

API Documentation for VMware Workspace ONE Intelligence

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Introduction

The Workspace ONE Intelligence API documentation describes how to query and extract data for use in other business intelligence tools. It also helps with building General Data Protection Regulation (GDPR) compliant tools and applications with REST APIs.

Intended Audience

This content is intended for experienced developers who are familiar with Workspace ONE Intelligence data and controls.

Terms

Workspace ONE UEM: The name of the product formerly known as AirWatch.

API Concepts

Host Names

Examples in this document refer to the host <https://api.sandbox.data.vmwservices.com>. As a customer you will need to substitute the host name specific to the region in which your data resides. For a list of the regions and endpoints, access [URLs to Whitelist for On-Premises by Region](#).

HTTP Methods

GET: Used to request a single, specific entity/object.

POST: Used to submit a request that requires a JSON body. The JSON body can provide information used to create a new object (for example, Create Report API) or it can provide information used to control the result set of a query (for example, pagination, search).

Path Parameters

When a URL requires path parameters, those parameters are denoted with curly braces. For example:

URL	Path Parameter	
<code>https://api.sandbox.data.vmwservices.com/v1/reports/{a}</code>	{a}	When making this API call, the value "{a}" must be substituted with an appropriate value.

Data Formats

Any HTTP Request Body must be submitted as JSON. The following HTTP header must be included with such requests:

Header Name	Header Value
Content-Type	application/json

Data returned from the WS1 Intelligence APIs is likewise returned as JSON. A client should always indicate its ability to process JSON in any request:

Header Name	Header Value
Accept	application/json OR */*

Paging

API requests that return more than a single object are always paged. Paging is controlled with 2 parameters:

Parameter Name	Parameter Description	Min	Max	Default
page_size	The number of records to return.	1	1000	100
offset	Offset across the entire data set at which the current page starts.	0	<any>	0

Example Request Body (default sort)

```
{
  "offset": 2000,
  "page_size": 100
}
```

Paging requires the data set to be sorted. Each dataset has a default sort order, but that can be controlled by specifying "sort_ons", which consist of 2 parameters:

Parameter Name	Parameter Description	Default Value (for reports)
field	The field to sort on.	name
order	The sort order (ASC or DESC)	ASC

Example Request Body (custom sort)

```
{
  "offset": 200,
  "page_size": 1000,
  "sort_ons": [
    {
      "field": "device_enrollment_user_first_name",
      "order": "DESC"
    }
  ]
}
```

Authentication

API calls to WS1 Intelligence are always authenticated using a JSON Web Token (JWT). JWT tokens are submitted as Bearer tokens in an HTTP Authorization header.

Header Name	Header Value
Authorization	Bearer <jwt-token>

More information about JSON Web Tokens can be found in the RFC: <https://tools.ietf.org/html/rfc7519>
 The site <https://jwt.io/> is a helpful tool for parsing JSON Web Tokens.

If access tokens are expired or invalid, the API invoked returns an HTTP status 401 (Unauthorized).

API Error Handling

Input errors always generate an HTTP BAD Request (status 400) along with a JSON body that provides further details about the error. For example:

```
{
  "errors" : [ {
    "code" : "FIELD-VALIDATION",
    "message" : "Invalid value [DES]. Must be one of [asc, desc].",
    "violated_property" : "sort_ons[0].order"
  } ]
}
```

Errors is an array with the following fields:

code	The error code indicating the type of error.
message	More information about the specific error
violated_property	A specific property name (if applicable)

Messages that cannot be parsed, often because they have invalid (unsupported) fields, return an error as follows:

```
{
  "errors" : [ {
    "code" : "UNPARSEABLE-MESSAGE",
    "message" : ""
  } ]
}
```

Requests that result in constraint violations (for example, 2 reports with the same name) return errors as follows:

```
{
  "errors" : [ {
    "code" : "DUPLICATE-KEY",
    "message" : ""
  } ]
}
```

Other standard errors include:

HTTP Status Code	Description
401	Authentication failed. Likely your access-token needs to be renewed.
403	Authorization failed. You attempted to access a resource or perform an operation that you are not permitted to do.
404	The resource you attempted to access does not exist.
429	Rate limit exceeded.

