Domain Name Marketplace Indicators

Version 1.0 Indicators Taxonomy Document

ICANN

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About This Document

The objective of the Domain Name Marketplace Indicators initiative is to track the progress of ICANN's strategic goal 2.3, which is to "support the evolution of domain name marketplace to be robust, stable and trusted".[1]

This document outlines the category definitions and indicators that make up the current release of the Domain Name Marketplace Indicators Version 1.0, schema, including interpretive notes and suggested means of calculating the said indicators. This taxonomy document is intended to serve as a guide to help replicate the calculations performed and will be updated regularly as methodologies are further refined and/or as other metrics shortlisted for inclusion are released.[2]

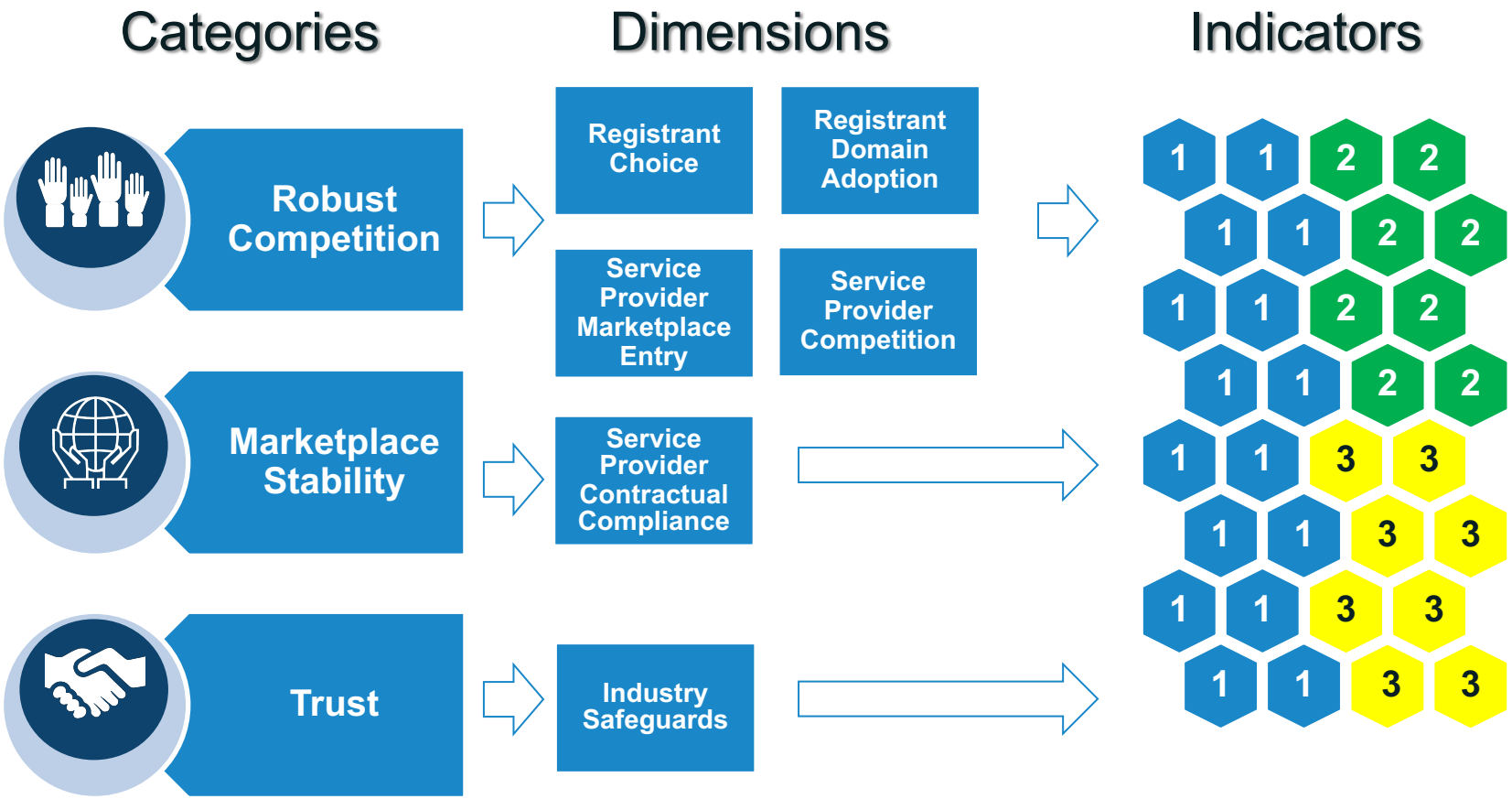
Concurrent to the release of these Version 1.0 metrics, ICANN will continue to work with the community and the project Advisory Panel to evaluate additional improvements that might be incorporated into this initiative in the future.

