

**LBASENSE**  
**SITUATION AWARENESS PICTURE (SAP) API**

CONTACT

[info@dfrc.ch](mailto:info@dfrc.ch)

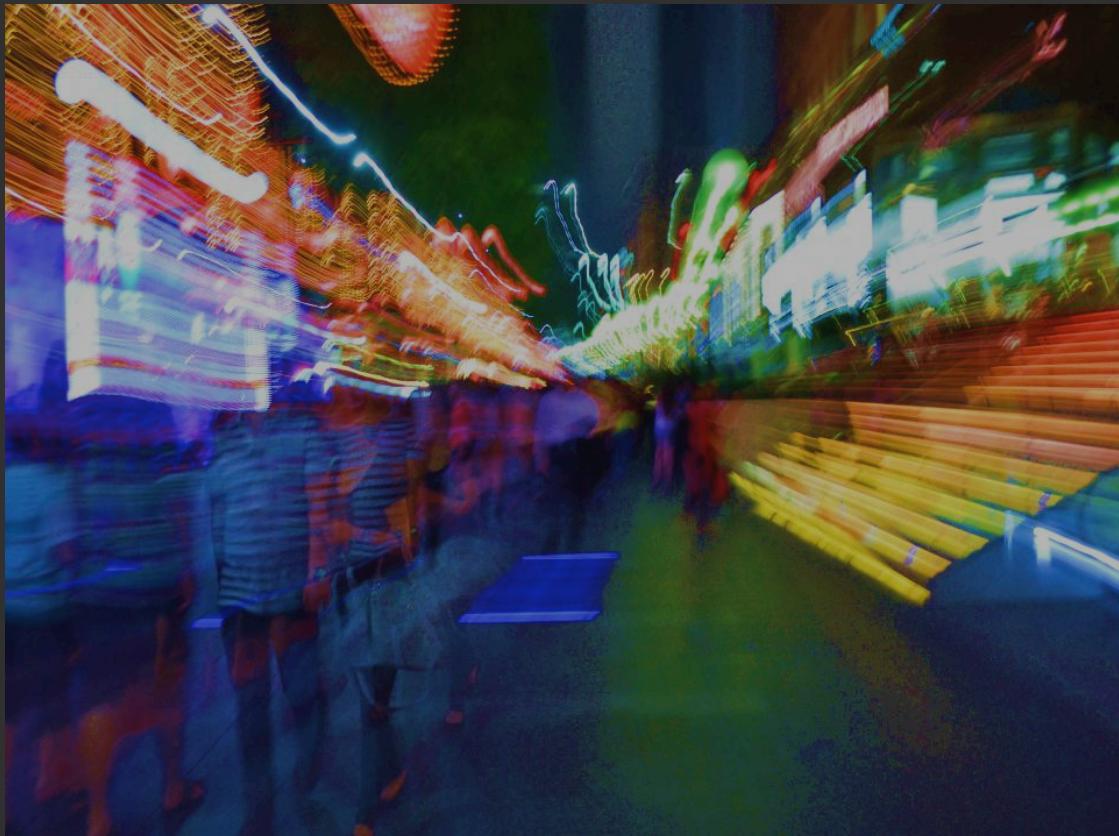
DATE

May 2016

VERSION

1.3

***Public API documentation***



This document contains proprietary information

## TABLE OF CONTENTS

1	API Overview.....	3
2	Generic Query Parameters, Returning Information and Error Handling .....	3
3	SAP Information For Entire Site.....	6
4	SAP Information Per Region.....	13
5	SAP Profile History.....	21
	Change Log and Release Notes.....	25

## 1 API OVERVIEW

The Situation Awareness Picture (SAP) API allows third party software to receive updates from the LBA system regarding the Situation Awareness Picture of a specific site. Data is retrieved via simple parameterized HTTPs GET calls, which return data in JavaScript Object Notation (JSON) format.

## 2 GENERIC QUERY PARAMETERS, RETURNING INFORMATION AND ERROR HANDLING

SAP querying parameters are shared among all the queries except where explicitly excluded. The returning parameters are dependent on the query type.

