

CoRE Working Group
Internet-Draft
Intended status: Standards Track
Expires: September 30, 2012

A. Castellani
University of Padova
S. Loreto
Ericsson
March 29, 2012

CoAP Alive Message
draft-castellani-core-alive-00

Abstract

In the context of a Constrained RESTful Environment (CoRE), hosts could frequently be energy-constrained and be turned off the vast majority of time for energy-saving purposes.

In the case of a CoAP server, while it is offline, it is neither available to serve requests. Clients desiring to access its resources have no way to understand when they will find it up again.

This specification provides a simple new message that gives to a CoAP server the ability to signal its current availability in the network.

Status of this Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on September 30, 2012.

Copyright Notice

Copyright (c) 2012 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of

publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

- 1. Introduction 3
- 2. Alive (ALV) Message Type 3
- 3. Examples 3
- 4. Acknowledgements 6
- 5. References 6
 - 5.1. Normative References 6
 - 5.2. Informative References 6
- Authors' Addresses 6

1. Introduction

In the context of a Constrained RESTful Environment (CoRE), hosts could frequently be energy-constrained and be turned off the vast majority of time for energy-saving purposes.

In the case of a CoAP server, while it is offline, it is neither available to serve requests. Clients desiring to access its resources have no way to understand when they will find it up again.

This specification provides a simple new message that gives to a CoAP server the ability to signal its current availability in the network.

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 [[RFC2119](#)].

2. Alive (ALV) Message Type

This specification defines a new message type for the CoAP message-layer (see Section 4.4 of [[I-D.ietf-core-coap](#)]). The type of a message is specified by the T field of the CoAP header.

An "Alive" message (ALV) indicates that a CoAP server is up and ready to serve requests. Alive shares T value with the Non-Confirmable (NON) message type, but is univocally distinguishable by the fact that it MUST be empty.

When a client receives an ALV message from a server, if it is interested in any resource served by it, the client SHOULD try sending a request to it since the Alive message provides an indication of its current availability.

3. Examples

Figure 1 shows a sample use case where a server notifies its wake up to clients using multicast.

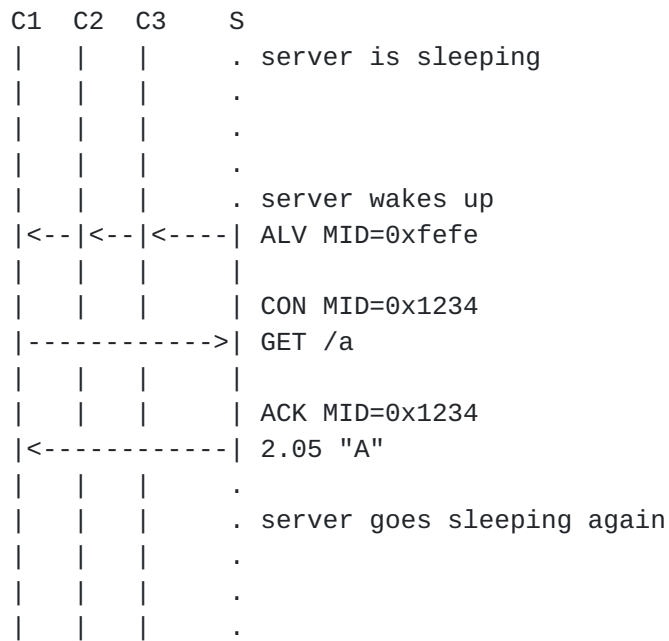


Figure 1: Alive usage example

Figure 2 shows a sample application on how the Alive message can fix the "Observer Model" problem discussed in Section 4.2.3 of [\[I-D.arkko-core-sleepy-sensors\]](#).

