

Glossary of IP networking and RIPE NCC terms

RIPE Atlas Hackathon

Anycast

This is a network addressing and routing scheme whereby data is routed to the "nearest" or "best" destination as viewed by the routing topology.

API

Application programming interface (API) is a set of routines, protocols, and tools for building software applications.

AS

Autonomous System (AS) is a group of IP networks with a single and clearly defined external routing policy.

AS Number (ASN)

An AS Number is the unique number given to an AS. It is used both in exchange of exterior routing information and to identify the AS itself. See also AS.

BGP

Border Gateway Protocol. This is an Internet protocol commonly used within and between Internet Service Providers (ISPs). It enables groups of routers to share routing information.

ccTLD

Country Code Top-Level Domain; refers to a country, territory, or other geographic location.

CDN

A content delivery network (CDN) is a system of distributed servers that deliver webpages and other web content to a user based on their geographic location, the origin of the webpage and a content delivery server.

CIDR

Classless Interdomain Routing. It replaced the old 'classful' process of assigning Class A, B and C addresses with a generalised network "prefix".

DNS

Domain Name System. This is a distributed database used to translate domain names into IP numbers.

DNSMON

DNS Monitoring Service: This a RIPE NCC service that aims to provide provides a comprehensive, objective and up-to-date overview on the quality of service of high level DNS servers, currently these are the root servers and some participating TLD servers.

DNSSEC (DNS Security)

A technology that provides Domain Name System (DNS) data integrity and authentication through the use of cryptographic digital signatures.



gTLD

Generic top-level domain. These are top-level domains (such as .com, .net, .edu) that are not associated with country codes. They are generally privately owned and managed, and any individual or organisation can apply through ICANN to establish a new gTLD.

Hostname

The unique name by which a device attached to a network is known on a network.

ICMP

The Internet Control Message Protocol (ICMP) is one of the main protocols of the Internet Protocol Suite. It is used by network devices, like routers, to send error messages indicating, for example, that a requested service is not available or that a host or router could not be reached. ICMP can also be used to relay query messages.

in-addr.arpa

This is the domain in which reverse DNS happens.

IP

Internet Protocol. Internet Protocol sends data between computers on the Internet.

IP address

This is an individual number assigned to a particular host to uniquely identify it.

IPv4

Internet Protocol version 4. IPv4 identifies IP numbers as 32-bit addresses that consist of four octets. Each octet is a number between 0 and 255, separated by dots.

IPv6

Internet Protocol version 6. IPv6 identifies IP numbers as 128-bit addresses in eight 16-bit pieces using hexadecimal values.

ISP

Internet Service Provider.

IXP

Internet Exchange Point. This is a physical infrastructure that allows different Internet Service Providers to exchange Internet traffic between their Autonomous Systems by means of mutual peering agreements.

JSON

JavaScript Object Notation (JSON) is an open standard format that uses human-readable text to transmit data objects consisting of attribute–value pairs. It is used primarily to transmit data between a server and web application, as an alternative to XML.

K-root

The RIPE NCC operates K-root, one of the 13 Internet root name servers. See: k.root-servers.org

LIR

Local Internet Registry. This type of organisation distributes IP addresses and Autonomous System Numbers (ASNs) to End Users. It may also retain some for its own use. It is usually a member of a Regional Internet Registry or a National Internet Registry. The RIPE NCC refers to its member organisations as LIRs.

Name server

A server that resolves Internet domain names into IP addresses and vice-versa.

NAT

Network address translation (NAT) is a methodology of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device.

NTP

Network Time Protocol (NTP) is a networking protocol for clock synchronisation between computer systems over packet-switched, variable-latency data networks.

Ping

Ping is a computer network administration software utility used to test the reachability of a host on an Internet Protocol (IP) network and to measure the round-trip time for messages sent from the originating host to a destination computer.

RACI

The RIPE Academic Cooperation Initiative (RACI) aims to involve members of the academic community with the RIPE community by inviting students and researchers to present their Internet-related research at the twice-yearly RIPE Meetings.

RESTful

A RESTful (Representational State Transfer) web service (also called a RESTful web API) is a web service implemented using HTTP and the principles of REST.

REST

Representational State Transfer (REST) is a software architecture style consisting of guidelines and best practices for creating scalable web services.

RFC – Request for Comment

A document series of the Internet Engineering Task Force (IETF) that focuses on concepts, networking and Internet protocols.

RIPE

Réseaux IP Européens: This is a forum open to anyone interested in wide area IP networks. RIPE ensures the administrative and technical coordination needed to operate the Internet in its region.

RIPE NCC

Réseaux IP Européens Network Coordination Centre. This is a Regional Internet Registry serving Europe, the Middle East and parts of Central Asia.

RIPE Atlas

The RIPE NCC's main data collection system. A global measurement network consisting of thousands of probes performing active measurements about Internet connectivity and reachability, as well as anchors that serve as regional measurement targets, providing an understanding of the state of the Internet in real time. Data is publicly available via Internet maps and an API. See: <http://atlas.ripe.net>

RIPEstat

A RIPE NCC service that provides users with a wide variety of data about IP address space, Autonomous System Numbers (ASNs), and related information for hostnames and countries using multiple data sources. The information is provided as widgets that can be embedded on a website, and results are also available through a scriptable data API. See: <http://stat.ripe.net>

RIS

Routing Information Service. This RIPE NCC project collects and stores Border Gateway Protocol (BGP) routing information and makes it available to the Internet community. See: <https://ris.ripe.net>

RIPE Labs

A platform created and maintained by the RIPE NCC for network operators, developers and industry experts to expose, test and discuss innovative Internet-related tools, ideas and analyses that can benefit the RIPE community and RIPE NCC members. It is the place to present research, showcase prototypes, share operational experience and exchange ideas. See: <https://labs.ripe.net>

SSL

Transport Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL), are cryptographic protocols designed to provide communications security over a computer network. They use X.509 certificates and hence asymmetric cryptography to authenticate the counterparty with whom they are communicating, and to exchange a symmetric key.

Traceroute

Traceroute is a computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.

TCP

The Transmission Control Protocol (TCP) is a core protocol of the Internet Protocol Suite. It originated in the initial network implementation in which it complemented the Internet Protocol (IP). Therefore, the entire suite is commonly referred to as TCP/IP.

TLD

Top-level domain. The most general part of a domain name, commonly identified as the letters following the final dot of its name.

UDP

The User Datagram Protocol (UDP) is one of the core members of the Internet protocol suite. It uses a simple connectionless transmission model.



RIPE
NCC

RIPE Network Coordination Centre
www.ripe.net

Working Group

RIPE Working Groups are formal groups formed by the Internet community to discuss relevant issues, developments and to propose policies. The RIPE WGs meet twice a year at RIPE Meetings and interact year-round using RIPE Mailing Lists.

www.ripe.net/ripe/wg