### **Generic querying parameters:**

Parameter	Type	Description
<b>user</b>	String	Username given to the client by the LBA administration
<b>pass</b>	String	The password given to the client by the LBA administration for the associated username
<b>siteId</b>	Integer	The unique ID of the site to be queried
<b>region</b>	Integer	The unique ID of the site region. <b>Note:</b> Parameter only available when performing per region queries

### **Generic returning parameters:**

Parameter	Type	Description
<b>date</b>	String	The date and time for the return SAP Information in the ISO 8601 format. Date and time are always returned as local time (configured in each site)

Parameter	Type	Description
<b>sapInformation</b>	Array	An array of "sapInfo" objects. Each "sapInfo" object contains two mandatory fields: "numVisitors" and "changeRate". Additionally, when performing per region querying, the "regionID" is also included
<b>sapInfo regionID</b>	Integer	When present, it represents the site region to which the report refers
<b>sapInfo numVisitors</b>	Integer	Total number of visitors in the site or region for the given date and time.
<b>sapInfo changeRate</b>	Integer	Difference between the total number of visitors for the given date/time and the total number of visitors in the previous minute

**JSON Example:** three “**sapInfo**” objects inside the “**sapInformation**” array.

```
"sapInformation": [
    {
        "regionID": 1,
        "numVisitors": 106,
        "changeRate": 0
    },
    {
        "regionID": 2,
        "numVisitors": 36,
        "changeRate": 0
    },
    {
        "regionID": 3,
        "numVisitors": 41,
        "changeRate": 0
    }
]
```

Parameter	Type	Description
<b>sapVisitorDetails</b>	Object	“sapVisitorDetails” objects is composed by six mandatory fields, as described next.
<b>sapVisitorDetails visitorID</b>	Integer	Each visitor is assigned a permanent unique id by the LBASense system, which remains consistent even if the visitor exits the site and returns days later.
<b>sapVisitorDetails deviceID</b>	String	The device identification (e.g., WiFi device's MAC Address). This parameter will be only provided if legally permitted according to applicable privacy protection laws.
<b>sapVisitorDetails category</b>	Integer	The category of a visitor. The available categories and its description are related to the site configuration. Such information must be retrieved using SAP API.
<b>sapVisitorDetails globalID</b>	Boolean	A flag indicating if the “deviceID” is globally assigned (“globalID”:1) or locally generated (“globalID”:0).
<b>sapVisitorDetails firstTimeSeen</b>	String	The first time that the visitor was seen by the LBASense system, according to the configured site definitions, in ISO 8601 format.
<b>sapVisitorDetails lastTimeSeen</b>	String	The last time that the visitor was seen by the LBASense system in ISO 8601 format.

**JSON Example:** two “**sapVisitorDetails**” objects inside the array named “**sapDetailedInformation**”:

```
"sapDetailedInformation": [
  {
    "visitorID":55556158,
    "deviceID":"AA:B1:C1:10:12:13",
    "category":0,
    "globalID":0,
    "firstTimeSeen":"2016-03-16T11:40:15",
    "lastTimeSeen":"2016-03-16T11:41:10"
  },
  {
    "visitorID":40645589,
    "deviceID":"AA:B2:C2:11:22:33",
    "category":3,
    "globalID":1,
    "firstTimeSeen":"2016-03-16T11:41:10",
    "lastTimeSeen":"2016-03-16T11:41:10"
  }
]
```

### Error handling:

SAP API error handling is performed by returning a JSON message as response to the request with the following information:

```
{
  "status": "<errorType>",
  "message": "<ErrorDescription>"
}
```

For instance, when wrong credentials are given, the following JSON information is returned:

```
{
  "status": "input-error",
  "message": "Invalid credentials"
}
```

### 3 SAP INFORMATION FOR ENTIRE SITE

This section presents the available queries to retrieve SAP information for an entire site.

#### 3.1.1 CATEGORIES FOR A SITE

This call returns the current list of enabled categories for a given site. These could be for example visitors, customers or staff. The categories IDs retrieved from this query can be used to perform filters in the remaining queries. The web service call is defined as follows:

HTTP method	GET
Webservice endpoint	<a href="https://api.sites.lbasense.com/PopulationTypes">https://api.sites.lbasense.com/PopulationTypes</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>siteld</b>	Integer	Yes	The unique ID of the site to be queried

#### Example call:

```
https://api.sites.lbasense.com/PopulationTypes?  
user=<your_username>&pass=<your_password>&siteld=<your_site_id>
```

