



ICANN82 Community Forum – Seattle – ccNSO Tech Day – March 10th 2025

- Mapping Name Collisions between domain names and blockchain identifiers : some results and findings



**DNS
RESEARCH
FEDERATION**

Work conducted by DNSRF funded by Afnic

The situation

Solana Name Service
EmerDNS
Ethereum Name Service
RIF Naming Service
Handshake
Namecoin
Unstoppable domains
PeerName
Diode
Massa
...

Standardisation work in progress at IETF

DNS to Web3 Wallet Mapping

<https://datatracker.ietf.org/doc/draft-chins-dnsop-web3-wallet-mapping>

WALLET Resource Record type

_waddr IN TXT "BTC:0x1234567890abcd"

_waddr IN TXT "ETH:0x987654321098765"

Preamble

In order to maintain a distinction between these two very different technologies, I'll use :

- "blockchain identifiers" to describe any addresses related to blockchain technology.
- "domain names" to refer to addresses based on the Domain Name System (DNS).

Key focus area of this study

Examines the overlap between blockchain-based identifiers and DNS on both gTLD and ccTLD, with a focus on .fr

Blockchain top-level identifiers vs. existing ICANN gTLDs

Second-level blockchain identifiers within .FR ccTLD

Potential conflicts with new gTLD applications

Data sources

- ICANN Zone Files (Active gTLD data)
- Afnic .fr Open Data file of domain names registered under .fr
- Blockchain Domain Data
 - 11.6M blockchain identifiers
 - 4.7M top-level registrations
 - 6.9M second-level registrations
 - 6 blockchain identifiers providers: DNAME, ENS, FNS, Handshake, NameWrapper, UD
- Potential New gTLDs in upcoming ICANN round
 - Examples: .wallet, .crypto, .nft, .identity, .blockchain

Methodology

gTLD Collisions

- Extracted blockchain top-level identifiers
- Compared with active ICANN gTLDs
- Identified overlaps & second-level blockchain registrations under colliding gTLDs

Second-Level Collisions with .FR

- Compared blockchain second-level identifiers with .FR domains
- Assessed presence across multiple blockchain top-level domains

Potential New gTLD Collisions

- Compared 10 potential gTLDs with blockchain top-level identifiers
- Evaluated second-level blockchain registrations under these identifiers

Key findings

Overlaps between blockchain-based domain identifiers & ICANN DNS namespaces pose potential conflicts

Some domains exist within ICANN TLDs, raising collision blockchain risks

Upcoming ICANN gTLD round could exacerbate collisions

- Finance: .wallet, .coin
- Identity/security: .verify, .identity
- Digital assets: .crypto, .nft, .blockchain

Results

ccTLD Collisions

A total of 199 top level identifiers were found that are 2 characters long

- 3 of these appear to be providers offering DNS registrations for the ccTLD
- The remaining 196 do not currently collide with existing ccTLDs

2 character blockchain top level identifiers with most registrations

- .go - 48k
- .hi - 28k

Results

Second-Level collisions with .FR registrations

Prefix	Provider	Total Registrations for this provider
crypto	DecentraName (DNAME)	150
escortgirls	Freename Domains (FNS)	149
wayne	DecentraName (DNAME)	123
buy	DecentraName (DNAME)	121
nft	DecentraName (DNAME)	120

Table : most registered second-level blockchain identifiers that match .FR domains

Results

« Top 30 Majestic Million .fr domain names » with collisions

Majestic Million GlobalRank	Tld Rank	Domain	Nb of registrations in blockchain found
217	1	free	41
255	2	gouv	No registration
536	3	google	27
565	4	lemonde	No registration
800	5	amazon	65
810	6	lefigaro	No registration
1126	7	asso	No registration
1153	8	ec-lyon	No registration
1181	9	cnil	No registration
1252	10	legifrance.gouv	No registration
1331	11	francetvinfo	No registration
1466	12	leparisien	No registration
1498	13	cnrs	No registration
1502	14	rfi	No registration
1613	15	blogspot	No registration
1679	16	louvre	No registration
1873	17	bnf	No registration
1884	18	liberation	No registration
1895	19	service-public	No registration
1922	20	ouest-france	No registration
1994	21	lesechos	No registration
2115	22	paris	30
2183	23	inria	No registration
2221	24	radiofrance	No registration
2463	25	pinterest	No registration
2681	26	lepoint	No registration
2802	27	lexpress	No registration
2888	28	wanadoo	No registration
2906	29	pagesperso-orange	No registration
2928	30	orange	98

Conclusion

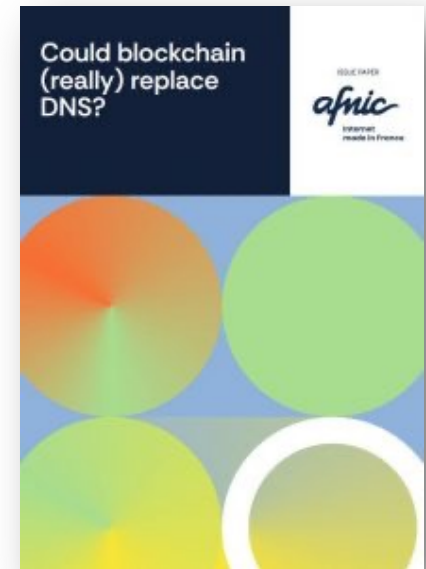
- Second-Level collisions with .FR registrations
- Potential New gTLD Collisions
- Based on the figures, the next round may focus on digital wallets, crypto, etc.
- Some blockchain-based « top-level identifiers » in these categories already have significant number of registrations

This year study roadmap



A blog post on DNSRF website to be published soon

In addition, our Afnic Labs team is finalizing a new study about DNS and blockchain through the two main services provided by the DNS today, from a security perspective : registration and resolution



● Thank you for your attention

Do not hesitate to reach out

benoit.ampeau@afnic.fr

Special thanks to DNSRF Team



Association Française pour le Nommage Internet en Coopération

7 Avenue du 8 mai 1945, 78280 Guyancourt – France

Tel. +33 01 39 30 83 00

www.afnic.fr | contact@afnic.fr | X : @AFNIC | Facebook : facebook.com/afnic.fr