Mapping, Mileage & Routing APIs

Technical Overview

About this Document

This document provides a technical overview of Trimble Mapping, Mileage & Routing Services (RESTful APIs) available through the Azure Marketplace.

Web Services Version	Document Last Update
v1.0	**May 20, 2024**

Legal Notices

The most current legal, copyright, and privacy notices related to Trimble Maps are available on our developer portal.

- Legal
- Privacy

About Trimble Mapping, Routing & Mileage APIs

Trimble's APIs are built with the data and routing engine of PC*MILER, which has been the transportation industry standard for commercial vehicle routing, maps, and location intelligence for more than 30 years. With our easy-to-use RESTful APIs, you can generate safe and legal truck routes, calculate distances, render maps and gather location information throughout the world.

Services Available

The services currently available through the Azure cloud include:

Routing and reporting:
- Commercial Vehicle Routing
- Hazmat routing
- Hub Routing
- State mileage reports
- Toll reports
- Directions Report
- Hours of Service
- Road class report

Location Intelligence:
- Access to millions of Trimble verified commercial places with properly shaped geofences & gates
- Forward geocoding
- Reverse geocoding with access to speed limits for speed violation analysis
- Batch forward and reverse geocode
- Search custom places and sites
- POIs within radius
- POIs along route

Optimization:
- Single route stop optimization
- Single route time window optimization

Distance Matrix:

- Distance & time matrix with customizable vehicle parameters
- Ultrafast distance matrix & time matrix for near real time optimization applications

Map Visualization:
- Map image - Map image of larger size
- Map tile - Raster map tile image at a given location and zoom level
- Map image with route
- Weather Radar and Weather satellite
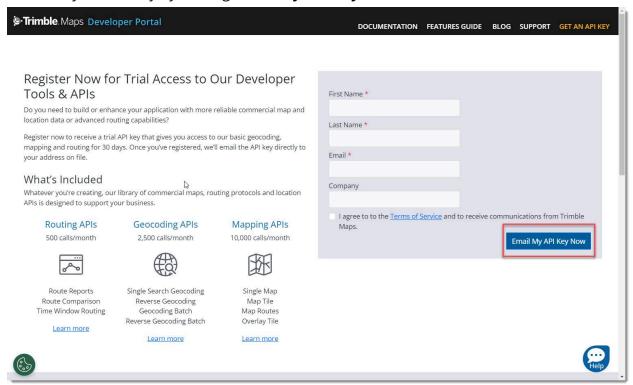- Weather Alerts Overlay (North America Only)

Custom Location Content:
- Creation and management of Avoids, Favors, and Closures
- Creation and management of places, site polygons, site gates and site paths

Getting Started

The only requirement to use PC*MILER Web Services is that all requests require an API key for authentication. You can request a free trial key to test the APIs for a limited time.

Get an API Key

1. To get an API within minutes, follow [this link to open our request form](#).
2. Complete your contact information.
3. Generate your API key by clicking **Email my API Key Now**.

4. Check your email for a message from Trimble Maps (no-reply@info.trimblemaps.com) with the trial API key.

Test the Service

You can quickly and easily test the service from any application that calls RESTful APIs. Several of our [developer portal documentation pages](#) also include built-in sections where you can test an API with your trial key.

How to Use the Service

Almost all of the API endpoints can be used independently. In a single API call, you can generate a truck routing report, a route path, or a map, or you can geocode one or multiple locations. Like any RESTful service, the APIs provide a direct way to access these services via HTTP/S requests.

