



Network Path API Reference Guide

Revision 04

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Table of Contents

About Network Path API	1
Introduction	1
Accessing the Portal	1
Related Documentation	1
Acronym List	2
Contact Customer Support	2
Network Path API V1	3
GET Diversity Check V1	3
GET Path Search	4
Network Path API V2	9
GET Diversity Check V2	9
GET Path Search V2	11
Revision History	17

About Network Path API

Introduction

This guide describes the Connectbase Application Program Interface (API) for the following versions:

- [Network Path API V1](#)
- [Network Path API V2](#)

Accessing the Portal

Using any standard web browser, you can access the Connectbase API portal by entering the following URL: <https://developer.connectbase.com>.

- If this is your first time visiting the site, click [Sign up](#) to register as a new API user.
- If you are already a registered user, [Sign in](#) using your API login and password.

Related Documentation

Refer to the following documents for detailed information about each of the supported Connectbase API products:

- [Address Autocomplete API Reference Guide](#)
- [Address Validation API Reference Guide](#)
- [Advanced CPQ API Reference Guide](#)
- [Building Competitive Rating API Reference Guide](#)
- [Connectbase Developer Portal Overview Guide](#)
- [Connected World Availability API Reference Guide](#)
- [Connected World Account API Reference Guide](#)
- [Connected World Building API Reference Guide](#)
- [Connected World Building Lists API Reference Guide](#)
- [Connected World Contacts API Reference Guide](#)
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- [CPQ Components Management API Reference Guide](#)
- [Demand Engine API Reference Guide](#)
- [Geocode API Reference Guide](#)
- [International Processor API Reference Guide](#)
- [Locations Intelligence API Reference Guide](#)
- [Network Intelligence API Reference Guide](#)
- [NNI Management API Reference Guide](#)
- [Rate Card Management API Reference Guide](#)
- [Route Management API Reference Guide](#)
- [Tenant API Reference Guide](#)

Acronym List

This document uses the following acronyms.

Acronym	Description
API	Application Program Interface
HTTP	Hyper Text Transfer Protocol
JSON	JavaScript Object Notation
N/A	Not applicable
URL	Uniform Resource Locator
USPS	United States Postal Service
WISP	Wireless Internet Service Provider

Contact Customer Support

If you require technical assistance or wish to report an issue to the Connectbase Support team, please log into the Connectbase Customer Support portal at <https://support.connectbase.com> and log a ticket.

For other general information, you can contact Customer Support by email at support@connectbase.com or by phone at (508) 202-1807 between the hours of 8:00 a.m. and 5:00 p.m. EST.

Network Path API V1

The Network Path API V1 enables clients to submit an A and Z location that returns a geojson-formatted response for those two endpoints, inclusive of all paths or a specific company path.

It will assign a Segment ID, calculate distance and latency, and present that information in the response in addition to the geojson data. There is also a secondary endpoint which allows for two different segment ids to be compared and determines if they are diverse from one other.

The Network Path V1 APIs include the following:

- [GET Diversity Check V1](#)
- [GET Path Search V1](#)



Although the APIs are described in this document in alphabetical order to match how they appear in the developer portal, the proper order of operations is to first run the Get Path Search API and obtain the segment Ids, then run the GET Diversity Check API to determine if the segments are diverse from one another.

GET Diversity Check V1

Issue this call to determine diversity between two segments.


Requirements and Special Considerations

This API call requires two segment ids and a subscription key. This API input is dependent upon the response from the GET Path Search.

Request URL

```
https://api.connected2fiber.com/networkpath/diversitycheck?segment_Id1={segment_Id1}&segment_Id2={segment_Id2}
```

Request parameters	Characteristic	Description/Requirements
segment_Id1	string	Unique Id assigned in path search
segment_Id2	string	Unique Id assigned in path search



This Id cannot be the same as the Id used for segment_1

Request headers	Characteristic	Description/Requirements
Ocp-Apim-Subscription-key	string	The subscription key that provides access to this API, which can be found in your Profile.

Success Response Example
<pre>{ "status": "success", "body": { "result": false } }</pre>

Response Attributes and Data Types

Response Attribute	Attribute Description	Data Type
status	Indicates status of API completion. <ul style="list-style-type: none"> • Success • Failed 	string
body	object wrapper	object
result	True/False	boolean

Error Response Example
<pre>{ "status": "fail", "message": "segment id 2 do not exist (Error id: 137964221)" }</pre>

GET Path Search

Issue this call to submit an A and Z location and supplier id (optional) that returns a geojson-formatted response for those two endpoints, inclusive of all paths or a specific company path.

