Network Working Group
Internet-Draft
Intended status: Informational
Expires: 28 September 2020

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27 March 2020

impl-info: A link relation type for disclosing implementation information
draft-bormann-t2trg-rel-impl-01

Abstract

For debugging, it is often helpful to have information about the implementation of a peer. The present specification defines a link relation type, "impl-info", that can be used to convey such information via self-description, such as in the "/.well-known/core" resource.

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1. Introduction

When debugging an interoperability problem, it is often helpful to have information about the implementation version of a peer. To enable the disclosure of such information, HTTP defines header fields such as Server and User-Agent [RFC7231].

In CoAP [RFC7252], it is rarely appropriate to send information of this kind in every request or response. Instead, the present specification defines a link relation type, "impl-info", that can be used to convey this information via the self-description capabilities of the /.well-known/core resource [RFC6690] and the CoRE resource directory [I-D.ietf-core-resource-directory].

2. IANA Considerations

This specification requests the registration of the link relation type "impl-info".

The registration template as per [RFC8288] follows.

* _Relation Name_: "impl-info"

* _Description_: Refers to implementation information that may be helpful in diagnosing technical problems with the implementation of the context, such as lists of components and their implementation versions.

* _Reference_: [THIS]

3. Security considerations

The security considerations listed in Section 9.6 of [RFC7231] and the sections referenced there apply.

The security considerations listed in Section 11.3 of [RFC7252] apply. As adding another link to "/.well-known/core" does increase

the size of a response to a GET request for that resource, the mitigation mentioned in that section to limit the amplification factor becomes even more important.

Disclosing information about an implementation can make it easier for an attacker to select an attack, or to build automated tools that search for promising victims. Fingerprinting techniques can provide information to attackers that is usable in the same way, so adding information via self-description may or may not actually exacerbate this problem.

4. References

4.1. Normative References

[RFC8288] Nottingham, M., "Web Linking", RFC 8288, DOI 10.17487/RFC8288, October 2017, <https://www.rfc-editor.org/info/rfc8288>.

[THIS] Bormann, C., "impl-info: A link relation type for disclosing implementation information", Work in Progress, Internet-Draft, draft-bormann-t2trg-rel-impl-00, 28 January 2018, <http://www.ietf.org/internet-drafts/draft-bormann-t2trg-rel-impl-00.txt>.

4.2. Informative References

[I-D.ietf-core-resource-directory] Shelby, Z., Koster, M., Bormann, C., Stok, P., and C. Amsuess, "CoRE Resource Directory", Work in Progress, Internet-Draft, draft-ietf-core-resource-directory-24, 9 March 2020, <http://www.ietf.org/internet-drafts/draft-ietf-core-resource-directory-24.txt>.

[RFC6690] Shelby, Z., "Constrained RESTful Environments (CoRE) Link Format", RFC 6690, DOI 10.17487/RFC6690, August 2012, <https://www.rfc-editor.org/info/rfc6690>.

[RFC7231] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content", RFC 7231, DOI 10.17487/RFC7231, June 2014, <https://www.rfc-editor.org/info/rfc7231>.

[RFC7252] Shelby, Z., Hartke, K., and C. Bormann, "The Constrained Application Protocol (CoAP)", RFC 7252, DOI 10.17487/RFC7252, June 2014, <https://www.rfc-editor.org/info/rfc7252>.

Acknowledgements

The need for implementation information in the CoRE resource directory has been identified by Peter van der Stok. Discussions with Peter and with Christian Amsüss (U+0043 U+0068 U+0072 U+0069 U+0073 U+0074 U+0069 U+0061 U+006E U+0020 U+0041 U+006D U+0073 U+00FC U+0073 U+0073) led to the present proposal of employing self-description for this purpose.

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