Blume Visibility Milestones API Integration Guide (Pull)

Contents

1. Visibility Milestone API Integration Guide (Pull)

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This document outlines the Application Programming Interfaces (APIs) connected to the Blume Visibility™ system, known here into as "Visibility". The API in this document is the Shipment Milestone API. The purpose of this API is for the user to track shipments in Visibility.

1.1. Milestone RESTful API

The document contains the following sections

Introduction *(on page 3)*	Documentation *(on page 4)*
The primary audience for this document includes internal developers and partner developers who will integrate Visibility with their systems. Additionally, the supply chain manager may refer to this document for integration context. A basic understanding of APIs, Hyper Text Transfer Protocol (HTTP), and Representational State Transfer (REST)may be required to understand the concepts described in this document.	The Shipment Milestone API provides users with an electronic data exchange method for tracking shipments in the Blume Visibility platform. This section also provides the API guidelines that will need to be followed.
Milestones *(on page 6)*	Error Codes *(on page 13)*
The Shipment Milestone API enables users to track a shipment through a series of events. An Event is something that changes the state of a shipment. We differentiate between three types of event dates; planned, estimated, and actual event dates. Planned dates are assessed automated based on historic system data. Estimated and actual dates are provided by different sources like carriers or other third parties.	This section provides a list of common error codes that appear with the documentation.

1.2. Where to Start

We strongly recommend you start with the Introduction *(on page 3)* to learn the structure of the Milestone RESTful API.

2. Introduction

This document outlines the Application Programming Interfaces (APIs) connected to the Blume Visibility™ system, known here into as "Visibility". The API in this document is the Shipment Milestone API. The purpose of this API is for the user to track shipments in Visibility.

The primary audience for this document includes internal developers and partner developers who will integrate Visibility with their systems. Additionally, the supply chain manager may refer to this document for integration context. A basic understanding of APIs, Hyper Text Transfer Protocol (HTTP), and Representational State Transfer (REST)may be required to understand the concepts described in this document.

2.1. Purpose of this Document

This API Integration Guide will aid the reader in implementing the Shipment Milestone API into a new or existing system. This document will serve the reader as the sole source of information for the Shipment Milestone API. Any additional documents referenced in this implementation guide will serve only as context and are not required readings to properly implement these APIs.

3. API Overview

The Shipment Milestone API provides users with an electronic data exchange method for tracking shipments in the Blume Visibility system.

3.1. Authentication

An API key will be provided by Blume Global. The API key will be passed as the 'apikey' header.

3.2. Domains

To be whitelisted during implementation.

https://services.blumesolutions.com/visibility/shipments/milestones?
reference=<Ref>&unitId=<UnitId>

3.3. API Guidelines

The following are the API Guidelines:

- All requests must include base URL.

- Each request must be called with one of the HTTP verbs – GET, POST, PUT, PATCH.

- User must substitute valid values for mandatory and optional fields as and when required.

- All the request and request parameters are case sensitive.

- Data is returned in JSON format.

- API attempts to conform to the design principles of Representational State Transfer (REST) and relevant W3C HTTP/1.1 standards.

- Only use UTF-8 characters encoding. Parameter values should be converted to UTF-8 and URL encoded according to W3C standards.

3.4. Rate Limit

- All requests are subject to a rate limit.

- Rate limiting restricts the number of times user can request resources from the API within a certain time window.

- The default rate limit is 2000 requests per hour.

- If request exceed than defined rate limit, then HTTP "429 Too Many Requests" response will persist until the next hour begins

4. Shipment Milestone API

The Shipment Milestone API enables users to track a shipment through a series of events. An Event is something that changes the state of a shipment. We differentiate between three types of event dates; planned, estimated, and actual event dates. Planned dates are assessed automated based on historic system data. Estimated and actual dates are provided by different sources like carriers or other third parties. Events are defined by the event name. The event names apply to the different locations/stops of the respective shipment. Only the events mapped with the user's organization will be available. Shipments can be tracked using a container ID and a reference number.

