
WHOIS API Documentation

Release 1.0

Email Hippo Ltd.

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Email Hippo 'WHOIS' *API* services facilitate easy, fast and scalable access to the global *WHOIS* databases in both structured and un-structured formats.

This document will show you how to get up and running with the the service. You will have the basics of the *API* up and running in 15 minutes or less.

1.1 Quick Start

This quick start guide is designed to get you up and running as fast as possible.

Please follow the steps below in sequence:

1.1.1 1) Create Account

Create your [account](#).

1.1.2 2) Try it

Plug your license key into the following

```
https://api.whoishippo.com/v1/INSERTYOURLICENSEKEY/microsoft.com
```

Paste the url above into your browser and watch the response come back as in the example below:

```
{
  "version": {
    "v": "Enterprise-(1.0.17)",
    "doc": ""
  },
  "meta": {
    "recordCreatedDate": "2018-07-20T13:27:04Z",
    "recordUpdatedDate": "2018-07-20T13:27:04Z",
    "recordAge": "0 year(s), 0 months, 2 week(s), 0 day(s), 22 hour(s), 5↵
↵minute(s)",
    "recordAgeIso8601": "P14DT22H5M30.7779301S",
    "timeToExpiry": "2 year(s), 8 months, 4 week(s), 1 day(s)",
    "timeToExpirySeconds": 86632045,
```

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```

    "timeToExpiryIso8601": "P2Y8M29D",
    "tld": "com",
    "domain": "microsoft.com",
    "domainAge": "27 year(s), 3 month(s), 0 week(s), 2 day(s)",
    "domainAgeSeconds": 860225554,
    "domainAgeIso8601": "P27Y3M2D",
    "parseCode": "Success",
    "executionTime": 611
  },
  "whoisServerRecord": {
    "recordFound": true,
    "registrar": {
      "registrarId": "292",
      "name": "MarkMonitor, Inc.",
      "whois": "whois.markmonitor.com",
      "url": "http://www.markmonitor.com",
      "abuseEmail": "abusecomplaints@markmonitor.com",
      "abusePhone": "+1.2083895740"
    },
    "dnsSec": "unsigned",
    "domainName": "microsoft.com",
    "tld": "com",
    "domainHandle": "2724960_DOMAIN_COM-VRSN",
    "domainOwnerContact": {
      "userId": "",
      "name": "Domain Administrator",
      "organization": "Microsoft Corporation",
      "street1": "One Microsoft Way,",
      "street2": null,
      "street3": null,
      "street4": null,
      "city": "Redmond",
      "state": "WA",
      "postalCode": "98052",
      "country": "US",
      "phoneNumber": "+1.4258828080",
      "phoneNumberExt": "",
      "faxNumber": "+1.4259367329",
      "faxNumberExt": "",
      "email": "domains@microsoft.com"
    },
    "adminContact": {
      "userId": "",
      "name": "Domain Administrator",
      "organization": "Microsoft Corporation",
      "street1": "One Microsoft Way,",
      "street2": null,
      "street3": null,
      "street4": null,
      "city": "Redmond",
      "state": "WA",
      "postalCode": "98052",
      "country": "US",
      "phoneNumber": "+1.4258828080",
      "phoneNumberExt": "",
      "faxNumber": "+1.4259367329",
      "faxNumberExt": ""
    }
  }
}

```

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```

    "email": "domains@microsoft.com"
  },
  "billingContact": {
    "userId": null,
    "name": null,
    "organization": null,
    "street1": null,
    "street2": null,
    "street3": null,
    "street4": null,
    "city": null,
    "state": null,
    "postalCode": null,
    "country": null,
    "phoneNumber": null,
    "phoneNumberExt": null,
    "faxNumber": null,
    "faxNumberExt": null,
    "email": null
  },
  "techContact": {
    "userId": "",
    "name": "MSN Hostmaster",
    "organization": "Microsoft Corporation",
    "street1": "One Microsoft Way,",
    "street2": null,
    "street3": null,
    "street4": null,
    "city": "Redmond",
    "state": "WA",
    "postalCode": "98052",
    "country": "US",
    "phoneNumber": "+1.4258828080",
    "phoneNumberExt": "",
    "faxNumber": "+1.4259367329",
    "faxNumberExt": "",
    "email": "msnhst@microsoft.com"
  },
  "registrarContact": {
    "userId": null,
    "name": null,
    "organization": null,
    "street1": null,
    "street2": null,
    "street3": null,
    "street4": null,
    "city": null,
    "state": null,
    "postalCode": null,
    "country": null,
    "phoneNumber": null,
    "phoneNumberExt": null,
    "faxNumber": null,
    "faxNumberExt": null,
    "email": null
  },
  "zoneContact": {

