



POS TO eTRS INTEGRATION TECHNICAL DOCUMENT FOR VP OPERATORS

Prepared by Mauritius Network Services Ltd

for

Mauritius Chamber of Commerce and Industry

Version 0.9

April 2022

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Prepared By

Designation	Name	Date	Brief summary of changes
Team Lead	Priteela Nemdharry-Angum	9 th March 2021	Template & Design, Scope, Introduction and WMS
Senior Software Engineer	Veena Gopinath Nair	10 th March 2021	Business rules (Functional & Technical)
Senior Software Engineer	Veena Gopinath Nair	January 2022	<ul style="list-style-type: none"> • Include <i>visitor email address</i> in visitor details BOTH at sales transaction level and at visitor level • Reduce line item description from 200 char to 100 char in order to fit in printout
Software Engineer	Mohammad Hamza Subratty	January 2022	Added new API: REST API for travel details
Software Engineer	Mohammad Hamza Subratty	March 2022	Corrected visitor email in visitor details.
Functional Analyst	Alain Fok	April 2022	<p>For VP sales transactions,</p> <p>(1) eTRS will not check whether the visitor e-Voucher number (if any) is valid or not and will not redeem that e-Voucher if the latter is valid and not yet redeemed.</p> <p>(2) the line details Unit Price (unitPriceFcy) must always exclude the VAT.</p>

Reviewed By

Designation	Name	Date
Senior Software Architect	Feysal Rujbally	30 th March 2021

Functional Analyst	Alain Fok	30 th March 2021
Functional Analyst	Alain Fok	14 th January 2022

Release History

Release Number	Date	Brief summary of changes

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1 Introduction

1.1 Purpose and scope of this document

This document provides the technical documentation (TD) related to the automatic integration of MCCI registered shops POS sales transaction data to the new eTRS system and if required to the MRA DDTS WMS system.

The new eTRS will be used by the Mauritius Chamber of Commerce and Industry (MCCI) to operate its tax refund service.

Similar to the current tax refund system, the MCCI operation team will use the new eTRS to capture Duty/VAT free transactions and process refunds on a daily basis at the MCCI counters located at airport (and cruise) terminals

However, one of the major objectives of the new eTRS is to decrease the amount of time spent by visitors at the MCCI counters for refund. One way of achieving this is by eliminating manual sales transaction data capture by MCCI at the time of refund.

Using the new eTRS system, sales transactions can be created at real time in eTRS by the POS. The POS can trigger this automatic transfer of sales data by invoking the POS eTRS integration API. In this way, at the time of refund at the MCCI counter, the sales transaction will already be present in the system and hence no manual entry is required.

1.2 Intended audience

This document is intended for the MCCI technical team / operators' technical team / development team.

1.3 Abbreviations and other terms used

Abbreviations	Explanation
POS	A registered Shop Point of Sales or Inhouse System for issue of sales invoices/receipts to visitors for tax refund purposes with MCCI
eTRS	Refers to MCCI electronic Tax Refund System

2 Authentication

The eTRS to POS integration API is secured using the bearer authentication protocol. The bearer authentication (also called token authentication) is an HTTP authentication scheme that involves security tokens called bearer tokens.

This means that the POS client must send a bearer token in the authorization header whenever invoking eTRS integration API.

Each POS client will be issued a credential which they will use to connect to eTRS API.

2.1 eTRS Authentication API

2.1.1 URL

An access token is generated by making an HTTP POST request to the Auth login endpoint.

Method	Content-type
Method	POST
Content-type	application/json
URL	<server url>/security/login

2.1.2 Request

Property Name	Type	Description
email	String	Email provided to POS by MNS. Email address will be specific to POS.
password	String	Password shared by MNS.

Sample Request:

```
{
  "email": "pos@mail.com",
  "password": "*****"
}
```

2.1.3 Response

Property Name	Type	Description
accessToken	String	An auth access token generated from the provided credentials.

3 POS to eTRS Integration REST API

Using the POS to eTRS integration, sales transactions for **VAT Paid (VP)** can be created.

3.1 URL

Method	Content-type
Method	POST
Content-type	application/json
URL	<server url>/sales/pos/processSalesTransactions

3.2 Request

The request body contains a header and one or many item details.

Main Points to consider in the request.

