Resource Records

This chapter lists all the resource record types supported in Cisco Prime Network Registrar.

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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**—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, MX, and so on. 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 **CLI Command:** nrcmd> **zone example.com addRR host123 3600 IN A 192.168.40.123**	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:
			
			CLI Command:
			
			`0 2345:00c1:ca11:0001:1234:5678:9abc:def0`
			
			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* **CLI Command:** nrcmd> `zone example.com addRR host456 AAAA 1345:c1:ca11:1:1234:5678:9abc:def0`	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* **CLI Command:** nrcmd> `zone example.com addRR host4 AFSDB 1 AFSDBhost.example.com.`	1183

Record	No.	Name	Syntax and Description	RFC
AXFR	252	Authoritative Zone Transfer	Transfer entire zone file from the primary name server to secondary name servers. AXFR records are not used in ordinary zone files. Rather, they are used on a secondary DNS server to replicate the zone file from a primary DNS server. **Web UI**: Resource Records for Zone page: Name, TTL, Type=AXFR, Data=*Auth Zone Transfer*	1995
CAA	257	Certification Authority Authorization	*name ttl class* CAA *flag tag value* Data contains *flag*, *tag*, and *value*. Where: • *flag*—A byte size. Currently, bit 0 and bit 7 are used, and other bits are reserved for future use (supported values: 0, 1, and 128). • *tag*—A non-zero sequence of US-ASCII letters and numbers. The tag length must be at least 1 and no more than 15. • *value*—A character-string. **Web UI**: Resource Records for Zone page: Name, TTL, Type=CAA, Data= *flag tag value* **CLI Command:** `nrcmd>` **`zone example.com addRR test1 CAA 0 issue comodoca.com`**	6844
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* **CLI Command:** `nrcmd>` **`zone example.com addRR host456 CNAME host1234`**	1035
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/AuCccgoJbaxcQc9TUapptP691OjxfNuVAA2kjEA= )`	4701

Record	No.	Name	Syntax and Description	RFC
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* **CLI Command:** nrcmd> **zone example.com addRR host5 HINFO CPU1 OS2**	1035
HTTPS	65	HTTPS Binding	*name ttl class* HTTPS *SvcPriority TargetName SvcParams* • *SvcPriority*—The priority of this record (relative to others, with lower values preferred). A value of 0 indicates AliasMode. • *TargetName*—The domain name of either the alias target (for AliasMode) or the alternative endpoint (for ServiceMode). • *SvcParams* (optional)—A list of key=value pairs describing the alternative endpoint at *TargetName*. **Web UI**: Resource Records for Zone page: Name, TTL, Type=HTTPS, Data=*SvcPriority TargetName SvcParams* **CLI Command:** nrcmd> **zone example.com addRR cdn1 HTTPS 1 h3pool alpn=h** **Note:** "ech" service parameter is not supported.	
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*] **CLI Command:** nrcmd> **zone example.com addRR host6 ISDN ISDN88888**	1183
IXFR	251	Incremental Zone Transfer	Incremental transfer (IXFR) is an efficient means to transfer changes in zones from IXFR servers to IXFR clients. As proposed it is more efficient mechanism as it transfers only the changed portion(s) of a zone. The goal of these mechanism is to enable a set of DNS name servers to remain coherently authoritative for a given zone. **Web UI**: Resource Records for Zone page: Name, TTL, Type=IXFR	1995

Record	No.	Name	Syntax and Description	RFC
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* **CLI Command:** nrcmd> **zone example.com addRR host7 MB mailbox.example.com.**	1035
MD	3	Mail Destination- (Obsolete; use MX instead)	A mail destination (OBSOLETE - use MX)	1035
MF	4	Mail Forwarder- (Obsolete; use MX instead)	A mail forwarder (OBSOLETE - use MX)	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* **CLI Command:**	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* **CLI Command:** nrcmd> **zone example.com addRR host7 MINFO resp.example.com. error.example.com.**	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* **CLI Command:** nrcmd> **zone example.com addRR host7 MR renamemb.example.com.**	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* **CLI Command:** nrcmd> **zone example.com addRR host8 MX 10 exchanger.example.com.**	1035
NAPTR	35	Naming Authority Pointer— Produces a new domain label or Uniform 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 11.1 Administration 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* **CLI Command:** nrcmd> **zone 8.6.4.e164.arpa addRR 4.3.2.1.6.7.9 naptr 100 10 u sip+E2U /^.*$/sip:info@tele2.se/ .**	2915

