Resource Records

Resource records comprise the data within a DNS zone. There is no fixed limit to the number of resource records a zone can own. In general, there can be zero, one, or more resource records of a given type. However, there are constraints on the number of certain types of records a zone can have.

All resource records have these required entries:

- **Name**—Name (host) that owns the record, such as example.com.
- **Class (not required for all formats)**—DNS supports only the IN (Internet) class of record.
- **TTL (time to live)**—Amount of time to store the record in cache, in seconds. If you do not include a TTL, Cisco Prime Network Registrar uses the zone default TTL, defined in the SOA resource record.
- **Type**—Type of the record, such as A, NS, SOA, and MX. There are many types that various RFCs define, although ten or fewer are in common use.
- **Record data**—Data types whose format and meaning varies with record type.

The following table lists all the resource record types Cisco Prime Network Registrar supports. It provides the field syntax and the field descriptions, as well as how the fields are represented in the Cisco Prime Network Registrar GUI.

Table 1: Resource Records

Record	No.	Name	Syntax and Description	RFC
A	1	Host Address—Name-to-address mapping for the zone	*name ttl class* A *address* **Web UI**: Add or Edit Host for Zone page: Hostname, IP Address or Resource Records for Zone page: Name, TTL, Type, Data	1035

Record	No.	Name	Syntax and Description	RFC
A6	38	IPv6 Address— (Obsolete; use AAAA records instead)	*name ttl class* A6 *address* In the data, the suffix address is an IPv6 address encoded in network order (high-order octet first). There must be exactly enough octets in this field to contain a number of bits equal to 128 minus prefix length, with 0 to 7 leading pad bits to make this field an integral number of octets. Pad bits, if present, must be set to zero when loading a zone file and ignored on reception. For example: `2001:0:734c:c0::` **Web UI**: Resource Records for Zone page: Name, TTL, Type=A6, Data=*prefixlength suffixaddr prefixname*, with data in the form: `nrcmd>` **`zone example.com addRR host456 A6 0 1345:c1:ca11:1:1234:5678:9abc:def0`**	6563
AAAA	28	IPv6 Address—	*name ttl class* AAAA *address* Data is the IPv6 address format of eight sets of four hexadecimal digits, separated by colons. The first set of four digits is the high-order 16 bits of the address. You can omit leading zeros in sets and omit a value in a set if the value of the set is zero. **Web UI**: Resource Records for Zone page: Name, TTL, Type=AAAA, Data=*address*	3596
AFSDB	18	Andrew File System (AFS) Data Base—	*name ttl class* AFSDB *subtype hostname* Subtype is either 1—AFS cell database server, or 2—DCE authentication name server. Hostname is the domain name of host that has a server for the cell named by the owner. **Web UI**: Resource Records for Zone page: Name, TTL, Type=AFSDB, Data=*subtype hostname*	1183
CNAME	5	Canonical Name— Aliases or nicknames	*alias ttl class* CNAME *canonicalname* You cannot have any other resource records associated with a CNAME. Aliases are useful when you want the outside world to know a single, easily remembered name. You can also use aliases when a host changes its name. In that case, ensure that you have a CNAME pointer so that when people use the original name, it can be resolved to the newer one. **Web UI**: Resource Records for Zone page: Name=*alias*, TTL, Type=CNAME, Type, Data=*canonicalname*	1035

Record	No.	Name	Syntax and Description	RFC

DHCID	49	Dynamic Host Configuration Identifier— (RFC 4701)	*name ttl class* DHCID *data*
			
			The DNS server uses this RR to allow DHCP clients and servers to update DNS automatically. This RR is not user-configurable. The data is the result of a one-way hash computation of the client message and the domain name. Sample RR output for an IPv6 address:
			
			`chi6.example.com IN DHCID`
			`(AAIBY2/AuCccgoJbaxcQc9TUapptP69lOjxfNuVAA2kjEA=`
			`)`
				4701

HINFO	13	Host Info— Hardware and software information for the host	*name ttl class* HINFO *cpu os* Data is the hardware (CPU) and operating system. **Web UI**: Resource Records for Zone page: Name, TTL, Type=HINFO, Data=*cpu os*	1035
ISDN	20	Integrated Services Digital Network (ISDN) Address—	*name ttl class* ISDN *ISDNnumber* [*subaddr*] Data is the ISDN number of the owner and Direct Dial In, if any, and an optional ISDN subaddress string **Web UI**: Resource Records for Zone page: Name, TTL, Type=ISDN, Data=*ISDNnumber* [*subaddr*]	1183
MB	7	Mailbox Domain Name—	*name ttl class* MB *mbox* Data is the domain name of the host with the specified mailbox. **Web UI**: Resource Records for Zone page: Name, TTL, Type=MB, Data=*mbox*	1035
MG	8	Mail Group Member—	*name ttl class* MG *mgroup* Data is the domain name of the mailbox group (mailing list). **Web UI**: Resource Records for Zone page: Name, TTL, Type=MG, Data=*mgroup*	1035
MINFO	14	Mailbox Info—	*name ttl class* MINFO *respmbox errormbox* Data is the mailbox responsible for the mailing list, and the mailbox to receive error messages. **Web UI**: Resource Records for Zone page: Name, TTL, Type=MINFO, Data=*respmbox errormbox*	1035
MR	9	Mail Rename—	*name ttl class* MR *newmbox* Data is the mailbox name to rename the owner mailbox. **Web UI**: Resource Records for Zone page: Name, TTL, Type=MR, Data=*newmbox*	1035