1. The fields tagged as mandatory should be provided. If any mandatory field is not provided, this can cause the integration REST API to fail.
2. The field names should match.
3. The values provided for each field attribute must follow the format of the field provided.
4. The salesType field can only follow the specified defined field values e.g. **VP**.
5. You can pass multiple sales transactions in one request.

3.2.1 Request body: VP (VAT Paid)
a. Header Details

Field Name	Field Type & Validations	Mandatory(Y/N)	Remarks
outletSalesInvoice	String (max 20)	Y	Outlet Sales Invoice/ Receipt Number which uniquely identifies the sales invoice/receipt
salesType	String	Y	Type of Sales Invoice/Receipt: must be VP
invoiceType	String (max 10)	Y	Type of Invoice Type: must be VAT Paid
dateOfSales	Instant	Y	Date of Sales Invoice/Receipt with mandatory ISO date format: yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z In case, time is not required then send it as below e.g. 2020-10-04T00:00:00.000Z
numParcels	Integer	N	Number of Parcels with format 999
voucherSerialNumber	String (max 20)	N	Voucher Serial Number for which value is null by default. NOTE: eTRS will not check whether the visitor e-Voucher number (if any) is valid or not and will not redeem that e-Voucher if the latter is valid and not yet redeemed.
voucherAmount	BigDecimal	N	Voucher Amount with format 9,999.99 - <i>in Mauritian rupees</i> 0 by default
Surname	String (max 50)	Y	Visitor's Surname

otherName	String (max 50)	Y	Visitor's Other Names
Address	String (max 100)	Y	Visitor Address
nationality	String (max 3 & CAPITAL Letters)	Y	Visitor's nationality. Country of origin code from passport in CAPITAL letters. e.g. REU
mauritianCitizen	Boolean	Y	Mauritian Citizen (Y/N). Whether the visitor has Mauritian citizenship or not. Y: Mauritian N: Non-Mauritian/Foreigner
passportNo	String (max 20)	Y	Visitor Passport Number. The departing foreign visitors and departing Mauritians (originate from the Republic of Mauritius) will all be identified using their Passport Number <i>Note: under very specific conditions where passport no is not required for the departing visitor, this field will be used to instead capture the visitor's NID</i>
issueDate	Instant	Y	Passport Date of Issue for which format is ISO. yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z In this case, time is not required so send it as below e.g. 2020-10-04T00:00:00.000Z
expiryDate	Instant	Y	Passport Date of Expiry for which format is ISO. yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z In this case, time is not required so send it as below e.g. 2020-10-04T00:00:00.000Z

visitorMail	String (max 100)	N	Visitor Email Address
hostingInformation	String (max 100)	N	Visitor Hosting Information
departureByAirOrSea	String (max 3 & Capital Letter)	Y	Departure by Air/Sea. Format must be CAPITAL letters like mentioned below. AIR: Air (by airplane) SEA: Sea (by cruise ship) e.g. AIR
flightNoOrVesselName	String (max 35 and Capital letter)	Y	Flight No/Cruise Ship Vessel Name in CAPITAL letters. e.g. MK330, AIDABLU
dateOfDeparture	Instant	Y	Date/Time of departure with ISO date/time format yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z In case, time is not required then send it as below e.g. 2020-10-04T00:00:00.000Z
outletDdtsNumber	String (max 15)	Y	MCCI Registration number allocated by MCCI upon approval of application for registration of the outlet for tax refund. e.g. = V1, V11, V101, V1001 etc.
Active	Boolean	Y	Sales Transaction is cancelled or not cancelled. By default, it should be true . If not cancelled then true and if cancelled the then false . If false, then deactivatedOn & deactivationRemarks are mandatory.
deactivatedOn	Instant	N	Deactivated/ Cancelled date in ISO date-time format yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z

			In case, time is not required then send it as below e.g. 2020-10-04T00:00:00.000Z
deactivationRemarks	String (max 200)	N	Remarks for Deactivation is mandatory if this existing sales transaction has been cancelled by the shop. Null if this existing sales transaction is not cancelled by the shop.