Record	No.	Name	Syntax and Description	RFC
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 **CLI Command:** nrcmd> **zone example.com addRR @ NS DNSserv2.example.com.**	1035
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* **CLI Command:** nrcmd> **zone example.com addRR host10 NSAP 39840f80005a0000000001e13708002010726e00**	1706
NSEC	47	Next Secure record	Part of DNSSEC—used to prove a name does not exist. Uses the same format as the (obsolete) NXT record. **Web UI**: Resource Records for Zone page: Name, TTL, Type=NSEC, Data=*Next Secure record*	
OPT	41	DNS EDNS(0) Options	This is a "pseudo DNS record type" needed to support EDNS. An OPT pseudo-RR (sometimes called a meta-RR) MAY be added to the additional data section of a request. If an OPT record is present in a received request, compliant responders MUST include an OPT record in their respective responses. **Web UI**: Resource Records for Zone page: Name, TTL, Type=OPT	

Record	No.	Name	Syntax and Description	RFC
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* **CLI Command:** `nrcmd>` **`zone example.com addRR 45.40.168.192.in-addr.arpa. PTR host1234`**	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* **CLI Command:** `nrcmd>` **`zone example.com addRR host7 RP resp.example.com. text.example.com.`**	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* **CLI Command:** `nrcmd>` **`zone example.com addRR host7 RT 10 routthru.example.com.`**	1183
SOA	6	Start of Authority—Every zone must have a single SOA record	*name ttl class* SOA *primeserver hostadmin* (*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 **CLI Command:** `nrcmd>` **`zone example.com addRR @ 172800 IN SOA ns hostadmin 1 10800 3600 604800 86400`**	1035

Record	No.	Name	Syntax and Description	RFC
SPF	99	Sender Policy Framework	Sender Policy Framework (SPF) record is a type of Domain Name Service (DNS) TXT record that identifies which mail servers are permitted to send email on behalf of your domain. The purpose of an SPF record is to detect and prevent spammers from sending messages with forged From addresses on your domain. SPF records are defined as a single string of text.	7208
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. **Web UI**: Resource Records for Zone page: Name, TTL, Type=SRV, Data=*priority weight port target* **CLI Command:** nrcmd> **zone example.com addRR host2 SRV 10 1 60 host7.example.com.**	2782
SVCB	64	Service Binding	*name ttl class* SVCB *SvcPriority TargetName SvcParams* • *SvcPriority*—The priority of this record (relative to others, with lower values preferred). A value of 0 indicates AliasMode. • *TargetName*—The domain name of either the alias target (for AliasMode) or the alternative endpoint (for ServiceMode). • *SvcParams* (optional)—A list of key=value pairs describing the alternative endpoint at *TargetName*. **Web UI**: Resource Records for Zone page: Name, TTL, Type=SVCB, Data=*SvcPriority TargetName SvcParams* **CLI Command:** nrcmd> **zone example.com svc4 SVCB 3 svc4.example.net alpn="bar" port="8004"** **Note:** "ech" service parameter is not supported.	

Record	No.	Name	Syntax and Description	RFC
TSIG	250	Transaction Signature	Key name, which must be unique on client and server. Can be used to authenticate dynamic updates as coming from an approved client, or to authenticate responses as coming from an approved recursive name server similar to DNSSEC.	2854
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* **CLI Command:** nrcmd> **zone example.com addRR host2 TXT "this message"**	1035
URI	256	Uniform Resource Identifier	*name ttl class* URI *priority weight target* Data contains *priority*, *weight*, and *target*. Where: • *priority*—The priority of the target URI in this RR. Its range is 0-65535. Lower the value means, it is more preferred. • *weight*—A relative weight for records with the same priority. Its range is 0-65535. Higher value means, it is more preferred. • *target*—The URI of the target, enclosed in double-quotes. The length of this field must be greater than zero. **Web UI**: Resource Records for Zone page: Name, TTL, Type=URI, Data= *priority weight target* **CLI Command:** nrcmd> **zone example.com addRR _ftp._tcp URI 10 1 "ftp://ftp1.example.com/public"**	7553
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* **CLI Command:** nrcmd> **zone example.com addRR host8 WKS 192.168.40.56 TCP TELNET**	1035

Record	No.	Name	Syntax and Description	RFC
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* **CLI Command:** `nrcmd>` **`zone example.com addRR host9 IN X25 311061700956`**	1183