Credentials for API Access

Configure a Service Account

A service account provides you with a `clientId` and `clientSecret` that can be used to obtain a JSON Web Token for calling WS1 Intelligence APIs.

1. In the WS1 Intelligence UI, go to Settings Service Accounts.
2. Create a service account.
3. The browser downloads a JSON credentials file with the credential.

Example Credentials File

```
{
  "name": "reportscript",
  "tokenEndpoint": "https://api.staging.dpa0.org/auth/console/token",
  "clientId":
  "reportscript@538f619e-2db4-4f07-974b-efb3e5326116.data.vmwservices.com",
  "clientSecret":
  "5b3b835b2adedd28b1862b3bb714e48f03423010903f2ec7159031ba1995ad0e",
  "authorizedGrantType": [
    "CLIENT_CREDENTIALS"
  ],
  "resourceIds": [
    "api.data.vmwservices.com"
  ]
}
```

- The **clientSecret** is a password and must be protected.
- After creating the service account, you cannot retrieve the `clientSecret` again. You may generate a new **clientSecret**, but this replaces (invalidates) the original **clientSecret**.

Obtain an Access Token

Example Request

POST `https://auth.sandbox.data.vmwservices.com/oauth/token?grant_type=client_credentials`

Header Name	Header Value	Notes	Example Value
Authorization	Basic <Base64 encoded username:password>	The username is the clientId . The password is the clientSecret .	Basic cmVwb3J0c2NyaXB0QDUzOGY2MT11LTJkYjQ0tNGYwNy05NzRiLWVmYjNlNTMyNjExNi5kYXRhLnZtd3R1

Notice the "auth" prefix on the URI. All other APIs are accessed with an "api" prefix. Only the token endpoint uses the "auth" prefix.

Structure of Data

Data is organized in a 3-level hierarchy: / Integration / Entity of Event Type / Attribute.

		Example (1)	Example (2)
Integration	Usually the name of the vendor or product that is sourcing the data.	airwatch	airwatch
Entity or Event Type	An Entity would be an object for which the system tracks attributes over time. For example, device and users would be entities. An Event Type is an event that occurs at a point in time. For example, an app launch or a notification from a security vendor would both be events.	device	application
Attribute	An Attribute is a key-value pair associated with an entity or an event type. For example, a "Device Friendly Name" could be an attribute of a device.	device_friendly_name	app_package_id

For reporting, the following integration/entity combinations are available:

Cate	Integration	Entity	Category (as seen in the WS1 Intelligence UI)
Apps	airwatch	application	Apps
Devices	airwatch	device	Devices
OS Updates	airwatch	windowpatch	OS Updates
Device Sensors	airwatch	devicesensors	Device Sensors

Report Metadata API

A meta-data API is available to show which attributes are available for a particular entity. The general form of this query is:

```
GET https://api.sandbox.data.vmwservices.com/v1/meta/integration/{integration}/entity/{entity}/attributes.
```

The following example shows how to retrieve attribute information for integration **airwatch** and entity **device**.

