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In the communications industry, no one model of how to create standards prevails. Some groups are more formal than others, some include implementation as well as specification development, and some are defacto standards efforts driven by open source coding.

Michael S. Richmond, Retired from Intel Former Executive Director of the Open Connectivity Foundation

## Lots in common, just a different approach...

Standards / SpecS	Open source	
Focuses on the What	Focus on the How (this is work!)	
Specs enable certification tests which drive interoperability	API compliance ensures things work together	
A standard typically has many implementations	Some open source projects have a single implementation, others more	
Assertion of IP by getting it into the spec	Assertion of an implementation by making the code available for others to distribute	
Industrial efficiency – volume economics, commoditization, etc.	Accelerated development of commercial solutions and a community of maintainers	



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## Example 1: The cool kids have been doing this for years

ops 🝐	My Intel G-Drive OCF-lotivity IIIoT F2F IIIoT F2F	Resources 📙 OSS 🝐 Shared with me 📃 Personal 📃 Imported From IE 📃 Archive
TABL	E OF CONTENTS	Payment Request API
1.	Introduction	W3C Editor's Draft 09 February 2017
1.1	Goals	Woo Ealtor's Drak oo'r cordary 2017
1.1.1	Out of scope	
2.	Definitions	https://w3c.github.io/browser-payment-api/
		Latest published version:
<b>).</b>	PaymentRequest Interface	https://www.w3.org/TR/payment-request/
5.1 5.5	Constructor	Latest editor's draft:
2	show() method	https://w3c.github.io/browser-payment-api/
4	sentiakeBaurent() method	Editors:
4 5	camakerayment() memod	Adrian Bateman, Microsoft Corporation
6	shippingAddress attribute	Zach Koch, Google
27	Internal Slots	Roy McElmurry, Facebook
	Internal Slots	Version control:
	PaymentMethodData dictionary	Github Repository
		Issues
	PaymentCurrencyAmount dictionary	
		Copyright © 2017 W3C <sup>®</sup> (MIT, ERCIM, Keio, Beihang). W3C liability, trademark and permissive document license rules apply.
•	PaymentDetails dictionary	
	PaymentDetailsModifier dictionary	Abstract
		Abstract
	PaymentShippingType <b>enum</b>	This specification standardizes an API to allow merchants (i.e. web sites selling physical or digital goods) to
	PaymentOptions dictionary	utilize one or more payment methods with minimal integration. User agents (e.g., browsers) facilitate the
	raymencop clons anononary	payment flow between merchant and user.
0.	PaymentItem dictionary	
1.	PaymentAddress interface	Status of This Document
12.	PaymentShippingOption dictionary	This section describes the status of this document at the time of its publication. Other documents may supersed
13.	PaymentComplete enum	this document. A list of current W3C publications and the latest revision of this technical report can be found in the W3C technical reports index at https://www.w3.org/TR/.

The spec itself is an open source project in github.

• To change the spec, make a pull request.

Typically, two working implementations are required for spec approval\*

Is this the future of standards development?

\* Workgroups have flexibility as to whether implementations are open source or binaries / APIs. They also have flexibility as to whether implementations are required for spec approval.



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## Example 2: Match made in heaven? ... or still room for spats?

Specification body



Nothing can be mandatory in an <u>OCF spec</u> unless an open source reference implementation is available

IP policy: RANDZ (Reasonable and non-discriminatory w zero royalty)

OCF owns certification (mark, tools, program)



#### Sponsored by OCF and hosted by Linux Foundation

IP policy: Apache 2.0 (Provides patent protection from code contributor.)

OCF membership not required to be part of the open souce project

Main source of tension - spec or code first?



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**Open Source Project** 

# OpenStack\*: "Collective Implementation"





Standard, high volume hardware platform makes it mostly about software

Compatibility driven at the API level

Lack of API specs / guidance a source of growing pains

Lots of middleware

<sup>44</sup> I'm not sure if it's an example of what to do or what not to do, but the project hasn't died because of it. Dean Troyer, <sup>77</sup> OpenStack Client PTL

\* Other names and brands may be claimed as the property of others.

**OpenSource** 

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### What should we think about as these hookups continue?

Intel recommends that open source software (OSS) IPR policies include:

- 1) an express reference to and acknowledgement of the OSI Open Source Software principles;
- 2) a requirement that OSS projects only use an OSI-certified license, and that this OSI-certified license is the only license required from the project; and
- 3) clearly articulated expectations for participation in OSS projects.

#### Key Points

- Intel is OSI-license agnostic they all have their virtues.
- Consistency & transparency is key: Don't call it "open source software" if users are expected to enter into additional FRAND patent licenses in order to use the project's code.
- OSS projects may not be well-suited for all SDOs\* or software projects.

• Make sure SDO objectives for your software project align with OSS principles.

\* SDO = Standards Development Organization