1: ICANN Strategic Plan for Fiscal Years 2016 – 2020, https://www.icann.org/en/system/files/files/strategic-plan-2016-2020-10oct14-en.pdf.

2: A detailed description of all indicators selected to form part of the schema, including the rationale for their inclusion, is outlined in a separate schema summary document.

Version 1.0 Schema at a Glance

The Version 1.0 Schema is made up of three overarching categories that are aligned with ICANN's strategic goal 2.3. These categories are further described in six dimensions and tracked by over thirty indicators that will be gathered and released in waves.[3]



3: Graphic presented for visual representation purposes only; does not fully capture the detail in dimension language, indicator count, distribution across dimensions, and projected release waves,

Robust Competition Category Dimensions and Indicators

Robust Competition Category Dimension

RC1

Registrants can choose across TLD categories and purchasing options.

A) Domain names are registered in all ICANN regions.
B) Domains can be registered across languages.
C) Service providers present registration services in a variety of languages.
D) Service providers accept multiple payment methods.

RC2

Registrants are adopting domains across all TLDs.

RC3

The TLD marketplace as a whole is open to new service providers.

RC4

The TLD marketplace as a whole is not dominated by a small number of service providers.

Robust Competition (RC1) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
RC_1a.1	Number of domains by ICANN region in gTLDs and ccTLDs	1. gTLD domain location based on the registrant country location in WHOIS record. (a) Use zone files for list (or random sample) of domains. (b) Conduct WHOIS queries on domains to collect registrant country location. (c) Aggregate to country and then regional location. (d) Normalize by normalization variable. 2. (a) Collect counts of ccTLD domains. (b) Assign counts to the country associated with the ccTLD and then its regional location. (c) Exclude ccTLD with more than 660 domains per 1,000 population. (d) Normalize by normalization variable resulting in a 'per capita' or 'per 1,000 population' statistic..
RC_1b.1	Number of IDN second-level domains in gTLDs and ccTLDs (by script).	This metric indicates demand from registrants for domains in scripts utilizing non-ascii characters. 1. Number of IDN second level (identified as those beginning with "xn--") domains in gTLDs and number of domains in IDN ccTLDs (identified as those beginning with "xn--"). 2. Aggregate to script associated with each IDN second level domain in gTLDs and at the first level for IDN ccTLDs. 3. Normalize by normalization variable resulting in a 'per capita' or 'per 1,000 population' statistic.
RC_1b.2	Net change in IDN second-level domains in gTLDs and ccTLDs (by script).	This metric indicates the evolution of demand from registrants for domains in scripts utilizing non-ascii characters. 1. Number of IDN second level domains registered in a TLD in X / Number IDN second level of domains registered in a TLD in X-Y1 and X-Y2 and X-Y3 2. Aggregate to language associated with each IDN gTLD and IDN ccTLD based on the specification laid out in the application and agreement with ICANN. 3. X = Current; Y1=6M, Y2=12M, Y3=36M; TLD = IDN gTLD or IDN ccTLD
RC_1b.3	Compound annual growth rate (CAGR) of IDN second-level domains in gTLDs and ccTLDs (by script).	This metric indicates the evolution of demand from registrants for domains in scripts utilizing non-ascii characters. 1. (Total number of TLD second level domains currently registered in all IDN gTLDs or IDN ccTLDs / Total number of TLD Second Level domains registered in all IDN gTLDs or IDN ccTLDs in current date - X years) ^ 1/X) -1 2. Keep IDN gTLD and IDN ccTLD as separate categories. 3. X=3