```

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```

    "userId": null,
    "name": null,
    "organization": null,
    "street1": null,
    "street2": null,
    "street3": null,
    "street4": null,
    "city": null,
    "state": null,
    "postalCode": null,
    "country": null,
    "phoneNumber": null,
    "phoneNumberExt": null,
    "faxNumber": null,
    "faxNumberExt": null,
    "email": null
  },
  "nameServers": [
    {
      "Address": "ns3.msft.net"
    },
    {
      "Address": "ns1.msft.net"
    },
    {
      "Address": "ns2.msft.net"
    },
    {
      "Address": "ns4.msft.net"
    }
  ],
  "domainStatus": [
    "clientUpdateProhibited (https://www.icann.org/epp#clientUpdateProhibited)",
    "clientTransferProhibited (https://www.icann.org/epp#clientTransferProhibited)",
    "clientDeleteProhibited (https://www.icann.org/epp#clientDeleteProhibited)",
    "serverUpdateProhibited (https://www.icann.org/epp#serverUpdateProhibited)",
    "serverTransferProhibited (https://www.icann.org/epp#serverTransferProhibited)",
    "serverDeleteProhibited (https://www.icann.org/epp#serverDeleteProhibited)"
  ],
  "remarks": null,
  "reseller": "",
  "created": "1991-05-02T04:00:00Z",
  "changed": "2014-10-15T11:00:12Z",
  "expiry": "2021-05-03T04:00:00Z",
  "rawResponse": "  Domain Name: MICROSOFT.COM\r\n  Registry Domain ID:\r\n
  2724960_DOMAIN_COM-VRSN\r\n  Registrar WHOIS Server: whois.markmonitor.com\r\n  \r\n
  Registrar URL: http://www.markmonitor.com\r\n  Updated Date: 2014-10-09T16:28:25Z\r\n
  Creation Date: 1991-05-02T04:00:00Z\r\n  Registry Expiry Date: 2021-05-03T04:00:00Z\r\n
  Registrar: MarkMonitor Inc.\r\n  Registrar IANA ID: 292\r\n  Registrar Abuse Contact Email: abusecomplaints@markmonitor.com\r\n
  Registrar Abuse Contact Phone: +1.2083895740\r\n  Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited\r\n
  Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited\r\n
  Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited\r\n
  Domain Status: serverDeleteProhibited https://icann.org/epp#serverDeleteProhibited\r\n
  Domain Status: serverTransferProhibited https://icann.org/epp#serverTransferProhibited\r\n
  Domain Status: serverUpdateProhibited https://icann.org/epp#serverUpdateProhibited\r\n
  Name Server: NS1.MSFT.NET\r\n
  Name Server: NS2.MSFT.NET\r\n
  Name Server: NS3.MSFT.NET\r\n
  Name Server: NS4.MSFT.NET\r\n
  DNSSEC: unsigned\r\n  URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/\r\n>>> Last update of whois database: 2018-07-20T13:26:49Z <<<\r\n\r\nFor more information on Whois status codes, please visit https://www.icann.org/whois-status-codes\r\n\r\nThe data in this record may be subject to change without notice."

```

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```
    "customFields": null
  }
}
```

Note: Internet Explorer may prompt to download the file instead of simply displaying it on screen. This is a quirk of Internet Explorer and not an issue with the [API](#). We do not recommend Internet Explorer for testing with the [API](#). Instead, use Chrome or Firefox - both will display the results on screen correctly!

2.1 Data Privacy

- [Privacy Policy](#)
- [Data Processing Terms](#)
- [Cookie Policy](#)

2.2 Compliance

emailhippo.com has been independently assessed as being ISO27001:2013 compliant by the British Assessment Bureau. Our certification number is 209495.

This means that we take your data privacy seriously.

2.3 Security

emailhippo.com takes the security of your data seriously. Details of how your data is received, stored and processed.

