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Information technology — Open data protocol (OData) v4.0

Part 1: **Core**

Technologies de l'information — Protocole de données ouvertes (OData) v4.0 —

Partie 1: Base

Reference number
ISO/IEC 20802-1:2016(E)

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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ISO/IEC 20802-1 was prepared by OASIS and was adopted, under the PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by the national bodies of ISO and IEC.

OData Version 4.0 Part 1: Protocol Plus Errata 02

OASIS Standard incorporating Approved Errata 02

30 October 2014

Specification URIs

This version:

http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part1-protocol/odata-v4.0-errata02-os-part1-protocol-complete.doc (Authoritative)
http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part1-protocol/odata-v4.0-errata02-os-part1-protocol-complete.html
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http://docs.oasis-open.org/odata/odata/v4.0/odata-v4.0-part1-protocol.pdf

Technical Committee:

OASIS Open Data Protocol (OData) TC

Chairs:

Ralf Handl (ralf.handl@sap.com), SAP AG
Ram Jeyaraman (Ram.Jeyaraman@microsoft.com), Microsoft

Editors:

Michael Pizzo (mikep@microsoft.com), Microsoft
Ralf Handl (ralf.handl@sap.com), SAP AG
Martin Zurmuehl (martin.zurmuehl@sap.com), SAP AG

Additional artifacts:

This prose specification is one component of a Work Product that also includes:

- List of Errata items. *OData Version 4.0 Errata 02*. Edited by Michael Pizzo, Ralf Handl, Martin Zurmuehl, and Hubert Heijkers. 30 October 2014. OASIS Approved Errata. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/odata-v4.0-errata02-os.html.
- *OData Version 4.0 Part 1: Protocol Plus Errata 02* (this document). Edited by Michael Pizzo, Ralf Handl, and Martin Zurmuehl. 30 October 2014. OASIS Standard incorporating Approved Errata 02. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part1-protocol/odata-v4.0-errata02-os-part1-protocol-complete.html.
- *OData Version 4.0 Part 2: URL Conventions Plus Errata 02*. Edited by Michael Pizzo, Ralf Handl, and Martin Zurmuehl. 30 October 2014. OASIS Standard incorporating Approved

Errata 02. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part2-url-conventions/odata-v4.0-errata02-os-part2-url-conventions-complete.html.

- *OData Version 4.0 Part 3: Common Schema Definition Language (CSDL) Plus Errata 02*. Edited by Michael Pizzo, Ralf Handl, and Martin Zurmuehl. 30 October 2014. OASIS Standard incorporating Approved Errata 02. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part3-csdl/odata-v4.0-errata02-os-part3-csdl-complete.html.
- ABNF components: OData ABNF Construction Rules Version 4.0 and OData ABNF Test Cases. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/abnf/.
- Vocabulary components: OData Core Vocabulary, OData Measures Vocabulary and OData Capabilities Vocabulary. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/vocabularies/.
- XML schemas: OData EDMX XML Schema and OData EDM XML Schema. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/schemas/.
- OData Metadata Service Entity Model: http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/models/.
- Change-marked (redlined) versions of OData Version 4.0 Part 1, Part 2, and Part 3. OASIS Standard incorporating Approved Errata 02. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/redlined/.

Related work:

This specification is related to:

- *OData Version 4.0 Part 1: Protocol*. Edited by Michael Pizzo, Ralf Handl, and Martin Zurmuehl. 24 February 2014. OASIS Standard. http://docs.oasis-open.org/odata/odata/v4.0/os/part1-protocol/odata-v4.0-os-part1-protocol.html.
- *OData Atom Format Version 4.0*. Edited by Martin Zurmuehl, Michael Pizzo, and Ralf Handl. Latest version. http://docs.oasis-open.org/odata/odata-atom-format/v4.0/odata-atom-format-v4.0.html.
- *OData JSON Format Version 4.0*. Edited by Ralf Handl, Michael Pizzo, and Mark Biamonte. Latest version. http://docs.oasis-open.org/odata/odata-json-format/v4.0/odata-json-format-v4.0.html.

Declared XML namespaces:

- http://docs.oasis-open.org/odata/ns/edmx
- http://docs.oasis-open.org/odata/ns/edm

Abstract:

The Open Data Protocol (OData) enables the creation of REST-based data services, which allow resources, identified using Uniform Resource Locators (URLs) and defined in an Entity Data Model (EDM), to be published and edited by Web clients using simple HTTP messages. This document defines the core semantics and facilities of the protocol.

Status:

This document was last revised or approved by the OASIS Open Data Protocol (OData) TC on the above date. The level of approval is also listed above. Check the “Latest version” location noted above for possible later revisions of this document. Any other numbered Versions and other technical work produced by the Technical Committee (TC) are listed at https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=odata#technical.

