ICANN Synthesis on Single-Character Domain Names at the Second-Level

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ICANN staff has prepared this synthesis document for community consideration as a proposed method of allocation for Single-Letter and Single-Digit Domain Names (single-character names) at the second-level in existing gTLDs.

Summary

Single-character domain names are presently reserved in all 16 gTLD registry agreements. The current reservation was implemented in December 1993 by Jon Postel functioning as IANA.

At the direction of the GNSO Council, from 16 October to 15 December 2007, ICANN initiated a forum to solicit community input on potential allocation methods for single-letter and single-digit domain names at the second-level.[1] The forum was a result of the GNSO Council and GNSO Reserved Names Working Group (RN-WG), which recommended that

> "single letters and digits be released at the second level in future gTLDs, and that those currently reserved in existing gTLDs should be released. This release should be contingent upon the use of appropriate allocation frameworks. More work may be needed. In future gTLDs we recommend that single letters and single digits be available at the second (and third level if applicable)."[2]

36 comments were received during the 60 day forum, representing a diverse range of views from individuals, companies, trade associations, organizations, registrars and the gTLD Registry Constituency. Comments were received from Canada, France, Germany, India, Japan, Russia, Sweden, Tunisia, and the United States. The comments are archived at are archived at http://forum.icann.org/lists/allocationmethods/.

ICANN recognizes that there is substantial community interest for the allocation of single-character names in existing gTLDs. The comments submitted in the Forum in support of allocation suggested a number of potential allocation methods, including auctions, random lottery, first come-first served, and registry allocation through the existing Registry Services Evaluation Process.

The basic principles suggested in the comments guiding the process emphasized that:
- Allocation should be market-based,
- Domain holders should pay fair market value for single-character second-level domain names, and
- Revenue resulting from allocation should go to benefit the DNS for the public good.

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[1] ICANN published an initial summary of comments on 23 December 2007 (See http://forum.icann.org/lists/allocationmethods/pdfOfNV0mTfM7.pdf).
[2] The recommendations of the RN-WG can be found at http://gnso.icann.org/issues/new-gtlds/final-report-rn-wg-23may07.pdf.

A majority of commenters that favored the allocation of single-letter names recommended auctions as the preferred method of objectively allocating scarce resources such as single-character domain names at the second-level. This was supported by studies released outside this solicitation. Many comments encouraged ICANN to work with qualified and trusted third parties to manage the auction process in order to avoid gaming and manipulation. Several different auction models were recommended. Most comments indicated that the recommendations were intended to provide fairness and revenue generation.

The comments also recommended a range of uses of allocation proceeds, including funding for: the promotion of security and stability, standards development organizations, Internet community needs, offsetting registration fees, improving Internet infrastructure, supporting ccTLDs, supporting capacity building, and building ICANN's reserve fund.

I. Background

Currently, all 16 gTLD registry agreements provide for the reservation of single-character names at the second-level.[3] Letters, digits and the hyphen symbol are allowed within second-level names in both generic top level and country code TLDs. Single letters and numbers also are allowed as IDNs -- as single-character Unicode renderings of ASCII compatible (ACE) forms of IDNA valid strings.

The current reserved name policy was implemented in December 1993, when Jon Postel (under the IANA function) took steps to reserve all available single character letters and numbers at the second-level, "for future extensibility of the Internet" (see 20 May 1994 email from Jon Postel, http://ops.ietf.org/lists/namedroppers/namedroppers.199x/msg01156.html). Only six (q.com, x.com, z.com, i.net, q.net, and x.org) of the possible 144 single letters or numbers at the second-level in .COM, .EDU, .NET and .ORG were registered prior to this reservation. Those six registrations were registered prior to the reservation in 1993.

There are currently 281 TLDs in the root zone (21 gTLDs, 249 ccTLDs and 11 evaluative IDN translations of .TEST). Although nearly all single-character domain names are reserved in gTLDs, 24% of ccTLDs (60) have at least one single-character name registration. In February 2007, IANA conducted a survey of single-character delegations in 249 ccTLDs. Out of 8964 possible combinations of single-character ASCII names (containing 26 letters, 10 numbers, but not symbols, across 249 ccTLDs), 1225 delegations (13.7%) of single-character ASCII names exist in the TLD zones (see http://forum.icann.org/lists/gnso-rn-wg/msg00039.html).

ICANN has received many inquiries from third parties seeking to register single-character domain names, has advised these parties that the names are reserved, and informed these parties that the reservation can be removed through a bottom-up process. ICANN established the forum on single-character names following its bottom-up, multi-stakeholder

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[3] The single-character second-level domain names in .COM, .NET and .ORG are already reserved in the name of IANA. This is different from other gTLDs, where single-character second-level domain names are listed as "registry reserved."

model to develop suitable allocation mechanisms for the release of single-character domain names as recommended by the GNSO working group.

II. Technical Concerns

Three comments submitted during the comment period on allocation methods questioned whether technical concerns regarding the release of single-character domain names at the second-level had been addressed. Two of the comments submitted noted the RN-WG recommendation was "…had little concern for issues such as homographic spoofing, identifier integrity or DNS stability..."[4]

One comment argued that "single octet labels" (i.e. one byte consisting of a single-character at the second-level) should be used to distinguish instances of a shared registry. "Allocation of labels previously reserved for non-infrastructural purposes precludes their use for infrastructure."[5]

The RN-WG engaged in discussions with technical experts to carefully consider technical implications of releasing single-letter and single-digit domain names from reservation. The recommendations were available for wider community consideration and discussed during the ICANN meetings in Lisbon (March 2007) and San Juan (June 2007). The recommendations were posted for comment by all members of the Internet community.

