

# ICANN and the Internet Ecosystem



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4 Sept 2019

# Today

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- What does ICANN do?
- How does the Internet work?
- Participating in ICANN:
  - ICANN Learn,
  - Fellowships and
  - NextGen
- The Domain Names Industry
- ICANN Africa Strategy



**What does ICANN do?**

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# THE INTERNET (RFC1310)

The Internet, a (1) loosely-organized (2) international collaboration of (3) autonomous, (4) interconnected networks, (5) supports host-to-host communication through (6) voluntary adherence to open protocols and procedures defined by Internet Standards. (7) There are also many isolated interconnected networks, which are not connected to the global Internet but use the Internet Standards

The background is a dark blue gradient. Overlaid on this is a white network of dots and lines. The dots are of varying sizes and are connected by thin white lines, creating a complex web that roughly outlines the continents of the world. The text is centered on the left side of the image.

Naming  
“Who is your dentist?”

# What is a Name?

- Name [nām]

- Noun

- 1: A word or set of words by which a person, animal, place, or thing is known, addressed, or referred to: my name is Parsons, John Parsons | Köln is the German name for Cologne.
- 2: A famous person: as usual, the big race will lure the top names.  
[ in sing. ] a reputation, especially a good one: he set up a school that gained a name for excellence.

→ If I know your name,  
I know 'who' you are

# Name as a Handle

- “A word or set of words by which a person, animal, place, or thing is known...”
  - Having a name is only meaningful when other people know about it.
  - Knowing a name enables us to relate to it
    - We can talk –to– someone, or we can talk –about– someone.
  - Names can be passed from one party to another as a referral.

Here is the name of my dentist:





ADDRESSING  
“Where is your dentist?”



# What is an Address?

- Address |əˈdres, ˈaˌdres|
  - Noun
    - The particulars of the place where someone lives or an organization is situated: they exchanged addresses and agreed to keep in touch

→ If I know your address,  
I know 'where' you are.

# An Address is Not Enough to Communicate

- You can send a postcard to 1600 Pennsylvania Avenue NW, Washington D.C. 20500 USA from anywhere in the world
- It would only arrive there because there is a postal system that will “route” the postcards through a number of mail hubs
- Now, How do I go to 125, Root Canal rd, DC?





Routing

“How do I go to your dentist?”

# What is a Route?

- route |rōot, rout|
    - Noun
    - A way or course taken in getting from a starting point to a destination: the most direct route is via Los Angeles
- If I have a route for you,  
I know where to go.

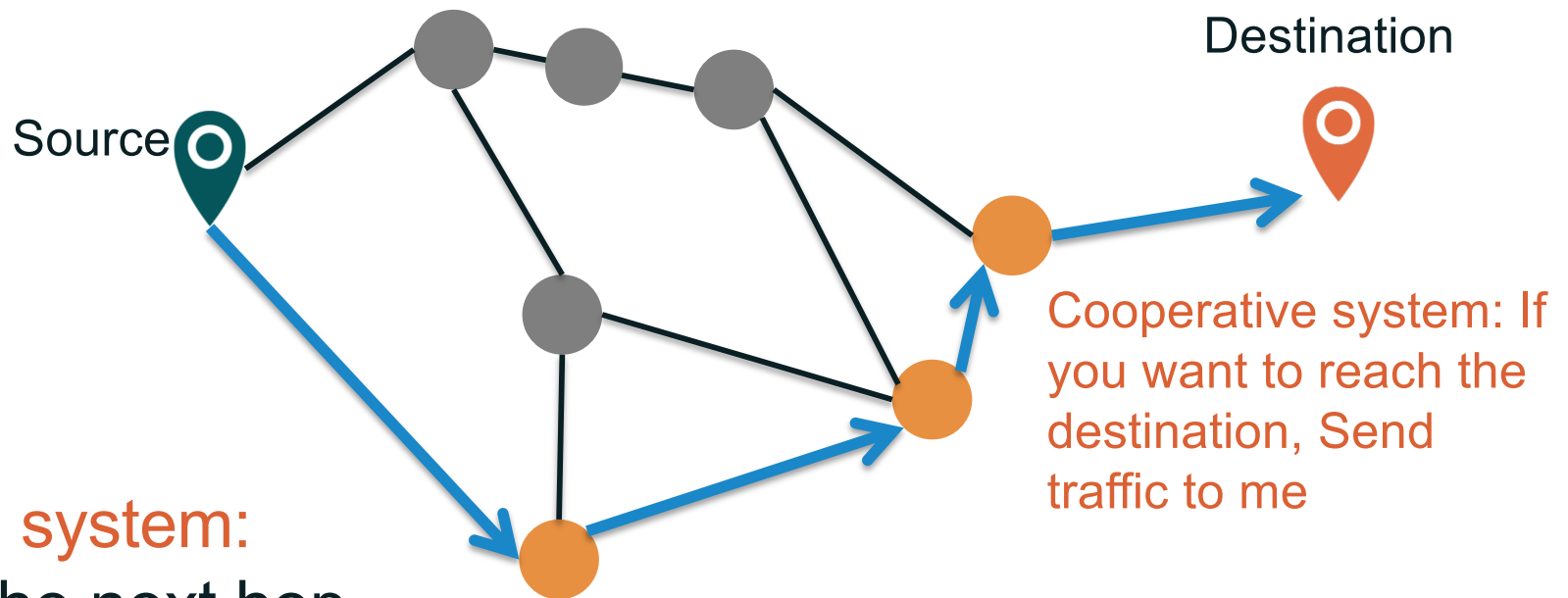
# You Have Arrived!



