

## A DNS RR for encoding DHCP information

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### Abstract

This document describes a DNS RR for use by DHCP servers that need to store state information in the DNS.

### Introduction

A set of procedures to allow DHCP servers [[RFC2131](#)] to automatically update the DNS [[RFC1034](#), [RFC1035](#)] is proposed in [[DHCPDNS](#)].

A situation can arise where multiple DHCP clients request the same DNS name from their (possibly distinct) DHCP servers. To resolve such conflicts, [[DHCPDNS](#)] proposes storing client identifiers in the DNS to unambiguously associate domain names with the DHCP clients "owning" them. Early versions of [[DHCPDNS](#)] proposed using TXT records for encoding this information; the current version specifies the use of KEY records.

In the interest of clarity, it would be preferable for this DHCP

information to use a distinct RR type rather than the existing KEY type. A separate RR type can also improve efficiency by avoiding the unnecessary transmission of unrelated KEY records.

This memo defines a distinct RR type for use by DHCP servers, the "DHCP" RR.

#### The DHCP RR

The DHCP RR is defined with mnemonic DHCP and type code <TBD>.

#### DHCP RDATA format

The RDATA section of a DHCP RR in transmission contains RDLENGTH bytes of binary data. The format of this data and its interpretation by DHCP servers and clients, including the interpretation of multiple DHCP RRs at the same domain name, are TBD. [This part of the specification should be driven by the needs of, and written in cooperation with, the DHCP Working Group and the authors of [\[DHCPDNS\]](#)].

DNS software should consider the RDATA section to be opaque. In DNS master files, the RDATA is represented as a hexadecimal string with an optional "0x" or "0X" prefix. Periods (".") may be inserted anywhere after the "0x" for readability. This format is identical to that of the NSAP RR [\[RFC1706\]](#). The number of hexadecimal digits MUST be even.

#### Example

A DHCP server allocating the IPv4 address 10.0.0.1 to a client "client.org.nil" might associate eight bytes of housekeeping information with the client as follows:

```
client.org.nil. A      10.0.0.1
client.org.nil. DHCP  01.23.45.67.89.ab.cd.ef
```

#### Security Considerations

The DHCP record as such does not introduce any new security problems into the DNS. However, care should be taken not to store sensitive information in DHCP records, since they are published along with other DNS data. Note that even the hardware addresses of DHCP clients may be considered sensitive information.

#### IANA Considerations

The IANA is requested to allocate an RR type number for the DHCP

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record type from the regular RR type number range.

#### References

[RFC1035] - Domain Names - Implementation and Specifications, P. Mockapetris, November 1987.

[RFC1034] - Domain Names - Concepts and Facilities, P. Mockapetris, November 1987.

[RFC1706] - DNS NSAP Resource Records, B. Manning, R. Colella, October 1994.

[RFC2131] - Dynamic Host Configuration Protocol, R. Droms, March 1997.

[DHCPDNS] - [draft-ietf-dhc-dhcp-dns](#)/\*.txt

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