VIQF

AirWatch- VIQF-Connect Solution Overview

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Version: 1.4

Zebra Technologies Corporation

Version History

Version	Edited by	Date of Change	Changes
1.0	Neeraj Prasad (*VGW834@ZEBRA.COM*)	06-SEP-2017	
1.1	Neeraj Prasad (*VGW834@ZEBRA.COM*)	16-FEB-2018	Included specific information for On-Premise AirWatch
1.2	Neeraj Prasad (*VGW834@ZEBRA.COM*)	19-FEB-2019	Updated the branding information (from OVS to VIQF)
1.3	Neeraj Prasad (*VGW834@ZEBRA.COM*)	26-APR-2020	Updated terminologies to refer to latest names.
1.4	Neeraj Prasad (*VGW834@ZEBRA.COM*)	29-APR-2020	Included the guidelines for role permissions for REST API

Local Terms

#	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 with the capability to connect MDM present within customer premises. This is a synonym with OVS Connect
4	REST API	Web services providing a 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 AirWatch system.
2. Describes which REST API of AirWatch is invoked.
3. Documents the list of data parameters accessed from AirWatch MDM.
4. Describes the requirements and inputs required from the customer.

1.2   Scope

The documents describe the VIQF Connect script interaction with AirWatch v8.x and above. The last Airwatch version tested was v19.x.

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 AirWatch 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. Organisation unit hierarchy under which the devices are enrolled.

3   Pre-requisite

The following pre-requisite apply for successful VisibilityIQ Foresight operational reports:

1. Zebra devices should have ZDS agent installed and enabled to allow upload device metrics data to Zebra Cloud storage.
   a. This is required as all of real-time device metric data is only available from ZDS agent 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. AirWatch should have REST API access enabled with 'Basic-authentication' scheme.

4   Architecture

4.1   Network Diagram – On-premise
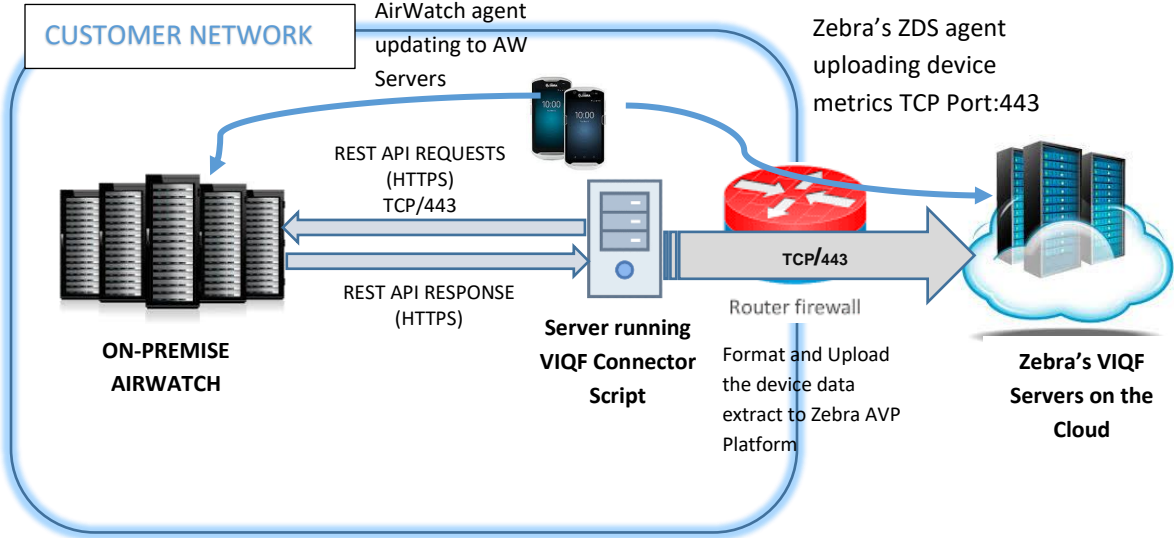
Figure 1 VIQF Connect for AirWatch on-premise