Some single-character labels are already in use at the second level without noted technical difficulties. Single-character domain names exist at the second level in three gTLDs and at least 60 ccTLDs, without apparent technical problems. Apparently, single-character domain names may be allocated at the second-level in existing gTLDs without raising significant security and stability issues.

III. Allocation Methods

The allocation methods described in the forum on single-character names included: first come, first served, random lottery, auctions and registry allocation through the Registry Services Evaluation Process. Most commenters also recognized that single-character second-level domain names would be a scarce resource and are likely to have huge demand in the market.

The commenters supporting allocation strongly recommended that auction as the most efficient and fair method of releasing single-character names, while potentially maximizing value for the Internet community.[6] Several comments noted that single-character names should be allocated through "auctions with proceeds going for the public good," the "benefit

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[4] See http://forum.icann.org/lists/allocationmethods/msg00002.html.
[5] See http://forum.icann.org/lists/allocationmethods/msg00031.html.
[6] See Public Forum at http://forum.icann.org/lists/allocationmethods/, and see also "An Economic Analysis of Domain Name Policy," Hastings Communication and Entertainment Law Journal (2003) (Karl M. Manheim with Lawrence B. Solum); "Generic Top-Level Domain Names: Market Development and Allocation Issues," Organization for Economic Cooperation and Development paper 13 July 2004 (Sam Paltridge), see http://www.oecd.org/dataoecd/56/34/32996948.pdf.

of the global community," or to promote "the long term security and reliability of the Internet."[7]

The gTLD registries currently employ diverse models for allocation of second-level domain names, depending on whether a registry is sponsored or unsponsored, the registry releases names on a first come, first served basis, requires registrants to be authenticated or members of the sponsored community, uses a request-for-proposals system for select names, or uses auctions for premium names.

Different types of auctions were suggested:

- auctioning of slots for the right to choose an unallocated domain name,

- sealed bid auction (a type of auction where all bidders simultaneously submit bids so that no bidder knows the bid of any other participant),

- monthly or staggered auction,

- Dutch auctions (a type of auction beginning with a high reserve price which is lowered until some participant is willing to accept the auctioneer's price or a predetermined reserve price),

- English auctions (a type of auction beginning with a reserve price and taking larger and larger bids until no one will increase the bid), and

- managed or qualified auction for those with prior rights.

Regardless of the method of auction selected, it is important that any auction be conducted safely, avoid gaming, and ensure the trust of participants and the community.

One commenter suggested that "Everyone interested in single letter names should have legitimate opportunity to take part in such an auction on equal basis giving the same chance to all bidders. A suitable auction company could be chosen among eligible and credible auction companies in a separate tender held by ICANN."

Taking the comments as a whole, an auction should be based on the following principles:

1. Single-character second-level domain names are reserved names that are unique
2. The names should be allocated by a clearly defined auction process
3. ICANN should use an experienced provider to develop and manage the auction process
4. The auction model should determined by outside experts to maximize revenue

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[7] ICANN has identified several areas where auctions might be an appropriate tool, not only the potential allocation of single-character second-level domain names, but the efficient disposition of data from terminated registrars and registries, and perhaps, resolution of contention between competing commercial applicants for identical strings in the application process for new generic Top Level Domains.

A distinction could be made between sponsored and unsponsored gTLDs in the treatment for single-character domain names at the second level in existing registries.

IV. DNS and Security Issues

Notably, ICANN received a separate category of comments specifically focused on security issues. It was noted that there are a number of crucial security challenges facing the Internet, and allocation of single-character second-level domain names could enable resources to:

- pursue greater Internet security and stability
- support adoption of secure Internet protocols
- support standards development organizations, and
- support capacity building for potential TLD applicants and ccTLDs.

Auction of single-character names also provides a mechanism to generate funds for security and stability uses.

V. Use of Proceeds

In addition to the opportunities described as security issues, many of the letters received during the forum addressed use of proceeds resulting from allocation of single-character names. These comments recommended that proceeds from the allocation or auction of single-character second-level domain names should be used for the benefit of the Internet community, based on a transparent, bottom-up process.

These following uses were suggested during the comment period:

- Improving Internet infrastructure

- Capacity building for creating registries and registrars in developing areas

- Lowering costs for applicants from developing areas to become registry operators or lowering costs for applicants for new gTLDs

- Creating grants for specific projects for the benefit of the Internet community

- Improve participation in ICANN and translation for ICANN participants

- Lowering registration fees

- Supporting ccTLDs of developing countries

- Creating a security fund to expand use of secure protocols, conduct research and support standards development organizations

- Promoting the stability, utility and universal accessibility of the Internet

VI. Next Steps

ICANN will seek the endorsement of, first, the community and, then, the ICANN Board on the proposed allocation process. ICANN is sending this paper back to the GNSO and doing additional process development for education and consideration.

The suggestions provided during the comment period indicate there is support for the allocation of single-character domain names at the second-level. There is public support for an allocation that is market-based, where domain holders pay fair market value for single-character second-level domain names and revenue resulting from the allocation would go towards the public benefit of the DNS.

On 18 January 2008, ICANN issued a call for expressions of interest from auction design experts (http://www.icann.org/announcements/announcement-18jan08.htm). Expressions of interest were accepted through 18 February 2008.

Based on the comments received during the forum on allocation methods, ICANN staff determined that additional knowledge and expertise on auctions is necessary to further work in this area. ICANN intends to engage a qualified entity or entities on auction process and design, and present the community with a potential auction model.