

Identifier Technology Health Indicators (ITHI)

<https://ithi.research.icann.org>

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October 2020



ITHI: an ICANN Initiative

- ◎ **ITHI**, or **I**dentifier **T**echnologies **H**ealth **I**ndicators is an ICANN initiative to “**measure**” the “**health**” of the “**identifier system**” that “**ICANN helps coordinate**”.
- ◎ The goal is to produce a set of **indicators** that will be **measured and tracked over time** that will help determine if the system of identifiers is overall doing better or worse.
- ◎ This is a long term project, expected to run for a number of years.

ITHI Data: ICANN + Partners + Contracts

- ⊙ **ICANN (Internal Data)**

- Compliance department (M1)
- DAAR (M2)
- IMRS data (M3)
- Root zone (M7)

***This is
where we
need your
help!***

- ⊙ **White box measurements with partners**

- Measurements at recursive & authoritative servers
- M4, M6, M8

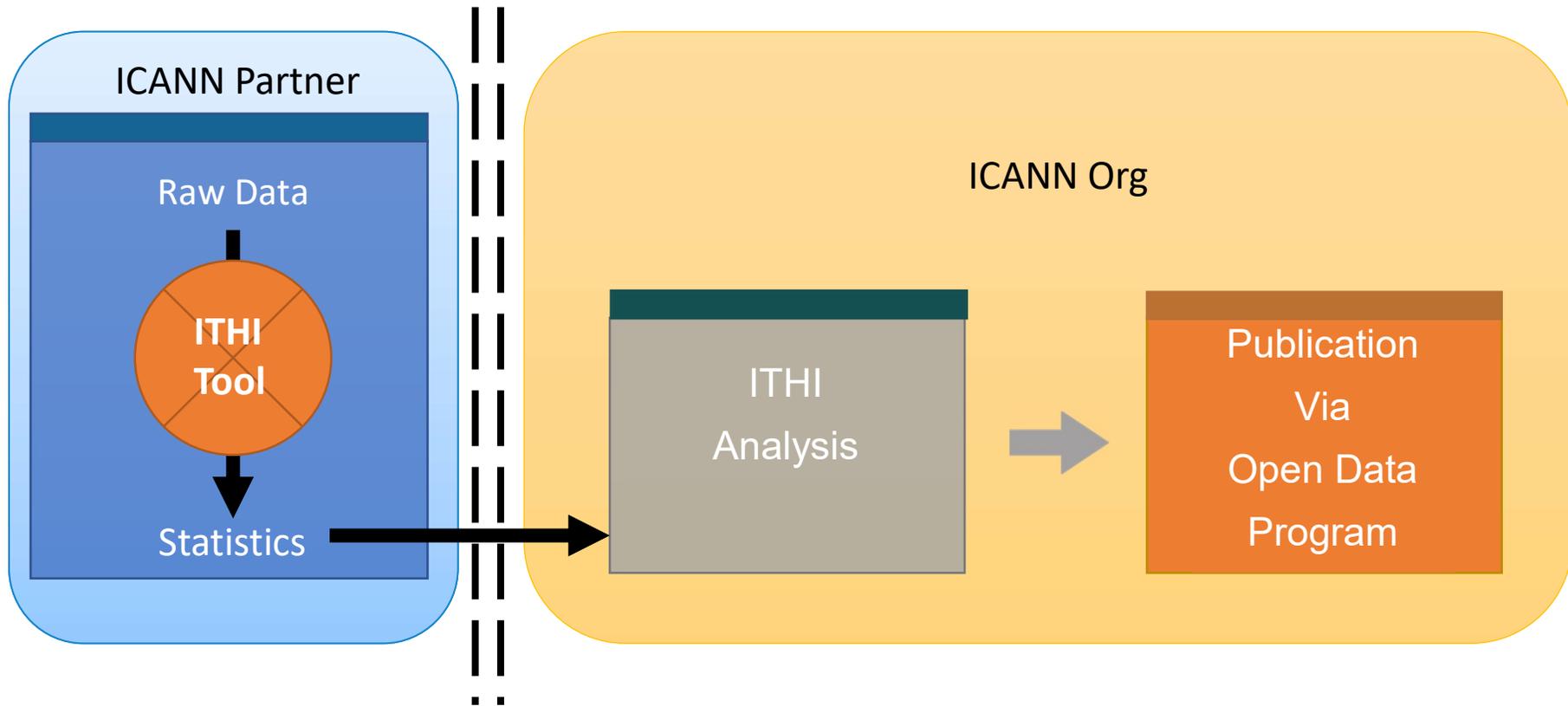
- ⊙ **Black box measurements**

- APNIC/Google Ads platform
- Eyeball view of resolvers M5

Some ITHI Results

	Indicator	July 2020	Past 3 months	Historic Low	Historic High	
Root Server DGA	% of DGA queries seen by root servers	44%	40%	35%	49%	
DNSSEC	% of resolvers that perform DNSSEC validation	32%	32%	23%	34%	
Resolver Concentration	Number of resolvers seeing 50% of first queries	212	217	206	240	
	Number of resolvers seeing 90% of first queries	2149	2133	2036	2231	
Name collision	%requests to top 3 names at the root	.LOCAL	4.4%	4.6%	2.4%	5.1%
		.HOME	3.0%	3.1%	2.5%	3.7%
		.LAN	1.0%	1.2%	0.5%	1.3%
	%requests to top 3 names at resolvers	.LOCALDOMAIN	0.2%	0.0%	0.00%	0.1%
		.LOCAL	0.0%	0.0%	0.0%	0.1%
		.WORKGROUP	0.0%	0.0%	0.0%	0.1%

Privacy



No PII, only statistics,
are sent to ICANN org

No “naming and
shaming”

Benefits for Partners

- Comparing current results to baseline can serve as an **anomaly detection system**.
- Partners can decide to share their data with others in exchange for reciprocity.
 - if a collection point observes a divergence from its baseline but others point don't, it might be an indicator that an attack is under way.

Engage with ICANN



Thank You and Questions

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