Table 1. Required Attributes

Request Parameter	Description
reference	Provide any one of the following (Housewaybill, BillOfLading, Masterbill, WorkOrderNumber, BookingNumber)
unitId	Provide UnitId/Container Number/Equipment Number (These are alias attribute it will represent the same attribute)

4.1. Get Shipment Milestones Details

Description of each field has been provided in the following table along with the APIs' expect or return, complete or partial shipment milestone details.

Service Name	URL	Type	Description	Input	Output
Get Shipment Milestones Details	https://services.blumesolutions.com/visibility/shipments/milestones?reference=<Ref>&unitId=<UnitId>	GET	Get Shipment Milestones detail via Houseway bill, Bill Of Lading, Masterbill, Work Order Number, and Booking Number.	Search Criteria	Get shipment milestones details for provided Houseway bill, Bill Of Lading, Masterbill, Work Order Number, and Booking Number.

4.1.1. Sample Request to Get Shipment Milestone Details

```json
[
    {
        "stopNumber": 1,
        "locationType": "RAIL_YARD",
        "location": "Edmonton",
        "city": "Edmonton",
        "state": "Alberta",
        "country": "CA",
        "latitude": 53.54612,
        "longitude": -113.49382,
        "timezone": "America/Edmonton",
        "milestones": [
            {
                "eventCode": "AL",
                "eventName": "Loaded on Rail",
                "estimatedDate": "2022-01-01T02:00:00.000+00:00",
                "plannedDate": "2021-12-31T23:00:00.000+00:00"
            },
            {
                "eventCode": "RL",
                "eventName": "Rail Departure",
                "estimatedDate": "2022-01-01T03:00:00.000+00:00",
                "plannedDate": "2022-01-01T00:00:00.000+00:00"
            }
        ]
    },
    {
        "stopNumber": 2,
        "locationType": "RAIL_YARD",
        "location": "Vancouver",
        "city": "Vancouver",
        "state": "British Columbia",
        "country": "CA",
        "latitude": 49.28273,
        "longitude": -123.12074,
        "timezone": "America/Vancouver",
        "milestones": [
            {
                "eventCode": "AR",
                "eventName": "Rail Arrival",
                "estimatedDate": "2022-01-15T00:00:00.000+00:00",
                "plannedDate": "2022-01-15T00:00:00.000+00:00"
            },
            {
                "eventCode": "UR",
```

```json
                "eventName": "Unloaded from Rail",
                "estimatedDate": "2022-01-15T01:00:00.000+00:00",
                "plannedDate": "2022-01-15T01:00:00.000+00:00"
            },
            {
                "eventCode": "AL",
                "eventName": "Loaded on Rail",
                "estimatedDate": "2022-01-15T10:00:00.000+00:00",
                "plannedDate": "2022-01-15T10:00:00.000+00:00"
            },
            {
                "eventCode": "RL",
                "eventName": "Rail Departure",
                "estimatedDate": "2022-01-15T11:00:00.000+00:00",
                "actualDate": "2022-02-14T07:10:00.000+00:00",
                "plannedDate": "2022-01-15T11:00:00.000+00:00"
            }
        ]
    },
    {
        "stopNumber": 3,
        "locationType": "RAIL_YARD",
        "location": "Los Angeles",
        "city": "Los Angeles",
        "state": "California",
        "country": "US",
        "latitude": 34.05223,
        "longitude": -118.24368,
        "timezone": "America/Los_Angeles",
        "milestones": [
            {
                "eventCode": "CT",
                "eventName": "Customs Release"
            },
            {
                "eventCode": "AR",
                "eventName": "Rail Arrival",
                "estimatedDate": "2022-02-16T02:10:00.000+00:00",
                "plannedDate": "2022-01-23T00:00:00.000+00:00"
            },
            {
                "eventCode": "UR",
                "eventName": "Unloaded from Rail",
                "estimatedDate": "2022-02-16T03:10:00.000+00:00",
                "plannedDate": "2022-01-23T01:00:00.000+00:00"
            },
            {
```

```json
            "eventCode": "X3",
            "eventName": "Pick Up",
            "estimatedDate": "2022-02-16T03:40:00.000+00:00",
            "plannedDate": "2022-01-23T01:30:00.000+00:00"
        },
        {

            "eventCode": "TRCD",
            "eventName": "Truck Departure",
            "estimatedDate": "2022-02-16T03:55:00.000+00:00",
            "plannedDate": "2022-01-23T01:45:00.000+00:00"
        },
        {

            "eventCode": "OA",
            "eventName": "Gate Out",
            "estimatedDate": "2022-02-16T04:10:00.000+00:00",
            "plannedDate": "2022-01-23T02:00:00.000+00:00"
        }
    ]
},
{

    "stopNumber": 4,
    "locationType": "DC",
    "location": "Minneapolis",
    "city": "Minneapolis",
    "state": "Minnesota",
    "country": "US",
    "latitude": 44.97775,
    "longitude": -93.26501,
    "timezone": "America/Chicago",
    "milestones": [
        {
            "eventCode": "I",
            "eventName": "Gate In",
            "estimatedDate": "2022-02-18T11:30:00.000+00:00",
            "plannedDate": "2022-01-28T00:00:00.000+00:00"
        },
        {

            "eventCode": "TRCA",
            "eventName": "Truck Arrival",
            "estimatedDate": "2022-02-18T11:45:00.000+00:00",
            "plannedDate": "2022-01-28T00:15:00.000+00:00"
        },
        {

            "eventCode": "X1",
            "eventName": "Delivered",
            "estimatedDate": "2022-02-18T12:30:00.000+00:00",
            "plannedDate": "2022-01-28T01:00:00.000+00:00"
```

```
                }
        ]
    }
]
```

