

# Hackathon Results

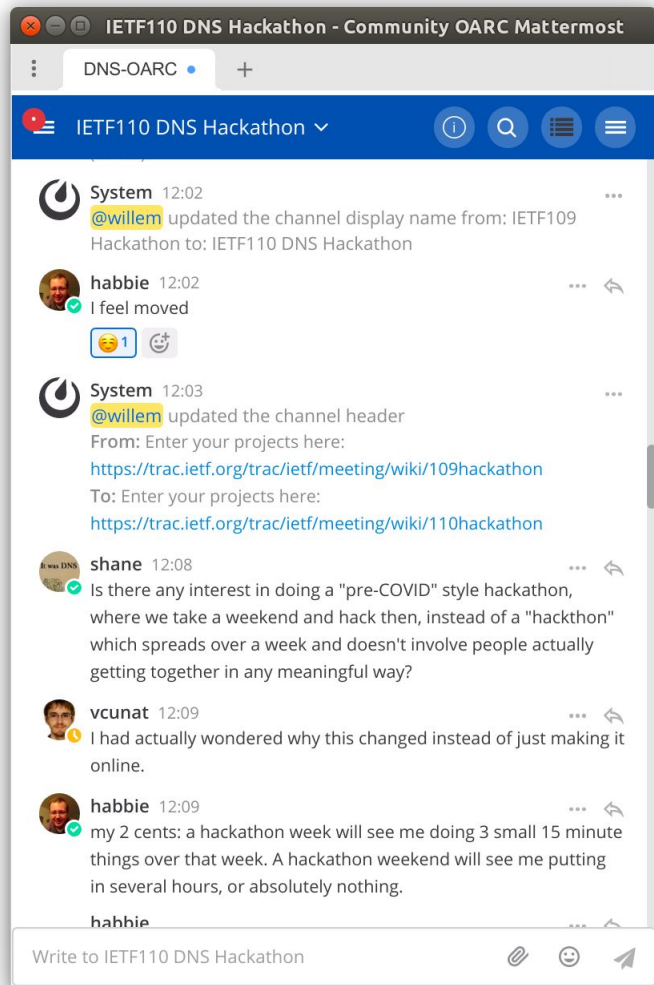
## Project ~~DNS~~ XoT

IETF 110

March 1-5, 2021

Online





# thon Plan for DNS

IETF110 DNS Hackathon - Community OARC Mattermost

DNS-OARC

IETF110 DNS Hackathon

**System** 12:02  
@willem updated the channel display name from: IETF109 Hackathon to: IETF110 DNS Hackathon

**habbie** 12:02  
I feel moved  
👍 1

**System** 12:03  
@willem updated the channel header  
From: Enter your projects here:  
<https://trac.ietf.org/trac/ietf/meeting/wiki/109hackathon>  
To: Enter your projects here:  
<https://trac.ietf.org/trac/ietf/meeting/wiki/110hackathon>

**shane** 12:08  
Is there any interest in doing a "pre-COVID" style hackathon, where we take a weekend and hack then, instead of a "hackthon" which spreads over a week and doesn't involve people actually getting together in any meaningful way?

**vcunat** 12:09  
I had actually wondered why this changed instead of just making it online.

**habbie** 12:09  
my 2 cents: a hackathon week will see me doing 3 small 15 minute things over that week. A hackathon weekend will see me putting in several hours, or absolutely nothing.

**habbie**

Write to IETF110 DNS Hackathon

IETF110 DNS Hackathon - Community OARC Mattermost

DNS-OARC

IETF110 DNS Hackathon

**willem** 14:47  
@shane How about an in-person hackathon "weekend" or "Saturday" at the NLnet Labs office. Either prior or right after the official IETF hackathon week? I'll try to arrange beer and proper lunches and dinner with @benno for the occasion. The other Dutchies could join too @habbie @matthijs?  
(edited)

**System** 14:47  
@matthijs added to the channel by you.

**habbie** 14:48  
Commented on willem's message: @shane How about an in-person hackathon "w...  
Not until we're all vaccinated..

