt.$efdms_signatureClose.$efdms_close;

$urlReceipt = 'https://virtual.tra.go.tz/efdmsRctApi/api/efdmsRctInfo';

$headers = array(

'Content-type: Application/xml',

'Routing-Key: '.$routingKey,

'Cert-Serial: ' .$certBase,

'Client: WEBAPI',

'Authorization: Bearer '.$token

);

$receiptACK=sendRequest($urlReceipt,$headers,$signedMessageReceipt);

$xmlACKReceipt = new SimpleXMLElement($receiptACK);

$ackCodeReceipt = $xmlACKReceipt ->RCTACK->ACKCODE;

$ackReceiptMessage=$xmlACKReceipt ->RCTACK->ACKMSG;

echo htmlentities($receiptACK);

//*********Functions**********
//******Functions****
```

```php
//********Digital Sign the Data***************

function sign_payload_plain($payload_data,$publicKey)

{

//compute signature with SHA-256

openssl_sign($payload_data, $signature,$publicKey, OPENSSL_ALGO_SHA1);


return base64_encode($signature);

}


//*********Send Signed Request to TRA*************

function sendRequest($urlReceipt,$headers,$signedData)

{

$curl = curl_init($urlReceipt);


if($headers!='')

{

curl_setopt ($curl, CURLOPT_HTTPHEADER, $headers);

}

else

{

curl_setopt($curl, CURLOPT_HTTPHEADER, array('Content-Type: application/x-www-form-urlencoded')); // For Token
Authentication

}

curl_setopt($curl, CURLOPT_POST, true);

curl_setopt($curl, CURLOPT_SSL_VERIFYPEER,0);

curl_setopt($curl, CURLOPT_SSL_VERIFYHOST,0);

curl_setopt($curl, CURLOPT_POSTFIELDS, $signedData);

curl_setopt($curl, CURLOPT_RETURNTRANSFER, true);

$resultEfd = curl_exec($curl);

if($headers=='')

{

$resultEfd = json_decode($resultEfd, true);

}
```

```php
if(curl_errno($curl)){

throw new Exception(curl_error($curl));

}


curl_close($curl);

return $resultEfd;

}
?>
```

Abbreviations

EFDMS	Electronic Fiscal Device Management System
VFD	Virtual Fiscal Device
CLIENT	Indicate mode of integration
CERT-SERIAL	Serial number of the issued certificate (hex) private key encoded to base 64
CERTKEY	Serial number of the virtual device issued to taxpayer
REGDATA	Tag containing registration request
TIN	Taxpayer Identification number
EFDMSSIGNATURE content.	Signature generated after signing registration or receipt/invoice