

DNSOP  
Internet-Draft  
Intended status: Experimental  
Expires: 4 November 2021

P. Wouters, Ed.  
The Internet  
3 May 2021

The DAKAMI RRTYPE  
draft-pwouters-dnsop-dakami-00

## Abstract

This document specifies a new DNS RR type DAKAMI. It is used to signify and honor the impact of security researcher Dan Kaminsky on the DNS ecosystem.

## Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on 4 November 2021.

## Copyright Notice

Copyright (c) 2021 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the [Trust Legal Provisions](#) and are provided without warranty as described in the Simplified BSD License.

## Table of Contents

<a href="#">1.</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Terminology . . . . .	<a href="#">2</a>
<a href="#">3.</a>	The DAKAMI Resource Record . . . . .	<a href="#">3</a>
<a href="#">4.</a>	Location of the DAKAMI Record . . . . .	<a href="#">3</a>
<a href="#">5.</a>	Example of a DAKAMI Resource Record . . . . .	<a href="#">3</a>
<a href="#">5.1.</a>	The DAKMAI RDATA Wire Format example . . . . .	<a href="#">3</a>
<a href="#">5.2.</a>	The DAKMAI RDATA Presentation Format example . . . . .	<a href="#">3</a>
<a href="#">6.</a>	Operational Considerations . . . . .	<a href="#">4</a>
<a href="#">7.</a>	Security Considerations . . . . .	<a href="#">4</a>
<a href="#">8.</a>	Privacy Considerations . . . . .	<a href="#">4</a>
<a href="#">9.</a>	IANA Considerations . . . . .	<a href="#">4</a>
<a href="#">10.</a>	Acknowledgements . . . . .	<a href="#">4</a>
<a href="#">11.</a>	References . . . . .	<a href="#">6</a>
<a href="#">11.1.</a>	Normative References . . . . .	<a href="#">6</a>
<a href="#">11.2.</a>	Informative References . . . . .	<a href="#">6</a>
	Author's Address . . . . .	<a href="#">6</a>

[1.](#) Introduction

This document defines a mechanism to send a DNS query honoring the security researcher Dan Kaminsky, whose online handle was "dakami". Dan Kaminsky suddenly passed away in April 2021 at the age of 42. He will be thoroughly missed.

The "Kaminsky Bug", formally known as CVE-2008-1447, allowed remote attackers to spoof DNS traffic that is not protected by DNSSEC via a birthday attack that uses in-bailiwick referrals to conduct cache poisoning against recursive resolvers, related to insufficient randomness of DNS transaction IDs and source ports.

While Dan Kaminsky was known in the DNS community for his famous bug and the coordinated response that followed, he was also a well known (white hat) hacker known for encouraging everyone to learn, teach and build a better internet for each other. He has been, and continuous to be, an inspiration for Internet engineers and hackers world wide.

Dan Kaminsky has been nominated for the Internet Hall of Fame.

[2.](#) Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",

"SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14](#) [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

### [3.](#) The DAKAMI Resource Record

The DAKAMI DNS resource record (RR) is used to honor and remember the achievements of security researcher Dan Kaminsky.

The type value allocated for the DAKAMI RR type is 32767. The DAKAMI RR is class independent.

The RDATA portion of a DAKAMI resource record contains a string that is semantically equivalent to the TXT [[RFC1035](#)] record.

### [4.](#) Location of the DAKAMAI Record

There is no fixed location for this RR. Those who wish to publish this RR MAY prefer to place it at their zone's apex.

### [5.](#) Example of a DAKAMI Resource Record

An example string one might use is a single static null terminated string consisting of the ascii text "Well Dan, I think you should know.....".

This text was spoken by Dan's niece Sarah, in the famous video "Sarah on DNS" [[SARAH-ON-DNS](#)] which sent an important message about DNS in what later would become known as the Kaminsky Bug. It can also be seen as the start of a message that the DNS querier is sending to Dan.

The length of this example RDATA is 42 octets, signifying Dan Kaminsky's age at the time of his untimely passing as well as signifying his quest to always learn more about life, the universe and everything. The number 42 in ASCII also represents the wildcard, and Dan Kaminsky definitely came into the IETF on a wildcard.

#### [5.1.](#) The DAKMAI RDATA Wire Format example

The example RDATA Wire Format consists of the following hexadecimal octets:

```
57 65 6c 6c 20 44 61 6e      2c 20 49 20 74 68 69 6e
6b 20 79 6f 75 20 73 68      6f 75 6c 64 20 6b 6e 6f
77 2e 2e 2e 2e 2e 2e 2e      2e 00
```

## [5.2.](#) The DAKMAI RDATA Presentation Format example

The example RDATA Presentation Format, as visible in zone files [[RFC1035](#)], consists of the following ascii string within double quotes:

Wouters Expires 4 November 2021 [Page 3]

---

Internet-Draft The DAKAMI RRTYPE May 2021

Well Dan, I think you should know.....

## [6.](#) Operational Considerations

The DAKAMI RR should have no operational impact on the operation of the DNS. The RR SHOULD NOT be added to the Additional Section. If it is added to the Additional Section, it MUST be added as the last RR and MUST NOT cause truncation or fragmentation of the DNS response.

## [7.](#) Security Considerations

The DAKAMI RR does not alter the security of the DNS.

Dan Kaminsky considerably improved the security of DNS and the internet in general. His handling of the Kaminsky Bug, together with the help of the people at ISC and elsewhere, has raised the standard of responsible disclosure.

## [8.](#) Privacy Considerations

The implementation and usage of the DAKAMI RR has no privacy impact other than revealing an appreciation for a lifetime of achievements by Dan Kaminsky.

## [9.](#) IANA Considerations

This document defines a new DNS RR type, DAKAMI, whose value 32767 has been allocated by IANA from the DNS Resource Record (RR) TYPES





Paul Wouters (editor)  
The Internet

Email: [paul@nohats.ca](mailto:paul@nohats.ca)