Robust Competition (RC1) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
RC_1b.4	Number and Percentage of distinct gTLD registrar entities with IDN gTLD domain registrations (by script).	Tracking by distinct registrar entities rather than using a technical definition (e.g., IANA IDs) recognizes registrar entities have different strategies for organizing their managed domains; and (2) data are aggregated to script categories (from a general IDN figure) that are meaningful to registrants. 1. Aggregate individual gTLD registrars to distinct gTLD registrar entities. 2. Aggregate IDN gTLDs (those beginning with "xn--") to script based on their punycodes and U-labels. 3. For each script (operationalize by a cluster of IDN gTLDs) count the number of distinct gTLD registrar entities having any domains registered in that script and evaluate the percentage in comparison to the total number of distinct gTLD registrar entities.
RC_1c.1	Percentage of gTLD registry operator and registrar websites with domain name registration terms and conditions in multiple languages	Increasing value indicates the ability of registrants to find resources in languages with which they are familiar. 1. Establish sampling frame for gTLD registry operators and gTLD registrars by evaluating publicly available ICANN listings at https://www.icann.org/resources/pages/listing-2012-02-25-en and https://www.icann.org/registrar-reports/accreditation-qualified-list.html. 2. Select random sample (minimum size 30) from each frame. Control for distinct registry operator and registrar entities to avoid oversampling blanket terms and conditions policy from a single affiliated organizational structure. 3. Using Mechanical Turk or similar service, humans visit the website for each sampled entity. Humans evaluate all available pages of subject websites for desired information. 4. Record if sampled entities' websites have domain name registration terms and conditions in multiple languages. 5. Require a minimum of two different humans to review each website to provide cross-validation. 6. Calculate indicator value by considering total count of entities providing domain name registration terms and conditions in at least one language within their webpages. Entities without valid observations should be excluded from the calculation of the final metric figure.

Robust Competition (RC1, RC2) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
RC_1d.1	Percentage of gTLD registrar websites offering multiple payment methods for domain name registrations	Increasing value indicates greater choice in payment method and increasing likelihood that registrants' preference is available. 1. Establish sampling frame for gTLD registrars by evaluating publicly available ICANN listings at https://www.icann.org/registrar-reports/accreditation-qualified-list.html. 2. Select random sample (minimum size 30) from frame. Control for distinct registrar entities to avoid oversampling entities from a single affiliated organizational structure. 3. Using Mechanical Turk or similar service, humans visit the website for each sampled entity. Humans evaluate all available pages of subject websites for desired information. 4. Record if registrars are offering payment by multiple methods for domain name registrations. 5. Require a minimum of two different humans to review each website to provide cross-validation. 6. Calculate indicator value by considering total count of entities providing at least one payment method for the registration of domain names within their webpages. Entities without valid observations should be excluded from the calculation of the final metric figure.
RC_2.1	Number of domains (by TLD category).	1. Collect number of domains in (a) all gTLDs (b) all ccTLDs. 2. Aggregate to TLD categories.
RC_2.2	Net change in number of domains (by TLD category).	1. Number of domains registered in a TLD in X / Number of domains registered in a TLD in X-Y1 and X-Y2 and X-Y3 2. Aggregate to TLD categories. 3. X = Current; Y1=6M, Y2=12M, Y3=36M; TLD = IDN gTLD or IDN ccTLD
RC_2.3	Compound annual growth rate (CAGR) of number of domains (by TLD category).	1. (Total number of domains currently registered in all TLDs / Total number of domains registered in all TLDs in current date - X years) ^ 1/X) -1 2. Calculate for each TLD category. 3. X=3

