VIQF

MobileIron- VIQF-Connect
Solution Overview

Version: 1.0

Zebra Technologies Corporation

Version	Edited by	Date of Change	Changes
1.0			

#	Terms	Description
1	VIQF	Operational Visibility Service providing operation and repair reports to the users of the portal.
2	AVP	Asset Visibility Platform. This powers the VIQF portal
3	VIQF-Connect	VIQF extended the capability to connect MDM present within customer premises. This is a synonym with OVS Connect
4	REST API	Web services provide simple HTTPS based interfaces to external systems to connect and access data.

Table of Contents

1 Purpose & Scope

1.1 Purpose

The purpose of this document is as follows: -

1. Describes how the VIQF Connector script software connects to MobileIron system.
2. Describes which REST API of MobileIron is invoked.
3. Documents the list of data parameters accessed from MobileIron MDM.
4. Describes the requirements and inputs required from the customer.

1.2 Scope

The documents describe the VIQF Connect script interaction with MobileIron.
The details on how Zebra ZDS agents connect to Zebra Data Services in Cloud is not described here. Only the access requirement is specified.

2 Introduction

VIQF Connector scripts connect to the MobileIron MDM system using their REST API interface and invokes a series of REST API's to extract:

1. List of enrolled devices,
2. Device information
3. Organization unit hierarchy under which the devices are enrolled.

3 Prerequisite

The following prerequisite applies for successful VisibilityIQ Foresight operational reports:

1. Zebra devices should have ZDS agent installed and enabled to upload device metrics data to Zebra Cloud storage.
    a. This is required as all real-time device metric data is only available from ZDS agents running on the devices. This means that non-Zebra devices are not supported.
2. The devices network settings:
    a. Should allow ZDS agent to upload data on TCP PORT 443
    b. Should have Internet connectivity
3. MobileIron should have REST API access enabled with the 'Basic-authentication' scheme.

4 Architecture

4.1 Network Diagram – On-premise
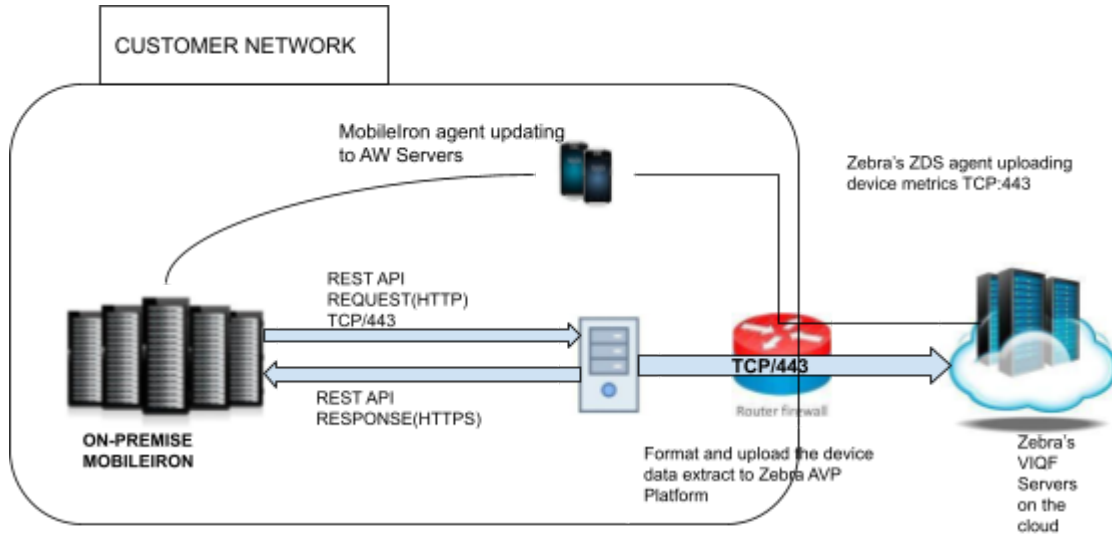
Figure 1 VIQF Connect for MobileIron On-Premise