Requirements and Special Considerations
This API call requires the Start Address, End Address, and subscription key. All other parameters are optional.

Request URL
https://api.connected2fiber.com/networkpath/pathsearch

Request parameters	Characteristic	Description/Requirements
startAddress	string	Starting address endpoint (A Location)
endAddress	string	Ending address endpoint (Z Location)
startlat	string	The latitude of the start address

Request parameters	Characteristic	Description/Requirements
startlon	string	The longitude of the start address
endlat	string	The latitude of the end address
endlong	string	The longitude of the end address
startglid	string	The Global Location Id of the start address
endglid	string	The Global Location Id of the end address
supplier	string	The name of the provider
pathlimit	string	Sets the number of paths returned for each supplier, shortest first. Default is 1.
tolerance	string	Sets the search radius from start/end point to look for route data. 0 means use parcel as intersection, max radius in 200 ft.

Request headers	Characteristic	Description/Requirements
Ocp-Apim-Subscription-key	string	The subscription key that provides access to this API, which can be found in your Profile.

Success Response Example
<pre> { "status": "success", "body": { "Pathinfor": [[{ "SegmentID": "5664239_5657169_15593456", "length": 460240.1593695302, "latency": 2256.742960525303, "provider_name": "Firstlight Fiber ", "geojson": [{"type": "MultiLineString", "coordinates": [[[-71.0596796914585, 42.3548539066524], [-71.0597072630373, 42.3548437043048], [-71.0597476850129, 42.3547883028884], [-71.0597503461914, 42.3547771588593]]]}, "...", [{"type": "MultiLineString", "coordinates": [[[-74.00776773, 40.7176511910001], [-74.0077050709999, 40.7176609910001]]]}]}], "startaddress": { "addresskey": "1 SUMMER ST BOSTON MA USA", "fullAddressLine": "1 Summer St Boston MA 02110-1010", "location": { "street": "1 Summer St", "city": "Boston", "state": "MA", "country": "USA", "postal": "02110", "longitude": -71.06024, "latitude": 42.3547 } }, "endaddress": { "addresskey": "60 HUDSON ST NEW YORK NY USA", "fullAddressLine": "60 Hudson St New York NY 10013-3315", "location": { "street": "60 Hudson St", "city": "New York", "state": "NY", } } }] } } } </pre>

Success Response Example

```
    "country": "USA",
    "postal": "10013",
    "longitude": -74.008749,
    "latitude": 40.717916
  }
},
"startLocationEntrances": [{
  "md_entity_name": "Crown Castle",
  "count": 26
}, {
  "md_entity_name": "Verizon",
  "count": 4
}, {
  "md_entity_name": "Firstlight Fiber ",
  "count": 26
}, {
  "md_entity_name": "CenturyLink",
  "count": 5
}, {
  "md_entity_name": "Cambridge Network Solutions",
  "count": 2
}, {
  "md_entity_name": "KCST USA",
  "count": 8
}, {
  "md_entity_name": "Massachusetts Broadband Institute",
  "count": 8
}],
"endLocationEntrances": [{
  "md_entity_name": "Crown Castle",
  "count": 27
}, {
  "md_entity_name": "ExteNet Systems",
  "count": 15
}, {
  "md_entity_name": "Windstream",
  "count": 15
}, {
  "md_entity_name": "Verizon",
  "count": 3
}, {
  "md_entity_name": "Optical Communications Grp",
  "count": 3
}, {
  "md_entity_name": "Firstlight Fiber ",
  "count": 4
}, {
  "md_entity_name": "CenturyLink",
  "count": 8
}, {
  "md_entity_name": "Altice",
  "count": 12
}]
}
```

Response Attributes and Data Types

Response Attribute	Attribute Description	Data Type
status	Indicates status of API completion. <ul style="list-style-type: none">• Success• Failed	string

