

# Domain Name Front Running

## *Nominet Experience*

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## 1. Introduction

Domain Name Front Running (DNFR) is a technique believed to exist, but so far unproved, whereby one person monitors the activity of a second person who is planning to register a domain name and the first person then registers the domain name before the second person.

In this paper we analyse the evidence for DNFR based on our own investigations and offer our opinion that DNFR as commonly perceived does not exist. In doing so we explain the drivers behind domain registration in the global market and the impact that domain monetization is having.

### 1.1 Potential mechanisms

The mechanisms that some have claimed are used for DNFR include:

1. Capturing data on unregistered, but sought after names and then through either a manual or automatic process, vetting those names to decide which to register. The origins of this data could be any of the following:
  - a. Running a WHOIS server and then recording those names that are submitted to it, that the WHOIS lookup shows to be unregistered.
  - b. Running a registrar and intercepting name registration requests.
  - c. Running a nameserver and recording “No domain exists” (NXDOMAIN) responses.
  - d. Running a search engine and looking for type-ins (domains entered directly into the search bar) for domains that do not exist.
2. Capturing data on registrations made in one TLD and then registering those names in another TLD. The origins of this data could be:
  - a. ‘Newly registered’ lists or search mechanism provided by a registrar or registry.
  - b. Running a registrar and intercepting name registration requests.
3. Capturing data on an activity that is often a precursor to a domain name registration such as:
  - a. Monitoring new company registrations
  - b. Monitoring the increasing public profile of sports stars, entertainment stars and the like

## 1.2 Possible motives

There are a number of motives that have been claimed for DNFR:

1. To extort money from the person who originally intended to register the name by making them pay to get it.
2. To steal the business idea of the person who originally intended to register the name.
3. To block or disrupt the business or project of the person who originally intended to register the name.
4. To utilise the traffic that the name generates.

## 1.3 Understanding domain monetization

There are some elements of domain monetization, a large and growing business, which need explaining to understand the context of DNFR.

There is a common assumption that domainers (those who make a business out of domains monetization) are only interested in selling domain names. This was true some years ago but has long been replaced with the use of domains for Pay Per Click (PPC) advertising, with the consequent shift from capital gains on a sale to the ongoing revenue of PPC.

With PPC the numbers of visits to that site is an important driver of income. Domainers get paid for page impressions – how often the advert is shown to prospective customers, as well as clicks – how often the adverts are clicked on. The skills a domainer attempts to develop are in driving visitors to their sites and then converting the initial views into clicks.

Certain domains are highly sought after by domainers, particularly those that have inherently high traffic volumes. This traffic can come from links from others sites, referrals from search engines, or type-ins – where someone just types the domain name directly into the address bar.

To maximise the traffic from these sources, domainers are interested in domains with any of the following characteristics:

- Generic words that represent products or services that people use frequently, such as 'contactlenses.tld'.
- Words that represent significant institutions or places, such as 'army.tld' or 'springfield.tld'.
- Domains that are common misspellings of well-known domains, otherwise known as typo-squatting, which is a practice not all domainers approve of.
- Words or phrases that capture popular trends, such as 'realitytv.tld'.
- Domains that were recently used by someone else and have a good traffic level as a result.

It should be made clear that domainers do not just take a vague guess at the popularity of a domain name; they try to use empirical evidence wherever possible. There are two well-known and highly public mechanisms for determining popularity:

1. Search engine results. Some search engines sell or give away data associated with the queries they receive. Domainers can use this to check on the popularity of a domain.
2. Domain name tasting. In those TLDs where this practice is allowed, there is a 'grace period' for domains, which is a period of several days after registration where a registrar can cancel a domain without being billed. Some registrars take advantage of this to register large volumes of domains to test what traffic they receive and then cancel those below a pre-determined threshold before they are billed for the domains.

There are potentially other mechanisms to test popularity, such as examining the browsing habits of an ISP's customers, or examining the DNS traffic to a TLD. But if those mechanisms are widely used, they are sufficiently well hidden to evade detection.

## 2. Re-registrations of cancelled domain names

At this point we should consider the specific problem of the immediate re-registration of cancelled domains names.

The expectations of many ordinary registrants is that they can watch a name by checking the WHOIS a few times a day and just pick up the domain when it is released. They are simply unaware that someone else might find the name of value despite having no 'connection' with that name and similarly unaware of the level of competition for cancelled names.

In many registries there is intense competition amongst domainers for newly cancelled domains because of the traffic they are likely to bring with them. In our experience cancelled names with any measurable popularity are re-registered within milliseconds of their becoming available.

Consequently, because of the domination of the market for newly cancelled domain names by those who wish to use these domains for the traffic they bring with them, we conclude that there is no point investigating DNFR further for such names.