b. Line Details

Field Name	Field Type & Validations	Mandatory(Y/N)	Remarks
referenceNo	String (max 20)	Y	Internal Product/Item Reference number defined by the outlet
invoiceNo	String (max 20)	N	In case, invoices from different outlets are grouped under a single outlet e.g. for specific outlets.
locallyManufactured	Boolean	Y	Locally Manufactured Products. Format (Y/N) Y: Locally manufactured products N: Imported products
description	String (max 100)	Y	Description of Goods.
unitPriceFcy	BigDecimal (2 decimal point)	Y	Unit Price (FCY) in format 99,999,999.99 – Must always be MUR (local Mauritian rupees) - Must always exclude the VAT
quantity	BigDecimal	Y	Quantity of product
model	String (max 20)	Y	Model of the product. e.g. Gold
Brand	String (max 20)	Y	Brand of the product. e.g. Adamas

c. Sample Request for VAT PAID

```
{
  "salesTransactions": [
    {
      "visitorDetail": {
        "surname": "Dhoorundhur",
        "otherName": "Abhishek",
        "address": "Royal Road, Caroline",
        "visitorMail": "visitor123@gmail.com",
        "hostingInformation": "St Georges Hotel",
        "departureByAirOrSea": "AIR",
        "flightNoOrVesselName": "MK330",
        "dateOfDeparture": "2020-02-10T11:00:00.000Z",
        "passportNo": "Q41264",
        "nationality": "REU",
        "issueDate": "2020-05-19T10:16:16Z",
        "expiryDate": "2025-05-19T10:16:16Z",
        "mauritianCitizen": false
      },
      "outletSalesInvoice": "INV3",
      "outletDdtsNumber": "V101",
      "salesDetail": {
        "salesType": "VP",
        "invoiceType": "VAT Paid",
        "voucherSerialNumber": "V89562",
        "numParcels": 2,
        "voucherAmount": 2000,
        "dateOfSales": "2020-10-04T08:18:54.100Z"
      },
      "deactivationDetail": {
        "active": true,
        "deactivatedOn": null,
        "deactivationRemarks": null
      },
      "itemDetails": [
        {
          "referenceNo": "ITM1235",
          "invoiceNo": "INV45",
          "locallyManufactured": false,
          "unitPriceFcy": 5000,
          "quantity": 1,
          "description": "1 catridge of cigarettes",
          "model": "Benson & Hedges",
          "brand": "Matinee"
        }
      ]
    }
  ]
}
```

```

        "referenceNo": "ITM12963",
        "invoiceNo": "INV45",
        "locallyManufactured": false,
        "unitPriceFcy": 1500,
        "quantity": 10,
        "description": "1 catridge of cigarettes",
        "model": "Benson & Hedges",
        "brand": "Matinee"
    },
},
{
    "visitorDetail": {
        "surname": "Jalaram",
        "otherName": "Ramesh",
        "address": "Royal Road, Caroline",
        "visitorMail": "visitor123@gmail.com",
        "hostingInformation": "St Georges Hotel",
        "departureByAirOrSea": "AIR",
        "flightNoOrVesselName": "MK330",
        "dateOfDeparture": "2020-02-10T11:00:00.000Z",
        "passportNo": "Q41264",
        "nationality": "REU",
        "issueDate": "2020-05-19T10:16:16Z",
        "expiryDate": "2025-05-19T10:16:16Z",
        "mauritianCitizen": false
    },
},
"outletSalesInvoice": "INV3",
"outletDdtsNumber": "V101",
"salesDetail": {
    "salesType": "VP",
    "invoiceType": "VAT Paid",
    "voucherSerialNumber": "V89562",
    "numParcels": 2,
    "voucherAmount": 2000,
    "dateOfSales": "2020-10-04T08:18:54.100Z"
},
},
"deactivationDetail": {
    "active": false,
    "deactivatedOn": "2020-10-06T08:18:54.100Z",
    "deactivationRemarks": "Cancelled Transaction"
},
},
"itemDetails": [
    {
        "referenceNo": "ITM1235",
        "invoiceNo": "INV45",
        "locallyManufactured": false,
        "unitPriceFcy": 5000,
        "quantity": 1,
        "description": "1 catridge of cigarettes",
        "model": "Benson & Hedges",
        "brand": "Matinee"
    },
},
{
    "referenceNo": "ITM12963",
    "invoiceNo": "INV45",
    "locallyManufactured": false,
    "unitPriceFcy": 1500,
    "quantity": 10,
    "description": "1 catridge of cigarettes",
    "model": "Benson & Hedges",
    "brand": "Matinee"
}
}
]
}
}

```

3.3 Response

A successful POST call will return a HTTP code 200 (success).