Record	No.	Name	Syntax and Description	RFC
MX	15	Mail Exchanger—Where to deliver the mail for a domain name	*name ttl class* MX *pref mxname* Data is the preference value (16-bit integer for the preference for the record, with lower values having preference), and the domain name of the mail exchanger for the owner. **Web UI**: Resource Records for Zone page: Name, TTL, Type=MX, Data=*pref mxname*	1035
NAPTR	35	Naming Authority Pointer—Produces a new domain label or Universal Resource Identifier (URI). You can then use DNS to look up services for many resource names that are not in domain name syntax.	*name ttl class* NAPTR *order pref flags serv regexp replace* • *order* —16-bit integer for the order in which to process the NAPTR records to ensure the correct ordering of rules, with low numbers processed before high numbers. • *pref* —16-bit unsigned integer for the order in which to process NAPTR records with equal *order* values, with low numbers processed before high numbers. • *flags* —Character-string containing flags to control aspects of rewriting and interpreting fields, single characters from the set [A-Z0-9] (not case-sensitive); the S, A and U flags denote a terminal lookup, the P flag says that the remainder of the application-side algorithm should be carried out protocol-specific. • *serv* —Valid protocols or services. • *regexp* —String containing a substitution expression applied to the original string held by the client to construct the next domain name to look up. (For common regex usage, see the Common Regex Values table in *Cisco Prime Network Registrar 9.0 Administrator Guide*). • *replace* —Next FQDN to query for NAPTR, SRV, or address records, depending on the value of the *flags* field. **Web UI**: Resource Records for Zone page: Name, State, TTL, Type=NAPTR, Data=*order pref flags service regexp replace*	2915
NS	2	Name Server—Authoritative server for the zone	*name ttl class* NS *nameserver* Machines that provide name service must not reside in the owner domain. For each domain, you must have at least one NS record. NS records for a domain must exist in both the zone that delegates the domain and in the domain itself. NS record names must have an equivalent A record (they cannot point to an alias). **Web UI**: Add or Edit Zone page Nameservers: NS TTL, Add Nameserver	1035

Record	No.	Name	Syntax and Description	RFC
NSAP	22	Network Service Access Point (NSAP) Address—	*name ttl class* NASP *NSAPaddr* Data is the *NSAPaddr* —Octet values assigned by the assigning authority, a character string of the type used in TXT and HINFO records (see RFC 1706). **Web UI**: Resource Records for Zone page: Name, TTL, Type=NSAP, Data=*NSAPaddr*	1706
PTR	12	Pointer— Reverse mapping	*name ttl class* PTR *dname* Data is the domain name of host having the reverse record indicated by the owner. PTR records are used for reverse mapping, specifically in the in-addr.arpa zones for translation of addresses to names. PTRs use official names, not aliases. The name in a PTR record is the local IP address portion of the reverse name. **Web UI**: Resource Records for Zone page: Name, State, TTL, Type=PTR, Data=*dname*	1035
RP	17	Responsible Person—	*name ttl class* RP *mbox txthost* Data is the domain name of the mailbox for the responsible person, and the domain name of host where TXT records exist. **Web UI**: Resource Records for Zone page: Name, TTL, Type=RP, Data=*mbox txthost*	1183
RT	21	Route Through—	*name ttl class* RT *pref intermediatehost* Data is the *pref* —16-bit integer for preference to give to this record among others of the same owner, and *intermediatehost* —domain name of the host serving as intermediate to reach the owner. **Web UI**: Resource Records for Zone page: Name, TTL, Type=RT, Data=*pref intermediatehost*	1183
SOA	6	Start of Authority— Every zone must have a single SOA record	*name ttl class* SOA *primeserver hostmaster* (*serial refresh retry expire minimum*) **Web UI**: Add or Edit Zone page SOA Attributes: Serial Number, SOA TTL, Nameserver, Contact E-Mail, Secondary Refresh, Secondary Retry, Secondary Expire, Minimum TTL	1035

Record	No.	Name	Syntax and Description	RFC
SRV	33	Service Location—	*name ttl class* SRV *priority weight port target* • *priority* —16-bit priority to give the record among the owner SRV records. • *weight* —16-bit load to give the record at the same priority level. • *port* —16-bit port on which to run the service. • *target* —Domain name of host running on the specified port. Administrators can use several servers for a single domain, move services between hosts with little difficulty, and designate some hosts as primary servers for a service and others as backups. Clients ask for a specific service or protocol for a domain and receive the names of any available servers. See the *"Managing DNS Update" chapter in Cisco Prime Network Registrar 9.0 DHCP User Guide* for how this record affects Windows servers. **Web UI**: Resource Records for Zone page: Name, TTL, Type=SRV, Data=*priority weight port target*	2782
TXT	16	Text—	*name ttl class* TXT *textstring* Data is one or more text character strings that can contain any type of information. **Web UI**: Resource Records for Zone page: Name, TTL, Type=TXT, Data=*textstring*	1035
WKS	11	Well Known Services—	*name ttl class* WKS *addr protocol servicelist* • *addr* —32-bit IP address. • *protocol* —8-bit IP protocol number, which can be TCP or UDP. • *servicelist* —Variable-length bit map in 8-bit multiples of services, which can be TIME, TELNET, FTP, or SMTP. **Web UI**: Resource Records for Zone page: Name, TTL, Type=WKS, Data=*addr protocol servicelist*	1035
X25	19	X.25 Address—	*name ttl class* X25 *PSDNaddr* Data is the character string of the Public Switch Data Network (PSDN) address in the X.121 numbering plan associated with the owner. **Web UI**: Resource Records for Zone page: Name, TTL, Type=X25, Data=*PSDNaddr*	1183