WHOIS Protocol Specification
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Abstract

This document updates the specification of the WHOIS protocol,
thereby obsoleting RFC954 [1]. The update is intended to remove the
material from RFC954 that does not have to do with the on-the-wire
protocol, and is no longer applicable in today's Internet. This
document does not attempt to change or update the protocol per se, or
document other uses of the protocol that have come into existence
since the publication of RFC954.

1. Introduction

WHOIS is a TCP-based transaction-oriented query/response protocol
that is widely used to provide information services to Internet

users. While originally used to provide "white pages" services and
information about registered domain names, current deployments cover
a much broader range of information services. The protocol delivers
its content in a human-readable format.

For historic reasons, WHOIS lacks many of the protocol design
attributes, for example internationalisation and strong security,
that would be expected from any recently-designed IETF protocol.
This document does not attempt to rectify any of those short comings.
Instead, this document merely documents the WHOIS protocol as it is.
In some areas, this document does document particular well known
shortcomings of the WHOIS protocol. The discussion of possible
protocols to carry out these functions, with updated capabilities to
address the short comings, is being addressed in a separate IETF
activitiy (CRISP Working Group).

2. Protocol Specification

A WHOIS server listens on TCP port 43 for requests from WHOIS
clients. The WHOIS client makes a text request in US-ASCII format to
the WHOIS server, then the WHOIS server replies with US-ASCII text
content. All requests are terminated with ASCII CR and then ASCII
LF. The response might contain more than one line of text, so the
presence of ASCII CR or ASCII LF characters does not indicate the end
of the response. The WHOIS server closes its connection as soon as
the output is finished. The closed TCP connection is the indication
to the client that the response has been received.

3. Protocol Example

If one places a request of the WHOIS server located at whois.nic.mil
for information about "Smith", the packets on the wire will look
like:

```
    client                          server at whois.nic.mil

    open TCP   ---- (SYN) ------------------------------->
               <---- (SYN+ACK) -------------------------
    send query ---- "Smith<CR><LF>" -------------------->
    get answer <---- "Info about Smith<CR><LF>" ---------
               <---- "More info about Smith<CR><LF>" ----
    close      <---- (FIN) ------------------------------
               ----- (FIN) ------------------------------>
```

4. Internationalisation

The WHOIS protocol has not been internationalised. The WHOIS
protocol has no mechanism for indicating the character set in use,
but instead assumes that all users are using US-ASCII. In practice,
some WHOIS servers, particularly those outside the USA, might happen
to be using some other character set either for requests, replies, or
both. This can adversely impact the usefulness of the WHOIS
protocol.

5. Security Considerations

The WHOIS protocol has no provisions for strong security. WHOIS
lacks mechanisms for access control, integrity, and confidentiality.
Accordingly, WHOIS-based services should only be used for information
which is non-sensitive and intended to be accessible to everyone.
The absence of such security mechanisms means this protocol would not
normally be acceptable to the IETF at the time of this writing.

6. Acknowledgements

Ran Atkinson prepared the earlier versions of this document.

References

[1] Harrenstien, K., Stahl, M. and E. Feinler, "NICNAME/WHOIS", RFC
     954, October 1985.

[2] Harrenstien, K. and V. White, "NICNAME/WHOIS", RFC 812, March
     1982.

[3] Harrenstien, K., "NAME/FINGER Protocol", RFC 742, December 1977.

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Acknowledgement