TC members should send comments on this specification to the TC’s email list. Others should send comments to the TC’s public comment list, after subscribing to it by following the instructions at the “Send A Comment” button on the TC’s web page at https://www.oasis-open.org/committees/odata/.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (https://www.oasis-open.org/committees/odata/ipr.php).

Citation format:

When referencing this specification the following citation format should be used:

[OData-Part1]

OData Version 4.0 Part 1: Protocol Plus Errata 02. Edited by Michael Pizzo, Ralf Handl, and Martin Zurmuehl. 30 October 2014. OASIS Standard incorporating Approved Errata 02. http://docs.oasis-open.org/odata/odata/v4.0/errata02/os/complete/part1-protocol/odata-v4.0-errata02-os-part1-protocol-complete.html. Latest version: http://docs.oasis-open.org/odata/odata/v4.0/odata-v4.0-part1-protocol.html.

Notices

Table of Contents

1 Introduction

The Open Data Protocol (OData) enables the creation of REST-based data services, which allow resources, identified using Uniform Resource Locators (URLs) and defined in a data model, to be published and edited by Web clients using simple HTTP messages. This specification defines the core semantics and the behavioral aspects of the protocol.

The **[OData-URL]** specification defines a set of rules for constructing URLs to identify the data and metadata exposed by an OData service as well as a set of reserved URL query options.

The **[OData-CSDL]** specification defines an XML representation of the entity data model exposed by an OData service.

The **[OData-Atom]** and **[OData-JSON]** documents specify the format of the resource representations that are exchanged using OData.

1.1 Terminology

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]**.

1.2 Normative References

[OData-ABNF] *OData ABNF Construction Rules Version 4.0*.
See link in "Additional artifacts" section on cover page.

[OData-Atom] *OData ATOM Format Version 4.0*.
See link in "Related work" section on cover page.

[OData-CSDL] *OData Version 4.0 Part 3: Common Schema Definition Language (CSDL)*.
See link in "Additional artifacts" section on cover page.

[OData-JSON] *OData JSON Format Version 4.0.*
See link in "Related work" section on cover page.

[OData-URL] *OData Version 4.0 Part 2: URL Conventions*.
See link in "Additional artifacts" section on cover page.

[OData-VocCap] *OData Capabilities Vocabulary.*
See link in "Additional artifacts" section on cover page.

[OData-VocCore] *OData Core Vocabulary.*
See link in "Additional artifacts" section on cover page.

[RFC2046] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types", RFC 2046, November, 1996. http://www.ietf.org/rfc/rfc2046.txt.

[RFC2119] Bradner, S., “Key words for use in RFCs to Indicate Requirement Levels”, BCP 14, RFC 2119, March 1997. http://www.ietf.org/rfc/rfc2119.txt.

[RFC2617] Franks, J., Hallam-Baker, P., Hostetler, J., Lawrence, S., Leach, P., Luotonen, A., and L. Stewart, “HTTP Authentication: Basic and Digest Access Authentication”, RFC 2617, June 1999. http://www.ietf.org/rfc/rfc2617.txt.

[RFC3987] Duerst, M. and, M. Suignard, “Internationalized Resource Identifiers (IRIs)”, RFC 3987, January 2005. http://www.ietf.org/rfc/rfc3987.txt.

[RFC5023] Gregorio, J., Ed., and B. de hOra, Ed., “The Atom Publishing Protocol.”, RFC 5023, October 2007. http://tools.ietf.org/html/rfc5023.

[RFC5789] Dusseault, L., and J. Snell, “Patch Method for HTTP”, RFC 5789, March 2010. http://tools.ietf.org/html/rfc5789.

[RFC7230] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing", RFC 7230, June 2014. http://www.ietf.org/rfc/rfc7230.txt.

[RFC7231] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content", RFC 7231, June 2014. http://www.ietf.org/rfc/rfc7231.txt.

[RFC7232] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests", RFC 7232, June 2014. http://www.ietf.org/rfc/rfc7232.txt.

[RFC7240] Snell, J., "Prefer Header for HTTP", RFC 7240, June 2014. http://www.ietf.org/rfc/rfc7240.txt.

1.3 Typographical Conventions

Keywords defined by this specification use this `monospaced` font.

```
Normative source code uses this paragraph style.
```

Some sections of this specification are illustrated with non-normative examples.

Example 1: text describing an example uses this paragraph style

```
Non-normative examples use this paragraph style.
```

All examples in this document are non-normative and informative only.

All other text is normative unless otherwise labeled.