DNS can be hard to understand and if you’re unfamiliar with the terminology, learning more about DNS can seem as daunting as learning a new language.

To help people who are new to the world of DNS, those looking to learn more, or even seasoned veterans who want a refresher, we’ve compiled a list of the need-to-know DNS terms along with their definitions.

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Who We Are

Dyn solutions are at the core of Internet Performance. Through traffic management, message management, and performance assurance, Dyn is connecting people through the Internet and ensuring information gets where it needs to go, faster and more reliably than ever before. Incorporated in 2001, Dyn’s global presence services more than four million enterprise, small business and personal customers. Visit dyn.com to learn more about how Dyn delivers.
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Who Should Read This?

Novice
Beginner content is for readers who are new to DNS and traffic management. This content will typically walk you through the basics and give generalized overviews of various subjects.

Intermediate
Intermediate content is for readers with some experience in DNS and traffic management. This content will focus on techniques and strategies to take your delivery to the next level.

Expert
Expert content is for readers who are seasoned in DNS and traffic management. This content will focus on advanced techniques with a heavier tech focus.
**A Record**
Points a hostname to an IPv4 address.

**AAAA Records**
Points a hostname to an IPv6 address.

**Active Failover**
Active Failover enables your website to stay up and running – all while making the experience a seamless one for your visitors. When an outage is detected, your traffic is automatically re-routed to an alternate endpoint that you have pre-configured.

**Anycast**
DNS network topology that uses BGP to route DNS queries to the fastest nameserver on the network.

**Auth Code**
The “auth code” (sometimes called an “EPP code” or a “transfer code”) is a string, usually between 8 and 16 characters long and randomly created at the time of a domain’s registration, used to authorize transfers in certain Top Level Domains. The auth code provides an extra layer of security over the normal transfer request procedures.

**Authoritative Nameserver**
A nameserver which has been configured to provide answers for a specific domain, rather than simply getting and caching data about domains from other nameservers.

**Border Gateway Protocol**
BGP performs routing between multiple autonomous systems (domains) by finding the best path.

**Cache**
Caching refers to a process where Recursive DNS servers remember the results of a DNS query for the time specified in the TTL (Time to Live). This reduces DNS query traffic as the Recursive DNS server already knows the answer. Once the TTL expires, the answer is removed from the cache.
CDN
A Content Delivery Network is a network of servers that serves content to end users from the closest node for the fastest load time.

CNAME
A CNAME is a special type of DNS record used to create an alias from one hostname to another. For example:

www.dyn.com is a CNAME to dyn.com

This means that someone accessing www.dyn.com will be pointed to the same IP address that dyn.com points to.

This is useful so that when your IP address changes, you only have to update dyn.com's entry and then www.dyn.com will automatically point to the right place.

Cut Node
Cut nodes allow you to keep the DNS for your zone with your current DNS provider, but point or cut a specific node over to Dyn's nameservers, allowing you to use one of our advanced features.

Data Center
Data centers house servers, computer systems, and other telecommunication components, usually with redundant power and special security measures. They are designed to withstand major natural and man-made disasters.

DDoS
Distributed Denial of Service is an attack when multiple systems are used to flood servers with traffic in an attempt to overwhelm its available resources (bandwidth, memory, processing power, etc), making it unavailable to respond to legitimate users.

DDNS (Dynamic DNS)
DDNS is used mainly by home users to send dynamic IP address updates to a static hostname.

Delegate
To specify in DNS which nameservers handle a specific domain or subdomain. See delegation.

Delegation
Delegation, as a verb (see delegate), is the process of designating the nameservers for a domain. As a noun, it refers to the set of nameservers where a domain has been delegated.

Learn more about preventing DDoS attacks with our whitepapers, webinars and more at the Dyn Content Hub:

dyn.com/content-hub
DNS
DNS (the Domain Name System) provides mapping of hostnames to IP addresses and back again.

DNS Client
Also known as a DNS resolver, a DNS client is the system that makes a DNS request (e.g. your computer, smart phone, an ATM).

DNS Query
A request a client sends to a DNS server to resolve the IP address for a domain name or hostname.

DNSSEC
DNSSEC is the act of adding special signatures to the root, TLD, and authoritative nameservers for your zone to establish a chain of trust. DNSSEC enabled zones ensure that the answer to a DNS query has not been tampered with.

DoS
A Denial of Service is an attack on a URL that is coming from one source.

Endpoint
The target location for the client - IP address or CNAME.

Failover
When your primary server goes down, failover is the act of rerouting traffic to a redundant server. (Also see Active Failover.)

Forward Lookup
A forward lookup is when you use a hostname (domain name) to find an IP address. Find out your IP address: [http://checkip.dyn.com/](http://checkip.dyn.com/)

Fully Qualified Domain Name
A fully qualified domain name is a complete hostname, like that which you would use when connecting to a server on the Internet. Fully qualified hostnames must be used when updating with a client, e.g.,(if your hostname is “myhost.dnsalias.net”, you must provide that entire hostname to the client, not simply “myhost”.)