4.2. Field Description

Attribute Names pertaining to date and time for example "createDttm" is represented as "MM-dd-yyyy HH:mm".

The field descriptions for the attributes listed in the JSON code block are provided below:

Table 2. Milestone API

Attribute Name	Type	Required/Optional/Conditional/Read Only	Max Length	Condition	Values	Description	Additional Notes
stopNumber	bigint	Required				Number of stops on the shipment leg	
locationType	string	Optional	50			Location Type of shipment	
location	string	Optional	200			Location Name of Shipment	
city	string	Optional	50			City of shipment party	
state	string	Optional	50			State name of shipment party	
country	string	Optional	50			Country Name of	

Table 2. Milestone API (continued)

Attri bute Name	Type	Requir ed/Opti onal/Co ndition al/Read Only	Max Le ngth	Cond ition	Values	Descri ption	Addit ional Notes
						shipment party	
latitude	decimal	Optional	20,5			Latitude coordina tes of location	
longitude	decimal	Optional	20,5			Longit ude coordina tes of location	
timezone	string	Required	100			Name of the timezone	
eventC ode	string	Required	10			Identifica tion code of the event	
eventN ame	string	Required	255			Name of the event	
estimate dDate	datetime	Optional				Estima ted date and time for the milest one	
plannedD ate	datetime	Optional				Planned date and time for the milest one	

Table 2. Milestone API (continued)

Attribute Name	Type	Required/Optional/Conditional/Read Only	Max Length	Condition	Values	Description	Additional Notes
actualDate	datetime	Optional				Actual date and time for the milestone	

5. Error Codes

Table 3. Error Codes

HTTP	Error Code	Error Description
400	invalid_request	The request is missing a required parameter, includes an unsupported parameter value, repeats a parameter, includes multiple credentials, utilizes more than one mechanism for authenticating the client, or is otherwise malformed.
400	unsupported_grant_type	The authorization grant type is not supported by the authorization server.
401	Unauthorized	Client authentication failed because the client is unknown, no client authentication was included, or an unsupported authentication method was used.
403	insufficient_scope	The request requires higher privileges than provided by the access token.
404	resource_not_found	Resource Not Found
404	shipment_not_found	The shipment specified in the query parameters does not exist in Blume's system.
405	method_not_allowed	Method Not Allowed
429	too_many_requests	The client has exceeded the maximum number of requests for the period.
500	internal_server_Error	Internal Server Error