MobileIron Agent

4.2 Network Diagram-Cloud
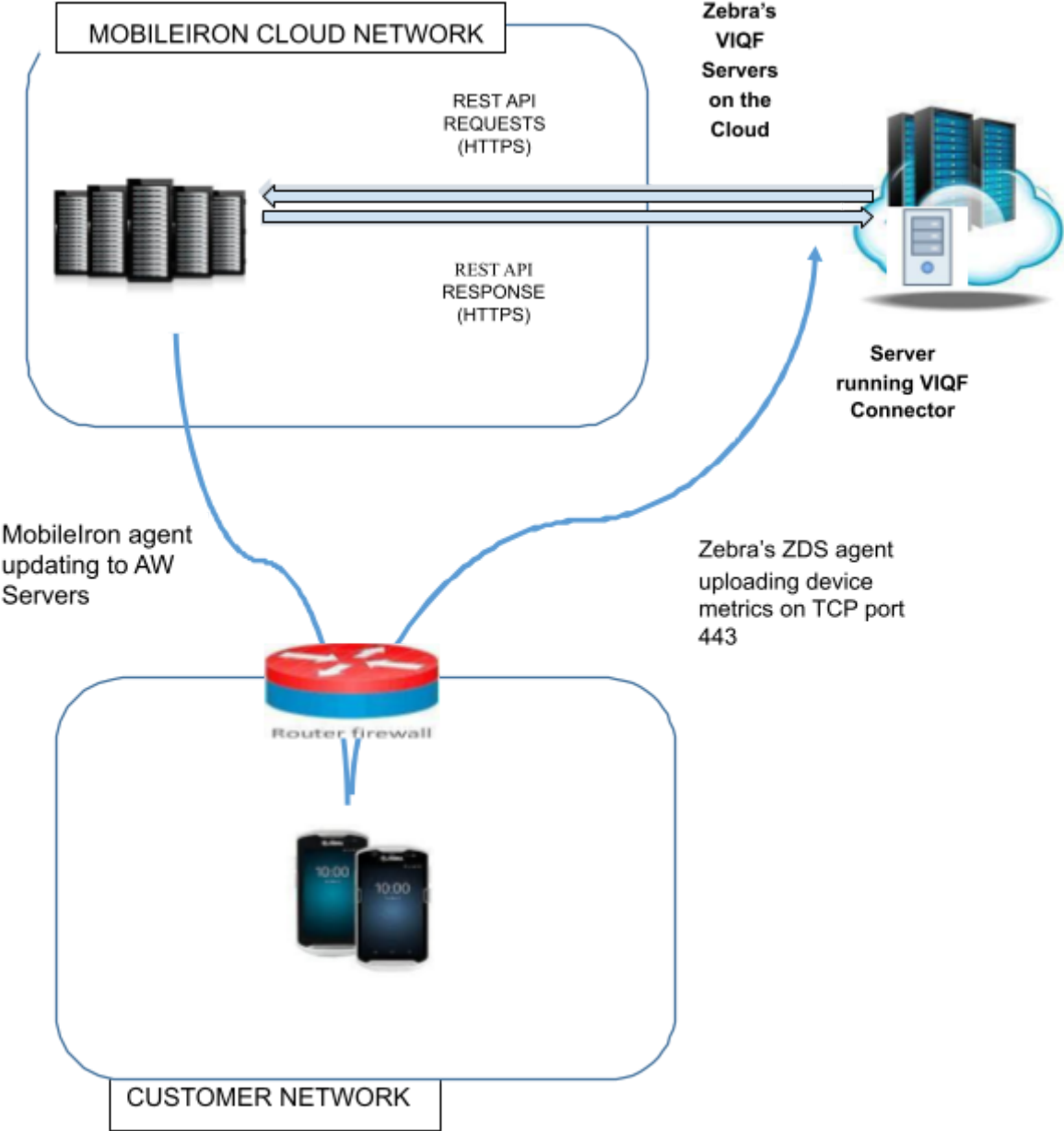
Figure 2 MobileIron Cloud Deployment & VIQF Connect

5 Control Flow

The below schematic control flow describes at a high level which MobileIron REST APIs are invoked and for what purpose. The control flow is MobileIron specific and is the same for On-Premise or cloud. The location of deployment of the script is different for Cloud vs On-Premise.

