

OpenADR 2.0b

Protocol Implementation Conformance Statement (PICS)

Version 1.1.4 Valid for Certification as of March 2, 2019

Manufacturer:	Zevtron
Product Type:	EV Charging SaaS
Product Name:	Zevtron
Firmware Revision:	20200129.2
Tested OpenADR 2.0b Profile Spec version:	1.1

Disclaimer:

The information provided in this document can be made available to the general public in order to identify the tested versions, features and options.

By signing this document, the manufacturer confirms that all information provided in this document is correct and the applicable features have been tested.

Manufacturer Name: Zevtron	
Representative Name and Title: Bob Andrews – CEO	
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Revisions:

Version	Changes	Date/Editor
1.0.0	Released Version	06/28/13
1.0.1	 Added additional optional test case conditions 	07/28/13
1.0.2	 Added test case A_E1_0285 and A_E0_0285 to optional list 	08/15/13
1.0.4	 Added test case A_E3_0680 to optional list 	08/20/13
1.0.5	 Added the following test cases to optional list. A_E2_0435, A_E3_0435, A_E2_0685, A_E3_0685, R1_3070_TH_VTN_1, R0_8070_TH_VTN_1, R1_3080_TH_VTN_1, R0_8080_TH_VTN_1, R1_3090_TH_VTN_1, R0_8090_TH_VTN_1, R1_3100_TH_VTN_1, R0_8100_TH_VTN_1, R1_3120_TH_VTN_1, R0_8120_TH_VTN, R1_3050_TH_VEN, R0_8050_TH_VEN_1, R1_3060_TH_VEN, R0_8060_TH_VEN, R1_3120_TH_VTN_1 and R0_8120_TH_VTN. 	09/09/13
1.0.6	 Corrected typo. Removed test case A_E0_0295. Mentioned G0_9005. 	2/11/2014 EP, BD
1.0.7	Corrections	11/7/2015 JZ
1.1.2	Revision incremented	4/25/17 JZ
1.1.3	 Corrected typo on skipped test cases in item 5 of Optional Test Case Guidelines. R1 was changes to R0 on last 4 test cases Clarified payloads required if VEN or VTN do not implement optional characteristics of reporting. Corrected test specification and profiles specification references 	12/12/18 JZ
1.1.4	Changed version to sync with test harness version	9/12/19



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Introduction

The purpose of this PICS document is to provide a mechanism whereby a supplier of an implementation based on the following requirements may provide information about the implementation in a standardized manner.

These requirements are drawn from the OASIS Energy Interoperation standard and related schemas. With the exception of OpenADR Alliance schema extensions, payloads generated by OpenADR 2.0b implementations should validate against the Energy Interop schemas.

Information provided by the supplier will be used to assess the implementation's compliance to the requirements, as well as to configure the certification tests performed on the implementation.

References

- OpenADR 2.0b Profile Specification 1.1
- OpenADR 2.0b Test Spec V1.1.4
- OpenADR 2.0b Schema

Abbreviations and Conventions

The PICS information comprises information in a tabular format as follows:

- Item Column A number which identifies the item in the table
- Capability Column A brief description of the requirement
- Reference Column or Section Header A reference to a specific requirement in the specification
- Status Column Contains notations regarding the requirements
 - M Mandatory
 - **O** Optional
 - **N/A** Not applicable
 - **X** Prohibited
 - O-i Qualified Optional (mutually exclusive or selectable options from a set identified with the same "I" value)
 - C-i –Conditional (status dependent on support of other optional requirements, identified in footnotes at bottom of table with "i" being a reference integer for the footnote(s))
- **Support Column** Yes or No answer is required. If feature is not applicable, answer No.
- Values Allowed Column Optional column representing set of values allowed.
- **Values Supported Column** Optional column where supplier can indicate a set of values supported by the implementation.

Note that all requirement references in the tables on the following pages are with respect to the OpenADR 2.0b Profile Specification, Version 1.1.



Instructions for Completing the PICS

The first part of the PICS document, System Identification, is to be completed as indicated with the information necessary to fully identify both the supplier and the implementation.