#### Response example:

```
{  
    "0": "visitors",  
    "2": "routers",  
    "7": "staff",  
    "8": "customer"  
}
```

### 3.1.2 CURRENT SAP VALUE FOR SITE

This call returns the current SAP information for the entire site. The site is identified by the "siteId" parameter. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/CurrentSAPValueForSite">https://api.sap.lbasense.com/CurrentSAPValueForSite</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>siteId</b>	Integer	Yes	The unique ID of the site to be queried

#### Example call:

```
https://api.sap.lbasense.com/CurrentSAPValueForSite?user=<your_username>&pass=<your_password>&siteId=<your_site_id>
```

#### Response example:

A single JSON object containing "**date**" and "**sapInformation**" will be received, as follows:

```
{  
    "date": "2015-12-10T17:40:00",  
    "sapInformation": [  
        {  
            "numVisitors": 106  
            "changeRate": 12,  
        }  
    ]  
}
```

### 3.1.3 LAST HOUR SAP VALUES FOR SITE

This call returns the SAP values for the entire site during the last hour. The sitelid identifies the site. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/LastHourSAPValuesForSite">https://api.sap.lbasense.com/LastHourSAPValuesForSite</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username.
<b>sitelid</b>	Integer	Yes	The unique ID of the site to be queried

#### Example call:

```
https://api.sap.lbasense.com/LastHourSAPValuesForSite?user=<your_username>&pass=<your_password>&sitelid=<your_site_id>
```

#### Response example:

An array of objects with “**date**” and “**sapInformation**” will be received, containing the following JSON data for the site.

```
[  
  {  
    "date": "2015-12-10T17:27:00",  
    "sapInformation": [  
      {  
        "numVisitors": 261,  
        "changeRate": -20  
      }  
    ]  
  },  
  {  
    "date": "2015-12-10T17:28:00",  
    "sapInformation": [  
      {  
        "numVisitors": 264,  
        "changeRate": 3  
      }  
    ]  
  },  
  
  //Missing information was omitted in this example on purpose  
  
]
```

```

    "date": "2015-12-10T18:26:00",
    "sapInformation": [
        {
            "numVisitors": 134,
            "changeRate": -13
        }
    ],
    {
        "date": "2015-12-10T18:27:00",
        "sapInformation": [
            {
                "numVisitors": 147,
                "changeRate": 13
            }
        ]
    }
]

```

### 3.1.4 HISTORIC SAP VALUES FOR SITE

This call returns historic SAP information for an entire site. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/HistoricSAPValuesForSite">https://api.sap.lbasense.com/HistoricSAPValuesForSite</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>sitId</b>	Integer	Yes	The unique ID of the site to be queried
<b>time</b>	String	Yes	Ending time of the time span for which statistics are requested in the format 'yyyy-MM-ddTHH:mm:ss' (ISO 8601 format) <b>Note:</b> All the times must be specified using the site local time
<b>minutesBack</b>	Integer	No	An amount of minutes measured backward from the moment in time for which statistics are requested. If this value is not specified, it will be set as 1 minute by default <b>Restriction:</b> A maximum of 120 minutes backward is allowed

**Example call:**

```
https://api.sap.lbasense.com/HistoricSAPValuesForSite?user=<your_username>&pass=<your_
password>&siteId=<your_site_id>&time=2015-12-10T10:10:00
&minutesBack=<total_minutes_back>
```

**Response example:**

An array of objects with “**date**” and “**sapInformation**” will be received, containing the following JSON data for the site.

```
[  
  {  
    "date": "2015-12-10T10:06:00",  
    "sapInformation": [  
      {  
        "numVisitors": 240,  
        "changeRate": -1  
      }]  
  },  
  {  
    "date": "2015-12-10T10:07:00",  
    "sapInformation": [  
      {  
        "numVisitors": 247,  
        "changeRate": 7  
      }]  
  },  
  {  
    "date": "2015-12-10T10:08:00",  
    "sapInformation": [  
      {  
        "numVisitors": 251,  
        "changeRate": 4  
      }]  
  },  
  {  
    "date": "2015-12-10T10:09:00",  
    "sapInformation": [  
      {  
        "numVisitors": 242,  
        "changeRate": -9  
      }]  
  },  
  {  
    "date": "2015-12-10T10:10:00",  
    "sapInformation": [  
      {  
        "numVisitors": 238,  
        "changeRate": -4  
      }]  
  }]
```

### 3.1.5 CURRENT LIST OF PEOPLE FOR SITE

This call returns the current list of people present in the entire site. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/CurrentListOfPeopleForSite">https://api.sap.lbasense.com/CurrentListOfPeopleForSite</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>sitId</b>	Integer	Yes	The unique ID of the site to be queried
<b>category</b>	Integer	No	The visitor category for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single category. It works as a filter.