API V1: Mobileiron Cloud
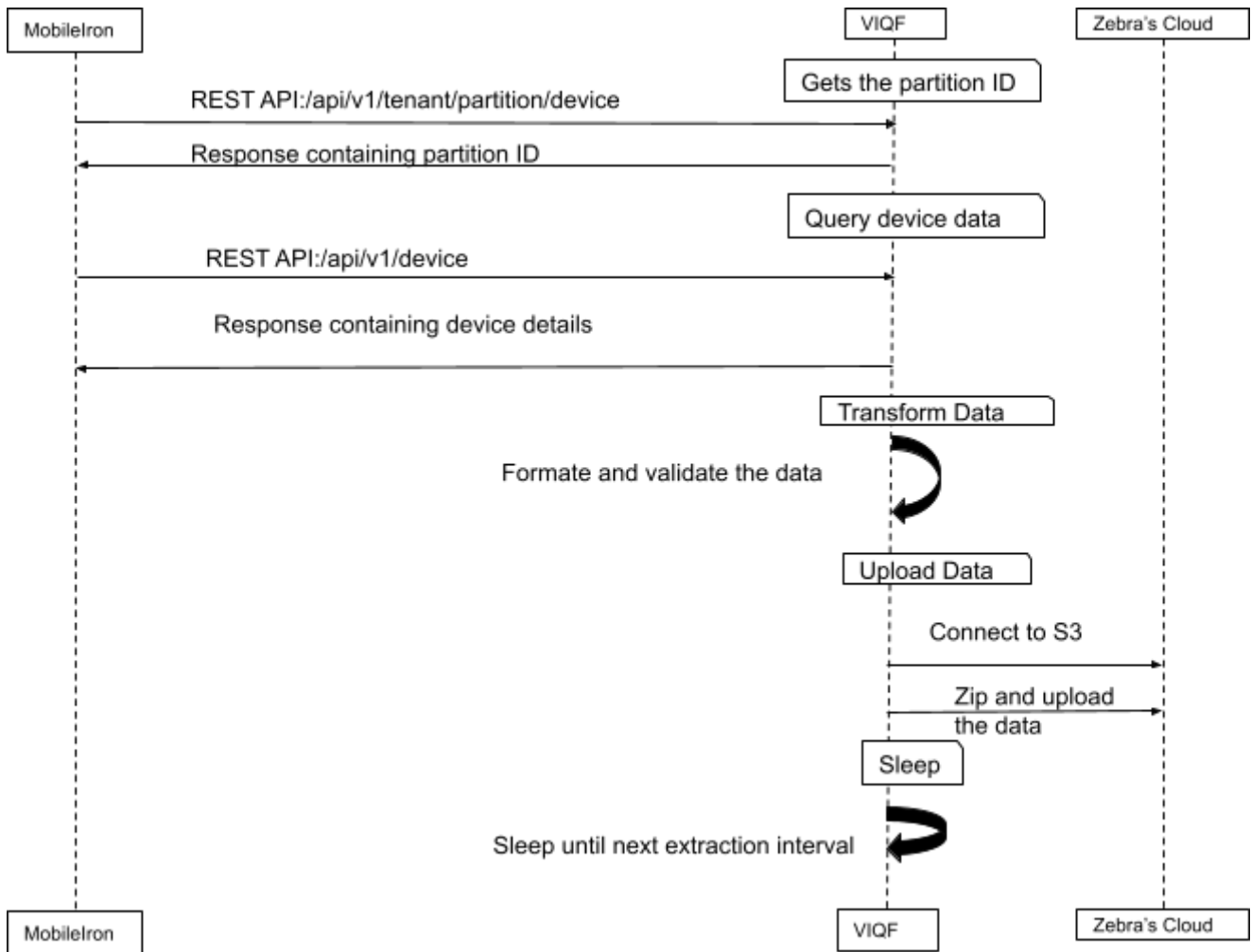
API V2: Mobileiron Core

6 MobileIron

The following section details the interaction with MobileIron through REST API and what data is collected.