GSLB
Global Server Load Balancing responds to DNS requests by directing traffic using the best performing server in a geographic region.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td><strong>gTLD</strong></td>
<td>Global TLDs are TLDs that are not country specific and can be used by the entire Internet community. Examples of gTLDs are .com, .net, and .org.</td>
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<td><strong>Hostname</strong></td>
<td>See Node</td>
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<tr>
<td><strong>IP Address</strong></td>
<td>An IP address is how computers all over the Internet find each other. It is similar to your street address, except it is for computers. IPv4 addresses look like 207.127.235.88. IPv6 addresses look something like fe80::216:3eff:fe1e:c440. It is often hard to remember numbers, and they certainly don’t tell you very much about a computer. That is why we provide aliasing services. IP addresses can be static or dynamic.</td>
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<tr>
<td><strong>ISP</strong></td>
<td>Internet Service Providers are those providing their customers access to the Internet. They are also commonly mailbox providers (e.g. AOL).</td>
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<td><strong>Iterative Query</strong></td>
<td>An iterative query commonly takes place when a name server gives another nameserver the best answer it has for an IP query. An example of which is when a server asks root the location of example.com, the root responds with the best answer it can to the .com nameserver.</td>
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<td><strong>Latency</strong></td>
<td>Latency is the length of a delay that end users experience when trying to access content.</td>
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<td><strong>Load Balancing</strong></td>
<td>Load balancing is used to distribute your traffic over several servers, resulting in increased reliability and efficiency.</td>
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<td><strong>MX Record</strong></td>
<td>A Mail Exchanger record tells what mail server is responsible for accepting mail for a given domain. Sometimes, there can be more than one mail server so the server with the lowest priority (that is available) will receive the mail.</td>
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<tr>
<td><strong>Nameserver</strong></td>
<td>A nameserver is a server which has been set up to answer DNS queries, and provide information about a certain set of domains.</td>
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<tr>
<td><strong>Node</strong></td>
<td>A node in our context is a DNS label. The parts of a domain between the dots. A Node can also refer to a subdomain.</td>
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<td><strong>PoP</strong></td>
<td>A Point of Presence is the physical location of a server, data center, etc.</td>
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<td><strong>Primary DNS</strong></td>
<td>The DNS provider with control of zone file modification.</td>
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PTR Records
PTR records are a reverse lookup for an A record. Due to the nature of DNS and the way reverse lookups work, PTR records can only be controlled by your ISP.

QPS
Queries Per Second is the measurement used in DNS to record how many queries a DNS server is receiving.

Recursive Query
A DNS request for a host name’s IP address. A query made to a Recursive Server.

Recursive Resolver
The recursive server is typically supplied by your ISP and is the server that a DNS client makes its initial query to. Once the recursive server receives the correct information about an IP address from other nameservers, the recursive server will cache the information.

Recursive Server
Supplied by your ISP, this server receives the initial DNS query from the client. Caches information about IP addresses from other name servers. Also called a Recursive Resolver.

Redundancy
Redundancy is having more than one server available. In the situation of a failure, a redundant server can be used as a backup.

Resolver
See DNS Client

Reverse Lookup
Looking up an IP address to retrieve a hostname.

Root
The root servers are nameservers that all other nameservers on the Internet know about, and contain very basic information about the DNS system, which will lead other servers along the path to finding specific information about a host.

Round Robin
A method used to distribute server load evenly across multiple servers.

RTTM
Real Time Traffic Management monitors all of your endpoints to detect the best-performing one and provides you with the lowest latency possible. RTTM collects real-time data to track the load time of each of your endpoints, rather than just routing your traffic to the closest geographical data center.
Secondary DNS
Provides backup DNS server functions for the primary DNS Server and shares its workload. Contains a read-only copy of the zone that stays in sync with the master or primary DNS server.

SoA Record
Start of Authority record indicates the DNS server with the best source of information in a zone along with some basic zone configuration settings. It has the most authority to make changes in the domain or answer questions.

TLD
Top Level Domain - .com, .net, .org, etc.

Traffic Management
Traffic Management is an advanced feature that allows for the weighted distribution of application load between global data centers, cloud providers, or your existing CDNs based on seven geographic regions. This gives customers the flexibility to route traffic in each region to the optimal endpoints in their infrastructure.

Traffic Director
An advanced service that integrates geographic load balancing with monitoring and failover features.

TTL
TTL is the amount of time in seconds that a DNS record will be cached by an outside DNS server.

TXT Records
TXT records are used to store information. Common uses include SPF, DKIM, etc.

Unicast
In a unicast network, there is only one responding server.

Uptime/downtime
Uptime and downtime refer to the current state of the server, whether it is active (uptime) or is unavailable (downtime).

Zone
A portion of the DNS namespace that has been divided up for more granular administration of DNS. Zones hold DNS records that contain mapping information.