# Sending Traffic Hop-by-Hop

## Forwarding traffic happens hop-by-hop

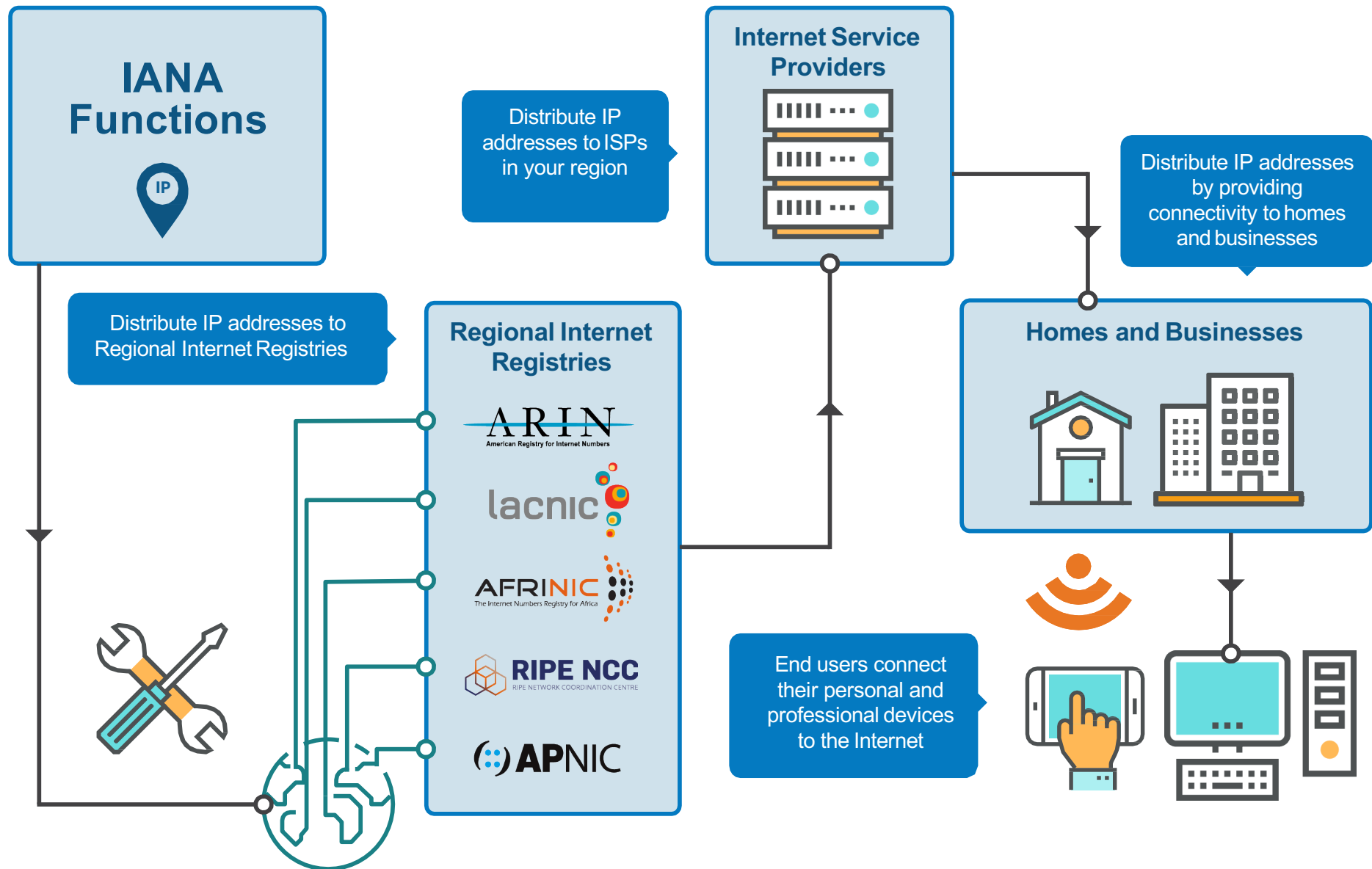
→ If I have a route for your destination, I know the “next hop” to which I can deliver the packet.