#### Example call:

```
https://api.sap.lbasense.com/CurrentListOfPeopleForSite?  
user=<your_username>&pass=<your_password>&sitId=<your_site_id>
```

#### Example call with optional category parameter:

```
https://api.sap.lbasense.com/CurrentListOfPeopleForSite?  
user=<your_username>&pass=<your_password>&sitId=<your_site_id>&category=<category_id>
```

### Response example:

An object with “**date**”, “**comment**” and a “**sapDetailedInformation**” array containing “**sapVisitorDetails**” objects will be received, containing the following JSON data for the site.

```
{  
    "date": "2016-03-17T10:26:05",  
    "comment": "LBA-Sense system. Infos: 1) DeviceID is currently equal/fake for all devices.",  
    "sapDetailedInformation": [  
        {  
            "visitorID": 55556158,  
            "deviceID": "AA:B1:C1:10:12:13",  
            "category": 0,  
            "globalID": 0,  
            "firstTimeSeen": "2016-03-16T11:40:15",  
            "lastTimeSeen": "2016-03-16T11:41:10"  
        },  
        {  
            "visitorID": 40645589,  
            "deviceID": "AA:B2:C2:11:22:33",  
            "category": 3,  
            "globalID": 1,  
            "firstTimeSeen": "2016-03-16T11:41:10",  
            "lastTimeSeen": "2016-03-16T11:41:10"  
        },  
        //Missing information was omitted in this example on purpose  
        {  
            "visitorID": 10991726,  
            "deviceID": "AA:B2:C3:11:22:33",  
            "category": 0,  
            "globalID": 1,  
            "firstTimeSeen": "2016-03-16T11:41:17",  
            "lastTimeSeen": "2016-03-16T11:41:17"  
        },  
        {  
            "visitorID": 333026026,  
            "deviceID": "44:BB:CC:34:44:33",  
            "category": 0,  
            "globalID": 0,  
            "firstTimeSeen": "2016-03-16T11:41:17",  
            "lastTimeSeen": "2016-03-16T11:41:17"  
        }]  
}
```

## 4 SAP INFORMATION PER REGION

This section presents the available queries to retrieve SAP information for the various site regions.

### 4.1.1 CURRENT SAP VALUE PER REGION

This call returns the current SAP information for all the site regions. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/CurrentSAPValuePerRegion">https://api.sap.lbasense.com/CurrentSAPValuePerRegion</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>sitelid</b>	Integer	Yes	The unique ID of the site to be queried
<b>region</b>	Integer	No	The site region for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single region

**Example call:**

[https://api.sap.lbasense.com/CurrentSAPValuePerRegion?user=<your\\_username>&pass=<your\\_password>&sitelid=<your\\_site\\_id>](https://api.sap.lbasense.com/CurrentSAPValuePerRegion?user=<your_username>&pass=<your_password>&sitelid=<your_site_id>)

**Response example:**

An object with “**date**” and “**sapInformation**” array will be received, containing the following JSON data for the site.

```
{  
    "date": "2015-12-10T20:35:00",  
    "sapInformation": [  
        {  
            "regionID": 1,  
            "numVisitors": 106  
            "changeRate": 0  
        },  
        {  
            "regionID": 2,  
            "numVisitors": 36,  
            "changeRate": 0  
        },  
        {  
            "regionID": 3,  
            "numVisitors": 41,  
            "changeRate": 0  
        }  
    ]  
}
```

### Example call with optional region parameter:

```
https://api.sap.lbasense.com/CurrentSAPValuePerRegion?user=<your_username>&pass=<your_password>&siteld=<your_site_id>&region=2
```

```
{  
    "date": "2015-12-10T20:35:00",  
    "sapInformation": [  
        {  
            "regionID": 2,  
            "numVisitors": 36,  
            "changeRate": 0  
        }  
    ]  
}
```