Other than the human based policies and procedures defined in the [Data Processing Terms](#), there are a few technology based issues to mention:

- All data in transit is encrypted using HTTPS.
- All data at rest (e.g. stored for caching and reporting purposes) is secured using AES-256 bit encryption.

3.1 About Editions

There are three editions of endpoints.

- Basic
- Professional
- Enterprise

Each varies in the amount and structure of the data returned.

The schema across all editions remains consistent which delivers the following benefits:

- Consistent integration with a consistent entity model
- Easily change between editions based on data depth versus performance requirements.

For more information, see [Endpoint Details](#).

4.1 Schema

- [Endpoint Definitions](#)
- [WADL](#) ([swagger.io](#))

4.2 Return Protocols

Email Hippo WHOIS [API](#) services returns data in *JSON* format.

4.3 Firewall Rules

If your organization implements internal firewall rule policies, you may need to ask your IT staff to allow access to our API endpoints.

Our [API](#) services are delivered via [Cloudflare](#). Please see the Cloudflare page “[IP Ranges](#)” for a definition of the IP endpoints that are possible when accessing our [API](#).

5.1 Features

5.1.1 Confidence In Data Security

With ISO27001:2013 certification, robust technology and clearly defined policies and procedures, you can trust [Email Hippo](#) with your data.

See [Data Privacy](#) for more information.

5.1.2 Consistent, parsed records

Note: [Parsed](#) records are available in Professional and Enterprise [About Editions](#).

[WHOIS](#) records are intrinsically designed for humans to read and records come in different formats according to the choices made by an individual [Domain Name Registrar](#) and the [Domain Name Registry](#).

For any serious application demanding data in a predictable, consistent machine readable format, the standard [WHOIS](#) system will not work. This is where [Email Hippo](#) adds value to the [WHOIS](#) system by adding services capable of reading the relatively chaotic structure of [WHOIS](#) records into reliable, predictable and machine readable formats.

5.1.3 Machine Readable Dates

For ultimate in machine integration compatibility, [Email Hippo](#) returns dates and durations in [ISO 8601](#) standard formats.

5.1.4 > 99.9% Service Availability

Fully load balanced and automatic fail-over systems dispersed across multiple data centers in multiple regions deliver enterprise grade resilience.

See *Service Reliability* for more information on availability and *SLA*.

5.1.5 Easy Integration

See *Client Libraries* to see how quick and easy it is to integrate with our services from over 19 different technologies and platforms.

5.1.6 Fanatical Service Quality Management (SQM)

Email Hippo operational staff obsessively monitor services to ensure the best possible uptime and coverage.

Uptime and functional correctness is actively monitored on a minute by minute basis from multiple data centers dispersed across North America, Europe and Asia.

5.1.7 Fast, Transparent Response Times

Every query response includes stopwatch data that shows the time taken to execute the request.

5.1.8 Unrivalled Performance

Strategic data centers in Europe, aggressive caching, global network delivery optimization and cloud based auto-scaling deliver outstanding performance. Typical queries are answered between 0.2 to 1.5 seconds.

Note: See *Technical Specification*

5.1.9 Thoughtful Versioning

Endpoints are “versioned”. This means that Email Hippo can continue to release new functionality without “breaking” existing clients committed to integrating with our systems on legacy endpoints.

5.1.10 What it does

Email Hippo is used to query *WHOIS* records in real-time.

6.1 Service Reliability

Reliability of your systems is important to you and your clients. You can be sure that we won't let you down when you use our services in your business applications.

By using the latest, distributed cloud based systems, we give deliver fast response times together with enterprise grade uptime of more than 99.9%.

6.1.1 About Our Infrastructure

We operate three data centers geographically dispersed as follows:

- Europe (Netherlands)
- United Kingdom (Ireland)
- United Kingdom (London)

Data centers provide automatic fail over to another working data center.

Network traffic is optimized for fast, reliable global delivery using [Cloudflare Argo](#).

6.1.2 Service Level Agreement

Our [API](#) has a stated [SLA](#) that ensures that we provide you with more than 99.9% uptime for our services.

Download our full [Service Level Agreement](#) for further infomation.

7.1 Concurrency

To preserve the operational integrity of the service to all of our customers, there is a maximum concurrency enforced by our systems.

7.1.1 Limits

Allowed throughput is **50 WHOIS queries per second**.

Throughput exceeding these limits will receive HTTP response code 429 (too many request) for subsequent requests for a duration of one minute.