**Cooperative system:**  
We rely on the next hop  
to do the “right thing”

Cooperative system: If  
you want to reach the  
destination, Send  
traffic to me

# How Internet Protocol (IP) Addresses Are Distributed



## Conclusion


- **“A Name + Number + Route (DNS) = You have arrived...”**
- **This is What ICANN Does.**





# ICANN's Mission


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Ensuring the stable and secure operation of the Internet's unique identifier systems

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1 Coordinates the allocation and assignment of names in the root zone of the Domain Name System
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2 Coordinates the development and implementation of policies concerning the registration of second-level domain names in generic top-level domains (gTLDs)
- 

3 Facilitates the coordination of the operation and evolution of the DNS root name server system
- 

4 Coordinates the allocation and assignment at the top-most level of Internet Protocol numbers and Autonomous System numbers

# ICANN's Global Presence

Call one of our regional offices or submit a question online



 [Contact us](#) ▶

[www.icann.org/contact](http://www.icann.org/contact)

## Regional Offices:

Los Angeles, U.S.A  
(Headquarters)  
Brussels, Belgium  
Istanbul, Turkey  
Montevideo, Uruguay  
Singapore

## Engagement Centers:

Beijing, China  
Geneva, Switzerland  
Nairobi, Kenya  
Washington, D.C., U.S.A.

## Partnership Centers:

Asunción, Paraguay  
Cairo, Egypt  
Seoul, Republic of Korea

# ICANN Ecosystem

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# What is the Multistakeholder Community?

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A volunteer-based, open collection of global stakeholders working together through bottom-up processes to give advice, develop and make policy recommendations, conduct reviews, and propose implementation solutions for common problems within ICANN's mission and scope.



# How Does the Multistakeholder Model Work?


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Policy recommendations are developed and refined by the ICANN community through its Supporting Organizations (SOs) and influenced by Advisory Committees (ACs).



# Supporting Organizations (SOs)

 **ASO**  
The ASO Address Council is composed of 15 volunteers — 3 from each of the Regional Internet Registries (RIRs) — who work on global Internet Protocol (IP) Address Policy.

 **ccNSO**  
The ccNSO (Council and members) works on global policies relating to country code top-level domain name (ccTLD) policies (e.g., .mt, .uk).

 **GNSO**  
The GNSO Council is composed of 21 members — divided into 2 houses (contracted and non-contracted parties) — who work on generic top-level domain name (gTLD) policies (e.g., .com, new gTLDs).

**Supporting Organizations (SOs)**  
Three SOs in the ICANN community are responsible for developing policy recommendations in the areas they represent.

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Address Supporting Organization (ASO)  
Country Code Names Supporting Organization (ccNSO)  
Generic Names Supporting Organization (GNSO)

# Advisory Committees (ACs)

## Advisory Committees (ACs)

Four ACs give advice and make recommendations on ICANN topics.