**habbie** 14:48  
(As good as that sounds, though! 😊)

**vcunat** 14:58  
Reminded me that IETF 111 page sounds like it might be in-person, but it seems very unlikely I could get vaccinated by July. (Honestly I'm not really sure I can get even by 112.)

**matthijs** 15:05  
I am interested as long as I can come by car (no public transport), we can maintain social distance, and the place is well ventilated. It also depends on what Covid-19 regulations we have next month.

**willem** 15:30  
@matthijs you know the place, though we have now more spaces than before. We now have almost all of the spaces of the right wing on the ground floor. I'll make sure all windows are open.  
(edited)

**matthijs** 15:33  
I'll bring a jacket 😊

**willem** 15:34  
Yay!

Write to IETF110 DNS Hackathon

NS



# Hackathon Plan for DNS - Sat 6th March



# Hackathon Plan for DNS^H^H^HXoT

The **Xot** were a [sentient species](#) characterized by their small size and head shaped like a pair of [macrobinoculars](#). Known Xot included [Bidvel](#) and [Davil](#), who operated a [scrap pile](#).

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- [2 Xot in the galaxy](#)
- [3 Appearances](#)
- [4 Notes and references](#)

## Biology and appearance [edit](#) | [edit source](#)

The Xot<sup>[4]</sup> were small-sized, with heads shaped like a pair of [macrobinoculars](#). They had large feet, four-fingered hands that included an opposable thumb, two feelers above the [nostrils](#), and two other feelers dangling from under their large [eyes](#). Their skin varied in hue, from [gray-blue](#)<sup>[1]</sup> to pink.<sup>[2]</sup> or even red.<sup>[3]</sup> Similarly, their irises came in a variety of colors, including green, pink,<sup>[1]</sup> and red.<sup>[3]</sup>

## Xot in the galaxy [edit](#) | [edit source](#)

In the third [year](#) before the [Battle of Yavin](#),<sup>[5]</sup> the Xot [Bidvel](#) and [Davil](#) were running a [scrap pile](#) on a [remote planetoid](#).<sup>[1]</sup> In the second year before the Battle of Yavin,<sup>[6]</sup> on the [day](#) that [Hera Syndulla](#), [Garazeb Orrelios](#), and [Rex](#) rescued [Ketsu Onyo](#) from the [Starlag XIX](#) space-bound [prison](#), there was at least one Xot [inmate](#) there.<sup>[3]</sup>

## Appearances [edit](#) | [edit source](#)

- [!\[\]\(e27c4336460e9e6729a19580c0456728\_img.jpg\)](#) "Escaping the Scrap Pile"—*Star Wars Rebels Magazine* 19 (First appearance)
- [!\[\]\(1a140e8db538fd46d58af9f9540232fd\_img.jpg\)](#) "Final Round"—*Star Wars Rebels Magazine* 34
- [!\[\]\(5a658b86f2c8900a276c586c1f8f9f2f\_img.jpg\)](#) "Fifth and Final"—*Star Wars Rebels Magazine*



Xot	
Biological classification	
Designation	Sentient <sup>[1]</sup>
Physical characteristics	
Skin color	Gray-blue, <sup>[1]</sup> pink <sup>[2]</sup>
Eye color	Pink, green, <sup>[1]</sup> red <sup>[3]</sup>
[Source]	

^H^H^HXoT



# Hackathon Plan

The **Xot** were a [sentient species](#) characterized by their small size and head shaped like a pair of [macrobinoculars](#). Known Xot included [Bidvel](#) and [Davail](#), who operated a [scrap pile](#).

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- [REBELS](#) "Escaping the Scrap Pile"—*Star Wars Rebels Magazine* 19 (First appearance)
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Biological classification

Designation

Physical characteristics

Skin color

Eye color

draft-ietf-dprive-xfr-over-tls-07 - Chromium

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Versions: (draft-hzpa-dprive-xfr-over-tls) 00 01 02 03 04 05 06 07 Standards Track

dprive W. Toorop  
Internet-Draft NLnet Labs  
Updates: 1995, 5936, 7766 (if approved) S. Dickinson  
Intended status: Standards Track Sinodun IT  
Expires: August 20, 2021 S. Sahib  
P. Aras  
A. Mankin  
Salesforce  
February 16, 2021

