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Can emerging identifiers integrate with DNS? A Perspective

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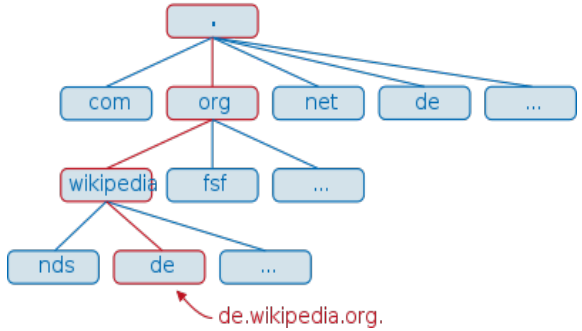
Eco-system for the Domain Name Service

1. Naming Conventions

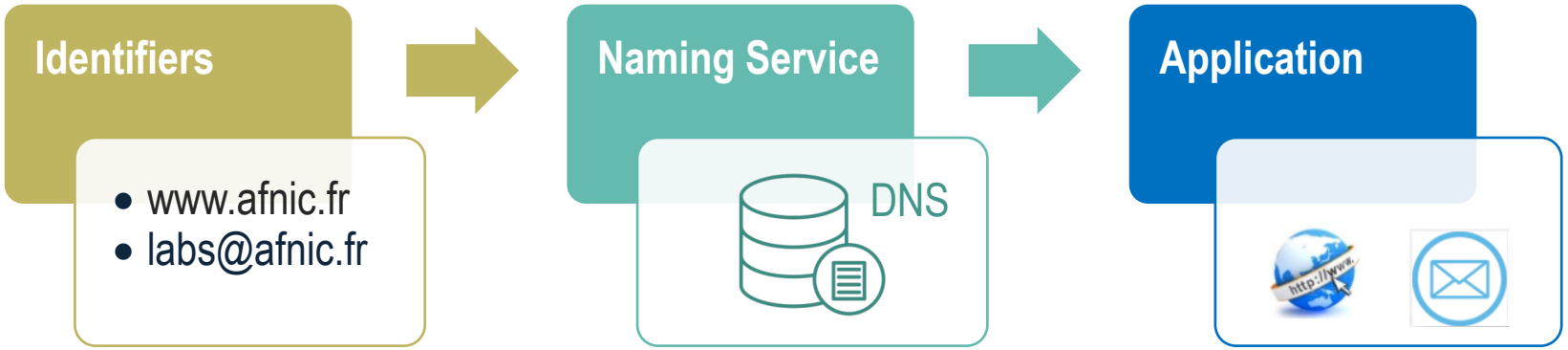
IETF is the SDO

- Domain names, URI
- IP Addresses (IPv4/IPv6)