### 4.1.2 LAST HOUR SAP VALUES PER REGION

This call returns the SAP values information all site region during the last hour. The siteld identifies the site. The web service call is defined as follows:

HTTP method	GET		
Webservice endpoint	https://api.sap.lbasense.com/LastHourSAPValuePerRegion		
Parameter	Type	Mandatory	Description

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>siteld</b>	Integer	Yes	The unique ID of the site to be queried
<b>region</b>	Integer	No	The site region for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single region

### Example call:

```
https://api.sap.lbasense.com/CurrentSAPValuePerRegion?user=<your_username>&pass=<your_password>&siteld=<your_site_id>&region=<option_region_id_to_be_filtered>
```

**Response example:**

```
[  
 {  
   "date": "2015-12-10T19:41:00",  
   "sapInformation": [  
     {  
       "regionID": 1,  
       "changeRate": 0,  
       "numVisitors": 5  
     },  
     {  
       "regionID": 2,  
       "changeRate": 0,  
       "numVisitors": 1  
     },  
     {  
       "regionID": 3,  
       "changeRate": -3,  
       "numVisitors": 27  
     }  
   ]  
 },  
  
 //Missing information was omitted in this example on purpose  
  
 {  
   "date": "2015-12-10T20:41:00",  
   "sapInformation": [  
     {  
       "regionID": 1,  
       "changeRate": 0,  
       "numVisitors": 4  
     },  
     {  
       "regionID": 2,  
       "changeRate": 0,  
       "numVisitors": 1  
     },  
     {  
       "regionID": 3,  
       "changeRate": 0,  
       "numVisitors": 28  
     }  
   ]  
 }
```

#### 4.1.3 HISTORIC SAP VALUES PER REGION

This call returns historic SAP information for all regions of a certain site. The "siteld" identifies the site. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/HistoricSAPValuesPerRegion">https://api.sap.lbasense.com/HistoricSAPValuesPerRegion</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username.
<b>siteld</b>	Integer	Yes	The unique ID of the site to be queried
<b>time</b>	String	Yes	Ending time of the time span for which statistics are requested in the format 'yyyy-MM-ddTHH:mm:ss' (ISO 8601 format) <b>Note:</b> All the times must be specified using the site local time
<b>minutesBack</b>	Integer	No	An amount of minutes measured backward from the moment in time for which statistics are requested. If this value is not specified, it will be set as 1 minute by default <b>Restriction:</b> A maximum of 120 minutes backward is allowed.
<b>region</b>	Integer	No	The site region for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single region

#### Example call:

```
https://api.sap.lbasense.com/HistoricSAPValuesForSite?user=<your_username>&pass=<your_password>&siteld=<your_site_id>&time=2015-12-10T10:10:00&minutesBack=<total_minutes_back>&region=<optional_region_id_to_be_filtered>
```

**Response example:**

```
[  
  {  
    "date": "2015-12-10T09:57:00",  
    "sapInformation": [  
      {  
        "regionID": 1,  
        "changeRate": 0,  
        "numVisitors": 9  
      },  
      {  
        "regionID": 2,  
        "changeRate": 3,  
        "numVisitors": 39  
      },  
      {  
        "regionID": 3,  
        "changeRate": 15,  
        "numVisitors": 199  
      }  
    ]  
  },  
  
  //Missing information was omitted in this example on purpose  
  
  {  
    "date": "2015-12-10T10:00:00",  
    "sapInformation": [  
      {  
        "regionID": 1,  
        "changeRate": 1,  
        "numVisitors": 12  
      },  
      {  
        "regionID": 2,  
        "changeRate": 0,  
        "numVisitors": 36  
      },  
      {  
        "regionID": 3,  
        "changeRate": -11,  
        "numVisitors": 187  
      }  
    ]  
  }]
```

#### 4.1.4 CURRENT LIST OF PEOPLE PER REGION

This call returns the current list of people present for all regions of a certain site. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/CurrentListOfPeoplePerRegion">https://api.sap.lbasense.com/CurrentListOfPeoplePerRegion</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username
<b>sitId</b>	Integer	Yes	The unique ID of the site to be queried
<b>region</b>	Integer	No	The site region for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single region. It works as a filter.
<b>category</b>	Integer	No	The visitor category for which the statistical report will apply. This parameter is optional and can be used to limit the report results to a single category. It works as a filter.

