AI ELD API

v1.0 2024-09-19

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Document versions

Version	Comment	Date
v1.0	Initial version	2024-09-19

API Standards

Versioning

All API resource URLs will be versioned. All breaking changes will result in a version increment, i.e. the version 1 API endpoint looks like https://publicapi.ai-eld.com/api/v1/trucks. All previous API versions will be available as long as they are being used.

NOTE: *Incremental changes that result in additional resource fields are not considered breaking change. Should new fields appear in existing API responses, client parsers are expected to ignore them. As some JSON parsers will break if a new field is added, API consumers should take care to configure JSON parsers to be aware of possible additions of new fields to avoid service interruption.*

Authentication

In order to access the data AI ELD API provides, consumers need to include an access token in each and every request. AI ELD API uses Bearer token authentication scheme, so all API calls need to include the request header:

```
Authorization: Bearer <Access Token>
```

To obtain an access token, consumers need to request it from the token endpoint, by using the standard OAuth 2.0 client credentials grant type. To obtain the **Token** endpoint, please refer to the Endpoints section in the document below.

To make a token request, consumers need to make a HTTP POST request to the **Token** endpoint and at least send `client_id`, `client_secret` and `grant_type` parameters in the request body, with `Content-Type` set to `application/x-www-form-urlencoded`. The grant_type parameter should always have `client_credentials` value.

NOTE: To obtain values for `client_id` and `client_secret` parameters, API consumers need to contact AI ELD customers they have partnership or business relations with. Each AI ELD customer has the ability to allow API access to their data.

Example token requests

Using HTTP

```
POST /connect/token HTTP/1.1
Host: identity.ai-eld.com
Content-Type: application/x-www-form-urlencoded

grant_type=client_credentials&client_id=<client-id>&client_secret=<client-secret>
```

Using cURL

```
curl --location --request POST 'https://identity.ai-eld.com/connect/token' \
--header 'Content-Type: application/x-www-form-urlencoded' \
--data-urlencode 'grant_type=client_credentials' \
--data-urlencode 'client_id=<client-id>' \
--data-urlencode 'client_secret=<client-secret>'
```

Expiration

When using access tokens, API consumers need to make sure a simple mechanism is in place to store and use tokens until they are expired. After the token is expired, a new token must be requested. Since OAuth 2.0 client credentials grant type is used, consumers only need to repeat the call to token endpoint, which will then grant them a fresh token.

Each issued access token is valid for 60 minutes.

Pagination

When requesting a list of resources, AI ELD API could return results which only contain a partial list of resources. If that is the case, the response would contain an indication that more resources are available, and a token which marks the last returned resource. In cases when more resources are available, the caller is expected to make a new call which contains a token returned by the previous call, which would allow them to obtain the next batch of resources, consequently being able to obtain the complete result set. Please consult each resource endpoint, where pagination is possible, in order to obtain the details about the said token format.

Dates/Times

Any date represented in output, input or query parameters are formatted, or expect to be formatted, using simplified extended ISO format (ISO 8601). The output timezone is always zero UTC offset, as denoted by the suffix “z”.

Ideally, the input timezone should also be zero UTC offset with “Z” suffix, or at least specified using a timezone offset. Any date/time value sent without an offset or “Z” suffix will be considered as UTC time, which may not be desirable by the API consumer.

Example date/time values

- Date-only: `2022-03-14`
- UTC date/time: `2022-03-14T22:08:42.000Z`
- Local date/time (GMT-5 timezone): `2022-03-14T16:08:42.000-05:00`

HTTP methods

Method	Usage
GET	Currently, the API only offers requesting collections of resources. Where specified, collection filters and paging parameters can be specified using query parameters.

HTTP responses

Response	Reason
200 OK	Response for successful requests.
400 Bad request	Error response indicating that the request was malformed, either due to bad syntax, or input validation.
401 Unauthorized	Error response indicating the access token was missing or invalid.
403 Forbidden	Error response indicating the API consumer doesn't have permission to access the requested resource.
404 Not found	Error response indicating the requested resource could not be found.
429 Too many requests	Error response indicating the HTTP requests throttling has been activated due to API consumer making too many requests in a small time frame.
500 Internal server error	Error response indicating the server has encountered an internal error processing the request, in which case API consumer should try again later

OpenAPI specification

AI ELD API documentation can also be accessed using the OpenAPI specification endpoint. To obtain the OpenAPI specification endpoint, please refer to the Endpoints section in the document below and look for the **Swagger** endpoint.