Example Request

```
GET https://api.sandbox.data.vmwservices.com/v1/meta/integration/airwatch/entity/device/attributes
```

Example Response

```
200 OK
{
  "data": [
    {
      "classifications": [
        {
          "label": "Device",
          "name": "DEVICE"
        }
      ],
      "custom": false,
      "data_type": "BOOLEAN",
      "description": "Personal Hotspot Enabled",
      "description_available": false,
      "entity": "device",
      "groups": [
        {
          "description": "Status of a device",
          "id": "a16e37d7-5a96-4236-8787-7ab9b177cf4b",
          "label": "Device Status",
          "name": "device_status"
        },
        {
          "description": "Attributes of a device",
          "id": "1e56f89a-12eb-41c6-a6a6-a96808275951",
          "label": "Device Attributes",
          "name": "device_attributes"
        }
      ],
      "integration": "airwatch",
      "label": "Personal Hotspot Enabled",
      "name": "device_personal_hotspot_enabled",
      "presentation_type": "RADIO",
      "suggestion_supported": false,
      "supported_operators": [
        {
          "description": "Equals",
          "label": "Equals",
          "name": "EQUALS",
          "single": true,
          "value": "="
        }
      ]
    }
  ]
  < RESULTS TRUNCATED FOR READABILITY >
}
```


Create Report API

Report creation requires the following information get encoded in a JSON request body:

Field	Value (see example below)	Description	Required/Optional	Default Value
name	BK - API Test1 - Enrolled Devices	Free-form text string naming the report. It must be unique within the context of a customer.	required	
description	All enrolled devices with details	Free-form text string describing the report.	optional	<empty>
integration	airwatch	Identifies the integration from which the data will be sourced.	required	
entity	device	Identifies the entity from which the data will be sourced.	required	
column_names	Any array of column names	Indicates which attributes of / airwatch / device / will appear in the report.	required	
filter	A filter expression	Selects which devices will appear in this report. In this case, the filter specified "Enrolled" devices.	required	
recipients	An array of email address objects	Indicates who should receive the output of the report.	optional	<empty>

Example Request

POST <https://api.sandbox.data.vmwservices.com/v1/reports>

JSON body:

```
{
  "column_names": [
    "device_last_seen",
    "device_friendly_name",
    "device_corp_liable",
    "device_enrollment_user_name",
    "device_enrollment_user_first_name",
    "device_enrollment_user_last_name",
    "device_enrollment_user_email",
    "device_platform",
    "device_os_version",
    "device_model_name"
  ],
  "description": "All enrolled devices with details",
  "entity": "device",
  "filter": " device_enrollment_status = 'Enrolled' ",
  "integration": "airwatch",
  "name": "BK - API Test1 - Enrolled Devices",
  "recipients": [
    {
      "email": "Margaret.thatcher@vmware.com"
    }
  ]
}
```

Example Response

```

201 CREATED
{
  "data": {
    "column_names": [
      "device_last_seen",
      "device_friendly_name",
      "device_corp_liable",
      "device_enrollment_user_name",
      "device_enrollment_user_first_name",
      "device_enrollment_user_last_name",
      "device_enrollment_user_email",
      "device_platform",
      "device_os_version",
      "device_model_name"
    ],
    "created_at": "2019-06-03T17:13:07.440Z",
    "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "description": "All enrolled devices with details",
    "entity": "device",
    "entity_label": "Devices",
    "filter": "device_enrollment_status = 'Enrolled'",
    "filter_condition": {
      "attribute": "device_enrollment_status",
      "custom_attribute": false,
      "operand_collection_present": false,
      "operands": [
        {
          "data_type": "STRING",
          "operand_type": "BasicOperand",
          "value": "Enrolled"
        }
      ]
    },
    "operator": "=",
    "parenthesized": false
  },
  "id": "5f2c2fal-e9ec-4c55-9649-b3fbabf4d116",
  "integration": "airwatch",
  "modified_at": "2019-06-03T17:13:07.440Z",
  "name": "BK - API Test1 - Enrolled Devices",
  "recipients": [
    {
      "created_at": "2019-06-03T17:13:07.440Z",
      "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
      "email": "Margaret.thatcher@vmware.com"
    }
  ],
  "total_downloads": 0,
  "total_schedules": 0
}
}

```

IMPORTANT

The important part of the JSON response is the "ID" returned by the system.

```
"5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116"
```

This report identifier is used in subsequent API calls to setup schedules, run the report, and download the results.