At-Large Advisory Committee (ALAC)  
Governmental Advisory Committee (GAC)  
Root Server System Advisory Committee (RSSAC)  
Security and Stability Advisory Committee (SSAC)



### ALAC

The ALAC voices the interests of the individual Internet user and is composed of 15 members - 2 from each of the five Regional At-Large Organizations (RALOs) and 5 appointed by the ICANN Nominating Committee. It is supported by over 200 At-Large Structures (ALSes) and volunteers.



### GAC

The GAC provides advice on public policy issues, particularly on interactions with policies and national laws or international agreements.



### RSSAC

The RSSAC advises the ICANN community and Board on the operation, administration, security, and integrity of the Internet's Root Server System.



### SSAC

The SSAC advises on matters related to the security and integrity of the Internet's naming and address allocation systems.

# Who Makes Up the ICANN Board?

**16 directors and 4 non-voting liaisons, from different geographies and with expertise relevant to ICANN's mission.**

## SUPPORTING ORGANIZATION (SO) APPOINTEES:

Each of the three SOs nominates two directors:

The Address Supporting Organization (**ASO**)

The Country Code Names Supporting Organization (**ccNSO**)

The Generic Names Supporting Organizations (**GNSO**)

## INTERNET ENGINEERING TASK FORCE (IETF) APPOINTEE:

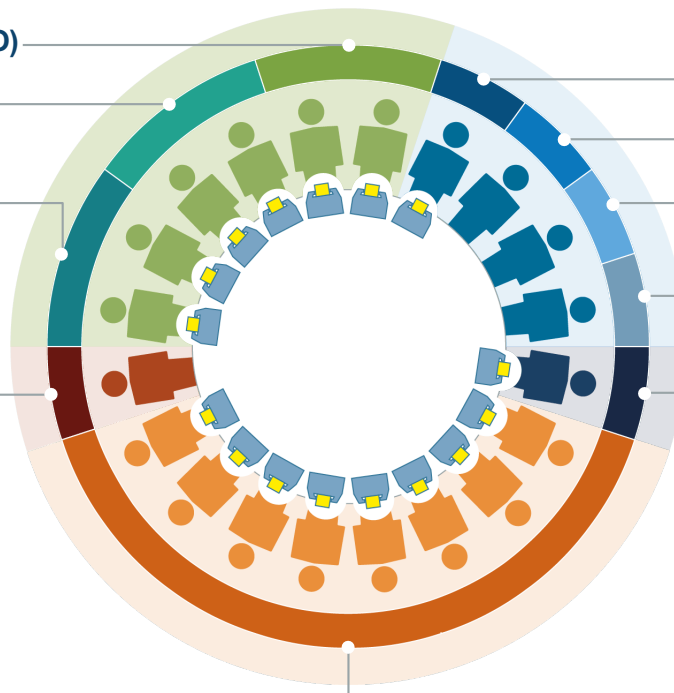
The IETF nominates one non-voting liaison.



VOTING MEMBERS

## NOMINATING COMMITTEE APPOINTEES:

The Nominating Committee appoints eight seats.



## ADVISORY COMMITTEE (AC) APPOINTEES:

Each of the four ACs nominates one member, although only the ALAC director can vote:

The At-Large Advisory Committee (**ALAC**)

The Governmental Advisory Committee (**GAC**)

The Root Server System Advisory Committee (**RSSAC**)

The Security and Stability Advisory Committee (**SSAC**)

ICANN PRESIDENT AND CEO



Learn More ▶

[go.icann.org/board](https://go.icann.org/board)



Learn More ▶

[go.icann.org/boardbylaw](https://go.icann.org/boardbylaw)



# Some Key Issues @ICANN today:

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- Freedom of expression
  - Multilingual Internet
  - Human rights
  - Development and use of the DNS
  - Privacy and data protection (GDPR, Privacy Legislations)
  - Trademarks and access to knowledge
  - Jurisdiction
  - Accountability and transparency
- more ... but as the touch on ICANN's mission



# State of the DNS Industry



## **Broad Categories of Domains:**

**a) ccTLDs**

**b) gTLDs**

**c) IDNs**

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## Who's Who in the DNS Ecosystem?

