



ICANN Internet Assigned Numbers Authority Functions

Fact Sheet

For more than a decade, the Internet Corporation of Assigned Names and Numbers has performed the Internet Assigned Numbers Authority functions on behalf of the National Telecommunications and Information Administration, an agency within the U.S. Department of Commerce. The IANA functions include the allocation and maintenance of the unique codes and numbering systems that are used in the technical standards (“protocols”) that drive the Internet.

IANA Functions Categories

+ Domain Names

ICANN's IANA department operates and maintains a number of key aspects of the DNS, including the processing of root zone file change requests for top-level domains. These change requests include addition of new or updates to existing TLD name servers and delegation signer resource record information along with associated 'glue' (A and AAAA RRs). A change request may also include new TLD entries to the root zone file. The IANA department maintains, updates, and makes publicly accessible a Root Zone WHOIS database with current and verified contact information for all TLD registry operators. The department also operates the .INT TLD within the current registration policies for the TLD.

+ Number Resources

ICANN's IANA department is responsible for allocated and unallocated IPv4 and IPv6 address space and Autonomous System Number (ASN) space. We delegate IP address blocks to the five Regional Internet Registries for routine allocation typically through downstream providers to Internet end-users within the regions served by those registries. We also reserve and direct allocation of space for special purposes, such as multicast addressing, addresses for private networks, and globally specified applications. The department coordinates its work with the Regional Internet Registries in the performance of this service.

+ Protocol Assignments

IANA department staff reviews and assigns unique values to various parameters (e.g., operation codes, port numbers, object identifiers, protocol numbers) used in various Internet protocols. This service is provided in coordination with the Internet Engineering Task Force. IANA department staff disseminates the listings of assigned parameters through various means (including on-line publication via a website) and review technical documents for consistency with assigned values and the creation of new protocol parameter registries. In coordination with the IETF, the department also provides services related to the management of the .ARPA TLD for Internet infrastructure uses.

Policy Implementation and Community Outreach

The IANA functions operator administers the domain name, number resource, and protocol parameter registries in a neutral and responsible manner, according to agreed policies and principles developed by other parties. Using the policy setting forums provided by ICANN, policy development for domain name operations and IP addressing is arrived at by many different stakeholders. ICANN has a structure of supporting organizations that contribute to deciding how ICANN runs, and in turn how the IANA department develops. The development of Internet protocols, which often dictate how protocol assignments should be managed, are arrived at within the Internet Engineering Task Force, the Internet Engineering Steering Group, and the Internet Architecture Board.

To improve its operations, IANA department staff is actively involved in outreach. As well as in ICANN forums, IANA department staff participates in meetings and discussions with TLD operators, Regional Internet Registries, and other relevant communities. We provide a manned helpdesk at IETF meetings to allow one-to-one interaction with its largest community of users – protocol developers.

About ICANN: *The Internet Corporation for Assigned Names and Numbers (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. It promotes competition and develops policy on the Internet's unique identifiers. ICANN doesn't control content on the Internet. It cannot stop spam and it doesn't deal with access to 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.*