The main part of the PICS document is a fixed format questionnaire. Answers to questionnaire items are to be provided in the rightmost column by simply marking an answer to indicate a choice, typically Yes or No.

If an implementation fails to support a mandatory item, or supports a prohibited item, the supplier should provide supplementary information with the PICS document explaining the rationale for the exception.

Note: The burden of interoperability falls to the VTN implementation. Therefore any certified VTN must support the 2.0A profile and the 2.0B profile including the applicable schemas.

Documents required for final certification

- This PICS document
- Manufacturers Declaration of Conformity
- Completed Test Report from appointed test house
- Product marketing description for website (50 words)
- Product picture or logo if applicable
- Web link to product

If you would like to postpone posting your product on the OpenADR Alliance website for a period of time (maximum 3 months), please fill out the following section.

posted on the OpenA submittal).	(Manufacturer) herewith requests that t ADR Alliance product web page until	•
Name:		
Signature:		



Implementation and Supplier Information

Date of Statement	1/31/2020
Product Name	Zevtron
Product Model Number	N/A
Version Number(s)	20200129.2
Non-Default Hardware Configuration	N/A
Non-Default Software Configuration	N/A
Supplier Name, Address, Phone, Email	Bob Andrews 2244 Faraday Avenue Suite 160 Carlsbad, CA 92008 (619)764-9700 bandrews@zevtron.com
Contact name, email, phone for questions	David Robison drobison@zevtron.com (949)439-5108 Bob Andrews bandrews@zevtron.com (619)764-9700



Global Statement of Conformance

Requirement	Support
Are all mandatory capabilities supported for the indicated roles supported by	[X]Yes []No
this implementation?	

Roles

Item	Role	Status	Support
1	VEN - Full Function	0-1	[X]Yes []No
3	VEN - Energy Reporting Only	0-1	[]Yes [X]No
3	VTN	0-1	[]Yes [X]No

⁰⁻¹⁾ Must answer Yes to one Role. Note that if an implementation supports both VEN and VTN functionality, two separate PICS documents should be submitted, one for each role.

Profile Support

Requirements Reference: Conformance rule 506

Item	Role	Profile	Status	Support
1	VEN/VTN	"A" Profile	C -1	[]Yes [X]No
2	VEN/VTN	"B" Profile	M	[X]Yes []No

C-1) VTNs must support the A and B Profile

Transports / Exchange Pattern Support

Requirements Reference: Figure 1, OpenADR 2.0 Certification Levels and conformance rule 37

Item	Role	Transport	Status	Support
1	VEN/VTN	SimpleHTTP - Pull	C-1	[X]Yes []No
2	VEN/VTN	SimpleHTTP - Push	C-1	[]Yes [X]No
3	VEN/VTN	XMPP - Push	C-1	[]Yes [X]No

C-1) VTNs must support all transports and exchange patterns.

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C-1) VENs may support ONLY the B profile

C-1) VENs must support at least one item from the list. If SimpleHTTP items are selected this must include the "SimpleHTTP-Pull" option from the list.



Service Support

Requirements Reference: Section 7.2.2 and conformance rules 501 and 507

Item	Role	Service	Status	Support
1	VEN/VTN	EiEvent	C-1	[X]Yes []No
2	VEN/VTN	EiOpt	C-1	[X]Yes []No
3	VEN/VTN	EiReport	M	[X]Yes []No
4	VEN/VTN	RiRegisterParty	M	[X]Yes []No
5	VEN/VTN	OadrPoll	C-2	[X]Yes []No

C-1) VTNs and Full Function VENs must support these Services, but are not supported by Report Only VENs.

Security Support

Requirements Reference: Conformance rules 67, 68, and 514

Item	Role	Security	Status	Support
1	VEN	SHA2 Security	M	[X]Yes []No
		-TLS 1.2		
		-Client and server x.509 certs with SHA2		
		-Alliance RSA or ECC SHA2 Ciphers		
		-SASL_EXTERNAL (XMPP Only)		
2	VTN	SHA2 Security	М	[]Yes [X]No
		-TLS 1.2		
		-Client and server x.509 certs with SHA2		
		-Alliance RSA and ECC SHA2 Ciphers		
		-SASL_EXTERNAL (XMPP Only if supported)		
3	VEN/VTN	XML Signatures	0	[]Yes [X]No

C-2) VTNs must support; VENs must support if simpleHTTP transport is supported.