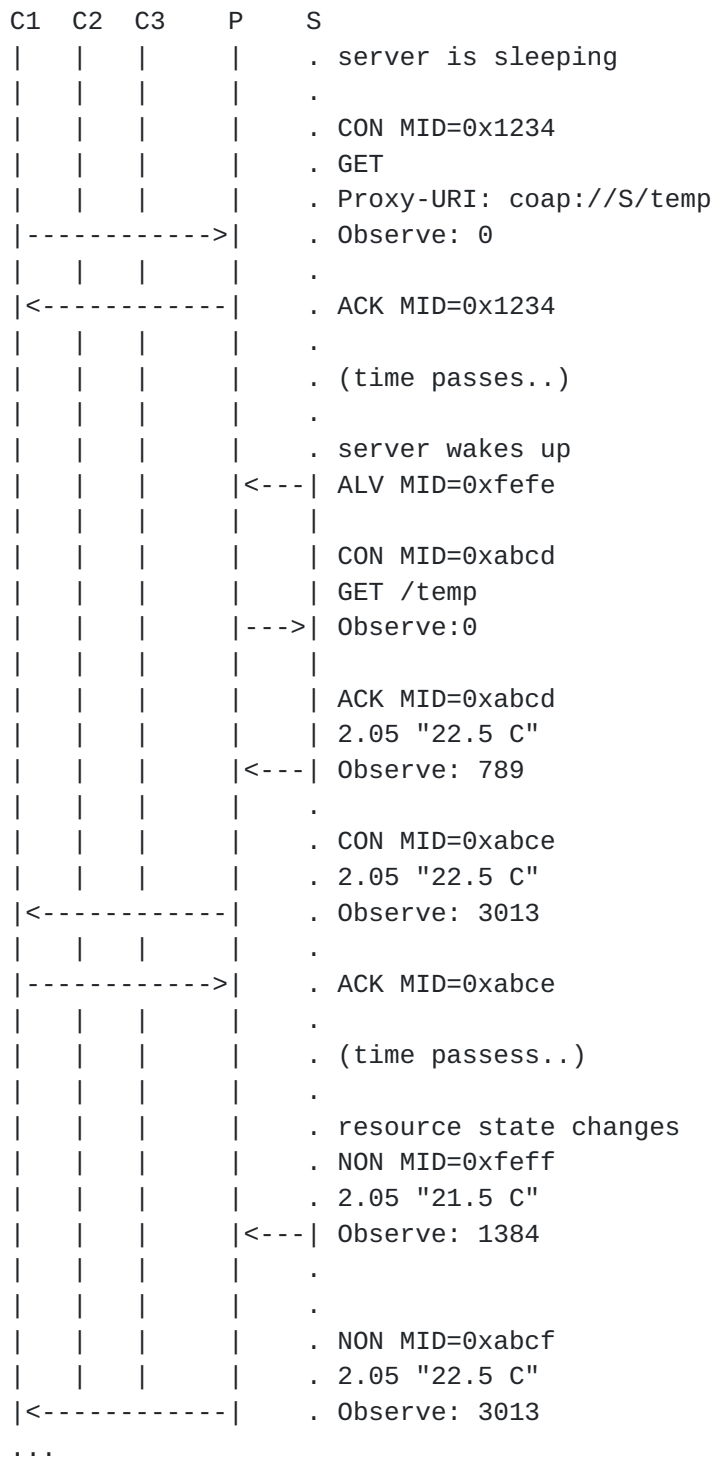


Figure 2: Alive with Observe

4. Acknowledgements

TBD

5. References

5.1. Normative References

- [I-D.ietf-core-coap]
Shelby, Z., Hartke, K., Bormann, C., and B. Frank,
"Constrained Application Protocol (CoAP)",
[draft-ietf-core-coap-09](#) (work in progress), March 2012.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

5.2. Informative References

- [I-D.arkko-core-sleepy-sensors]
Arkko, J., Rissanen, H., Loreto, S., Turanyi, Z., and O.
Novo, "Implementing Tiny COAP Sensors",
[draft-arkko-core-sleepy-sensors-00](#) (work in progress),
July 2011.

Authors' Addresses

Angelo P. Castellani
University of Padova
Via Gradenigo 6/B
Padova 35131
Italy

Email: angelo@castellani.net

Salvatore Loreto
Ericsson
Hirsalantie 11
Jorvas 02420
Finland

Email: salvatore.loreto@ericsson.com