Robust Competition (RC3, RC4) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
RC_3.1	Number of distinct gTLD registry operator entities (total and new).	Tracking by distinct registry operators rather than using TLDs is important to capture an organizational rather than technical measure of market participation. 1. List the total number of distinct gTLD registry operator entities. 2. Based on the delta over prior 6- month reporting period, calculate the change in the number of new distinct gTLD registry operator entities.
RC_3.2	Mean number of gTLD registries per distinct gTLD registry operator entity.	Looking at changes in the mean provides a simple indicator of consolidation in registry operators. This metric should be interpreted in concert with measures of overall market growth (see RC_2.1) as consolidation is not inconsistent with market growth and competition. 1. Mean = Total number of gTLD registries / Total number of distinct gTLD registry operator entities.
RC_3.3	Number of distinct gTLD registrar entities (total and new).	Tracking by distinct gTLD registrar entities rather than using a technical definition (e.g., IANA IDs) is important to capture an organizational measure of market participation. 1. List the total number of gTLD registrars. 2. Aggregate gTLD registrars to distinct gTLD registrar entities. 3. From this list calculate the number of new distinct gTLD registrar entities.
RC_3.4	Mean number of gTLD registrars per distinct gTLD registrar entity.	Looking at changes in the mean provides a simple indicator of consolidation in registrars. This metric should be interpreted in concert with measures of overall market growth (see RC_2.1) as consolidation is not inconsistent with market growth and competition. 1. Mean = Total number of gTLD registrars / Total number of distinct gTLD registrar entities.
RC_3.5	Number of distinct back-end technology service providers (total and new).	Tracking the change in numbers provides a useful and simple metric on the number of market participants in this segment. 1. List the total number of back-end technology service providers and filter for duplicates. 2. From this list calculate the number of total and new distinct back-end technology service providers.
RC_4.1	Number of gTLD registrars accredited and terminated (total and new).	1. List the total number of newly accredited gTLD registrars over the past 6 months. 2. List the total number of terminated gTLD registrars over the past 6 months.
RC_4.2	Number of gTLDs/RAs contracted and terminated (total/new)	This metric is particularly useful in showing exit events which are rare but potentially extremely disruptive. 1. List the total number of newly contracted TLD registries. 2. List the total number of terminated gTLD registries.

Marketplace Stability Category Dimension and Indicators

Marketplace Stability Category Dimension

MS1

Registries and registrars consistently deliver against their contractual obligations and do not contribute to marketplace instability that would result in harm to registrants.

Marketplace Stability (MS1) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
MS_1.1	Total number of gTLD registry operator and gTLD registrar related complaints.	1. Access update of files titled “Compliance Approach & Process” for Registrars and Registries. 2. Identify “Complaints Received” column and record value.
MS_1.2	Number of gTLD registry operator and gTLD registrar related complaints (1) closed (2) closed before 1st notice (3) 1st notice sent (4) 2nd notice sent and (5) 3rd notice sent.	Provides a metric of the timeliness in which complaints are resolved, an important complement to overall levels reported in MS_1.1. 1. Access update of files titled “Compliance Approach & Process” for Registrars and Registries. 2. Select “closed”, “closed before 1st notice”, “1st notice sent”, “2nd notice sent”, “3rd notice sent” and record values.
MS_1.3	Number of formal enforcement notices sent to registry operators and registrars.	1. Access update of files titled “Compliance Approach & Process” for Registrars and Registries. 2. Select “breach”, “suspensions”, “terminations” and record values.
MS_1.4	Mean registration period for domains (by gTLD category).	Length of registration period is associated with registrant expectations of use of domains as well as their long-term value. An increase in the length of registration period would be associated with greater stability. 1. (RegLen1 * Number of New and Renewed Domains for that RegLen1) ..+.. (RegLen10 * Number of New and Renewed Domains for that RegLen10) / Total number of New and Renewed Domains 2. Aggregate to TLD categories. RegLen = 1,2,3,4,5,6,7,8,9,10

Trust Category Dimension and Indicators

Trust Category Dimension

T1

Domain industry demonstrates operational success in safeguarding Internet community interests including registrants, intellectual property holders and law enforcement.

