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CoAP Alive Message  
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## 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.

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## 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.

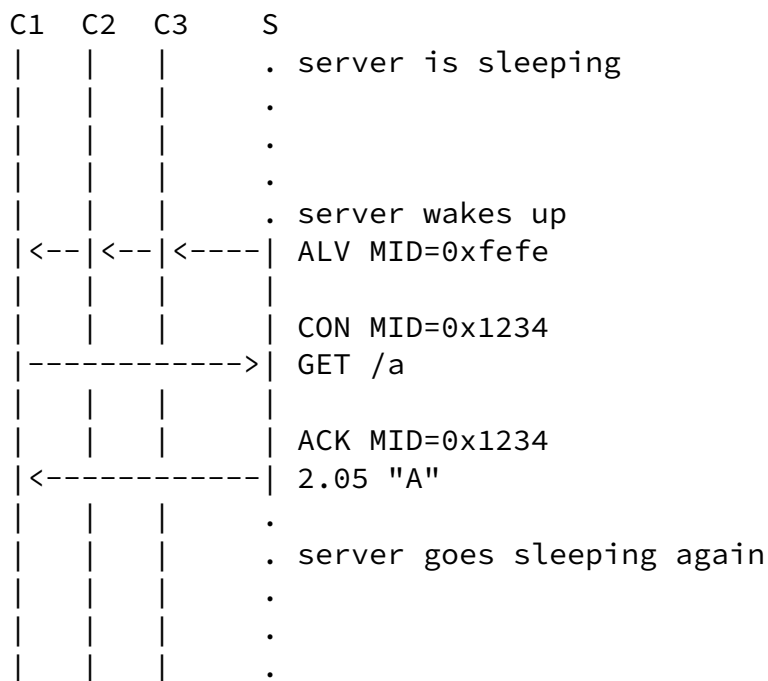


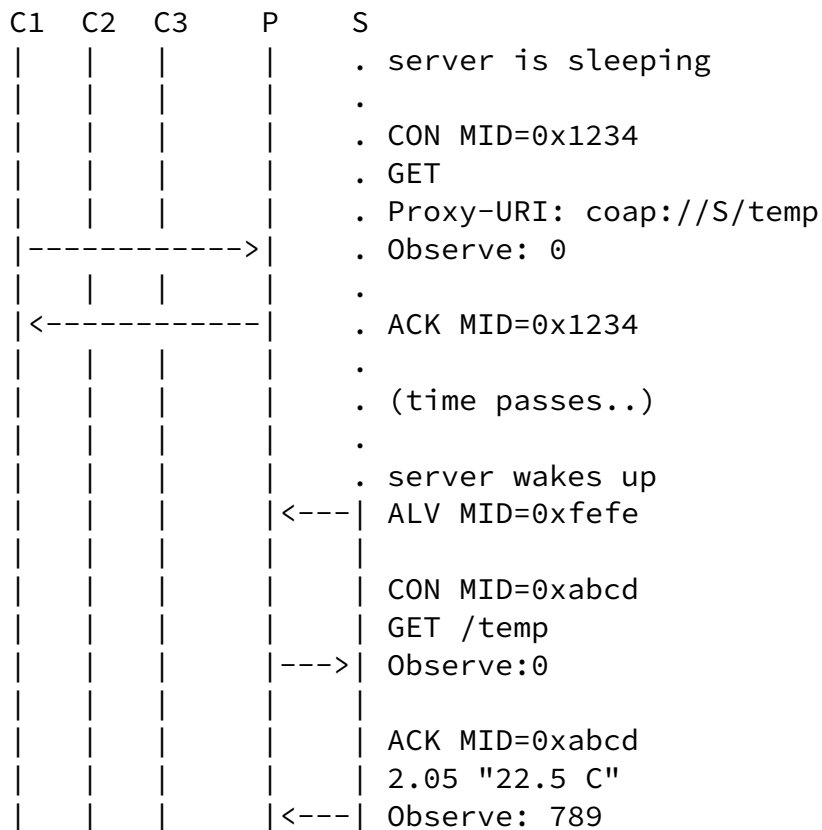
Figure 1: Alive usage example

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

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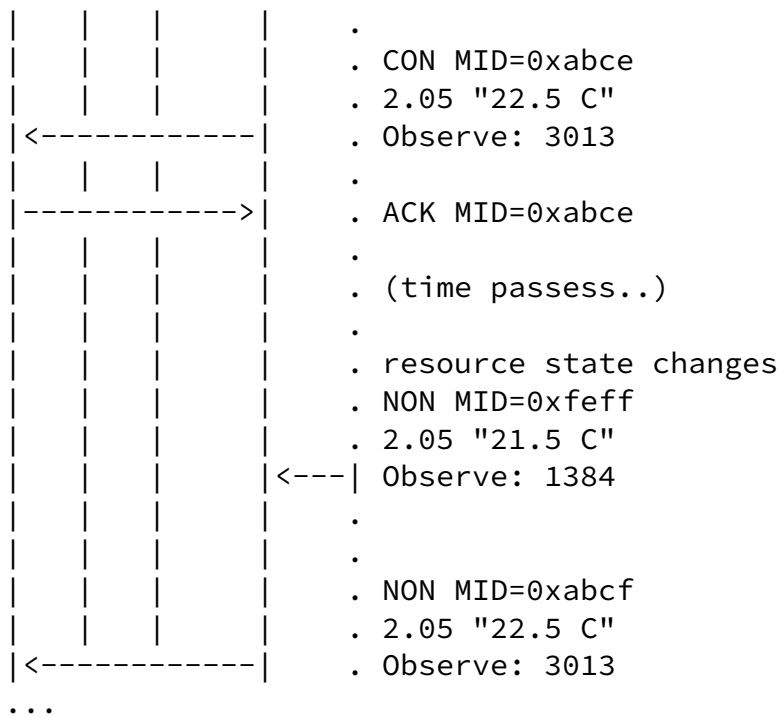


Figure 2: Alive with Observe

#### [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.

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