2. Provisioning



3. Resolution



Alternate Name services

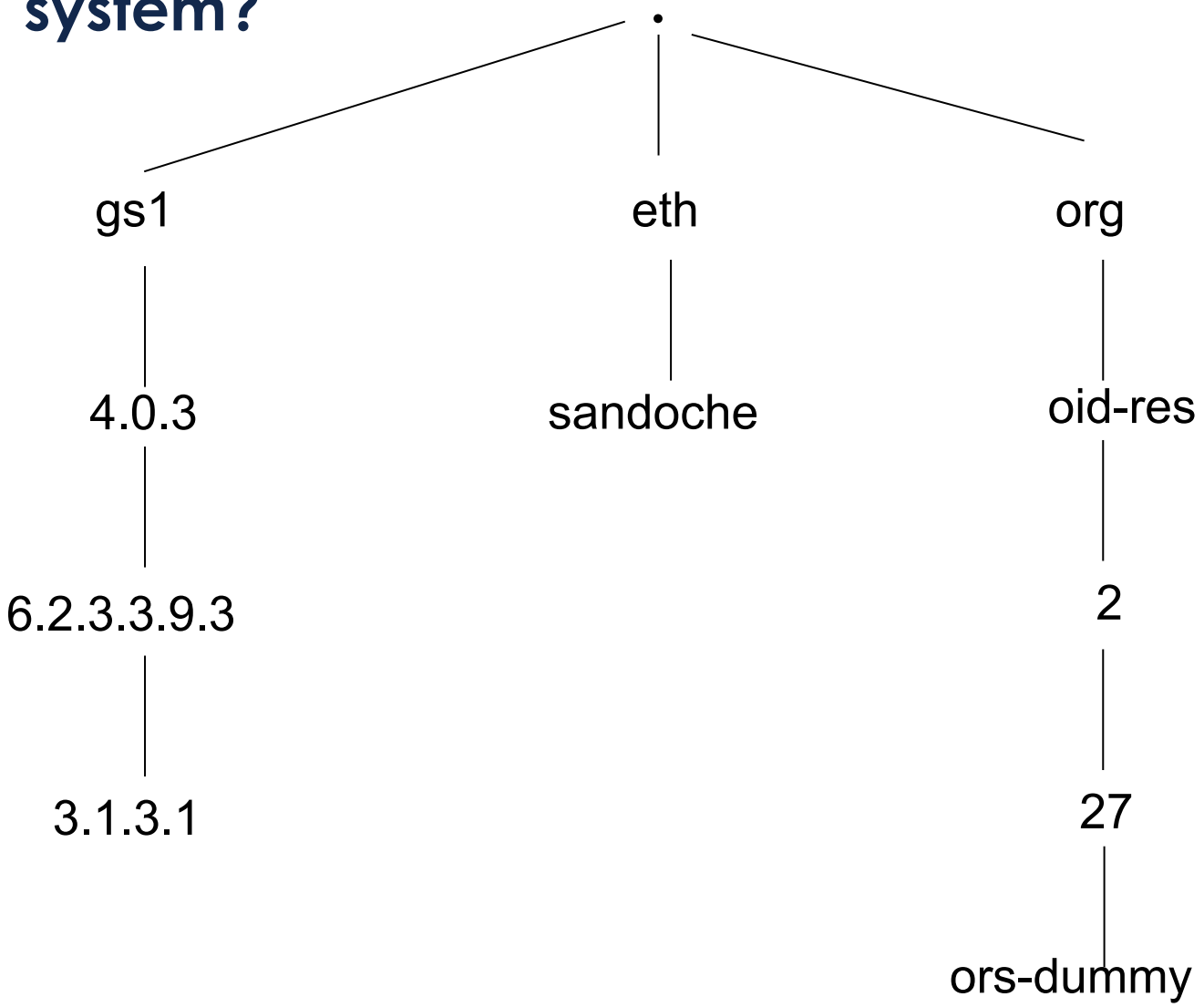


Blockchain based

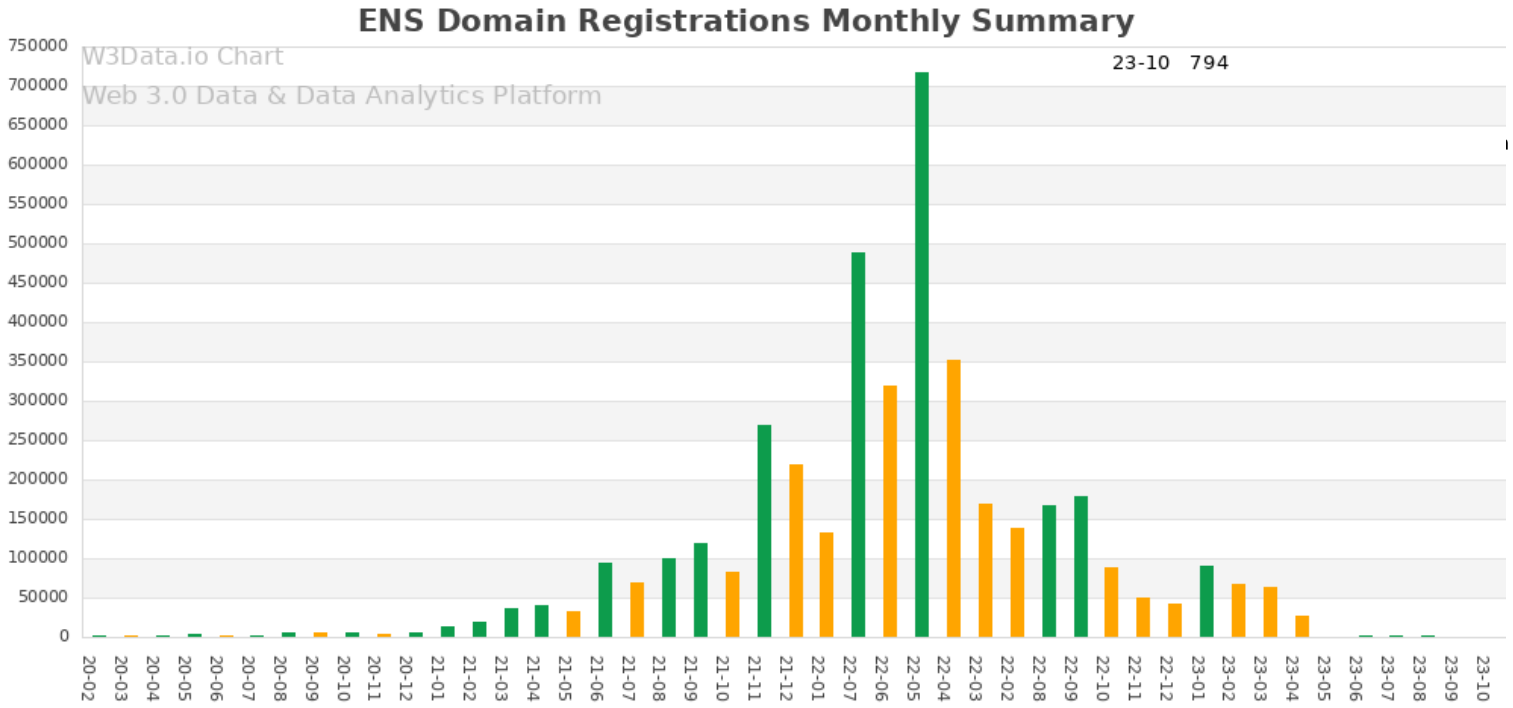


IoT based

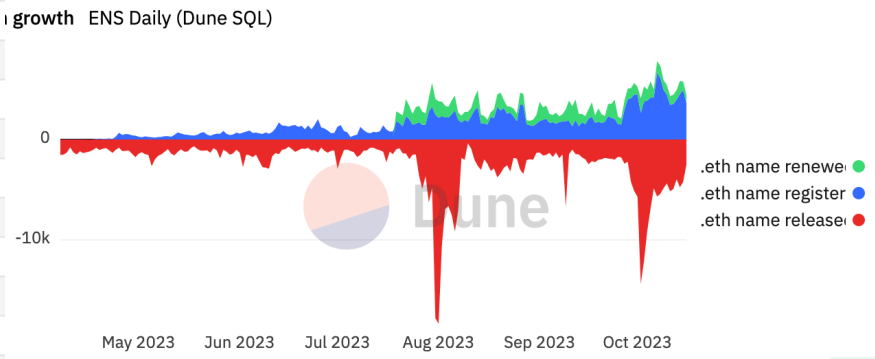
Emerging identifiers Integrating with the DNS eco-system?



Alternative name service trends - ENS



Source: https://www.w3data.io/data/web3-domain-registration-data/



Source: https://dune.com/ethereumnameservice/ens-daily

Alternative name service trends - Namecoin

Type of resolution	Count
Nameserver URL	3200
Nameserver IP	148
Single IP	5848
Multiple IP	2
Single IPv6	2
Multiple IPv6	1
Tor	9
Alias	23
Only subdomains	2
Total	9354

Criteria applied	Count
Total Names	196,023
Valid DNS	9354
Curlable	5374
Not squatter	745
Without duplicates	455
Without errors	278
With content	222
Without ICANN hostname	28

Source: Princeton – *"An empirical study of Namecoin and lessons for decentralized namespace design" - 2015*

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Alternative name service perceived advantages

- Censorship resistant
- Immutability
- Cost
- Security by design

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DNS advantages

- Minimum centralization to abide to policy & law
- Security & privacy protocols deployment in evolution
- Business friendly – trademark, brand & squatting protection
- User friendly
  - Avoids name collision & need for special plugins or applications to access the service
- Energy friendly

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Integration to DNS?