Trust (T1) Indicators

Indicator ID	Definition	Interpretive Notes / Calculation Method
T_1.1	Number of involuntary gTLD registrar terminations.	The number of involuntary registrar terminations indicates a rare (but high) level of non-compliance that could contribute to a reduction in market trust, particularly if the number of domains involved is large. 1. Access table titled “Formal Notice - Registrars”. (2) Select “Terminations” and record values.
T_1.2	Number of involuntary gTLD registry terminations	The number of involuntary registry terminations indicates a rare (but high) level of non-compliance that could contribute to a reduction in market trust, particularly if the sizes of the TLDs involved are large. 1. Search for 4.3(b) termination line items and record values 2. Search for Notice of Registry Agreement Termination and record date of termination.
T_1.3	Number of UDRP complaints and percentage of UDRP complaints decided against registrants	Because UDRP and URS have different burden of proof standards and are not implemented uniformly across TLDs, it is important to separate these two categories. 1. Collect data from UDRP arbitration provider websites 2. Include variables of case number, commenced date, decision date, and result to ensure each case is unique and determine timing. 3. Aggregate counts by time period.
T_1.4	Number of URS complaints and percentage of URS complaints decided against registrants	Because UDRP and URS have different burden of proof standards and are not implemented uniformly across TLDs it is important to separate these two categories. 1. Collect data from URS arbitration provider websites 2. Include variables of case number, commenced date, decision date, and result to ensure each case is unique and determine timing. 3. Aggregate counts by time period.
T_1.5	Number of EBERO threshold events with registries detected.	The Emergency Backend Registry Operator (EBERO) tracks the performance of critical registry functions (DNS, RDDS, EPP) and when performance reaches a defined threshold it represents sub-optimal registry operations. 1. Access EBERO Statistics table and record values.

Indicator Normalization Variables

A select number of indicators will be normalized in order to provide a more meaningful basis for comparison. The normalization variables that will be utilized are:

Indicator ID	Definition	Interpretive Notes / Calculation Method
N1.1	Number of Internet users (by ICANN region).	To provide meaningful comparison by regions. 1. Use World Bank dataset IT.NET.USER.ZS https://data.worldbank.org/indicator/IT.NET.USER.ZS
N1.2	Population (by ICANN region).	To provide meaningful comparison by regions. 1. Use World Bank dataset SP.POP.TOTL http://data.worldbank.org/indicator/SP.POP.TOTL

Appendix

Indicator Standard Definitions

A number of standardized categories are used in the indicator definitions. It may be helpful to refer to these when reviewing indicators.

- ICANN Regions: North America, Latin America/Caribbean, Europe, Africa, Asia.
- gTLD Grouping: Legacy gTLDs, New gTLDs, IDN gTLDs, .brand gTLDs, Geographic gTLDs.
- TLD Grouping: Legacy gTLDs, New gTLDs, IDN gTLDs, .brand gTLDs, Geographic gTLDs, ccTLDs, IDN ccTLDs.
- Languages: Languages in which website terms and conditions are available.
- Back-end technology service provider: Company providing technical services for operating registries and registrars.
- Service provider: Registries + registrars + back-end technology service providers.
- Distinct gTLD registrar: An organizational grouping* referred to as “registrar families” comprised of multiple registrar seats.
- Distinct gTLD registry operator: An organizational grouping* referred to as “registry operator entities contracted as the operator to multiple gTLDs.

Glossary (1)

- .brand gTLD. In the New Generic Top-Level Domain Program (New gTLD Program), a designation for a TLD that is operated by and for an entity under its trademarked name as outlined in the entity's Registry Agreement with ICANN. To qualify as a brand TLD, a registry operator must apply for the brand TLD designation and the brand's trademark must be recorded in the Trademark Clearinghouse.