Therefore for the rest of this paper we concentrate exclusively on the perceived issues with registering entirely new names, or those cancelled so long ago they can be treated as new. There is still a significant effect from domainer activity in this market but it is not so much that it makes analysis impractical.

### **3. Our investigations**

We at Nominet have investigated DNFR several times, following complaints and have come to the following conclusions as to each of the mechanisms put forward in section 1.1.

#### **3.1 Capturing data on unregistered, but sought after names**

Our conclusion is that some small element of data capture does take place but we have found no evidence of the more 'conspiratorial' theories that some believe are in play.

The work we have done has lead us to believe that it is the nature of the market that create anomalies such as the belief in DNFR and we explain in section 4, "A global market" just how we think this happens.

Before that we present our findings on the individual concerns, looking at each sub-mechanism from section 1.1 :

##### **3.1.1 Capturing data from a WHOIS server or registration system.**

We have seen no evidence of this practice at all, but we have seen the following explanations when investigating claims that this has happened:

- Multiple WHOIS lookups from different sources showing clearly that more than one person was interested in the domain.
- Cases where the person who registered the name did so as part of a set of registrations on a similar theme and was clearly working to a wider scheme that just happened to encompass the domain that one person was after.

##### **3.1.2 Running a nameserver and recording "No domain exists" responses.**

In our capacity as a registry, we have been approached a few times asking us if we will sell such data and have always refused. We are not aware of any TLD that does sell such data.

There are ISPs who trap "No domain exists" responses and redirect end users to a monetization page, but we are not aware of any who use that data themselves. Nor are we aware of any that sell this data. However it is entirely plausible that this does happen as there are plenty of domainers who would be willing to purchase such data.

##### **3.1.3 Running a search engine and looking for type-ins**

There are a number of search engines that make this data available and there are plenty of people who use it. We are aware that there is a thriving industry in generating potential domain names and testing these against this data to decide whether or not to register the domains.

### **3.2 Capturing data on registrations made in one TLD and then registering those in another**

This certainly does take place. With over 60 million registrations in .com and the zone file readily available there is significant scope to use this in many TLDs, except those where the predominantly English domains found in .com would not be popular.

However we see no evidence of this being done by registrars who capture the data on purchases in one TLD to use for their own ends in other TLDs. There are plenty of registrars who recommend to their registrants to register names in more than one TLD and make it easy to do that with just another click, but this is normally entirely automated.

### **3.3 Capturing data on an activity that is a precursor to domain registration**

This certainly takes place as well.

We have encountered a number of firms that maintain a list of newly registered companies and immediately send them an offer to register their domain for them. Some register the domain names themselves and there have been some highly publicised legal cases in the UK following such action.

There are also some that watch for trademark registrations in one jurisdiction and then register matching domains in a different jurisdiction before the trademark can also be registered there.

## **4. A global market**

Informed by our research findings to date, we conclude that DNFR as popularly perceived does not exist. It is our view that the way that the global market in domain names currently operates, leads people to incorrectly conclude that DNFR is the cause for certain behaviour that is otherwise unexplained.

To explain this we need to highlight the following important facts of this market:

- A global market for domain names in excess of 100 million is still significantly less than the number of people with regular Internet access who are the potential registrants of domains. Even if you divide the market into segments based on the language spoken, there is still a large imbalance between the number of potential registrants and the domains they currently hold.
- The trend of globalisation is strongly felt in the Internet where the sharing of information and ideas can overcome the limitations of distance and culture with ever increasing ease.
- There is a commonly accepted wisdom on what makes a good domain name - short, memorable and unique. If these criteria are met then users of that domain can remember it, type it directly (and correctly) without the potential distraction of a search engine and can distinguish it from other similar names.
- All the obvious names have already been taken in TLDs that allow open registration.
- A large number of domains are registered by domainers using all the same ideas that others have and are trying to guess the next themes to appear in domain name registrations so that they can get the best of those names first. These names are then used solely for the traffic they bring, not for the purpose that the domain name might appear to be for.

This leads to the surprising conclusion that there is no such thing as a unique idea for a new domain name registration. Whatever the idea is, there are almost certainly going to be others who have that same idea. They might share this idea because they share the same information sources, or watch the same trends, are in the same industry and so on.

Most people have just not realised this and believe that the ideas they have are unique. So when a domain name they are planning to register goes to someone else, they assume that something they have done must have given that idea away to someone else who then took advantage of it. In reality these actions are almost always entirely independent.

## 5. Conclusions

Having investigated a number of complaints and considered the mechanisms behind DNFR we have come to the conclusion that it is not the problem that people believe it to be, but an attribute of our global market in domain names. There are some behaviours linked to DNFR that do exist but these operate in specific circumstances and are therefore generally easy to spot. We conclude that DNFR in the most common sense of someone tracking your actions to register a domain just before you can, does not exist.