Response Attribute	Attribute Description	Data Type
body	object wrapper	object
Pathinfo	array wrapper	array
SegmentID	Unique Id assigned in path search	string
length	The total path distance, unit: meter	float
latency	The round-trip time, unit: microseconds; length/203.94 (optical fiber type = Brand B (G.655), Wavelength = 1625nm, refractive Index=1.47, distance=203.940m/us)	float
provider_name	The name of the provider	string
geojson	The geojson response/coordinates	format
startaddress	Starting address endpoint (A Location)	object
addresskey	Address, stated as, for example, "1 SUMMER ST BOSTON MA USA"	string
fullAddressLine	The full address, stated as, for example "1 Summer St Boston MA 02110-1010	string
location	object wrapper	object
street	The street address, stated as, for example "1 Summer St".	string
city	The city, stated as, for example, "Boston".	string
state	The state abbreviation stated as, for example, "MA"	string
postal	The zip code stated as, for example "02110".	string
country	The country stated as, for example, USA.	string
longitude	The angular distance of a place east or west of the meridian at Greenwich, England, or west of the standard meridian of a celestial object, usually expressed in degrees and minutes.	string
latitude	The angular distance of a place north or south of the earth's equator, or of a celestial object north or south of the celestial equator, usually expressed in degrees and minutes.	string
endaddress	End address endpoint (Z Location)	string
startLocationEntrances	array wrapper	object array
md_entity_name	The provider name as it appears in the Connectbase platform.	string
count	The number of start locations	int
endLocationEntrances	array wrapper	object array
md_entity_name	The provider name as it appears in the Connectbase platform.	string
count	The number of end locations	int

Error Response Example

```
{  
  "status": "fail",  
  "message": "Unable to get node on the fiber for start address (Error id: 137961752)"  
}
```

Network Path API V2

The Network Path API V2 enables clients to submit an A and Z location that returns a geojson-formatted response for those two endpoints, inclusive of all paths or a specific company path. Additionally user can input suppliername as a parameter instead of supplier ID, which is the case in V1 of Network path API.

It will assign a Segment ID, calculate distance and latency, and present that information in the response in addition to the geojson data. There is also a secondary endpoint which allows for two different segment ids to be compared and determines if they are diverse from one other.

The Network Path V2 APIs include the following:

- [GET Diversity Check. V2](#)
- [GET Path Search V2](#)



Although the APIs are described in this document in alphabetical order to match how they appear in the developer portal, the proper order of operations is to first run the Get Path Search API and obtain the segment Ids, then run the GET Diversity Check API to determine if the segments are diverse from one another.

GET Diversity Check V2

Issue this call to determine diversity between two segments.


Requirements and Special Considerations

This API call requires two segment ids and a subscription key. This API input is dependent upon the response from the GET Path Search.

Request URL

<https://api.connectbase.com/pathsearch/v2/diversitycheck>

Request parameters	Characteristic	Description/Requirements
segment_Id1	string	Unique Id assigned in path search
segment_Id2	string	Unique Id assigned in path search



This Id cannot be the same as the Id used for segment_1

Request headers	Characteristic	Description/Requirements
Ocp-Apim-Subscription-key	string	The subscription key that provides access to this API, which can be found in your Profile.

Success Response Example
<pre> HTTP/1.1 200 OK cache-control: no-store, must-revalidate, no-cache content-length: 43 content-type: application/json; charset=utf-8 date: Thu, 17 Aug 2023 20:35:06 GMT etag: W/"2b-yRbptYp0K9V7AXfeuan7jg" expires: Thu, 17 Aug 2023 20:35:06 GMT pragma: no-cache x-request-id: 48e3e8a5-6261-4c7c-8869-4ebac6fe0221 { "status": "success", "body": { "result": true } } </pre>

Response Attributes and Data Types

Response Attribute	Attribute Description	Data Type
status	Indicates status of API completion. <ul style="list-style-type: none"> Success Failed 	string
body	object wrapper	object
result	True/False	boolean

Sample Request Form

Following is a sample request form for GET DIVERSITY CHECK Method. Filling in the same Segment ID in both fields results in an error message showing that segment ID 2 doesn't exist.

Parameters ^

segment_Id1

segment_Id2

+ Add parameter

Error Response Example
<pre> { "status": "fail", </pre>

Error Response Example

```
"message": "segment id 2 do not exist (Error id: 137964221)"
}
```

GET Path Search V2

Issue this call to submit an A and Z location and supplier name (optional) that returns a geojson-formatted response for those two endpoints, inclusive of all paths or a specific company path.

Requirements and Special Considerations

This API call requires the Start Address, End Address, and subscription key. All other parameters are optional.