- Country code top-level domain (ccTLD). The class of top-level domains reserved for use by countries, territories, and geographical locations identified in the ISO 3166-1 Country Codes list. ccTLDs can base their names on the two-letter country codes defined by the ISO 3166-1 standard (e.g., .jp for Japan, .fr for France, .ke for Kenya), or they can represent a country or territory name in a script other than US-ASCII characters.

- Domain: A unique name that forms the basis of the uniform resource locators (URLs) that people use to find resources on the Internet (e.g., web pages, email servers, images, and videos). The domain name itself identifies a specific address on the Internet that belongs to an entity such as a company, organization, institution, or individual.

- Generic top-level domain (gTLD). The class of top-level domains that includes general-purpose domains such as .com, .net, .edu, and .org. This class also includes domains associated with the New Generic Top-Level Domain Program (New gTLD Program), which includes names such as .futbol, .istanbul, and .pizza, and names in other alphabets and languages. Some gTLDs, known as sponsored gTLDs, represent a specific community of Internet users. In these cases, the community's sponsor develops the rules and policies specific to the gTLD. Examples include .aero, .coop, and .museum.

- Geographic gTLD. New gTLDs qualifying for ICANN classification as "geographic."

- Internationalized Domain Names (IDNs). An internationalized label for a domain in the root zone (a top-level domain). The current Label Generation Rules require an IDN TLD to conform to the Internationalized Domain Names in Applications (IDNA) protocol.

- Legacy gTLD. Known list of 18 gTLDs: .aero, .asia, .biz, .cat, .com, .coop, .info, .jobs, .mobi, .museum, .name, .net, .org, .post, .pro, .tel, .travel, .xxx.

- Mechanical Turk: Refers to a crowdsourcing platform by which remotely located humans can be engaged to perform a range of discrete on-demand tasks.

- New gTLD. A program coordinated by ICANN to enable the expansion of the Domain Name System (DNS). The final part of a domain name (e.g., .com, .net, or .org) represents a top-level domain (TLD). Under the New gTLD Program, entities can register TLDs with names such as .futbol, .istanbul, and .pizza, along with names in other alphabets (e.g., Arabic and Cyrillic) and languages (e.g., Chinese, Japanese, Korean).

Glossary (2)

- Registrant. An individual or entity who registers a domain name. Upon registration of a domain name, a registrant enters into a contract with a registrar. The contract describes the terms under which the registrar agrees to register and maintain the requested name.

- Registrar: An organization through which individuals and entities (registrants) register domain names. During the registration process, a registrar verifies that the requested domain name meets registry requirements, and submits the name to the appropriate registry operator. Registrars are also responsible for collecting required information from registrants and making the information available through WHOIS. After registration, registrants can make updates to their domain name settings through their registrars.

- Registry operator: The organization that maintains the master database (registry) of all domain names registered in a particular top-level domain (TLD). ROs receive requests from registrars to add, delete, or modify domain names, and they make the requested changes in the registry. An RO also operates the TLD's authoritative name servers and generates the zone file.

- Service provider. Generic reference to a gTLD registry operator, gTLD registrar or reseller.

- Top-level domain. A domain at the top of the naming hierarchy of the Domain Name System. In a domain name, the TLD appears after the second-level domain. For example, in the domain name icann.org, the characters org identify the TLD.

- Uniform Domain Name Dispute Resolution Policy (UDRP). A policy for resolving disputes arising from alleged abusive registrations of domain names (for example, cybersquatting). The UDRP allows trademark holders to initiate expedited administrative proceedings by filing a complaint with an approved Dispute Resolution Service Provider. The UDRP is one of the Rights Protection Mechanisms that help safeguard intellectual property rights in the Domain Name System.

- Uniform Rapid Suspension (URS). An expedited administrative procedure that rights holders can initiate for certain types of domain name disputes. The URS procedure is a tool for quickly addressing clear-cut cases of trademark infringement. The URS is one of the Rights Protection Mechanisms that helps safeguard intellectual property rights in the Domain Name System.

- WHOIS. Publicly available directory with information about registered domains. Includes contact information for the gTLD registrant and gTLD registrar.

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