API consumers can use the **Swagger** endpoint to download the OpenAPI specification and import it into an API testing tool. It doesn't support making authenticated requests directly from the web page.

Resources

This documents assumes that any HTTP endpoint discussed from this point forward starts with `/api/v{version}`. Therefore, only the resource names will be described.

API version 1

Trucks

Request	Description
GET /trucks	Gets the list of trucks with their current locations.

Truck list

This request doesn't accept any input parameters.

If successful, this request will return a list of trucks with their current locations.

Example value

```
[
  {
    "name": "1234",
    "location": "3mi SW Lovdal, CA",
    "lat": 38.56,
    "lng": -121.6,
    "speed": 45,
    "timeStamp": "2023-10-25T21:11:54.381Z",
    "vin": "12345678901234567"
  }
]
```

Item schema

Property	Type	Description
name	string	The unique truck name
location	string, nullable	The current location of the truck
lat	double, nullable	The truck current location latitude
lng	double, nullable	The truck current location longitude
speed	integer, nullable	The current speed of the truck
timeStamp	datetime	The time stamp of the current truck location
vin	string	The VIN of the truck

Truck locations

Request	Description
GET /trucks/{name}	Gets the chronologically ordered list of locations that belong to the specified truck.

Truck locations list

This request accepts the following input:

Property	Location	Type	Description
name	Path	string, required	The unique truck name, as returned by the truck list endpoint
startTime	Query	datetime, optional	Specifies the start of the time window for the returned locations. If it is not specified, it defaults to current time minus one hour
endTime	Query	datetime, optional	Specifies the end of the time window for the returned locations. If it is not specified, it defaults to current time
lastTimestamp	Query	datetime, optional	The exclusive token used for pagination. If specified, the server will only return locations newer than what's specified in this parameter. Use to obtain the next batch of results, in case the previous call resulted in a partial list.

If successful, the request will return a chronologically ordered list of locations that belong to the truck specified by the `name` parameter**.**

Example value


```
{
  "list": [
    {
      "name": "1234",
      "location": "3mi SW Lovdal, CA",
      "lat": 38.56,
      "lng": -121.6,
      "speed": 45,
      "timeStamp": "2024-03-20T15:55:45.457Z",
      "seatBeltUsage": "Unbuckled",
      "safetyEvent": "HARDBRAKE",
      "vin": "12345678901234567",
    }
  ],
  "hasMore": true,
  "lastTimestamp": "2024-03-20T15:55:45.457Z"
}
```


Item schema

Property	Type	Description
list	Array of truck list Item schema	The list of returned locations
hasMore	boolean	Indicates whether the response is paged and more locations are available
lastTimestamp	datetime, nullable	If specified, indicates the exclusive paging key to be used for the next call, to obtain the list of remaining locations.

List item schema

Property	Type	Description
name	string	The unique truck name
location	string, nullable	The current location of the truck
lat	double, nullable	The truck current location latitude
lng	double, nullable	The truck current location longitude
speed	integer, nullable	The current speed of the truck
timeStamp	datetime	The time stamp of the current truck location

seatBeltUsage	string	The seat belt usage recorded at the current location. Can be one of the following values: *Unbuckled*, *Buckled*, *UnableToDetermine*, *Unavailable*
safetyEvent	string, nullable	If not null, represents the safety event which was recorded at the current location. Can be one of the following values: *HARDACCEL*, *HARDSTOP*, *HARDBRAKE*, *HARDTURN*. If null, it means no safety-related event was recorded at the current location.
vin	string	The VIN of the truck.

Drivers

Request	Description
GET /drivers	Gets the list of drivers with their current hour of service statuses.

Drivers list

This request doesn't accept any input parameters.

If successful, this request will return a list of drivers with their current hours of service statuses.