DNS Zone Transfer-over-TLS  
draft-ietf-dprive-xfr-over-tls-07

Abstract

DNS zone transfers are transmitted in clear text, which gives attackers the opportunity to collect the content of a zone by eavesdropping on network connections. The DNS Transaction Signature (TSIG) mechanism is specified to restrict direct zone transfer to authorized clients only, but it does not add confidentiality. This document specifies the use of TLS, rather than clear text, to prevent zone content collection via passive monitoring of zone transfers: XFR-over-TLS (XoT). Additionally, this specification updates [RFC1995](#), [RFC5936](#) and [RFC7766](#).

Status of This Memo

Pink, green,<sup>[1]</sup> red<sup>[3]</sup>

[Source]

^H^H^HXoT

# Hackathon Pla

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W. Toorop  
NLnet Labs  
S. Dickinson  
Sinodun IT  
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DNS Zone Transfer-over-TLS  
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Status:	Proposed Standard
More info:	<a href="#">Datatracker</a>   <a href="#">IPR</a>   <a href="#">Info page</a>
Stream:	Internet Engineering Task Force (IETF)
RFC:	<a href="#">8914</a>
Category:	Standards Track
Published:	October 2020
ISSN:	2070-1721
Authors:	W. Kumari E. Hunt R. Arends W. Hardaker <i>Google ISC ICANN USC/ISI</i> D. Lawrence <i>Salesforce</i>

## RFC 8914 Extended DNS Errors

### Abstract

This document defines an extensible method to return additional information about the cause of DNS errors. Though created primarily to extend SERVFAIL to provide additional information about the cause of DNS and DNSSEC failures, the Extended DNS Errors option defined in this document allows all response types to contain extended error information. Extended DNS Error information does not change the processing of RCODEs.

^H^H^HXOT

IETF 110 Hackathon planning - XoT Implementation - Google Docs - Chromium

IETF 110 Hackathon planning - XoT Implementation

This document is intended as a braindump of potential activities for XoT that could happen at the IETF 110 Hackathon.

Area	What	Who
<b>Implementation</b>		
NSD	Finish and test connection reuse PR ( <a href="https://github.com/NLnetLabs/nsd/pull/145">https://github.com/NLnetLabs/nsd/pull/145</a> ) <ul style="list-style-type: none"> <li>Handle NSD primary connection shut</li> <li>Implement Keepalive (client side and also need server side for testing)</li> <li>Add unit tests</li> </ul>	Sara/Shivan/ NLnetLabs
NSD	Finish and test XoT PR ( <a href="https://github.com/NLnetLabs/nsd/pull/149">https://github.com/NLnetLabs/nsd/pull/149</a> ) <ul style="list-style-type: none"> <li>Handle handshake hang when far ends listens on TCP but not TLS</li> <li>Fix <code>confcheck</code> unit test</li> <li>Add unit tests</li> </ul>	Sara/Shivan/ NLnetLabs
NSD	Server side work <ul style="list-style-type: none"> <li><b>Config option</b> to serve zone over XoT only (and to also require IP based ACL)</li> <li>Implement EDE? (Tom Carpay?)</li> <li>Keep-alive edns0</li> </ul>	Han/Pallavi
BIND	Talk to Ondrej about interop testing the 9.17.10 XoT implementation?	
PowerDNS	Talk to Peter about implementation	
Knot	Talk to Libor about implementation	
<b>Testing</b>		
Interop	We have NSD and BIND client side and server side NSD and BIND support DoT and we can use a proxy in front of PowerDNS or Knot that could be interop tested.... (2 clients x 4 servers matrix at the moment?) <ul style="list-style-type: none"> <li>Should we consider setting up test zones (delegated from dnsprivacy.com?) for public testing? (How/iff to apply IP based ACLs?). Willem may be able to help by providing servers similar to those used for the catalogue zones testing in the previous hackathon....</li> <li>Or create a standalone test harness to do this?</li> </ul>	
Load testing	Show increase in server load when using XoT instead of XFR-over-TCP for a heavily loaded server?	
<b>Libraries</b>		

**Comments:**

Pallavi Aras 4:45 PM Feb 25  
@willem@nlnetlabs.nl  
@sara@sinodun.com, Should this be a config option at zone-level or at primary server-level?