##### Example call:

```
https://api.sap.lbasense.com/CurrentListOfPeoplePerRegion?  
user=<your_username>&pass=<your_password>&sitId=<your_site_id>
```

##### Example call with optional region parameter (i.e., results for a single region):

```
https://api.sap.lbasense.com/CurrentListOfPeoplePerRegion?  
user=<your_username>&pass=<your_password>&sitId=<your_site_id>&region=<region_id>
```

##### Example call with optional region and category parameter:

```
https://api.sap.lbasense.com/CurrentListOfPeoplePerRegion?  
user=<your_username>&pass=<your_password>&sitId=<your_site_id>&region=<region_id>&category=<category_id>
```

### Response example:

An object with “**date**”, “**comment**” and “**sapDetailedInformation**” array will be received. Each element of the “**sapDetailedInformation**” array contains information about the region identification (“**regionID**”) and a “**sapDetailedRegionInformation**” array with multiple “**sapVisitorDetails**” objects.

The following JSON data represents a possible response.

```
{  
    "date": "2016-03-17T11:03:33",  
    "comment": "LBASense Beta system. Infos: 1) Date parameter is currently equal to the request time; 2) DeviceID is currently equal/fake for all devices.",  
    "sapDetailedInformation": [  
        {  
            "regionID": 1,  
            "sapDetailedRegionInformation": [  
                {  
                    "visitorID": 780,  
                    "deviceID": "AA:BB:CC:11:22:33",  
                    "category": 0,  
                    "globalID": 1,  
                    "firstTimeSeen": "2016-03-16T08:58:07",  
                    "lastTimeSeen": "2016-03-16T11:41:43"  
                },  
                {  
                    "visitorID": 316028746,  
                    "deviceID": "AA:BB:CC:11:22:33",  
                    "category": 0,  
                    "globalID": 0,  
                    "firstTimeSeen": "2016-03-16T11:41:59",  
                    "lastTimeSeen": "2016-03-16T11:42:07"  
                }]  
            },  
            {  
                "regionID": 2,  
                "sapDetailedRegionInformation": [  
                    {  
                        "visitorID": 780,  
                        "deviceID": "AB:CC:DD:11:22:33",  
                        "category": 0,  
                        "globalID": 1,  
                        "firstTimeSeen": "2016-03-16T08:58:07",  
                        "lastTimeSeen": "2016-03-16T11:41:43"  
                    },  
                    {  
                        "visitorID": 316028746,  
                        "deviceID": "A1:B1:C1:13:20:31",  
                        "category": 0,  
                        "globalID": 0,  
                        "firstTimeSeen": "2016-03-16T11:41:59",  
                        "lastTimeSeen": "2016-03-16T11:42:07"  
                    }]  
            }  
        }  
    ]  
}
```

#### 4.1.5 SAP REGION DETAILED INFORMATION

This call returns the detailed information regarding SAP regions for a site. The returned values are "regionID", "name" and "polygon". The region "polygon" is given using the well-known text (WKT) text markup language<sup>1</sup>. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/RegionDetails">https://api.sap.lbasense.com/RegionDetails</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration o for the associated username.
<b>siteId</b>	Integer	Yes	The unique ID of the site to be queried

#### Example call:

```
https://api.sap.lbasense.com/RegionDetails?user=<your_username>&pass=<your_password>
&siteId=<your_site_id>
```

#### Response example:

```
[
  {
    "regionID": 1,
    "name": "Shop Region",
    "polygon": "POLYGON ((7.432175874710084 46.94079165687429, 7.432047128677367
46.940630503261666, 7.431800365447997 46.94033383284272, 7.431961297988891
46.94026424324718, 7.432336807250976 46.94074404335742, 7.432175874710084
46.94079165687429))",
  },
  {
    "regionID": 2,
    "name": "Office Region",
    "polygon": "POLYGON ((7.432878613471985 46.94051696292513, 7.4327552318573
46.9404730117625, 7.432546019554139 46.9403741215146, 7.432744503021239
46.94019099094361, 7.433055639266968 46.940337495450514, 7.432878613471985
46.94051696292513))"
  }
]
```

<sup>1</sup> OGC Implementation Specification for geographic information - Simple Feature Access, section 6.1.11.1.  
<http://www.opengeospatial.org/standards/sfa>

## 5 SAP PROFILE HISTORY

This section presents the available queries to retrieve SAP Profile History information using both visitor and device identification.

