

ICANN

VIRTUAL COMMUNITY FORUM

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KINDNS

An ICANN Initiative to Promote DNS Operational Best Practices

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The DNS has Evolved Over Three Decades

Since RFC882 (1988) the DNS protocol has significantly evolved.

- ⊙ According to PowerDNS's "DNS Camel Viewer", there are:
 - 297 RFCs relevant to DNS
 - With 2,082 pages of text

- ⊙ These evolutions include:
 - Major additions (e.g., DNSSEC)
 - All new RR types
 - Privacy mechanisms (e.g., QTYPE minimization)
 - . . . and a whole lot more

Challenges for DNS Operators

- ⦿ The DNS has become complex, offering many choices and many implementations to suit myriad needs.
- ⦿ Good engineers want to implement, and then operate, a fast and effective DNS for their users.
- ⦿ But to do so requires knowing the entire protocol and all its formulations. It requires a *specialist*.
- ⦿ Large operators have many full-time engineers on staff who specialize in DNS.
- ⦿ But what about everyone else in the world? Especially smaller networks which do not have full-time DNS engineers?

Challenges for DNS Operators

How does a small ISP keep up with even new evolutions such as DoH, DoT, DoQ or DoHoT and their impact on their service . . . ?

How does a medium-sized enterprise ensure it is following all elements in guidelines to properly lock down its DNS?

How does a community network know if they should implement DNSSEC validation and how it should securely manage its cryptography keys?

How does a Corporate IT manager set the minimum requirements for securing his domain names service even if provided by a third-party?

...

Knowledge-sharing and
Instantiating
Norms for
DNS and
Naming
Security

The Name?

It plays a bit on the Internet Society's Mutually Agreed Norms for Routing Security (MANRS) Pronounced "manners", so, KINDNS pronounced "kindness"



kind·ness

/ˈkɪn(d)nəs/

noun

the quality of being friendly, generous, and considerate.
"he thanked them for their kindness and support"

Similar:

kindliness

kind-heartedness

warm-heartedness

tender-heartedness



• a kind act.

plural noun: **kindnesses**

"it is a kindness I shall never forget"

Similar:

kind act

good deed

act of kindness

good turn

favor



Goal of The KINDNS Initiative

To produce something simple to refer that can help a wide variety of DNS operators, small to large, to follow both the evolution of the DNS protocol and the best practices the industry identifies for better security and more effective DNS operations.

Key Elements of the Current phase

- ⦿ Building soft ‘consensus’ around the most critical security norms for DNS operations (authoritative, recursive resolvers, and running software) – *By consulting and engaging with operational community.*
- ⦿ Developing a dedicated information portal with best practices and implementation guidelines. (kindns.org)
- ⦿ Communication, promotions, and an enrollment plan
- ⦿ Identifying indicators that will help measure and assess the impact of the initiative.
- ⦿ Mapping best practices to ICANN DNS policy functions (Registry, Registrar, Registrant).

Expected Outcomes

- ⦿ Working with the DNS technical community, our first goal is to **identify** and **document** a set of mutually agreed-upon norms that support a secure DNS ecosystem
- ⦿ We would will encourage KINDNS participants to voluntarily commit to adhering to the mutually agreed-upon norms and further, act as “goodwill ambassadors” within the community.
- ⦿ The more operators that join the KINDNS initiative, the larger the footprint of a robust and secure DNS ecosystem can be!