Once a report has been created, there are 2 facilities available for running the report. You may run the report any time by calling the "run report" API. You may also schedule the report to execute periodically.

Run Report API

Example Request

Note that the report identifier obtained via the "create report API" (see above) is used in this API call to run the report.

```
POST https://api.sandbox.data.vmwservices.com/v1/reports/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/run
```

Example Response

```
{
  "data": {
    "active": true,
    "created_at": "2019-06-03T17:28:24.554Z",
    "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "cron_expression_detail": {
      "frequency": "ONCE"
    },
    "id": "749b30e0-6e75-4d58-ba90-3e175e2b8b8e",
    "modified_at": "2019-06-03T17:28:24.554Z",
    "modified_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "name": "Single run report request
5f5abb88-ea63-43bf-8738-ed0c6a7b345a",
    "report_id": "5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116",
    "schedule_type": "ADHOC",
    "start": "2019-06-03T17:28:24.553Z"
  }
}
```

The ID returned in the JSON response ("749b30e0-6e75-4d58-ba90-3e175e2b8b8e") is the internal report schedule ID. This identifier is not referenced further in this document.

Schedule Report API

Report Schedule creation requires the following information get encoded in a JSON request body:

Field	Value (see example below)	Description	Required	Default Value
name	Schedule Test Hourly	The schedule name	yes	
report_id	5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116	The report ID returned by the Create Report API	yes	
schedule_type	CRON	CRON (meaning scheduled)	yes	
start	2019-06-03T19:00:00.000Z	The time at which the schedule takes effect (maybe in the future)	yes	
cron_expression_details	{ <pre> "frequency": "HOURLY", "hourly": { "interval": 4 } </pre>	Specifies that the report should be run every 4 hours	yes	

Example Request

POST <https://api.sandbox.data.vmwservices.com/v1/reports/schedules>

```

{
  "cron_expression_detail": {
    "frequency": "HOURLY",
    "hourly": {
      "interval": 4
    }
  },
  "name": "Schedule Test Hourly",
  "report_id": "5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116",
  "schedule_type": "CRON",
  "start": "2019-06-03T19:00:00.000Z"
}

```

Example Response

```
{
  "data": {
    "active": true,
    "created_at": "2019-06-03T18:24:56.199Z",
    "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "cron_expression_detail": {
      "frequency": "HOURLY",
      "hourly": {
        "interval": 4
      }
    },
    "id": "5a384bd7-9ac4-46bb-a810-59e0b498d99f",
    "modified_at": "2019-06-03T18:24:56.199Z",
    "modified_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "name": "Schedule Test Hourly",
    "report_id": "5f2c2fal-e9ec-4c55-9649-b3fbabf4d116",
    "schedule_type": "CRON",
    "start": "2019-06-03T19:00:00.000Z"
  }
}
```

Additional Scheduling Options

The example above shows *hourly* scheduling. The following enumerates the complete list of cron expressions supported:

Desired Frequency	frequency	JSON format
Only once	ONCE	"cron_expression_detail" : { "frequency" : "ONCE" }
Each hour	HOUR	"cron_expression_detail": { "frequency": "HOURLY", "hourly": { "interval": 4 } }
Each day	DAILY	"cron_expression_detail": { "frequency": "DAILY", "hour": 17, "minute": 15 }

Each week	WEEKLY	<pre>"cron_expression_detail": { "frequency": "WEEKLY", "hour": 17, "minute": 15, "weekly": { "days_of_week": ["SUN", "WED"] } }</pre>
Each month	MONTHLY	<pre>"cron_expression_detail": { "frequency": "MONTHLY", "hour": 17, "minute": 15, "monthly": { "day_of_month": 5 } }</pre>
Each year	YEARLY	<pre>"cron_expression_detail": { "frequency": "YEARLY", "hour": 17, "minute": 15, "yearly": { "day_of_month": 5, "month": "JANUARY" } }</pre>

Available Downloads API

When data from your report execution is available, it displays as an available download in the available downloads API.