Request URL

<https://api.connectbase.com/pathsearch/v2/pathsearch>

Request parameters	Characteristic	Description/Requirements
startAddress	string	Starting address endpoint (A Location)
endAddress	string	Ending address endpoint (Z Location)
startlat	string	The latitude of the start address
startlon	string	The longitude of the start address
endlat	string	The latitude of the end address
endlong	string	The longitude of the end address
startglid	string	The Global Location Id of the start address
endglid	string	The Global Location Id of the end address
suppliername	string	The name of the provider. This is an enhancement from V1, where user can provide suppliername instead of supplier ID.
pathlimit	string	Sets the number of paths returned for each supplier, shortest first. Default is 1.
tolerance	string	Sets the search radius from start/end point to look for route data. 0 means use parcel as intersection, max radius in 200 ft.

Request headers	Characteristic	Description/Requirements
Ocp-Apim-Subscription-key	string	The subscription key that provides access to this API, which can be found in your Profile.

Sample Request Form:

Following is a sample request form for Get Path Search Method:

Parameters ^

startAddress	ummer st, boston, MA, USA	🗑
endAddress	5 summer st, boston, MA,	🗑
startlat	value	🗑
startlon	value	🗑
endlat	value	🗑
endlon	value	🗑
startglid	value	🗑
endglid	value	🗑
suppliername	LUMEN TECHNOLOGIES	🗑
pathlimit	value	🗑
tolerance	value	🗑

Success Response Example

HTTP/1.1 200 OK

cache-control: no-store, must-revalidate, no-cache
 content-length: 2037
 content-type: application/json; charset=utf-8
 date: Thu, 17 Aug 2023 19:35:39 GMT
 etag: W/"7f5-bEHF3sN7TCLhM0vRPGfpcw"
 expires: Thu, 17 Aug 2023 19:35:39 GMT
 pragma: no-cache
 x-request-id: 08c05bc6-32cb-44cc-abe8-bccf20710afe

```
{
  "status": "success",
  "body": {
    "Pathinfor": [
      [
        {
          "SegmentID": "7933796_7933802_15671385",
          "length": 94.80180115260865,
          "latency": 0.4648514325419665,
          "provider_name": "LUMEN TECHNOLOGIES",
          "geojson": {
            "type": "Feature",
            "properties": {},
            "geometry": {
              "type": "MultiLineString",
              "coordinates": [
                [
                  [-71.059751999, 42.354722999],
```

Success Response Example

```
        [-71.059635855, 42.354813776]
      ],
      [
        [-71.059258173, 42.354534776],
        [-71.059635855, 42.354813776]
      ],
      [
        [-71.059377998, 42.354411],
        [-71.059258173, 42.354534776]
      ],
      [
        [-71.059554, 42.354538],
        [-71.059377998, 42.354411]
      ]
    ]
  }
}
}]
],
"startaddress": {
  "addresskey": "1 SUMMER ST|BOSTON|MA|USA",
  "fullAddressLine": "1 Summer St, Boston, MA, USA, 02110",
  "location": {
    "street": "1 Summer St",
    "city": "Boston",
    "state": "MA",
    "country": "USA",
    "postal": "02110",
    "latitude": 42.355159,
    "longitude": -71.060461
  },
  "is_valid": 1
},
"endaddress": {
  "addresskey": "5 SUMMER ST|BOSTON|MA|USA",
  "fullAddressLine": "5 Summer St, Boston, MA, USA, 02110",
  "location": {
    "street": "5 Summer St",
    "city": "Boston",
    "state": "MA",
    "country": "USA",
    "postal": "02110",
    "latitude": 42.355302,
    "longitude": -71.06049
  },
  "is_valid": 1
},
"startLocationEntrances": [{
  "md_entity_name": "CROWN CASTLE",
  "count": 23
}, {
  "md_entity_name": "VERIZON",
  "count": 4
}, {
  "md_entity_name": "ASTOUND BROADBAND",
  "count": 2
}, {
  "md_entity_name": "GTT",
  "count": 3
}, {
  "md_entity_name": "FIRSTLIGHT FIBER",
  "count": 4
}, {
  "md_entity_name": "LUMEN TECHNOLOGIES",
  "count": 5
}, {
  "md_entity_name": "CAMBRIDGE NETWORK SOLUTIONS",
```