The table below includes a list of all the endpoints that are available with your trial API key. Detailed descriptions of all of the methods, objects, and parameters in these APIs can be found in [our developer portal.](#)

Endpoints and URLs

API Endpoint	Resource URL
Route Reports - Create a truck route and retrieve a wide range of information about it.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/route/routeReports
Route Path - Retrieve a series of geographic coordinates that make up a route.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/route/routePath
PC*MILER Versions - Retrieve a list of the PC*MILER versions available.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/pcmversion
Derived Route - Estimate a route based on a series of latitude/longitude pings.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/derivedRoute/routeReports
Drive Time Polygon	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/route/DriveTi

API Endpoint	Resource URL
(Isochrones) - Retrieve a polygon of the location coordinates that can be reached from a center point.	mePolygon
Route Matrix - Retrieve the travel time and distance for a matrix of origins and destinations.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/route/matrix
POIs Along the Route - Retrieve the Points of Interest (POIs) along a given route.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/poi/alongRoute
Time Window Routing - Build a route that takes into account appointment times for stops.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/route/optimize
Geofence - Create a bounding box around a geographic area.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/Geofence/{geofence ID or name}
Geofence Sets - Organize and retrieve geofences.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/GeofenceSets/{{geo-set-id}}
Route Intersection - Retrieve all of the geofences that the given route intersects.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/Geofence/Intersection/Route
Point Intersection - Retrieve all of the geofences the given array of points intersects.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/Geofence/Intersection/Points

API Endpoint	Resource URL
Geocoding - Retrieve longitude and latitude coordinates for a given address.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/locations
Geocoding Batch - Retrieve longitude and latitude coordinates for an array of addresses.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/locations/address/batch
Reverse Geocoding - Retrieve the nearest address for given longitude and latitude coordinates.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/locations/reverse
Single Search - Geocode an address that a user submits as a single string of text.	https://singlesearch.az.alk.com/NA/api/search
Ultrafast Distance Matrix - Generate time and distance between 1,000 of origins and destinations.	https://routematrix-prod.az.trimblemaps.com/routing/v1/distancematrix
Map Tile - Retrieve a single raster map tile image at a given location and zoom level.	https://pcmiler.az.alk.com/apis/rest/v1.0/service.svc/maptile
Weather Alerts - Retrieve weather alerts for a given map view port.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/WeatherAlerts
Weather Overlay - Retrieve a weather radar or satellite image	https://pcmiler.alk.com/apis/rest/v1.0/Service.svc/weather

API Endpoint	Resource URL
to be overlayed on a map image.	
POI Radius Search - Retrieve a list of Points of Interest (POIs) within a certain radius from a center point.	https://pcmiler.alk.com/apis/rest/v1.0/service.svc/poi
States and Countries Search - Retrieve the states or countries for a worldwide region.	https://pcmiler.alk.com/apis/rest/v1.0/service.svc/states
Reverse Geocoding Batch - Reverse geocode a batch of geographic coordinates into street addresses.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/locations/reverse/batch
Single Map - Retrieve a map image of any size.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/map
Map Routes - Draw a route on a map image.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/mapRoutes
Road Surface Tile Overlay - Retrieve a map image overlay for road surface conditions.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/roadSurface/tile
Road Surface Route - Retrieve a list of road surface conditions at each point of a route path.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc//roadSurface/route
County Polygon - Retrieve the geographic coordinates for a	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/polygons/county

API Endpoint	Resource URL
polygon that outlines a specified county.	
State Polygon - Retrieve the geographic coordinates for a polygon that outlines a specified state or states.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/polygons/state
ZIP Code Polygon - Retrieve the geographic coordinates for a polygon that outlines a specified ZIP code.	https://pcmiler.az.alk.com/apis/rest/v1.0/Service.svc/polygons/zip
Single Search Types - Returns the list of search's known InterpTypes.	https://singlesearch.az.alk.com/NA/api/search/types
Single Search POI Categories - Returns the list of search's acceptable POI categories.	https://singlesearch.az.alk.com/NA/api/search/poiCategories
Single Search POI Types - Returns POI category names and their associated IDs**.**	https://singlesearch.az.alk.com/NA/api/search/poiTypes
Single Search Countries - Returns the list of search's acceptable countries.	https://singlesearch.az.alk.com/NA/api/search/countries
Single Search States - Returns the list of search's acceptable states.	https://singlesearch.az.alk.com/NA/api/search/states