### 5.1.1 SAP PROFILE HISTORY FOR VISITOR

This call returns the history of detections for a given visitor (identified by the visitorId). The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/ProfileHistoryForVisitor">https://api.sap.lbasense.com/ProfileHistoryForVisitor</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration or for the associated username.
<b>siteId</b>	Integer	Yes	The unique ID of the site to be queried.
<b>visitorId</b>	Integer	Yes	The unique ID number assigned to each visitor by the LBASense system.

#### Example call:

[https://api.sap.lbasense.com/ProfileHistoryForVisitor?user=<your\\_username>&pass=<your\\_password>&siteId=<your\\_site\\_id>&visitorId=<visitor\\_id>](https://api.sap.lbasense.com/ProfileHistoryForVisitor?user=<your_username>&pass=<your_password>&siteId=<your_site_id>&visitorId=<visitor_id>)

#### Response example:

An array of objects with “**siteID**”, “**regionID**”, “**firstTimeSeen**”, “**lastTimeSeen**” and “**detectionSource**” will be returned. Each element of the array represents a detection period for a specific site and region. The following JSON data represents a possible response.

```
[{"siteID":123,"regionID":1,"firstTimeSeen":"2016-04-21T11:24:05","lastTimeSeen":"2016-04-21T12:14:10","detectionSource":""}, {"siteID":123,"regionID":0,"firstTimeSeen":"2016-04-21T11:24:05","lastTimeSeen":"2016-04-21T12:14:10","detectionSource":""}, {"siteID":123,"regionID":2,"firstTimeSeen":"2016-04-20T08:47:37","lastTimeSeen":"2016-04-20T11:18:52","detectionSource":""}, {"siteID":123,"regionID":0,"firstTimeSeen":"2016-04-20T08:47:37","lastTimeSeen":"2016-04-20T11:18:52","detectionSource":""}]
```

### 5.1.2 SAP PROFILE HISTORY FOR DEVICE

This call returns the history of detections for a given device (identified by the deviceld). The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/ProfileHistoryForDevice">https://api.sap.lbasense.com/ProfileHistoryForDevice</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration or for the associated username.
<b>sitedId</b>	Integer	Yes	The unique ID of the site to be queried.
<b>deviceld</b>	Integer	Yes	The global ID used to identify the device. In case of WiFi-enabled device, the deviceld will be the MAC Address (all characters in upper case).

#### Example call:

```
https://api.sap.lbasense.com/ProfileHistoryForDevice?user=<your_username>&pass=<your_password>&sitedId=<your_site_id>&deviceld=<device_id>
```

#### Example call for a WiFi device:

```
https://api.sap.lbasense.com/ProfileHistoryForDevice?user=<your_username>&pass=<your_password>&sitedId=<your_site_id>&deviceld=11:AA:22:33:44:55
```

#### Response example:

An array of objects with “**sitedID**”, “**regionID**”, “**firstTimeSeen**”, “**lastTimeSeen**” and “**detectionSource**” will be returned. Each element of the array represents a detection period for a specific site and region. The following JSON data represents a possible response.

```
[
  {"siteID":123,"regionID":1,"firstTimeSeen":"2016-04-20T08:47:37","lastTimeSeen":"2016-04-20T11:18:52","detectionSource":""},
  {"siteID":123,"regionID":0,"firstTimeSeen":"2016-04-20T08:47:37","lastTimeSeen":"2016-04-20T11:18:52","detectionSource":""},
  {"siteID":123,"regionID":1,"firstTimeSeen":"2016-04-05T23:35:30","lastTimeSeen":"2016-04-06T04:38:23","detectionSource":""},
  {"siteID":123,"regionID":0,"firstTimeSeen":"2016-04-05T23:35:30","lastTimeSeen":"2016-04-06T04:38:23","detectionSource":""}
]
```

### 5.1.3 HISTORIC LIST FOR REGION

This call returns historic occurrence information for a given site and region within the requested time window. The web service call is defined as follows:

<b>HTTP method</b>	GET
<b>Webservice endpoint</b>	<a href="https://api.sap.lbasense.com/HistoricListForRegion">https://api.sap.lbasense.com/HistoricListForRegion</a>

