



Context Information Management (CIM); Application Programming Interface (API)

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Reference

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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) cross-cutting Context Information Management (CIM).

Modal verbs terminology

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Executive summary

The present document formally describes the Context Information Management API Specification (preliminary). The Context Information Management API allows users to provide, consume and subscribe to context information in multiple scenarios and involving multiple stakeholders. It enables close to real-time access to information coming from many different sources (not only IoT data sources).

Introduction

The present document defines the Context Information Management API Specification (preliminary). The Context Information Management API allows users to provide, consume and subscribe to context information in multiple scenarios and involving multiple stakeholders.

The present document is labelled "preliminary" because it will be published widely in order to elicit comment and critique from the ICT community, and their comments will be used to modify and improve the later final API specification. The present document contains two annexes describing a list of pending issues and features that are planned to be addressed in the near future. Accordingly, a feedback process is described in the present document.

The ETSI ISG CIM has decided to give the name "NGSI-LD" to the Context Information Management API. The rationale is to reinforce the fact that the present document leverages on the former OMA NGSI 9 and 10 interfaces [i.3] and FIWARE NGSIv2 [i.9] to incorporate the latest advances from Linked Data.

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1 Scope

The purpose of the present document is the (preliminary) definition of a standard API for Context Information Management (NGSI-LD API) enabling close to real-time access to information coming from many different sources (not only IoT data sources). The present document defines how such an API enables applications to perform updates on context, register context providers which can be queried to get updates on context, query information on current and historic context information and subscribe to receive notifications of context changes. The criteria for choice of the API characteristics are based on results in the Use Cases [i.1] and Gap Analysis [i.2] work items. The present document is labelled "preliminary" because it will be published widely in order to elicit comment and critique from the user communities and their comments will be used to modify and improve the later final API specification.

2 References

2.1 Normative references

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[1] W3C Recommendation 25 February 2014: "RDF Schema 1.1".

NOTE: Available at <https://www.w3.org/TR/2014/REC-rdf-schema-20140225/>.

[2] W3C Recommendation 16 January 2014: "JSON-LD 1.0 - A JSON-based Serialization for Linked Data".

NOTE: Available at <http://www.w3.org/TR/2014/REC-json-ld-20140116/>.

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[6] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[7] IETF RFC 5988: "Web Linking".

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- [19] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

NOTE: Available at <https://tools.ietf.org/html/rfc5246>.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI GR CIM 002: "Context Information Management (CIM); Use Cases (UC)".

NOTE: Available at https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=51347.

- [i.2] ETSI GR CIM 003: "Context Information Management (CIM); Architecture and Standardization Gaps".

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- [i.3] OMA OMA-TS-NGSI-Context-Management-V1-0-20100803-C. 03 August 2010: "NGSI Context Management".

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