Registries manage  
top-level domain  
(TLD) databases and  
generate  
zone files

- gTLD operators contract with ICANN
  - Must comply with ICANN (consensus) policy
  - <http://www.icann.org/en/resources/registries/listing>
- ccTLDs operators do not have contracts with ICANN
  - May have different registration or Whois services from gTLDs
  - <http://ccnso.icann.org>
- Registry operators may be
  - Large corporations,
  - For- or non-profit organizations
  - Departments in universities
  - Government agencies
  - Operated by an outsourced party

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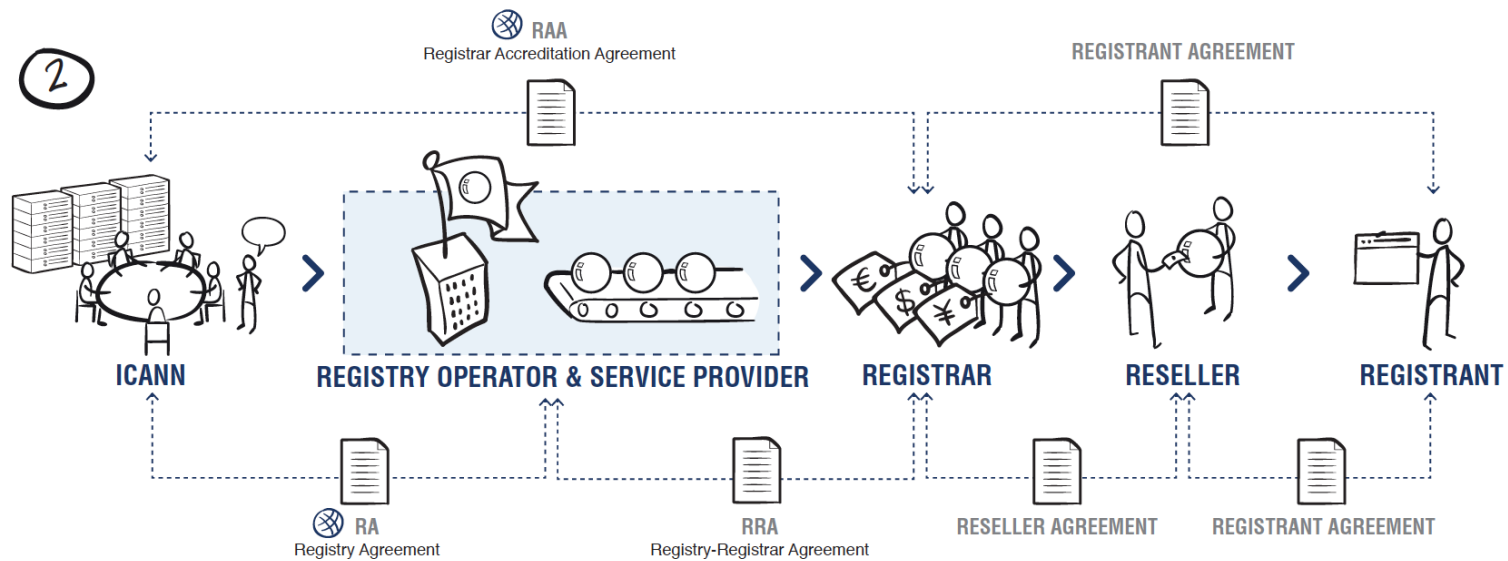
## Registrars

Registrars are  
business entities  
that process  
domain name  
registrations

- In GTLD space all registrars must be ICANN accredited and are subject to Registrar Accreditation Agreement (RAA)
- ccTLDs define their own registration processes
- Retailers or wholesalers (resellers)
- Registration is not an exclusive business
  - Registrars or resellers often offer web, DNS, email, merchant transactions, voice or other Internet services as complementary or bundled services

<https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>  
<http://www.icann.org/registrar-reports/accredited-list.html>