Payload Schema Conformance

For each payload generated by a VEN or VTN, indicate if it conforms to the OpenADR B Profile schema. Note that the Status is relative to the Role listed.

Item	Role	Payload	Status for Role	Validates Against B Schema
1	VEN-Pull	oadrPoll	C-1	[X]Yes []No
2	VEN	oadrRequestEvent	C-2	[X]Yes []No
3	VEN	oadrCreatedEvent	C-2	[X]Yes []No
4	VEN	oadrCreateOpt	C-2	[X]Yes []No
5	VEN	oadrCancelOpt	C-2	[X]Yes []No
6	VTN	oadrCanceledOpt	C-2	[]Yes [X]No
7	VEN	oadrQueryRegistration	M	[X]Yes []No
8	VEN	oadrCreatePartyRegistration	М	[X]Yes []No
9	VEN/VTN	oadrResponse	M	[X]Yes []No
10	VEN/VTN	oadrCancelPartyRegistration	M	[X]Yes []No
11	VEN/VTN	oadrCanceledPartyRegistration	M	[X]Yes []No
12	VEN/VTN	oadrRegisterReport	M	[X]Yes []No
13	VEN/VTN	oadrRegisteredReport	M	[X]Yes []No
14	VEN/VTN	oadrCreateReport	C-3	[]Yes [X]No
15	VEN/VTN	oadrCreatedReport	М	[X]Yes []No
16	VEN/VTN	oadrUpdateReport	C-4	[X]Yes []No
17	VEN/VTN	oadrUpdatedReport	C-3	[]Yes [X]No
18	VEN/VTN	oadrCancelReport	C-3	[]Yes [X]No
19	VEN/VTN	oadrCanceledReport	M	[X]Yes []No
20	VTN	oadrCreatedOpt	C-2	[]Yes [X]No
21	VTN	oadrDistributeEvent	C-2	[]Yes [X]No
22	VTN	oadrCreatedPartyRegistration	M	[]Yes [X]No
23	VTN	oadrRequestReregistration	М	[]Yes [X]No

C-1) VENs with SimpleHTTP pull support must support oadrPoll, other implementations must not.

C-2) All implementations must support these options except for Report Only VENs.

C-3) VENs are not required to implement requesting reports from VTNs. If the VEN does not implement requesting reports from the VEN, the indicated payloads are not required

C-4) VTNs are not required to offer reports, so delivering reports other that metadata is not mandatory. If the VTN does not offer reports, the indicated payload is optional.



Operational Sequence Support

The table below demonstrates the operational sequences and the conditional behavior for each of the services. The push HTTP acknowledgement (empty payload) of oadrDistributeEvent is not shown in the table. Indicate if all of the behavior shown in each section is supported by the implementation. Brackets are used to indicate conditional behavior which must be supported. Requirements reference: All figures in the B profile specification with interaction diagrams