Key Components of the Best Practices / Guidelines

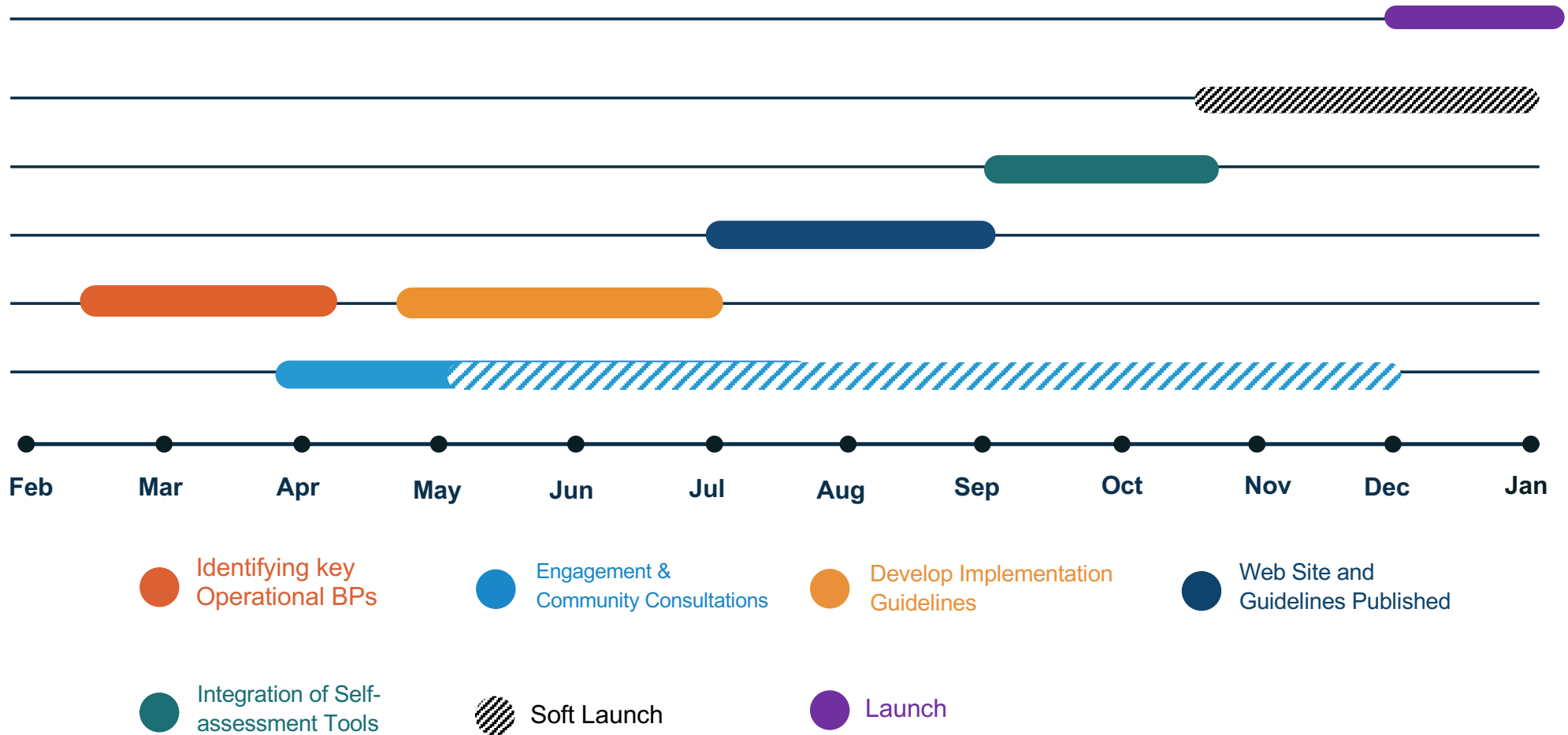
- ⊙ *Hardening the Operation Environment*
 - *Service*
 - *System*
 - *Network*

- ⊙ **Authoritative Servers**
 - **TLDs**
 - **STLD**

- ⊙ **Recursive Resolvers**
 - **Close**
 - **Special case of Open Resolvers**

- ⊙ *Other considerations*
 - *DoT, DoH,*
 - *Anycast DNS, ...*

Project Timeline 2021/2022



We have just start identifying the key operational best practices to be the foundation of this initiative. We welcome input and contribution from the community throughout the process.

How to Stay Informed and Contribute

- ◉ The KINDNS discussion mailing list

kindns-discuss@icann.org

- ◉ We have setup a temporary Wiki page where will share some preliminary documents until the formal website is developed and launched

<https://community.icann.org/display/KINDNS>

Engage with ICANN



Thank You and Questions

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