

Who's Behind That Domain Name?

A Brief History of WHOIS



The term "WHOIS" is not an acronym; it's a system that asks and answers the question, who is responsible for that domain name or Internet Protocol (IP) address?

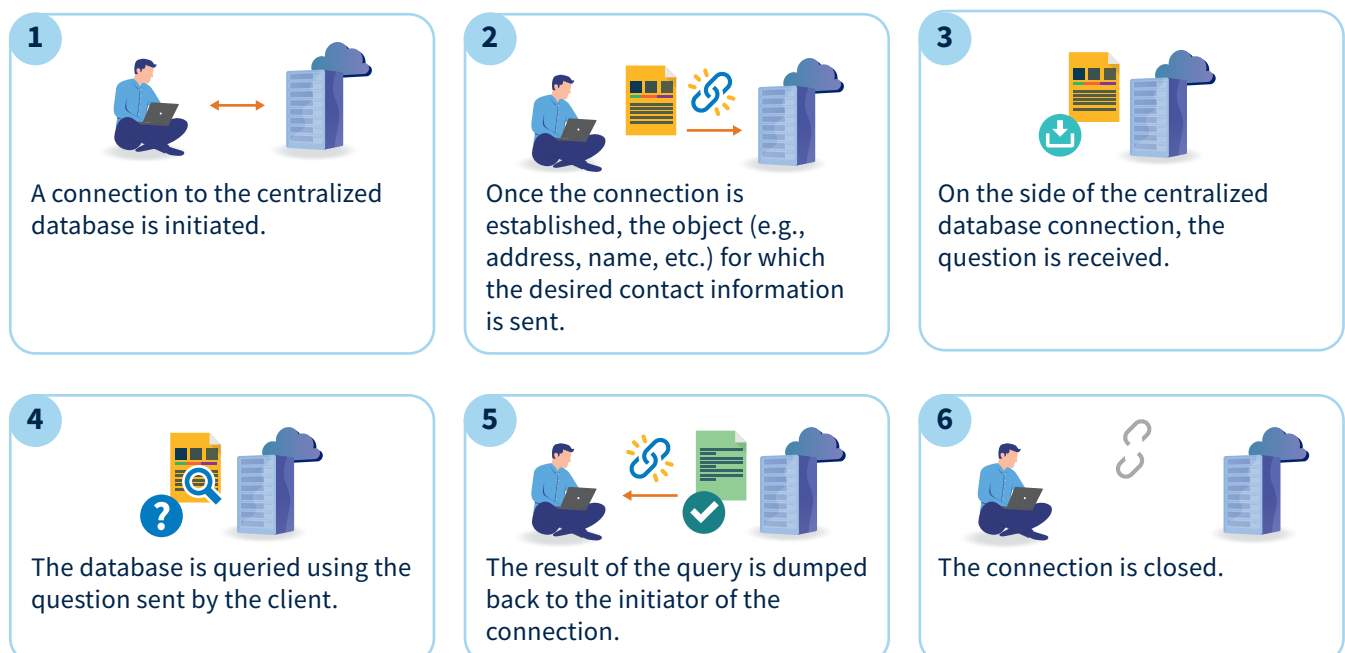
WHOIS refers to the protocols, services, and data types associated with Internet naming and numbering resources. These can include domain names, IP addresses, and Autonomous System Numbers. Historically, the term WHOIS has been used to refer to any of the following:

- 1 The information that's collected at the time of registration of a domain name or IP numbering resource, subsequently made available via a public directory service, and potentially updated throughout the life of the resource;
- 2 The WHOIS protocol itself, which is defined in Request for Comments (RFC) 3912; or
- 3 Public directory services that provide access to domain name registration information typically via applications that implement the WHOIS protocol or a web-based interface.

When the predecessor to the Internet – ARPANet – was being developed, it was quickly determined that there should be a contact list of the researchers who were connecting their mainframe computers and other devices to the new network. This contact list included the name of the researcher, his or her telephone number, an email address (if one existed), postal address, and other information. In the event of network problems such as outages, dysfunctioning hardware or software, or other issues, researchers could look up their colleagues in this contact list and communicate with each other to resolve the issues.

Initially, the contact information was stored on paper or in databases or spreadsheets on individual researchers' computers. This led to challenges associated with outdated contact data, especially when researchers changed jobs, updated their email addresses or other contact information, or when new networks or devices were connected to the growing network. To solve this problem, in 1982 researchers created a central database of contact information and a simple protocol called WHOIS, which allowed users to look up contact information in the database.

“WHOIS” worked as follows:



The WHOIS protocol did not specify what should be included in the contact information nor how it should be displayed. It also assumed that all the data are public and as such, no authorization is necessary to view it. Most machines connected to the network had the client side of the protocol implemented, increasing the number of researchers who were able to easily find the contact information of their colleagues.

The Evolution of WHOIS



As the Internet grew beyond a set of researchers who largely knew and trusted each other, the WHOIS “system” evolved as well. WHOIS began to serve the needs of many different stakeholders, including domain name registrants, law enforcement officers, intellectual property and trademark owners, businesses, and individual users. But the protocol remained fundamentally based on those original standards.

A centralized system came with a number of challenges, however; including the risk of overwhelming database administrators, routers, and networks, and costs associated with potential expansion. As a consequence, in 2010 the ICANN community held discussions about the need for the technical evolution of the WHOIS service. A new distributed and decentralized system of registration databases operated by domain registries and registrars, and IP address registries, ultimately was developed.



In March 2015, the Web Extensible Internet Registration Data Service working group published documents defining the Registration Data Access Protocol (RDAP), a standardized replacement for the WHOIS protocol. RDAP delivers registration data just like WHOIS, but its implementation will change and standardize data access and query response formats. Learn more about RDAP [here](#).

On 30 April 2023, the ICANN Board adopted the proposed RDAP global amendments to registrar and registry agreements. The proposed amendments specified operational requirements for providing Registration Data Directory Services (RDDS) services via RDAP, and detailed the sunset of certain obligations to provide RDDS via the WHOIS protocols by 28 January 2025.

The amendments were the culmination of a long-standing commitment to the Internet community to improve the WHOIS system by replacing the WHOIS protocols with a better underlying technology, which was found in RDAP. Today, the RDDS system exists as a set of independently operated and distributed databases that are responsible for their portion of the Internet’s identifiers, the responsible parties being known as registrars and registries.



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