POST

<https://api.sandbox.data.vmwservices.com/v1/reports/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/downloads/search>

JSON Request Body

```
{
  "offset": 0,
  "page_size": 100
}
```

The JSON body can be unspecified (`{}`). This defaults the paging parameters to `page_size: 100` and `offset:0`. The value of these parameters are reflected back in the JSON response below.

JSON Response Body

```
{
  "data": {
    "offset": 0,
    "page_size": 100,
    "results": [
      {
        "created_at": "2019-06-03T17:28:47.146Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "id": "416c1890-70d5-4261-a440-d2dc402e52cf",
        "location":
"reports/538f619e-2db4-4f07-974b-efb3e5326116/5f2c2fa1-e9ec-4c55-9649-b3fb
abf4d116/BK---API-Test1---Enrolled-Devices-2019-06-03-17-28-UTC.csv",
        "modified_at": "2019-06-03T17:29:01.873Z",
        "modified_by": "11223344-5500-0000-0000-000000000000",
        "processing_time_millis": 12660,
        "report_id": "5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116",
        "report_schedule_id":
"749b30e0-6e75-4d58-ba90-3e175e2b8b8e",
        "start_time": "2019-06-03T17:28:47.740Z",
        "status": "COMPLETED"
      },
      {
        "created_at": "2019-06-03T17:13:15.545Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "id": "397e00fb-5c32-439d-b4fc-a657458c9f6d",
        "location":
"reports/538f619e-2db4-4f07-974b-efb3e5326116/5f2c2fa1-e9ec-4c55-9649-b3fb
abf4d116/BK---API-Test1---Enrolled-Devices-2019-06-03-17-13-UTC.csv",
        "modified_at": "2019-06-03T17:13:33.616Z",
        "modified_by": "11223344-5500-0000-0000-000000000000",
        "processing_time_millis": 13967,
        "report_id": "5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116",
        "report_schedule_id":
"600300be-7958-4158-a550-dcca31186fd4",
        "start_time": "2019-06-03T17:13:17.546Z",
        "status": "COMPLETED"
      }
    ],
    "total_count": 2
  }
}
```

The JSON body provides "report tracking" identifiers for 2 different data sets that are available for download (both have a status "COMPLETED"):

- "id": "416c1890-70d5-4261-a440-d2dc402e52cf"
- "id": "397e00fb-5c32-439d-b4fc-a657458c9f6d"

These identifiers can now be used to *download* the contents of this run of the report, *now or at any other point in the future*.

Download Report API

Using the report tracking identifiers from the previous step, we can now download the data associated with our report. This is a 2-step sequence:

1. Get a URL to the actual location of the report output.
2. Download the report data from that location.

Get the Location of the Report Output

Example Request

```
GET
https://api.sandbox.data.vmwservices.com/v1/reports/tracking/416c1890-70d5-4261-a440-d2dc402e52cf/download
```

Example Response

```
302 FOUND
date: Mon, 03 Jun 2019 17:52:20 GMT
content-length: 0
location:
https://storage.staging.dpa0.org/reports/538f619e-2db4-4f07-974b-efb3e5326116/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/BK---API-Test1---Enrolled-Devices-2019-06-03-17-28-UTC.csv?Expires=1559587940&Signature=We7nUi29zQyNZVdvDSdy6ECfA4bT~eFy0No7Z4n5qz8nnPJUrfrN8JfuIWHwzuayY3qt-g0Bw-yEhFZsXfPUUYEur~sa6JZTtTL2ZLSc3Vj4RmaxHCTD4EF-hWbPOL7S8XQoXyMKR-FTjqS7P80WE0jDepaFEPZjSLXWXBAx1616nhkGpRzBkblWgGe51bUS19MVdnOyHrMnHe0PT1T7xgEYCeF4tTYyPNpy2wvXTOxXN8KIQ90aR8EBtxnyhdZMZ~6PM49pC0olhoM4jw3BoUx7lpeNkmgjtMxtxIXYMbZAh4E~TC1GMpbHjZp0wopxrNALf8RXT4o5oRsKiSt9jg__&Key-Pair-Id=APKAJP6P5AIT76C66HUQ
```

The response is an HTTP redirect to a secure URL where the report contents can be downloaded.

