International Domain Name Glossary

Historically, domain names on the Internet were restricted to using ASCII characters (a-z, 0-9, and “-”). However, with the increasing use of the Internet in all regions and by diverse linguistic groups around the world, the need for multilingual domain names has become more intense. Various acronyms are used widely in communications among internationalizing the domain name space. Explanations for these are provided below to make this topic simpler to understand. The glossary here is based on a broader, more dynamic online glossary of IDN-related terms available at http://www.icann.org/en/topics/idn/idn-glossary.htm.

ASCII (American Standard Code for ASCII (American Standard Code for Information Interchange)) ASCII is a common numerical code for computers and other devices that work with text. Computers can only understand numbers, so an ASCII code is the numerical representation of a character such as “a” or “9”.

When used in relation to ASCII TLDS or ASCII domain names, this refers to the fact that before internationalization only the letters a-z, digits 0-9, and the hyphen “-” were allowed in domain names.

DNS (Domain Name System) The DNS makes using the Internet easier by allowing a familiar string of letters (the domain name) to be used instead of the unique IP address. So instead of typing 207.151.159.3, you can type www.internic.net.

IDN (International Domain Name) IDN is the short name for an Internationalized Domain Name. These domain names are used by speech communities. For example is 中文.テスト (example test in Hangul script).

IDN: Internationalized Domain Names

One of the most significant innovations in the Internet since its inception is the introduction of Internationalized Domain Names (IDNs) in the Internet’s address space. You may be familiar with some of the larger top-level domains: dot-com, dot-net, dot-org and dot-info are just a few examples. IDN top-level domains will offer many new opportunities and benefits for Internet users around the world by allowing them to establish and use domains in their native languages and scripts. ICANN, the Internet Corporation for Assigned Names and Numbers, is responsible for managing and coordinating the Domain Name System (DNS) to ensure that every address is unique and that all of us who use the Internet can find all valid Internet domain names. It does this by overseeing the deployment of the Domain Name System (DNS) and the Internet Protocol (IP) addresses and domain names. It also ensures that each domain name maps to the correct IP address.

About ICANN

ICANN was formed in 1998 to coordinate the Internet’s unique identifiers around the world. Without that coordination we wouldn’t have one global Internet. It is a not-for-profit public-benefit corporation with participants from all over the world dedicated to keeping the Internet secure, stable and interoperable.

ICANN doesn’t control content on the Internet. It cannot stop spam and it doesn’t control which websites are safe or unsafe. This means that it is difficult for them to recognize ASCII characters that are not used on the Internet. But through its coordination role of the Internet’s naming system, it does have an important impact on the expansion and evolution of the Internet. For more information please visit www.icann.org.

Domain Availability Today

Although many websites contain multilingual content, if you look closely at the site’s web address on your browser, you will find IDNs represented only on the second level of the URL. This representation happens in some gTLDs and some ccTLDs, and for these IDNs, a prefix is often reserved at the registry level to avoid confusion in registration of IDNs.

The Unicode Consortium is a nonprofit organization founded to develop, extend and promote use of the Unicode standard. For membership and more information, please visit http://www.unicode.org. Unicode is a commonly used single encoding scheme that provides a unique number for each character across a wide variety of languages and scripts. The Unicode Tables hold the code points for each local character identified. These tables continue to expand as more and more characters are digitalized.

Why are IDNs important?

For many reasons. The most important is the growing number of Internet users around the world for whom it is difficult to use ASCII characters. The fact is, the Internet is accessed by more people who do not use Latin languages and scripts than those who do. This means that it is difficult for them to recognize ASCII characters and use them on keyboards or use software to enter website addresses in browsers. For example...
What is the IDN ccTLD Fast Track Process?

The IDN ccTLD Fast Track Process focuses on meeting a near-term demand by allocating a limited number of new ccTLDs based on non-Latin scripts while a full IDN ccTLD protocol is being developed. The process is further limited to countries and territories represented in the ISO 3166-1 list. The Fast Track Process is expected to be launched in Q4 2009, and a separate fact sheet for this process is available at www.icann.org/topics/idn.

What is the IDN ccTLD Policy Development?

Along with the Fast Track Process, with its goal of meeting near-term demand for ccTLDs to selected countries and regions, ICANN’s IDN ccTLD Fast Track Process will be a valuable addition to completing the process and implementing the full policy.

What is the New gTLD Program Applicant Guidebook?

The New gTLD Program Applicant Guidebook is a comprehensive guide to applying for new gTLDs and an Applicant Guidebook that takes applicants through the process and explains the requirements. This guide is also available at www.icann.org/g域名.

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How can I register an IDN?

First you might consider why you need an IDN.

If you want to register a domain name with non-Latin characters, or by going to

www.icann.org/topics/idn.

Registries that deploy IDNs will be required to follow these guidelines. They have identified several key areas of work now under way. The core components still being revised include:

• Clear defining valid IDN labels.
• Creating scripts to be used automatically in IDNs now and in the future.
• Developing a script transformation tool where ASCII labels can be transformed into a script.
• Establishing a higher-level authority to handle non-ASCII characters in domain names in a standard fashion. It works by converting names with non-ASCII characters to ASCII tows that the Domain Name System will understand.

What is the IDN Guidelines?

The IDN Guidelines contain the standards for IDN registration. The policies and practices in the guidelines will enable the Internet community to fully implement the Internet Protocol version 6 (IPv6) and the Domain Name System (DNS) in the 21st century. The guidelines also contain the standards for IDN registration and ensure that the interests of local languages and character sets are respected. The guidelines also contain the standards for IDN registration and ensure that the interests of local languages and character sets are respected.

In addition all new TLD managers, either through the IDN ccTLD Fast Track Process or the New gTLD Program, will be required to fulfill all existing or future versions of the IDN Guidelines. The latest version of the guidelines is available at http://www.icann.org/en/topics/idn/implementation-guidelines.html.

The IDN Guidelines will be revised again right after the IDNA protocol revision to ensure they are consistent. All changes in the protocol will be reflected in the guidelines as well.

Brief History of Internationalization and the Internet’s Domain Name System

Internationalization means, including IDNs, might be the largest change in Internet operation since the TCP/IP (Transmission Control Protocol/Internet Protocol) was introduced. Furthermore, IDN deployment might be more significant and complex than the original DNS introduction. To fully understand the difficulties of internationalization of the domain name space, it is important and useful to give a brief history of IDN technology development.

The idea of internationalizing domain names goes back to the developmental stages of the Internet in the 1970s. Discussions centered on the stability of languages and scripts. However, the technology deployed in the Domain Name System today, which allows practically any character in the registration of a domain name, was not developed at that time. Therefore, the characters available for registering domain names was limited to ASCII characters; the letters a-z, digits 0-9, and the hyphen ‘-’.

In 2001, technical bodies revised the topic again, and the Internet Engineering Task Force released the standards (RFCs 3490, 3491, and 3492), often referred to as the IDN, or IDN, in short.

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For a more detailed history of technical development see http://www.icann.org/en/topics/idn/implementation-guidelines.html.

Work is under way to revise the IDNA protocol, based on experience since the 2003 introduction. Additional work is under way on an IDN TLD registry working group to amend the guidelines further to ensure that the guidelines directions will be used deeper into the DNS hierarchy, particularly as a set of principles for implementing internationalized top-level labels.

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