7.1.2 Suggestions on how to manage throughput

There are several things that it may be helpful to think about to control throughput so as not to exceed the maximum limits described above such as:

- Test your integration with representative production loads over a period of time. Monitor response codes for any 429's. If you see any 429's please reduce the rate at which your application is querying our servers.
- For applications that can tolerate slight delays in your data processing mesh, consider using queuing infrastructure with a rate controllable processor. Your 'processor' can then schedule picking work of of the queue and submitting requests to our systems at a controllable rate.

7.1.3 Large throughput requirements

For sustained throughput more than **50 domain queries per second**, please [contact us](#) for options on private, dedicated service.

8.1 Data Dictionary For WHOIS API V1

A response is a message consisting of a standard *HTTP* header and body. The body of the message contains the detail of the message (e.g. the *JSON* data with domain information). The header of the message contains general *HTTP* information such as *HTTP* status codes.

For full details of data dictionary, response codes and errors, please see [Endpoint Definitions](#).

9.1 Client Libraries

9.1.1 Swagger Code Generator

Use the [Swagger Code Generator](#) with our [Swagger Schema](#) to Generate API client code for:

- [ActionScript](#)
- [Bash](#)
- [C# \(.net 2.0, 4.0 or later\)](#)
- [C++ \(cpprest, Qt5, Tizen\)](#)
- [Clojure](#)
- [Dart](#)
- [Elixir](#)
- [Go](#)
- [Groovy](#)
- [Haskell](#)
- [Java \(Jersey1.x, Jersey2.x, OkHttp, Retrofit1.x, Retrofit2.x, Feign\)](#)
- [Node.js \(ES5, ES6, AngularJS with Google Closure Compiler annotations\)](#)
- [Objective-C](#)
- [Perl](#)
- [PHP](#)
- [Python](#)
- [Ruby](#)
- [Scala](#)

- Swift (2.x, 3.x)
- Typescript (Angular1.x, Angular2.x, Fetch, jQuery, Node)

Technical Specification

10.1 Technical Specification

Manufacturer	emailhippo.com
Uptime	> 99.9%
Response time	>0.2seconds < 8 seconds. Typical response time 0.7 seconds.
Throughput and concurrency	> 100 TPS (Transactions Per Second).
Security and encryption	Transport security using HTTPS. Data at rest encrypted using 256-bit AES encryption.
Integration	RESTful GET over HTTPS, XML GET over HTTPS, BSON over HTTPS, protobuf over HTTPS.
Authentication	License key.
Infrastructure	Geographically dispersed cloud data centers, auto load balance / failover.

11.1 Frequently Asked Questions

11.1.1 Can I trust you with my data?

Great question. See [Data Privacy](#) for more information.

11.1.2 How can I get a key?

[Click here](#) to signup.

11.1.3 How do I call the API?

For a *JSON* response, make a simple GET request to the endpoint. For example, to query domain *microsoft.com* with license key *ABCD1234* call:

```
https://api.whoishippo.com/v1/ABCD1234/microsoft.com
```

11.1.4 What comes back from the API?

JSON formatted text over HTTPS.

11.1.5 How reliable is the API?

> 99.9% average availability with a defined *SLA*.

11.1.6 Does the system get slower when it's busy?

No. All infrastructure is hosted in cloud based platforms with automatic scaling enabled. Automatic scaling kicks in at busy times to provide more hardware resources to meet demand.

11.1.7 Do you cache results?

To deliver the speed and reliability demanded by our customers, verification results are cached as follows:

- **Level 1 cache:** [CloudFlare](#) based. Cache expiration 2 hours.
- **Level 2 cache:** [Microsoft Azure](#) based. Cache expiration up to 90 days (depends on domain expiry in the *WHOIS* record).

11.1.8 Can I get My Usage in Real-Time?

Not yet. This feature is in the development pipeline.

11.1.9 How does it work?

At a basic conceptual level, the process of querying *WHOIS* services is very simple. First, find the authoritative WHOIS server for a particular *TLD*. Next, connect to the server on port 43, query the domain and capture the response.

The hard bit is dealing with *WHOIS* services that are intrinsically configured to work against the process of querying domains in any form large volume scale. Additionally, the *WHOIS* system does not follow one, unified standard which means that the data returned from *WHOIS* services is very difficult to *parse* to anything that is useful for automation or integration purposes.

