How to keep all the necessary WHOIS records up-to-date

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We can suggest the following approach to keep all the necessary WHOIS records up-to-date. You can use quarterly and daily WHOIS updates combined with the Live WHOIS requests.

Say, you have a quarterly WHOIS database in your storage.

Once a new daily or quarterly DB comes out, do not prune the old one from your storage. Instead, merge the new DBs with your stored ones.

The merging algorithm:

1. If a WHOIS record with that domain name isn't present in your storage, add it or perform any other actions according to the DB type and your requirements.

2. When the domain name is present in your storage, compare the "*auditUpdatedDate*" fields of the old WHOIS record and the new one. If the dates match, it means that you can skip the record saving because it hasn't changed;

3. Often, the "*auditUpdatedDate*" values will be different. In this case, it's worth performing some extra checks:

    a. Compare all the WHOIS records' fields except "*auditCreatedDate*", "*auditUpdatedDate*", "*rawText*", "*cleanText*", "*headerText*", "footerText", since those ones may be different even if the ownership data match;

b. Check the "parse_code" field. It is a bit mask indicating which fields have been parsed in the record;

a binary value of 1 at position i points to a non-empty value field at that position;

the fields from the least significant bit to the most significant one are following: *"createdDate", "expiresDate", "referralURL" (exists in "registryData" only), "registrarName", "status", "updatedDate", "whoisServer" (exists in "registryData" only), "nameServers", "administrativeContact", "billingContact", "registrant", "technicalContact", and "zoneContact";*

for example, parse code $3_{10}(11_2)$ means that the only non-empty fields are *"createdDate"*and *"expiresDate"*, and parse code $8_{10}(1000_2)$ means that the only non-empty field is *"registrarName"*.

If you need to ascertain that a WHOIS record contains ownership information, compare parse code to $00100000000000_2(512_{10})$. It stands for non-empty field "registrant".

To check the parse code value, use bit operators. (In MySQL it will be **parse_code & 0010000000000_2 = 0010000000000_2**)

4. If any differences are detected in the previous step, replace the old record with the new one;

5. In case of empty data in the fields you need, make a live WHOIS request with parameter **preferFresh=1** (the WHOIS service will send you as fresh a record as possible). The complete documentation regarding Live WHOIS requests can be found here: https://whoisapi.whoisxmlapi.com/docs;

With the use of this mechanics, you won't lose the domain names from the previous quarterly/daily DB release if they are missing for some reason.

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