Download the Report Output

Example Request (following the redirect)

```
GET https://storage.staging.dpa0.org/reports/538f619e-2db4-4f07-974b-efb3e5326116/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/BK---API-Test1---Enrolled-Devices-2019-06-03-17-28-UTC.csv?Expires=1559587940&Signature=We7nUi29zQyNZVdvDSdy6ECfA4bT~eFy0No7Z4n5qz8nnPJUrfrN8JfuIWHwzuayY3qt-g0Bw-yEhFZsXfPUUYEur~sa6JZTtTL2ZLSc3Vj4RmaxHCTD4EF-hWbPOL7S8XQoXyMKR-FTjqS7P80WE0jDepaFEPZjSLXWXBAx1616nhkGpRzBkblWgGe51bUS19MVdnOyHrMnHe0PT1T7xgEYCeF4tTYyPNpy2wvXTOxXN8KIQ90aR8EBtxnyhdZMZ~6PM49pC0olhoM4jw3BoUx7lpeNkmgjtMxtxIXYMbZAh4E~TC1GMpbHjZp0wopxrNALf8RXT4o5oRsKiSt9jg__&Key-Pair-Id=APKAJP6P5AIT76C66HUQ
```

Example Response

```
200 OK
content-type: application/octet-stream
content-length: 463736
...

device_last_seen_utc,device_friendly_name,device_corp_liable,device_enroll
ment_user_name,device_enrollment_user_first_name,device_enrollment_user_la
st_name,device_enrollment_user_email,device_platform,device_os_version,dev
ice_model_name
"2019-05-04-17:40:30 UTC","VELMA's iPad
Pro",CorporateDedicated,wslintel.12983,VELMA,Bvworks,"wslintel.12983@wsl.i
ntelligent.staging.dpa0.org",Apple,8.4.1,"iPhone SE"
"2019-05-31-13:10:33 UTC","INGER's iPhone 7
Plus",CorporateDedicated,wslintel.1488,INGER,Becquart,"wslintel.1488@wsl.i
ntelligent.staging.dpa0.org",Apple,9.0.2,"iPad Air 2"
"2019-04-29-22:36:32 UTC","KRISTEEN's iPhone
6S",CorporateDedicated,wslintel.13390,KRISTEEN,Dayberry,"wslintel.13390@ws
l.intelligent.staging.dpa0.org",Apple,9.3.2,"iPad Air"
...
```

Report Preview API

For small searches for targeted data, the report preview API can be used to extract data. This API returns no more than 1000 results. Calling it repeatedly is discouraged and you will likely exceed the rate limits for your organization.

Example Request

POST <https://api.sandbox.data.vmwservices.com/v1/reports/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/preview>

JSON Request Body:

```
{
  "offset": 0,
  "page_size": 3,
  "sort_ons": [
    {
      "field": "device_enrollment_user_first_name",
      "order": "DESC"
    }
  ]
}
```

