

The 'tn3270' URI Scheme

Abstract

This document is the specification of the 'tn3270' Uniform Resource Identifier (URI) scheme, which is used to designate the access to the resources available via Telnet 3270 mode (TN3270) and Telnet 3270 Enhanced mode (TN3270E). It updates [RFC 1041](#) and [RFC 2355](#), which specify these protocols, and [RFC 1738](#), which firstly mentioned this URI scheme without defining its syntax and semantics.

Status of This Memo

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1. Introduction

This document specifies the 'tn3270' Uniform Resource Identifier (URI) scheme, which is used to designate the access to the resources available via Telnet 3270 mode (TN3270) and Telnet 3270 Enhanced mode (TN3270E).

Telnet 3270 mode (TN3270) is a name used to denote the special mode of Telnet session [RFC0854]. If it is used, the 3270 data stream [GA23-0059] is used when transmitting data during the Telnet session, whereas the Telnet 3270 Regime option [RFC1041] is used to enable and negotiate its use. (See [RFC1576] for some other background information on TN3270.) Telnet 3270 Enhanced mode (TN3270E) has a similar principle; see RFC 2355 [RFC2355] for its specification.

The 'tn3270' URI scheme was firstly mentioned in RFC 1738 [RFC1738] as used in URIs that designate the access to "Interactive 3270 emulation sessions". Following the creation of the URI schemes registry per RFC 4395 [RFC4395], this scheme was added to the "Provisional URI Schemes" sub-registry in the "Uniform Resource Identifier (URI) Schemes" IANA registry [URIREG]. However, RFC 1738 [RFC1738] does not give any definition of syntax or semantics of the 'tn3270' URIs and does not have any guidelines for registration of this scheme.

Since there is no acceptable specification of the 'tn3270' URI, there is a risk that somebody might try to implement it with some new, possibly undocumented, syntax, just by looking at the IANA registry. In order to minimize such risk, this document gives a precise definition of syntax, semantics, use of this URI, and it registers the corresponding scheme. It also updates RFC 2355 [RFC2355], RFC 1738 [RFC1738], and RFC 1041 [RFC1041].

The generic syntax of URIs is described in [RFC 3986](#) [RFC3986]. Registration procedures for new URI schemes are defined in [RFC 4395](#) [RFC4395].

1.1. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [RFC2119].

2. URI Scheme Definition

2.1. URI Scheme Syntax

The 'tn3270' URI takes the following form (the syntax below is non-normative):

```
tn3270://<userinfo>@<host>:<port>/
```

where the <userinfo> part with the "@" (at) sign character, as well as the <port> part with the preceding ":" (colon) character, is OPTIONAL.

The normative syntax of the 'tn3270' URI is defined in <tn3270-uri> ABNF [[RFC5234](#)] rule:

```
tn3270-uri      = "tn3270:" "/" authority ["/"]
```

where the <authority> rule is specified in [RFC 3986](#) [RFC3986].

The semantics of each part of the 'tn3270' URI are defined below, in [Section 2.2](#).

2.2. URI Scheme Semantics

The <host> part of the 'tn3270' URI, which is REQUIRED, denotes the host to which the TN3270 or TN3270E connection is to be established. The <userinfo> part is considered to define the information for use in the Telnet Authentication option [[RFC2941](#)], which might be used during the TN3270 or TN3270E session. The <port> part, if present, denotes the port on which the TCP connection to the <host> is to be established. If it is absent, the default port SHALL be 23, as registered in [[PORTREG](#)].

3. Security Considerations

Generic security considerations for the usage of URIs are discussed in [Section 7 of](#) [RFC3986].

Since 'tn3270' URIs provide access to services that are available via TN3270 and TN3270E, which do not add any new security issues to the Telnet session, as they are a modified form of it, there are no other security considerations for 'tn3270' URIs that are not discussed in [RFC 4248](#) [[RFC4248](#)], the 'telnet' URI scheme specification.

The Telnet protocol, as well as TN3270 and TN3270E, is inherently insecure. Those needing remote login access and related services are encouraged to use a more secure technology, such as Secure Shell [[RFC4251](#)].

4. IANA Considerations

IANA updated the registration of the 'tn3270' URI scheme using the following registration template (see [[RFC4395](#)]):

URI scheme name: tn3270

Status: Permanent

URI scheme syntax: see [Section 2.1 of RFC 6270](#)

URI scheme semantics: see [Section 2.2 of RFC 6270](#)

URI scheme encoding considerations: there are no other encoding considerations for 'tn3270' URIs that are not described in [RFC 3986](#) [[RFC3986](#)]

Protocols that use the scheme: Telnet 3270 mode (TN3270) [[RFC1041](#)] and Telnet 3270 Enhanced Mode (TN3270E) [[RFC2355](#)]

Security considerations: see [Section 3 of RFC 6270](#)

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References: see [Section 5 of RFC 6270](#)

5. References

5.1. Normative References

- [[RFC1041](#)] Rekhter, Y., "Telnet 3270 regime option", [RFC 1041](#), January 1988.
- [[RFC2119](#)] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

- [RFC2355] Kelly, B., "TN3270 Enhancements", [RFC 2355](#), June 1998.
- [RFC3986] Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform Resource Identifier (URI): Generic Syntax", STD 66, [RFC 3986](#), January 2005.
- [RFC4248] Hoffman, P., "The telnet URI Scheme", [RFC 4248](#), October 2005.
- [RFC5234] Crocker, D., Ed., and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", STD 68, [RFC 5234](#), January 2008.

5.2. Informative References

- [GA23-0059] IBM Corporation, "IBM 3270 Information Display System. Data Stream Programmer's Reference", IBM Publication GA23-0059, July 1992.
- [PORTREG] Internet Assigned Numbers Authority (IANA) Registry, "Port Numbers", <<http://www.iana.org>>.
- [RFC0854] Postel, J. and J. Reynolds, "Telnet Protocol Specification", STD 8, [RFC 854](#), May 1983.
- [RFC1576] Penner, J., "TN3270 Current Practices", [RFC 1576](#), January 1994.
- [RFC1738] Berners-Lee, T., Masinter, L., and M. McCahill, "Uniform Resource Locators (URL)", [RFC 1738](#), December 1994.
- [RFC2941] Ts'o, T., Ed., and J. Altman, "Telnet Authentication Option", [RFC 2941](#), September 2000.
- [RFC4251] Ylonen, T. and C. Lonvick, Ed., "The Secure Shell (SSH) Protocol Architecture", [RFC 4251](#), January 2006.
- [RFC4395] Hansen, T., Hardie, T., and L. Masinter, "Guidelines and Registration Procedures for New URI Schemes", [BCP 35](#), [RFC 4395](#), February 2006.
- [URIREG] Internet Assigned Numbers Authority (IANA) Registry, "Uniform Resource Identifier (URI) Schemes", <<http://www.iana.org>>.

Appendix A. Acknowledgments

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