4.2   Network Diagram – Cloud
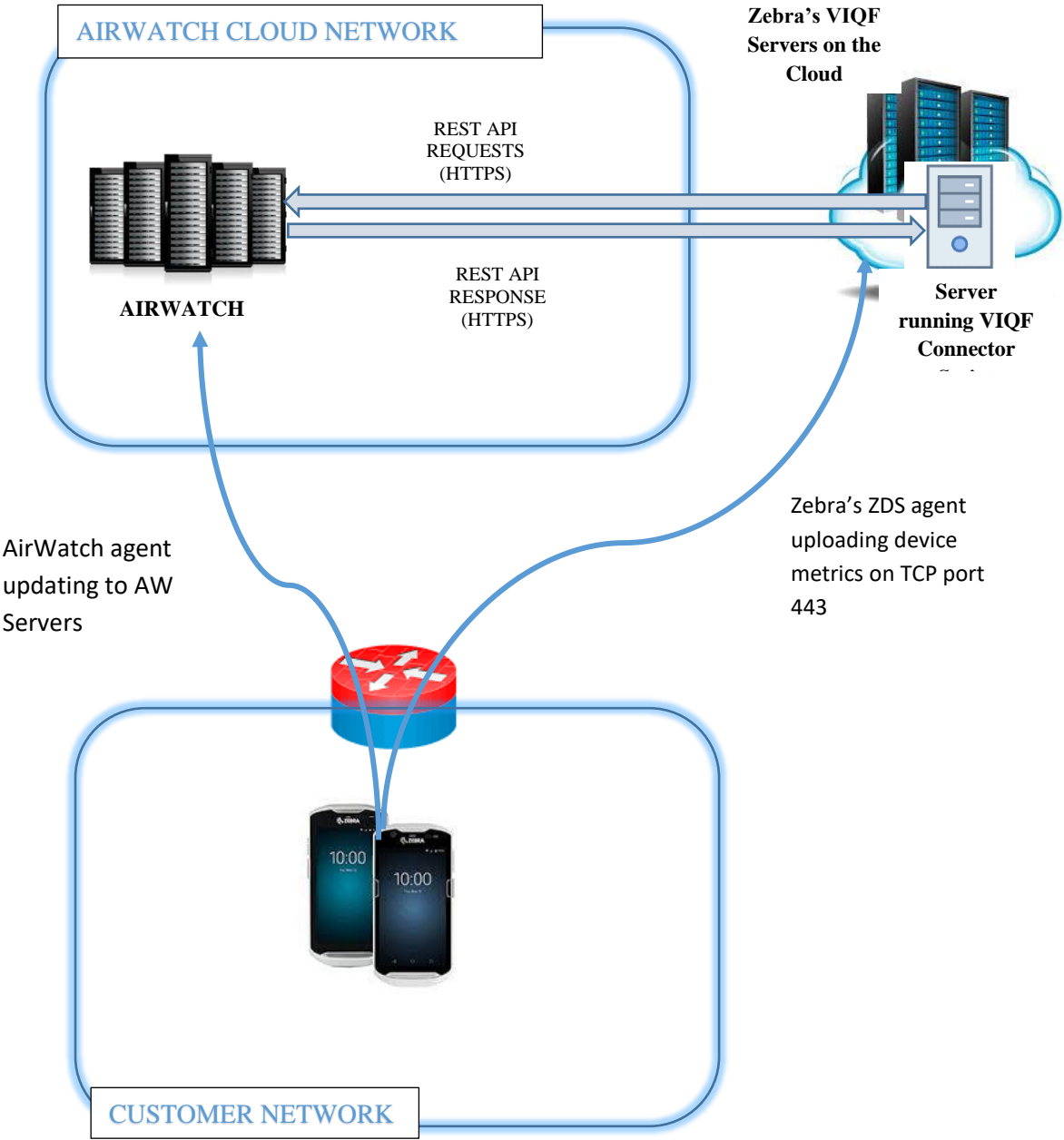
Figure 2Airwatch Cloud Deployment & VIQF-Connect

5   Control Flow

The below schematic control flow describes at a high level which Airwatch REST API's are invoked and for what purpose. The control flow is AirWatch specific and is same for On-Premise or cloud. The location of deployment of the script is different for Cloud vs On-Premise
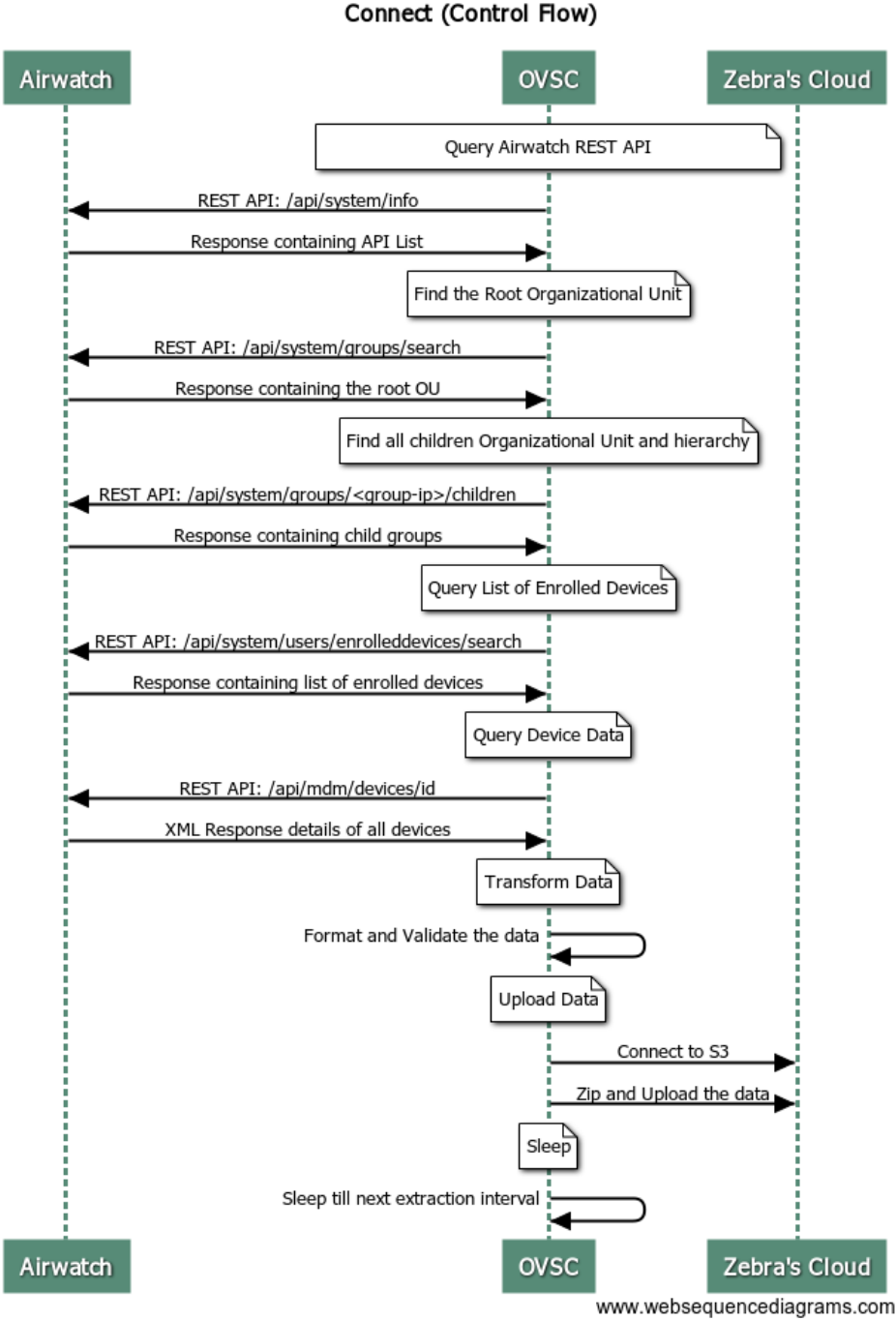
Connect (Control Flow)

6   AirWatch

The following section details the interaction with AirWatch 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 AirWatch administrator: -

1. Hostname of the AirWatch REST API server.
2. Username and Password of the account through which REST API will be accessed.
3. API-Key (aw-tenant code).
4. Root Organisation Unit Name. (Devices only under this organization unit will be extracted)

6.2   REST API

6.2.1   Enabling REST API

Please refer to Airwatch 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.

6.2.1.1   REST API List

The following REST API is invoked by the script.

The access is only required to be READ-ONLY.

1. /api/system
   a. /api/system/info
   b. /api/system/groups/search/
   c. /api/system/groups/{group-id}/children
   d. /api/system/users/enrolleddevices/search
2. /api/mdm
   a. /api/mdm/devices/id

6.2.1.2   REST API Permissions

The following REST API Category rows must be selected, with Read Checkbox selected when creating the role :-

- **Devices**
    o   /api/mdm/devices/id
- **Groups**
    o   /api/system/groups/search/
    o   /api/system/groups/{group-id}/children

- **Users**
  - /api/system/users/enrolleddevices/search

6.3   Data

6.3.1   Device Data Collected from Airwatch

#	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 andn 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 AirWatch 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

6.3.2   Organisation Group Data

VIQF Portal organises the devices under sites. The site information is derived from the organisation group hierarchy under which the device is enrolled.

The script collects the following information about Organisation Group;-

1. Hierarchy of the group.
2. Name
3. GroupID
4. Country

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 AirWatch 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   AirWatch Cloud – VIQF Connect

	Requirement	Information	Comments
	AIRWATCH ACCESS REQUIRMENTS / INFO NEEDED		
1	Hostname of AirWatch Console Server		The hostname of the AirWatch 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		Information only for devices present under this node will be accessed in AirWatch
	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   AirWatch On-Premise – VIQF Connect

	Requirement	Information	Comments
	AIRWATCH ACCESS REQUIRMENTS / INFO NEEDED		
1	Hostname of AirWatch Console Server		The hostname of the AirWatch 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 Organisation Group Name & Group ID		Information only for Devices present under this node will be accessed in AirWatch
	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 AirWatch 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 AirWatch Console and Internet		

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