[Email Hippo](#)'s strength in dealing with the "hard bit" of the WHOIS system comes from years of experience in solving similar challenges in email verification.

11.1.10 Can I get blacklisted using this API?

No. It's [Email Hippo](#) infrastructure that does the work.

11.1.11 Will anyone know that I am querying a domain?

No. It's [Email Hippo](#) infrastructure that does the work.

12.1 Glossary

ACL Access Control List.

An ACL determines what networking traffic is allowed to pass and what traffic is blocked.

An ACL change is sometimes required to your company firewall in order to access our API.

API Application Programmers Interface.

See [Wikipedia - API Definition](#) for more information.

B2B Business To(2) Business

Business email hosting services are generally private, enterprise grade hosting services typically hosted in either private data centers or in cloud based infrastructure.

Business to business refers to the activity of businesses sending email to clients using business email addresses.

B2C Business To(2) Consumer

Consumer email hosting providers are generally well known, mostly web based providers such as Hotmail, Yahoo, AOL, Gmail etc.

Business to consumer refers to the activity of businesses sending email to clients using consumer email addresses.

Verifying email addresses in consumer domains is generally more technically challenging than [B2B](#)

BSON Binary Object Notation

See [Wikipedia - BSON](#) for further information.

CORS Cross Origin Resource Scripting

Allows modern browsers to work with script (e.g. JavaScript) and [JSON](#) data originating from other domains.

CORS is required to allow client script such as JavaScript, jQuery or AngularJS to work with results returned from an external [RESTful API](#).

See [Wikipedia - CORS](#) for more information.

DDoS Distributed Denial of Service

See [Wikipedia - Denial-of-service attack](#) for more information.

Domain Name Registrar A domain name registrar is an organization that manages the reservation of Internet domain names. A domain name registrar must be accredited by a generic top-level domain (gTLD) registry or a country code top-level domain (ccTLD) registry. A registrar operates in accordance with the guidelines of the designated domain name registries

See [Wikipedia - Domain name registrar](#) for more information.

Domain Name Registry A domain name registry is a database of all domain names and the associated registrant information in the top level domains of the Domain Name System (DNS) of the Internet that allow third party entities to request administrative control of a domain name. Most registries operate on the top-level and second-level of the DNS.

See [Wikipedia - Domain name registry](#) for more information.

HTTP Hypertext Transfer Protocol

See [Wikipedia - Hypertext Transfer Protocol](#) for more information.

ISO 3166 International standard for country codes.

See [Country Codes - ISO 3166](#) for more information.

ISO 8601 International standard for date formats. Designed to ease and simplify machine to machine transfer of date information.

See [Wikipedia - ISO8601](#) for more information.

JSON JavaScript Object Notation

JavaScript Object Notation, is an open standard format that uses human readable text to transmit data objects consisting of attribute value pairs. It is used primarily to transmit data between a server and web application, as an efficient, modern alternative to XML.

See [Wikipedia - JSON](#) for more information.

License Key License key authentication is best for situations where simplicity is required and you can keep the key private. An ideal use case for key authentication would be for server based applications calling the RESTful [API](#).

[Click here](#) to request a license key.

ms Milliseconds.

parse Turn random, unstructured (sometimes chaotic) text into a predictable, machine readable format.

parsed See [parse](#) above.

protobuf Protocol Buffers is a method of serializing structured data.

See [Wikipedia - Protocol Buffers](#) for more information.

RESTful Representational state transfer

See [Wikipedia - RESTful](#) for further information.

RFC Request for Comments

The principal technical development and standards-setting bodies for The Internet.

See [Wikipedia - Request for Comments](#) for further information.

SLA Service Level Agreement

See [Wikipedia - SLA](#) for more information and description of SLA.

See our [Service Level Agreement](#).

TLD Top Level Domaain

See [Wikipedia - Top-level domain](#) for more information.

WHOIS WHOIS (pronounced as the phrase “who is”) is a query and response protocol that is widely used for querying databases that store the registered users or assignees of an Internet resource, such as a domain name, an IP address block or an autonomous system, but is also used for a wider range of other information.

See [Wikipedia - WHOIS](#) for more information.

XML e(X)tensible Markup Language

See [Wikipedia - XML](#) for further information.

12.2 Indices and tables

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