# Registrars within the Ecosystem



# State of the Domain Name Industry...

# Global Domain Registrations: Q1, 2019

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Q1 2019 CLOSED WITH

**351.8  
MILLION**

DOMAIN NAME REGISTRATIONS  
ACROSS ALL TLDS<sup>1,2</sup>

AN INCREASE OF

**↑ 3.1 MIL**

OR

**↑ 0.9%**

OVER Q4 2018



# .COM & .NET remain Dominant: Q1, 2019

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Q1 2019 CLOSED WITH

**154.8  
MILLION**

.COM AND .NET DOMAIN NAME  
REGISTRATIONS IN THE DOMAIN  
NAME BASE<sup>3</sup>

AN INCREASE OF

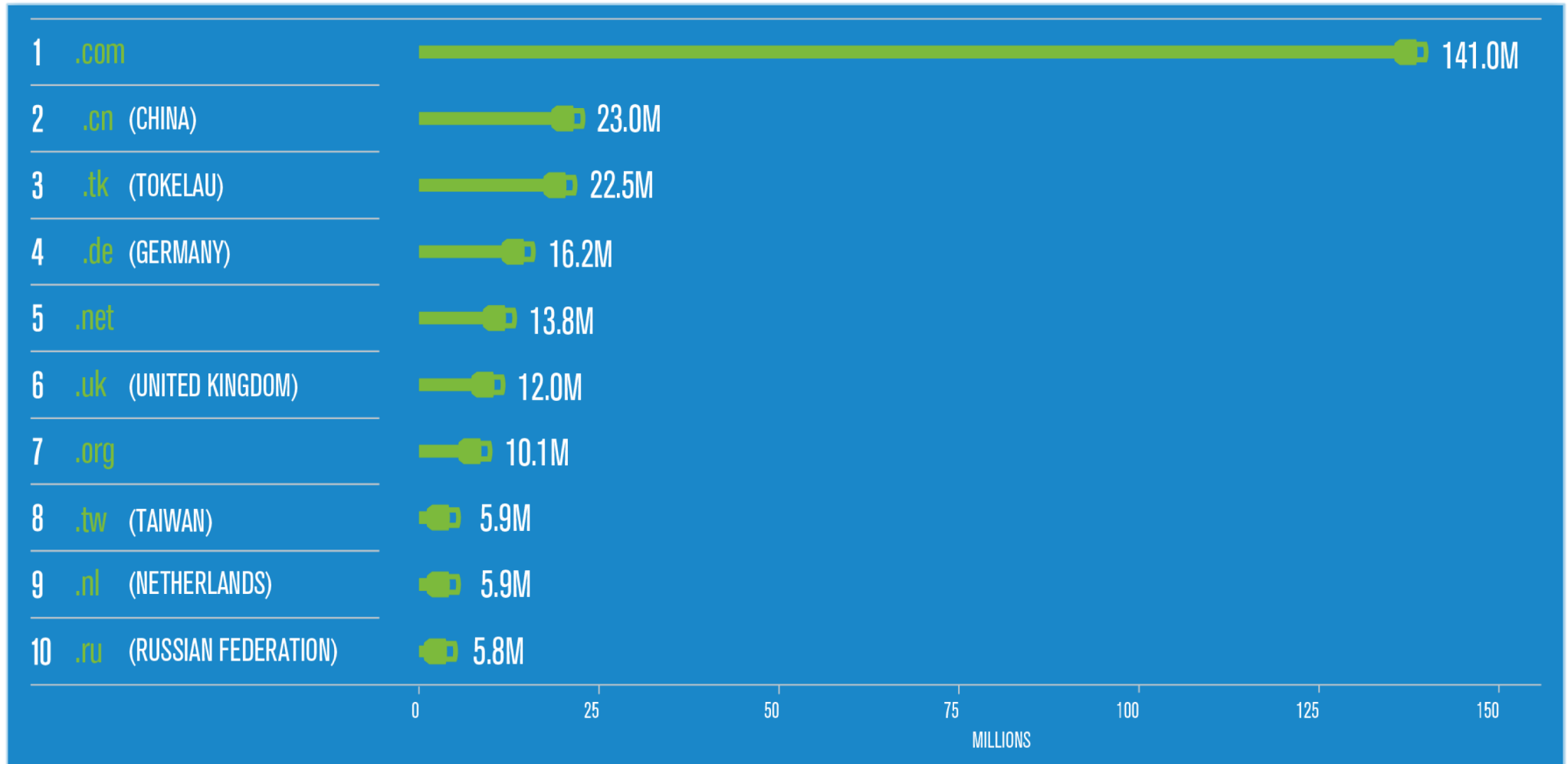
**↑ 6.5 MIL**

OR

**↑ 4.4%**

YEAR OVER YEAR  
FROM Q1 2018

# Top 10 Largest TLDs by Number of Reported Domain Names



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# State of the African DNS Market :(Africa DNS Market Study - 2016)

## Registries

- 52 functioning ccTLDs

## Registrar Market

- 27 countries have only one Registrar: usually the Registry
- 13 countries have a fully competitive Registrar market

## Registrant Market

- Approximately 5 million African domains (ccTLD & gTLD) in total
- 4.4 domains / 1000 population
- Value of \$52 million p.a.