Example value


```
[
  {
    "driverId": "0001",
    "driverName": "John Doe",
    "truckName": "1234",
    "dutyStatus": "OFF",
    "dutyStatusStartTime": "2023-02-13T16:00:30.000Z",
    "shiftWorkMinutes": 0,
    "shiftDriveMinutes": 0,
    "cycleWorkMinutes": 0,
    "maxShiftWorkMinutes": 840,
    "maxShiftDriveMinutes": 660,
    "maxCycleWorkMinutes": 4200,
    "homeTerminalTimeZoneWindows": "Central Standard Time",
    "homeTerminalTimeZoneIana": "America/Chicago"
  }
]
```

Item schema

Property	Type	Description
driverId	string	The unique driver ID
driverName	String	The driver full name
truckName	string, nullable	The truck name which the driver is using. If present, corresponds to the unique truck name returned by the Trucks resource endpoint
dutyStatus	string, nullable	The current duty status. Possible values are OFF (for off duty), SB (for sleeper berth), ON (for on duty not driving), D (for driving), YM (yard moves), PC (authorized personal use of CMV)
dutyStatusStartTime	datetime, nullable	The time the current duty status has started at
shiftWorkMinutes	double	Total number of minutes the driver has been on duty in the current shift
shiftDriveMinutes	double	Total number of minutes the driver has been driving in the current shift
cycleWorkMinutes	double	Total number of minutes the driver has been on duty in the current cycle
maxShiftWorkMinutes	double	Maximum number of minutes the driver could have been on duty in the current shift
maxShiftDriveMinutes	double	Maximum number of minutes the driver could have been driving in the current shift
maxCycleWorkMinutes	double	Maximum number of minutes the driver could have been on duty in the current cycle
homeTerminalTimeZoneWindows	string	The Windows-recognized home terminal time zone ID
homeTerminalTimeZoneIana	string	The IANA-recognized home terminal time zone ID

Driver ELD statuses

Request	Description
GET /drivers/{driverId}	Gets the chronologically ordered list of ELD duty statuses that belong to the specified driver.

Driver ELD statuses list

This request accepts the following input:

Property	Location	Type	Description
driverId	Path	string, required	The unique driver ID, as returned by the drivers list endpoint
startTime	Query	datetime, optional	Specifies the start of the time window for the returned statuses. If it is not specified, it defaults to current time minus one hour
endTime	Query	datetime, optional	Specifies the end of the time window for the returned statuses. If it is not specified, it defaults to current time
lastTimestamp	Query	datetime, optional	The exclusive token used for pagination. If specified, the server will only return statuses newer than what's specified in this parameter. Use to obtain the next batch of results, in case the previous call resulted in a partial list.

If successful, the request will return a chronologically ordered list of statuses that belong to the driver specified by the `driverId` parameter**.**

Example value


```
{
  "list": [
    {
      "startTime": "2024-07-12T14:23:44.502Z",
      "dutyStatus": "ON",
      "location": "1mi NW Joliet, IL"
    }
  ],
  "hasMore": true,
  "lastTimestamp": "2024-07-12T14:23:44.502Z"
}
```


Item schema

Property	Type	Description
list	Array of driver status list Item schema	The list of returned driver ELD statuses
hasMore	boolean	Indicates whether the response is paged and more statuses are available
lastTimestamp	datetime, nullable	If specified, indicates the exclusive paging key to be used for the next call, to obtain the list of remaining statuses.

List item schema

Property	Type	Description
startTime	datetime	The time stamp of the current ELD status
dutyStatus	string	The current ELD status. Can be one of the following values: *D*, *ON*, *OFF*, *SB*
driverName	String	The driver full name
location	string	The location where the current ELD status started
lat	string, nullable	The string representation of the latitude this ELD status was created at. Can hold the value “M” if the driver has indicated the location manually, or “X” if it wasn’t possible to determine the location.
lng	string, nullable	The string representation of the longitude this ELD status was created at. Can hold the value “M” if the driver has indicated the location manually, or “X” if it wasn’t possible to determine the location.

note	string, nullable	The duty status comment, if exists.

Endpoints

	Testing	Production
Token	https://identity-stage.ai-eld.com/connect/token	https://identity.ai-eld.com/connect/token
API	https://publicapi-stage.ai-eld.com	https://publicapi.ai-eld.com
Swagger	https://publicapi-stage.ai-eld.com/swagger	https://publicapi.ai-eld.com/swagger/

NOTE: *Any access token obtained using the testing environment token endpoint can only be used for calls to the testing environment API. Likewise, to call the production environment API, an access token will need to be obtained from the production environment token endpoint*.