Success Response Example

```

    "count": 2
  }, {
    "md_entity_name": "KCST USA",
    "count": 1
  }, {
    "md_entity_name": "MASSACHUSETTS BROADBAND INSTITUTE",
    "count": 1
  }, {
    "md_entity_name": "LOCAL LINX",
    "count": 1
  }
}],
"endLocationEntrances": [{
  "md_entity_name": "CROWN CASTLE",
  "count": 23
}, {
  "md_entity_name": "VERIZON",
  "count": 4
}, {
  "md_entity_name": "ASTOUND BROADBAND",
  "count": 2
}, {
  "md_entity_name": "GTT",
  "count": 3
}, {
  "md_entity_name": "FIRSTLIGHT FIBER",
  "count": 4
}, {
  "md_entity_name": "LUMEN TECHNOLOGIES",
  "count": 5
}, {
  "md_entity_name": "CAMBRIDGE NETWORK SOLUTIONS",
  "count": 2
}, {
  "md_entity_name": "KCST USA",
  "count": 1
}, {
  "md_entity_name": "MASSACHUSETTS BROADBAND INSTITUTE",
  "count": 1
}, {
  "md_entity_name": "LOCAL LINX",
  "count": 1
}
]]
}

```

Response Attributes and Data Types

Response Attribute	Attribute Description	Data Type
status	Indicates status of API completion. <ul style="list-style-type: none"> • Success • Failed 	string
body	object wrapper	object
Pathinfor	array wrapper	array
SegmentID	Unique Id assigned in path search	string
length	The total path distance, unit: meter	float
latency	The round-trip time, unit: microseconds; length/203.94 (optical fiber type = Brand B (G.655), Wavelength = 1625nm, refractive Index=1.47, distance=203.940m/us)	float

Response Attribute	Attribute Description	Data Type
provider_name	The name of the provider	string
geojson	The geojson response/coordinates. V2 combines multiple geojson segments in one merged file in response	format
startaddress	Starting address endpoint (A Location)	object
addresskey	Address, stated as, for example, "1 SUMMER ST BOSTON MA USA"	string
fullAddressLine	The full address, stated as, for example "1 Summer St Boston MA 02110-1010	string
location	object wrapper	object
street	The street address, stated as, for example "1 Summer St".	string
city	The city, stated as, for example, "Boston".	string
state	The state abbreviation stated as, for example, "MA"	string
postal	The zip code stated as, for example "02110".	string
country	The country stated as, for example, USA.	string
longitude	The angular distance of a place east or west of the meridian at Greenwich, England, or west of the standard meridian of a celestial object, usually expressed in degrees and minutes.	string
latitude	The angular distance of a place north or south of the earth's equator, or of a celestial object north or south of the celestial equator, usually expressed in degrees and minutes.	string
endaddress	End address endpoint (Z Location)	string
startLocationEntrances	array wrapper	object array
md_entity_name	The provider name as it appears in the Connectbase platform.	string
count	The number of start locations	int
endLocationEntrances	array wrapper	object array
md_entity_name	The provider name as it appears in the Connectbase platform.	string
count	The number of end locations	int

Error Response Example

```
{
  "status": "fail",
  "message": "Unable to get node on the fiber for start address (Error id: 137961752)"
}
```



Network Path API V2 contains improved error messages as shown below:

- Address A or Z is invalid
- Coordinates out of range
- No fiber path found between A and Z
- No fiber endpoints found within search radius
 - US: fiber endpoints and user input address are within the same parcel for both A and Z
 - Intl: No fiber endpoints found within 200ft of A or Z
 - If there's distance as input parameter, and distance \leq 200ft, use input distance
 - If there's distance as input parameter, and distance $>$ 200ft, return error message "Exceed maximum allowed search radius (200 ft)"
 - If there's no distance input para, use distance 200ft
- Supplier not available on both A and Z, no path return
- Exceed maximum allowed search radius (200 ft)
- Server error
- Success

Revision History

Revision	Date	Description
00	September 30, 2020	This is the initial release for supported APIs for Network Path.
	February 01, 2022	Rebranded the document template with a new title page, company name, logo, and updated fonts.
01	September 20, 2022	Incorporated the response attributes and data types for each API call into this guide, which were extracted from the “discontinued” API Data Dictionary Guide.
02	February 16, 2023	Added data type descriptions for attributes length and latency in for the GET Patch Search response.
03	August 21, 2023	Added V2 of the Network API in the document.
04	September 25, 2023	New publication of the document with minor editorial updates.