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Top Level DNS Name for addressing by physical context
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INTERNET-DRAFT

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Abstract

This document proposes the reservation of a special use TLD to allow a more convenient addressing of devices by general physical location or context.

1. Introduction

As wireless networking and devices become more common there may be a need for a convenient way to address hosts by physical location or context, especially when the users themselves are using mobile or wearable devices.

A step towards this could be by reserving a special public use TLD (.here in the examples). Then this TLD can be independently hosted at various locations, so that each resulting .here domain falls under the context of that particular location. For a similar concept see RFC1918 [RFC1918].

2. Example usage of .here TLD

As an example a user could obtain a list of registered devices in each particular room or building by visiting https://all.here/ or perhaps just https://here/. Other forms could include https://who.here/ and https://what.here/

Say if the user wishes to control an air conditioner in a room, the user could visit https://airconditioner.here/ for the control page. The user could also "bookmark" popular settings such as https://airconditioner.here/settemp?celsius=25 and use it from room to room (assuming the air conditioners accept the same parameters).

Users of wearable devices could also address and access each other in a similar manner after registering with the location - e.g. https://lyeoh.here/sendobjectform or https://somebody.here/getobject?id=12345

Registration with an area could be done with DHCP [RFC2131] and dynamic DNS.

3. Various Considerations

Users could get the wrong address depending on how the default domain search is implemented - e.g. xxxx.here first, then xxxx.mydomain.com or vice versa. Also, it should be assumed that parties controlling the physical location can attempt to spoof or subvert communications.

Specifying .here. does not guarantee locality. Users may inadvertently or intentionally access devices at a different physical location.

Third parties could reserve a similar TLD (e.g. .her.) in order to catch typographical errors or unsuspecting users. As .her. and .he. may well become future TLDs, perhaps a less vulnerable name than .here should be used instead. A less elegant alternative is to also reserve the typos, but the Gere's (e.g. Richard) of the world may protest.

The .here TLD has already been reserved by a member of the ORSC (www.open-rsc.org). So to avoid conflict another TLD may have to be chosen, giving due consideration to the various alternative root zones.
It seems that .local or .loc could be used but at risk of confusion with .localhost [RFC2606].

4. References

[RFC2606] D. Eastlake and A. Panitz, "Reserved Top Level DNS Names", RFC2606, June 1999.

[RFC2131] R. Droms, "Dynamic Host Configuration Protocol", March 1997.

[RFC1918] Y. Rekhter, B. Moskowitz, D. Karrenberg, G. J. de Groot, E. Lear, "Address Allocation for Private Internets", February 1996.

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