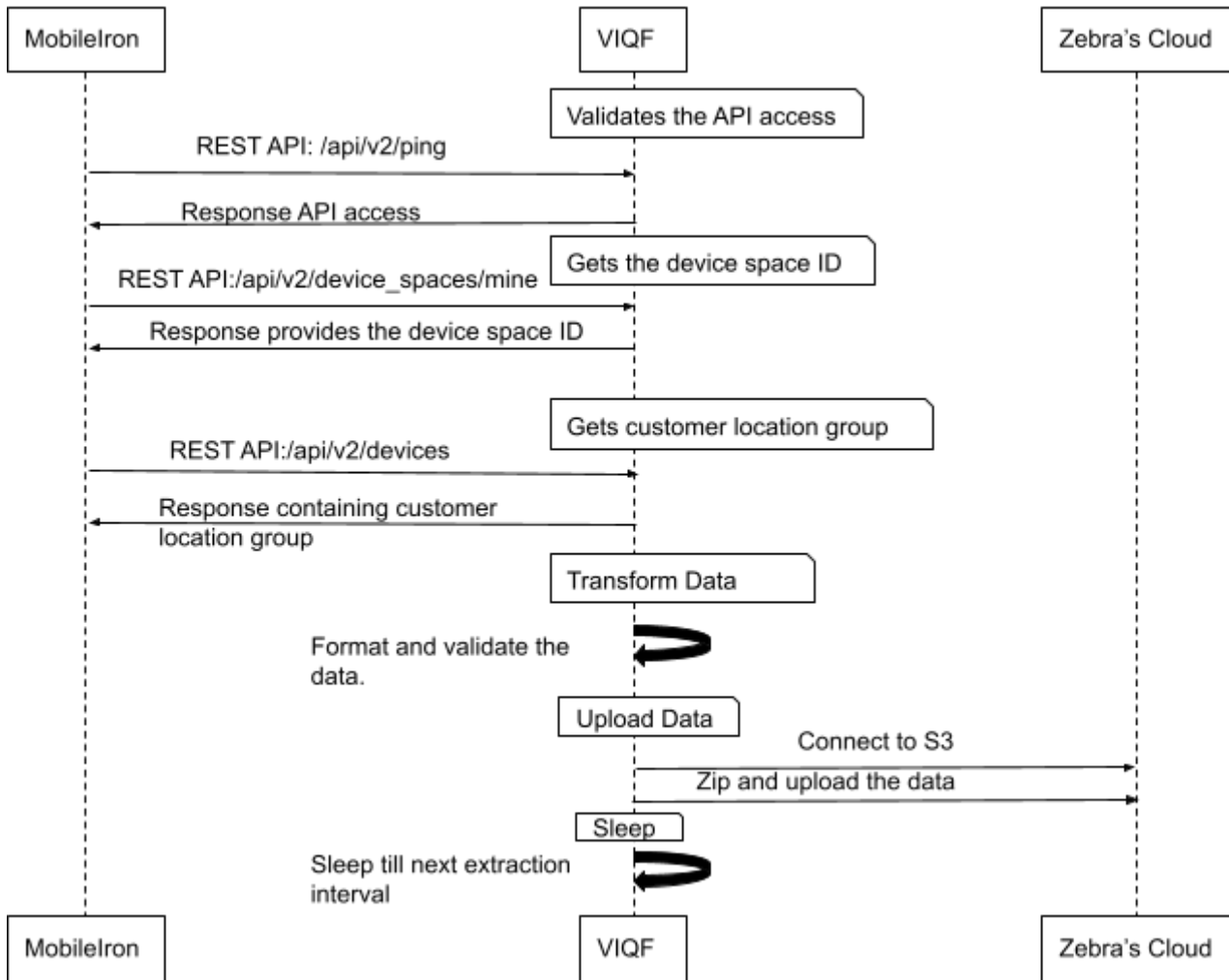## 6.1 Access Information

The VIQF Connect script at present supports only '*Basic Authentication Scheme*'.

The script requires the following three sets of information from the MobileIron administrator: -

1. Hostname of the MobileIron REST API server.
2. Username and Password of the account through which REST API will be accessed.
3. Root Organization Unit Name. (Devices only under this organization unit will be extracted)

6.2 REST API

6.2.1 Enabling REST API

Please refer to MobileIron documentation for your version. Broadly this consists of the following steps.