Example Response

```
200 OK
{
  "data": {
    "offset": 0,
    "page_size": 3,
    "results": [
      {
        "device_corp_liable": "Undefined",
        "device_enrollment_user_email":
"wslintel.18218@wsl.intelligent.staging.dpa0.org",
        "device_enrollment_user_first_name": "ZULEMA",
        "device_enrollment_user_last_name": "Playatuna",
        "device_enrollment_user_name": "wslintel.18218",
        "device_friendly_name": "ZULEMA's iPad Mini 4",
        "device_last_seen": 1543530146000,
        "device_os_version": "8.2.3",
        "device_platform": "Apple",
        "document_id": "538f619e-2db4-4f07-974b-18218",
        "entity_name": "airwatch_device",
        "integration": "airwatch"
      },
      {
        "device_corp_liable": "Undefined",
        "device_enrollment_user_email":
"wslintel.14386@wsl.intelligent.staging.dpa0.org",
        "device_enrollment_user_first_name": "ZULEMA",
        "device_enrollment_user_last_name": "Tonelli",
        "device_enrollment_user_name": "wslintel.14386",
        "device_friendly_name": "ZULEMA's iPad Mini 4",
        "device_last_seen": 1505741655000,
        "device_os_version": "8.1.1",
        "device_platform": "Apple",
        "document_id": "538f619e-2db4-4f07-974b-14386",
        "entity_name": "airwatch_device",
        "integration": "airwatch"
      },
      {
        "device_corp_liable": "EmployeeOwned",
        "device_enrollment_user_email":
"wslintel.17123@wsl.intelligent.staging.dpa0.org",
        "device_enrollment_user_first_name": "ZULA",
        "device_enrollment_user_last_name": "Whaley",
        "device_enrollment_user_name": "wslintel.17123",
        "device_friendly_name": "ZULA's Apple TV 4th Generation",
        "device_last_seen": 1559000190000,
        "device_model_name": "iPad Pro",
        "device_os_version": "9.2.3",
        "device_platform": "Apple",
```

```
    "document_id": "538f619e-2db4-4f07-974b-0000000042e3",  
    "entity_name": "airwatch_device",  
    "integration": "airwatch"  
  }  
],
```

```
    "total_count": 2796
  }
}
```

Report Search API

This API allows you to see which reports have been created. The "results" array in the response is an array of report definitions.

Example Request

POST <https://api.sandbox.data.vmwservices.com/v1/reports/search>

JSON request body:

```
{
  "offset": 0,
  "page_size": 2
}
```

Example Response

```
{
  "data": {
    "offset": 0,
    "page_size": 2,
    "results": [
      {
        "column_names": [
          "app_name",
          "device_friendly_name",
          "device_platform",
          "device_os_version",
          "app_version",
          "app_package_id",
          "app_install_status",
          "app_install_status_reason",
          "app_last_seen",
          "device_last_seen",
          "app_is_managed",
          "device_location_group_name",
          "app_type",
          "device_enrollment_status",
          "app_bundle_size_bytes",
          "app_is_installed"
        ],
        "created_at": "2019-05-24T18:31:40.298Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "description": "All managed and un-managed apps on all
devices",
        "entity": "application",
        "entity_label": "Apps",
        "filter": "device_enrollment_status =
'EnrollmentInProgress' AND app_name IN ( '-47Sports.Bolts' )",
        "filter_condition": {
          "custom_attribute": false,
          "lhs": {
            "attribute": "device_enrollment_status",
            "custom_attribute": false,
            "operand_collection_present": false,
            "operands": [
              {
                "data_type": "STRING",
                "operand_type": "BasicOperand",
                "value": "EnrollmentInProgress"
              }
            ]
          },
          "operator": "=",
          "parenthesized": false
        },
      }
    ]
  }
}
```

```

    "logical_operator": "AND",
    "operand_collection_present": false,
    "parenthesized": false,
    "rhs": {
      "attribute": "app_name",
      "custom_attribute": false,
      "operand_collection_present": true,
      "operands": [
        {
          "data_type": "STRING",
          "operand_type": "BasicOperand",
          "value": "-47Sports.Bolts"
        }
      ],
      "operator": "IN",
      "parenthesized": false
    }
  },
  "id": "d6af20e2-6bd0-4d89-a7a1-0d5f09507836",
  "integration": "airwatch",
  "modified_at": "2019-05-27T18:37:09.408Z",
  "modified_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
  "name": "All Apps",
  "share_view": {
    "created_at": "2019-05-28T05:38:34.535Z",
    "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "share_id": "1c951014-02f4-46f8-8569-0fd55ae88581",
    "shareable_link":
"https://api.staging.dpa0.org/share/a/1c951014-02f4-46f8-8569-0fd55ae88581"
  },
  "total_downloads": 12,
  "total_schedules": 1
},
{
  "column_names": [
    "device_enrollment_user_name",
    "device_friendly_name",
    "winpatch_revision_id",
    "winpatch_update_id",
    "winpatch_kb_number",
    "winpatch_update_status",
    "winpatch_approval_status",
    "winpatch_assignment_status",
    "winpatch_update_classification",
    "winpatch_approved_date",
    "winpatch_publish_date",
    "device_enrollment_date",
    "device_enrollment_status",
    "device_last_seen",
    "device_unenrollment_date",
    "device_enrollment_user_email",
    "device_os_version",
    "device_model",
  ]
}