Item	Service	App Level Exchange Sequence	Status	Support
1	EiEvent	{VEN: RequestEvent {Reply Limit}}	C-1	[X]Yes []No
		VTN: oadrDistributeEvent {Response Required, baseline}		
		{VEN: oadrCreatedEvent {Opt State}		
		VTN: oadrResponse }		
2	EiOpt	VEN: oadrCreateOpt {Availability schedule}	C-1	[X]Yes []No
		VTN: oadrCreatedOpt		
		VEN: oadrCancelOpt		
		VTN: oadrCanceledOpt		
		VENT and Constant Out (French Out State)		
		VEN: oadrCreateOpt - {Event Opt State}		
	FiD a mint a mDa mtm.	VTN: oadrCreatedOpt	N 4	[V]Vee []Ne
3	EiRegisterParty	VEN: oadrQueryRegistration VTN: oadrCreatedPartyRegistration	M	[X]Yes []No
		VIII. daurci eateur ai tynegisti ation		
		VEN: oadrCreatePartyRegistration		
		VTN: oadrCreatedPartyRegistration		
		VEN/VTN: oadrCancelPartyRegistration		
		VTN/VEN: oadrCanceledPartyRegistration		
		VTN: oadrRequestReregistration		
		VEN: oadrResponse		
		VEN: oadrCreatePartyRegistration		
		VTN: oadrCreatedPartyRegistration		
4	EiReport	VEN/VTN: oadrRegisterReport	C-3	[X]Yes []No
		VTN/VEN: oadrRegisteredReport (Create Report *)		
		VEN/VTN: oadrCreateReport (Once or Periodic)		
		VTN/VEN: oadrCreatedReport		
		VEN/VTN: oadrUpdateReport		
		VTN/VEN: oadrUpdatedReport {Cancel Report *}		
		VEN/VTN: oadrCancelReport		
		VTN/VEN: oadrCanceledReport {Report to Follow}		
5	OadrPoll	VEN: oadrPoll	C-2	[X]Yes []No
		VTN: Any payload sent by VTN		

C-1) All implementations must support these options, except for Report Only VENs.

C-2) Required for SimpleHTTP Pull VENs only.

C-3)VENs and VTNs are not required to demonstrate initiating piggyback report requests and report cancellations (*), but must understand them and act upon them if received from the other party. As noted in the prior Payload Schema Conformance section, VENs are not required to demonstrate requesting reports from VTNs and VTNs are not required to deliver reports other than metadata..



Standard Event Signal Support

Indicate which of the following Alliance-defined standard signals are supported by the VEN or VTN .

Requirements Reference: Conformance rule 510

Item	Role	Signal Name	SignalType	Status	Support
1	VEN/VTN	SIMPLE		M	[X]Yes []No
2	VEN/VTN	ELECTRICITY_PRICE	Price	М	[X]Yes []No
3	VEN/VTN	LOAD_DISPATCH	setpoint	М	[X]Yes []No

Standard Report Support

Indicate which of the following Alliance-defined standard reports are offered as part of report

registration by the VEN or VTN. Requirements Reference: Conformance rule 510

Item	Role	Report Name	Status	Support
1	VEN	METADATA	M	[X]Yes []No
2	VEN	TELEMETRY_UASGE	M	[X]Yes []No
3	VEN	TELEMETRY_STATUS	M	[X]Yes []No
4	VEN	HISTORY_USAGE	C-1	[]Yes [X]No
5	VTN	METADATA	M	[]Yes [X]No

C-1) Optional for full function VENs; mandatory for Report Only VENs.



Alliance "B" Profile Detailed Requirements

In addition to the requirements defined by the schema, the OpenADR 2.0b Profile has a detailed set of conformance rules that define the expected behavior of VTN and VEN implementations. As these rules already reflect the testable requirements, there is no need to relist them here. Please refer to the OpenADR 2.0b Profile Specification while indicating which of the following conformance rules are supported by the implementation.