Willem Toorop 5:45 PM Feb 25  
Good question!  
Maybe an extra option argument on the "provide-xfr" option?  
[Show all 5 replies](#)

Willem Toorop 4:33 PM Yesterday  
@Pallavi have you started with this?

Pallavi Aras 4:56 PM Yesterday  
I have started some work but based on our discussion I will add some modifications

# H^H^H XoT

- Sara Dickinson
- Shivan Kaul Shahib
- Pallavi Aras
- Han Zhang
- Tom Carpay (EDE)  
(all on NSD)
- Peter van Dijk  
(PowerDNS)
- Matthijs Mekking  
(ISC BIND)



# XoT.ROCKS

## HALL OF XoT

Mara Dickinson

Shivan Kaul Shahib

- Pallavi Aras
  - Han Zhang
  - Tom Carpay (EDE)
- (all c NSD)

ter van Dijk  
(wer DNS)

s Mekking  
(BIND)

Area	What
Implementation	
NSD	Finish and ...ction reuse PR (h... <ul style="list-style-type: none"><li>• Handle ... connection s...</li><li>• Implement ... client side a...</li><li>• Add unit te...</li></ul>
NSD	Finish and test XoT PR... <ul style="list-style-type: none"><li>• Handle handshake...</li><li>• Fix <u>confcheck</u> unit te...</li><li>• Add unit tests</li></ul>
NSD	...side work... ...fig option to serve zone... ...ment EDE? (Tom Carpay... ...live edns0
BIND	...out interop tes...
Power	...ut implementation
Knot	...ut implementati...
Testing	
Interop	...ve NSD
Load testing	
Libraries	

Have

XoT

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Mekking  
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IETF 110 Hackathon planning - XoT Implementation  
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VMS for use in hackathon:

name	Internal IPv4	Public IPv4	IPv6	Role/Purpose
ns1.xot.rocks	172.31.34.138	3.126.83.50	2a05:d014:d33:2020::1111	Primary NSD server for XoT.rocks domain, available for transfer over XoT only.
ns2.xot.rocks	172.31.39.106	54.93.249.195	2a05:d014:d33:2020::2222	Secondary NSD server for XoT.rocks domain.
ns3.xot.rocks	172.31.33.27	35.156.42.41	2a05:d014:d33:2020::3333	Bind (secondary?) by Mattheijs Mekking
ns4.xot.rocks	172.31.43.222	52.59.193.53	2a05:d014:d33:2020::4444	PowerDNS XoT secondary voor XoT.rocks domain by @habbie
ns5.xot.rocks	172.31.36.89	54.93.85.250	2a05:d014:d33:2020::5555	Bind (primary?) by Mattheijs Mekking

# What got done

- Extended DNS Errors (Tom Carpay) -
  - Found some missing Error codes
  - For example name overflow with DNAME expansion
- ACL to provide zones XoT only (Pallavi Aras and Han Zhang)
  - Not for ::0/0 or without TSIG
- XoT transfers between NSD, PowerDNS & BIND  
(maybe some of that gets finished tomorrow)



# What we learned

- We all miss the in-person hackathons!
  - But we'll have a mini one tomorrow (just me & Matthijs)
  - Shivan, Han and Pallavi hacked in an online virtual google meet session.
- From EDE - Maybe an update on RFC8914 with new Codes?
- XoT just works^H^H^H^H^HRocks

# Wrap Up

## Team members:

- Sara Dickinson
- Shivan Kaul Sahib
- Pallavi Aras
- Han Zhang
- Tom Carpay
- Peter van Dijk
- Matthijs Mekking
- Willem Toorop

## First timers @ IETF/Hackathon:

- Tom Carpay

More hacks coming tomorrow...

& probably a few more before DNSOP

I expect new interoperability testing of catalog zones on the zones.cat domain between Knot, PowerDNS & NSD from:

- Peter van Dijk
- Kees Monshouwer
- Libor Peltan
- Willem Toorop