```



```
        "winpatch_kb_subject",
        "winpatch_update_type",
        "winpatch_kb_desc"
    ],
    "created_at": "2019-05-08T22:22:49.325Z",
    "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
    "description": "All OS updates on all devices",
    "entity": "windowspatch",
    "entity_label": "OS Updates",
    "id": "9fc985f2-2ee9-40ef-81fb-ba86b7baf116",
    "integration": "airwatch",
    "modified_at": "2019-05-08T22:22:49.325Z",
    "name": "All Windows OS Updates",
    "total_downloads": 1,
    "total_schedules": 0
}
],
```

```
    "total_count": 12
  }
}
```

Set Report Recipients API

This API allows you to specify the recipients of a report. This functionality is identical to specifying recipients when the report is created.

Example Request

POST <https://api.sandbox.data.vmwservices.com/v1/reports/5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116/recipients>

JSON request body

```
{
  "recipients": [
    {
      "email": "margaret.thatcher@vmware.com"
    },
    {
      "email": "paul.revere@vmware.com"
    }
  ]
}
```

Example Response

```
200 OK
{
  "data": {
    "recipients": [
      {
        "created_at": "2019-06-03T18:10:51.752Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "email": "margaret.thatcher@vmware.com"
      },
      {
        "created_at": "2019-06-03T18:10:51.752Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "email": "paul.revere@vmware.com"
      }
    ],
    "report_id": "5f2c2fa1-e9ec-4c55-9649-b3fbabf4d116"
  }
}
```

Get Report Recipients API

To determine which recipients are associated with a report, use the GET report recipients API.

Example Request

GET <https://api.sandbox.data.vmwservices.com/v1/reports/5f2c2fal-e9ec-4c55-9649-b3fbabf4d116/recipients>

Example Response

```
200 OK
{
  "data": {
    "recipients": [
      {
        "created_at": "2019-06-03T18:16:31.262Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "email": "margaret.thatcher@vmware.com"
      },
      {
        "created_at": "2019-06-03T18:16:31.262Z",
        "created_by": "f65716f4-0d44-4c50-8cca-05d1306fbf77",
        "email": "paul.revere@vmware.com"
      }
    ],
    "report_id": "5f2c2fal-e9ec-4c55-9649-b3fbabf4d116"
  }
}
```

API Call Limits

The calculations of API request amounts allow sufficient capacity for your organization's number of admin users and user licenses. Workspace ONE license levels categorize rate limits by calls per second, calls per hour, and calls per 24 hours.

Table 1. API Call Limits Per Organization

Workspace ONE License Level	Total Calls per Second	Total Calls per Hour	Total Calls per 24 Hours
Standard	100	1000	15000
Advanced	100	1000	15000
Enterprise	100	1000	15000
Intelligence Add-On	100	1000	15000