Parameter	Type	Mandatory	Description
<b>user</b>	String	Yes	Username given to the client by the LBA administration.
<b>pass</b>	String	Yes	The password given to the client by the LBA administration for the associated username.
<b>siteId</b>	Integer	Yes	The unique ID of the site to be queried
<b>region</b>	Integer	Yes	The site region for which the report will apply.
<b>time</b>	String	Yes	Ending time of the time span for which historic values are requested in the format 'yyyy-MM-ddTHH:mm:ss' (ISO 8601 format) <b>Note:</b> All the times must be specified using the site local time
<b>minutesBack</b>	Integer	Yes	An amount of minutes measured backward from the moment in time for which historic values are requested. <b>Restriction:</b> A maximum of 5 minutes backward is allowed. The minimum time allowed is 1 minute.

#### Service availability and usage:

- By default this service is not enabled for any site. Please contact the LBA administration in order to obtain more information;
- Whilst active, the API calls to this service are subject to rate limits. All calls identified as abusive will be throttled.

#### Example call:

[https://api.sap.lbasense.com/HistoricListForRegion?user=<your\\_username>&pass=<your\\_password>&siteId=<your\\_site\\_id>&region=<region\\_id>&time=<yyyy-MM-ddTHH:mm:ss>&minutesBack=<total\\_minutes\\_back>](https://api.sap.lbasense.com/HistoricListForRegion?user=<your_username>&pass=<your_password>&siteId=<your_site_id>&region=<region_id>&time=<yyyy-MM-ddTHH:mm:ss>&minutesBack=<total_minutes_back>)

### Example call:

```
https://api.sap.lbasense.com/HistoricListForRegion?user=<your_username>&pass=<your_pass
word>&siteld=123&region=3&time=2016-04-16T12:40:00&minutesBack=2
```

### Response example:

An object with “**date**” (equal to the time defined in the API call), “**comment**” and a “**sapDetailedInformation**” array containing “**sapVisitorDetails**” objects will be received, containing the following JSON data for the site.

```
{
    "date": "2016-04-16T12:40:00",
    "comment": "LBASense system. Infos: 1)DeviceID is currently equal/fake for all devices.",
    "sapDetailedInformation": [
        {
            "visitorID": 1234569,
            "deviceID": "AA:B1:C1:10:12:13",
            "category": 0,
            "globalID": 0,
            "firstTimeSeen": "2016-04-16T12:37:15",
            "lastTimeSeen": "2016-04-16T12:39:55"
        },
        {
            "visitorID": 547845,
            "deviceID": "AA:B2:C2:11:22:33",
            "category": 3,
            "globalID": 1,
            "firstTimeSeen": "2016-03-16T12:04:10",
            "lastTimeSeen": "2016-03-16T12:45:10"
        },
        //Missing information was omitted in this example on purpose
        {
            "visitorID": 4784541,
            "deviceID": "AA:B2:C3:11:22:33",
            "category": 0,
            "globalID": 1,
            "firstTimeSeen": "2016-04-16T11:41:17",
            "lastTimeSeen": "2016-04-16T12:41:17"
        },
        {
            "visitorID": 1239774,
            "deviceID": "44:BB:CC:34:44:33",
            "category": 0,
            "globalID": 0,
            "firstTimeSeen": "2016-04-16T11:17:16",
            "lastTimeSeen": "2016-04-16T13:45:53"
        }
    ]
}
```

## CHANGE LOG AND RELEASE NOTES

<b>Version</b>	<b>Description</b>	<b>Date</b>
1.3	- Added Historic List For Region service	05.2016
1.2	- Added Profile History service	04.2016
1.1	- Added Current List of People service	03.2016
1.0	- SAP API document initial version - Added: API calls for site - Added: API calls per region	12.2015

This document contains proprietary information



Grafenaustrasse 7,  
CH-6300 Zug, Switzerland  
[www.LBASense.com](http://www.LBASense.com)    [www.dfrc.ch](http://www.dfrc.ch)  
[info@dfrc.ch](mailto:info@dfrc.ch)



Grafenaustrasse 7, CH-6300 Zug Switzerland  
[www.lbasense.com](http://www.lbasense.com)    [www.dfrc.ch](http://www.dfrc.ch)    [info@dfrc.ch](mailto:info@dfrc.ch)