1. Creating a new username / password for console access.
2. Allowing READ ONLY for this user for all REST API.
3. Creating an API Key.

6.2.2 REST API List

The following REST API is invoked by the script.

The access is only required to be READ-ONLY for

MobileIron Cloud:

1. /api/v1
   a. /api/v1/tenant/partition/device
   b. /api/v1/device
   c. /api/v1/rule_group

The access is only required to be READ-ONLY for

MobileIron Core:

1. /api/v2
   a. /api/v2/ping
   b. /api/v2/device_spaces/mine
   c. /api/v2/devices

NOTE: Interested user can look at the following link:

1. https://help.ivanti.com/mi/help/en_us/cld/76/api/Content/MobileIronCloudCustomerIntegrationAPIGuide/title.htm
2. https://help.ivanti.com/mi/help/en_us/CORE/10.8.0.0/api2/Content/APIv2/APIv2Title.htm

6.2.3 REST API Permissions

The following REST API should be selected when creating the role for MobileIron Cloud: -

- **Devices**
    - o   /api/v1/device

The following REST API should be selected when creating the role for MobileIron Core: -

- **Devices**
    - o   /api/v2/device

6.3 Data

6.3.1 Device Data Collected from MobileIron

#	Parameter Name	Comments
1	Id	Numeric Id
2	UDID	Unique ID of the device in the system
3	DeviceFriendlyName	
	LocationGroupId	The 'LocationGroupId' is mapped to the name string from Organization Group Hierarchy
4	Model	Device Model Name
5	MacAddress	Device MAC Address
6	OperatingSystem	Operating System Version
7	LastEnrolledOn	Enrollment Date and Time
8	Platform	Platform information (Windows/Android etc)
9	SerialNumber	Serial Number of the device
10	LastSeen	Date and Time when device last connected to MobileIron system
11	PhoneNumber	Phone number (for a cellular device)
12	OEMInfo	OEM Information
13	Imei	IMEI (Hardware Identification Number)
14	AcLineStatus	If the device is charging or not

7 VIQF Connector Script

The below section details some information on the connector script itself.
1. Script is implemented using Python3
2. Script runs on 64-bit Windows Server. The MobileIron console and the Internet should be accessible from the Server.
   a. In the case of *on-premise deployment* Zebra expects the Windows Server to be provided by the customer.
3. Script requires Internet connectivity to upload the extracted data to Zebra's cloud for further processing.

8 Requirements

8.1 MobileIron Cloud – VIQF Connect

	Requirement	Information	Comments
	MOBILEIRON ACCESS REQUIREMENTS / INFO NEEDED		
1	Hostname of MobileIron Console Server		The hostname of the MobileIron Console Server It is assumed that port is 443 i.e., HTTPS access
2	REST API Access Enabled		Requires read only access
3	REST API – Username		
4	REST API – Password		
5	REST API – API Key		
6	Root Organisation Group Name Group ID		MobileIron does not provide organizational group information. If there is any custom data or any other point then please update.

	DEVICE DATA COLLECTION USING ZEBRA ZDS AGENT		
6	Allow traffic to TCP port 443 (if the devices are inside customer's network / restricted network)		

8.2 MobileIron On-Premise – VIQF Connect

	Requirement	Information	Comments
	MOBILEIRON ACCESS REQUIREMENTS / INFO NEEDED		
1	Hostname of MobileIron Console Server		The hostname of the MobileIron Console Server It is assumed that port is 443 i.e. HTTPS access
2	REST API Access Enabled		Requires only read only access
3	REST API – Username		
4	REST API – Password		
5	REST API – API Key		
6	Root Organization Group Name Group ID		MobileIron does not provide organizational group information. If there is any custom data or any other point then please update.
	DEVICE DATA COLLECTION USING ZDS AGENT		
6	Allow Zebra devices to upload device metric to *TCP port 443* (if the devices are inside customer's / restricted network)		

	WINDOWS SERVER REQUIREMENT (**for On-Premise MobileIron only customer needs to provide the server to install the script**)**		
7	Windows 64 bit Server Machine (Windows 2008 and above)		
8	4 GB RAM		
9	At least 10 GB free space		
10	1 Network Interface providing connectivity to MobileIron Console and Internet		

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