In case of any authentication error or sever error, HTTP error code 401 (unauthorized), 403 (forbidden), 500 (internal server error) in the http headers of the response will be returned

Once the API is called with successful/unsuccessful request body, the response will be given via email in which information of successful and failed transactions will be detailed.

In case of any integration failure, an email will be sent to the operator and contact person of the shop in below format with an attachment which will describe why the transactions failed.

Total number of transactions processed: 4

Number of successful transactions: 1

Number of failed transactions: 3

Sample attachment format:

	A	B	C
1	Sales Invoice/ Receipt	Status	Remarks
2	INV93	FAILED	Passport no is mandatory
3	INV78	FAILED	Delivery site is mandatory,Date received is mandatory
4	INV90	FAILED	Delivery site is mandatory,Date received is mandatory
5			
6			
7			
8			

4 REST API to Retrieve Visitor Details

This API will give all the required details of a visitor upon scanning the QR code.

QR code is nothing but the visitor ID. Pass **visitorId** as a parameter to get the details while calling below API.

4.1 URL

Method	Content-type
Method	GET
Content-type	application/json
URL	<server url>/sales/pos/ getVisitor/{visitorId}

4.2 Response

Field Name	Remarks
surname	Surname of the Visitor according to the passport.
otherName	OtherName of the Visitor according to the passport.
address	Address of the Visitor as per passport
currentPassportDetail	Passport details if Visitor. Such as Passport number, nationality, issue date, expiry date.
currentTravelDetail	Information related to the current travel details. For example: via Ship then ship details or via Flight then flight details.
hostingInformation	Details of accommodation
phoneNumbers	Phone Number of Visitors if present.
email	Visitor email address

Sample Response

```
{
  "surname": "Ford",
  "otherName": "Rash",
  "address": "Port Louiss",
  "currentPassportDetail": {
    "passportNo": "J12345678910",
    "nationality": "FRA",
    "issueDate": "2020-11-24T20:00:00Z",
    "expiryDate": "2025-01-01T20:00:00Z"
  },
  "currentTravelDetail": {
    "travelRefNo": "TravelRefNo-93",
    "travel": "AIR",
    "flightDetails": {
      "id": "60c20ab061c14a65dc3d2c29",
      "flightNo": "AK087",
      "airline": "AIR MAURITIUS",
      "routeCode": "HEL",
      "destination": "Helsinki",
      "country": "Finland",
      "departureDate": "2022-05-19T00:46:00Z",
      "cancelled": false,
      "cancelledBy": null,
      "cancelledOn": null,
      "createdOn": "2021-06-10T12:50:56.733Z",
      "createdBy": "Super User",
      "modifiedOn": "2021-06-10T12:50:56.733Z",
      "modifiedBy": "Super User",
      "remarks": ""
    },
    "shipDetails": null
  },
  "hostingInformation": "Shanti Maurice",
  "phoneNumbers": null,
  "email": "visitor123@gmail.com"
}
```

5 REST API for Travel Details

This API will return 2 lists of travel details planned for a period of 1 month as from current date, to help the Shop POS user choose the correct travel details. The 2 lists are as follows:

1. posFlightDetails – this consists of flight travel details
2. posShipDetails – this consists of ship travel details

NOTE: **Authorization: Bearer <accessToken>** should be sent in the request header to access the API correctly

5.1 URL

Method	Content-type
Method	GET
Content-type	application/json
URL	<server url>/ transport/ getTravelDetails

5.2 Response

Field Name	Remarks
flightNo	Flight Number e.g MK3003
departureDate	Date/Time of departure with ISO date/time format yyyy-mm-ddThour:min:sec:millisecondsZ for e.g. 2020-10-04T08:18:54.10Z
shipName	Ship Name e.g AIDABLU
departureDate	Date/Time of departure with ISO date/time format yyyy-mm-ddThour:min:sec:millisecondsZ for e.g.

	2020-10-04T08:18:54.10Z
--	-------------------------

Sample Response

```
{
  "posFlightDetails":[
    {
      "flightNo":"MK033",
      "departureDate":"2022-05-19T00:46:00Z"
    },
    {
      "flightNo":"MK034",
      "departureDate":"2022-05-20T00:46:00Z"
    }
  ],
  "posShipDetails":[
    {
      "flightNo":"AIDABLU",
      "departureDate":"2022-05-19T00:46:00Z"
    },
    {
      "flightNo":"TITANIC",
      "departureDate":"2022-05-20T00:46:00Z"
    }
  ]
}
```