# Weight of regions in the total of each segment (2018)

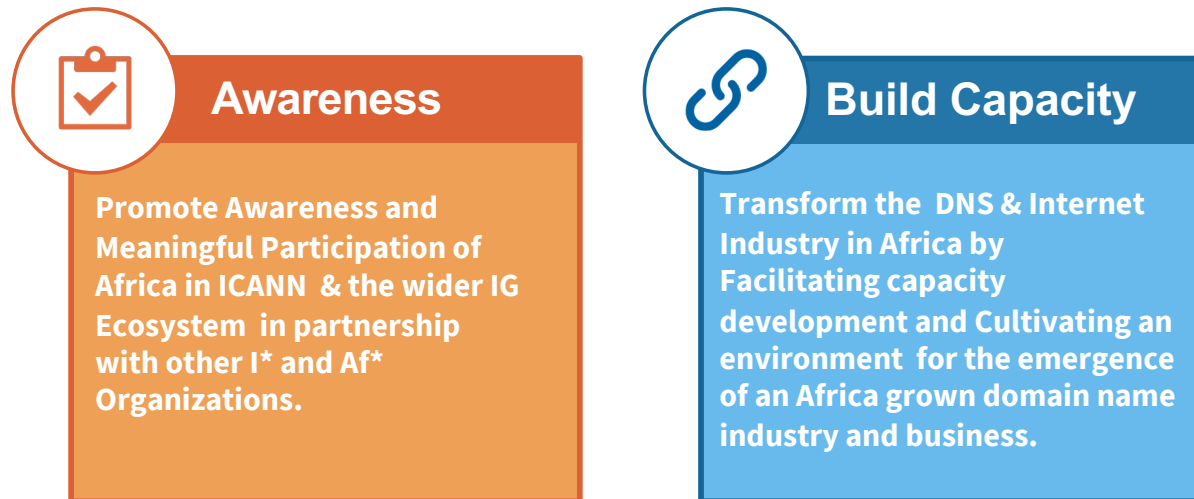
Region	ccTLDs	.COM	Other Legacy TLDs	ngTLDs	Total
Africa	1%	1%	1%	1%	1%
Latin America & the Caribbean	7%	3%	3%	12%	5%
Asia Pacific	34%	16%	16%	52%	25%
Europe	54%	22%	27%	12%	36%
North America	4%	59%	53%	23%	33%

<b>Total</b>	100	100	100	100
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# ICANN Africa Strategy...

# The strategy has a two pronged approach

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Our Regional Engagement Centre in Nairobi is Central in Supporting our work in Africa

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## Capacity Building Initiatives Launched in Africa



## ICANN | LEARN

- ⦿ ICANN Learn presents education and training, across a wide variety of topics that pertain to ICANN, to better educate stakeholders in the ICANN ecosystem.
- ⦿ It is an online platform that is free to access and free to create course content to share with fellow ICANN community members.
- ⦿ ICANN Learn is currently available in the six UN languages.



Learn more ▶

[learn.icann.org](https://learn.icann.org)



# Programs Available

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## Fellowship

Global Capacity Building Program to support ICANN's Multistakeholder community; online application process 3x year around an ICANN Meeting (1 Mtg for Alumni only)



## NextGen

Regionally based Program to create awareness and promote future discussions within universities and other regional forums; online application process 3x a year around an ICANN Meeting



## Newcomer

Those just entering the ICANN community can self-educate using the Newcomer webpage or participate in person or remotely at the ICANN Meeting Newcomer Sunday

**Watch Fellowship and NextGen video:**

[https://www.youtube.com/watch?v=nrV\\_ZkDEFIQ](https://www.youtube.com/watch?v=nrV_ZkDEFIQ)



**Watch Newcomer video:**

<https://www.youtube.com/watch?v=da1RQt9-e-g>



**Do you now feel like this? Remember, If you think you are too small to make a difference, then you have not shared a room with a Mosquito!**



# Engage with ICANN



One World, One Internet

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