Item	Role	Status	Support
(Rule)			
1	VEN/VTN	C-1	[X]Yes []No
2	VTN	C-1	[]Yes [X]No
3	VTN	C-1	[]Yes [X]No
4	VTN	C-1	[]Yes [X]No
5	VTN	C-1	[]Yes [X]No
6	VEN	C-1	[X]Yes []No
8	VTN	C-1	[]Yes [X]No
9	VTN	C-1	[]Yes [X]No
10	VTN	C-1	[]Yes [X]No
12	VEN	C-1	[X]Yes []No
13	VTN	C-1	[]Yes [X]No
14	VTN	C-1	[]Yes [X]No
15	VTN	C-1	[]Yes [X]No
16	VTN	C-1	[]Yes [X]No
17	VTN	C-1	[]Yes [X]No
18	VEN/VTN	C-1	[X]Yes []No
19	VEN	C-1	[X]Yes []No
20	VTN	C-1	[]Yes [X]No
21	VEN/VTN	C-1	[X]Yes []No
22	VEN	C-1	[X]Yes []No
23	VEN/VTN	C-1	[X]Yes []No
25	VTN	C-1	[]Yes [X]No
27	VTN	C-1	[]Yes [X]No
29	VTN	C-1	[]Yes [X]No
30	VEN	C-1	[X]Yes []No
31	VEN	C-1	[X]Yes []No
32	VEN/VTN	C-1	[X]Yes []No
33	VEN/VTN	C-1	[X]Yes []No
35	VEN	C-1	[X]Yes []No
36	VEN	C-1	[X]Yes []No
37	VEN	C-1	[X]Yes []No
38	VTN	C-1	[]Yes [X]No
40	VTN	C-1	[]Yes [X]No
41	VTN	C-1	[]Yes [X]No
42	VEN/VTN	C-1	[X]Yes []No
43	VEN	C-1	[X]Yes []No
45	VEN/VTN	C-1	[X]Yes []No
46	VEN/VTN	C-1	[X]Yes []No
47	VEN/VTN	C-1	[X]Yes []No
48	VEN/VTN	C-1	[X]Yes []No
50	VTN	C-1	[]Yes [X]No
51	VEN/VTN	C-1	[X]Yes []No
52	VTN	C-1	[]Yes [X]No
	1	- -	[] []



Item (Rule)	Role	Status	Support
53	VEN/VTN	C-1	[X]Yes []No
56	VEN	C-1	[X]Yes []No
57	VEN/VTN	C-1	[X]Yes []No
58	VEN	C-1	[X]Yes []No
59	VEN	C-1	[X]Yes []No
60	VEN	C-1	[X]Yes []No
61	VEN	C-1	[X]Yes []No
62	VEN	C-1	[X]Yes []No
63	VTN	C-1	[]Yes [X]No
65	VEN	C-1	[X]Yes []No
66	VEN/VTN	C-1	[X]Yes []No
67	VEN/VTN	C-1	[X]Yes []No
68	VEN/VTN	C-1	[X]Yes []No
70	VTN	C-1	[]Yes [X]No
100	VTN	C-1	[]Yes [X]No
101	VTN	C-1	[]Yes [X]No
102	VTN	C-1	[]Yes [X]No
103	VTN	C-1	[]Yes [X]No
104	VTN	C-1	[]Yes [X]No
105	VTN	C-1	[]Yes [X]No
106	VTN	C-1	[]Yes [X]No
107	VTN	C-1	[]Yes [X]No
108	VTN	C-1	[]Yes [X]No
109	VEN	C-1	[X]Yes []No
110	VTN	C-1	[]Yes [X]No
111	VEN/VTN	C-1	[X]Yes []No
112	VEN	C-1	[X]Yes []No
113	VTN	C-1	[]Yes [X]No
114	VEN	C-1	[X]Yes []No
115	VTN	C-1	[]Yes [X]No
116	VEN/VTN	C-1	[X]Yes []No
200	VEN/VTN	C-1	[X]Yes []No
201	VEN/VTN	C-1	[X]Yes []No
202	VEN	C-1	[X]Yes []No
203	VTN	C-1	[]Yes [X]No
204	VEN	C-1	[X]Yes []No
205	VTN	C-1	[]Yes [X]No
206	VEN/VTN	C-1	[X]Yes []No
207	VEN/VTN	C-1	[X]Yes []No
208	VEN	C-1	[X]Yes []No
209	VEN/VTN	C-1	[X]Yes []No
210	VEN/VTN	C-1	[X]Yes []No
211	VEN/VTN	C-1	[X]Yes []No
300	VEN/VTN	M	[X]Yes []No
301	VEN/VTN	M	[X]Yes []No
302	VEN/VTN	M	[X]Yes []No
303	VEN/VTN	M	[X]Yes []No
304	VEN/VTN	M	[X]Yes []No
305	VEN/VTN	M	[X]Yes []No
306	VEN/VTN	M	[X]Yes []No
307	VEN/VTN	M	[X]Yes []No
308	VEN/VTN	M	[X]Yes []No
309	VEN/VTN	M	[X]Yes []No
		I	C 2 C2:



	Item (Rule)	Role	Status	Support
312		VFN/VTN	M	[X]Yes []No
313				
314				
315				
316		,		
317 VEN/VTN M X Yes No		•		
318				
319				
321 VEN/VTN M K Yes No				
322 VEN/VTN M K Yes []No 324 VEN/VTN M K Yes []No 325 VEN/VTN M K Yes []No 327 VEN/VTN M K Yes []No 327 VEN/VTN M K Yes []No 328 VEN/VTN M K Yes []No 328 VEN/VTN M K Yes []No 329 VEN/VTN M K Yes []No 330 VEN/VTN M K Yes []No 331 VEN/VTN M K Yes []No 331 VEN/VTN M K Yes []No 333 VEN/VTN M K Yes []No 334 VEN/VTN M K Yes []No 335 VEN/VTN M K Yes []No 336 VEN/VTN M K Yes []No 337 VEN/VTN M K Yes []No 338 VEN/VTN M K Yes []No 338 VEN/VTN M K Yes []No 339 VEN/VTN M K Yes []No 340 VEN/VTN M K Yes []No 341 VEN/VTN M K Yes []No 342 VEN/VTN M K Yes []No 342 VEN/VTN M K Yes []No 343 VEN/VTN M K Yes []No 344 VEN/VTN M K Yes []No 345 VEN/VTN M K Yes []No 346 VEN/VTN M K Yes []No 347 VEN/VTN M K Yes []No 348 VEN/VTN M K Yes []No 349 VEN/VTN M K Yes []No 340 VEN/VTN M K Yes []No 340 VEN/VTN M K Yes []No 340 VEN/VTN M K Yes []No 341 VEN/VTN M K Yes []No 342 VEN/VTN M K Yes []No 344 VEN/VTN M K Yes []No 345 VEN/VTN M K Yes []No 346 VEN/VTN M K Yes []No 347 VEN/VTN M K Yes []No 348 VEN/VTN M K Yes []No 349 VEN/VTN M K Yes []No 340 VEN/VTN M K Yes []No				
324 VEN/VTN M K Yes No 325 VEN/VTN M K Yes No 327 VEN/VTN M K Yes No 327 VEN/VTN M K Yes No 328 VEN/VTN M K Yes No 329 VEN/VTN M K Yes No 330 VEN/VTN M K Yes No 331 VEN/VTN M K Yes No 331 VEN/VTN M K Yes No 331 VEN/VTN M K Yes No 334 VEN/VTN M K Yes No 335 VEN/VTN M K Yes No 336 VEN/VTN M K Yes No 337 VEN/VTN M K Yes No 338 VEN/VTN M K Yes No 338 VEN/VTN M K Yes No 339 VEN/VTN M K Yes No 339 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 342 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 345 VEN/VTN M K Yes No 346 VEN/VTN M K Yes No 347 VEN/VTN M K Yes No 348 VEN/VTN M K Yes No 349 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 342 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 345 VEN/VTN M K Yes No 346 VEN/VTN M K Yes No				
325 VEN/VTN M K Yes No 327 VEN/VTN M K Yes No 328 VEN/VTN M K Yes No 328 VEN/VTN M K Yes No 329 VEN/VTN M K Yes No 330 VEN/VTN M K Yes No 331 VEN/VTN M K Yes No 331 VEN/VTN M K Yes No 333 VEN/VTN M K Yes No 334 VEN/VTN M K Yes No 335 VEN/VTN M K Yes No 336 VEN/VTN M K Yes No 337 VEN/VTN M K Yes No 337 VEN/VTN M K Yes No 338 VEN/VTN M K Yes No 339 VEN/VTN M K Yes No 339 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 342 VEN/VTN M K Yes No 343 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 345 VEN/VTN M K Yes No 346 VEN/VTN M K Yes No 347 VEN/VTN M K Yes No 348 VEN/VTN M K Yes No 349 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No 341 VEN/VTN M K Yes No 342 VEN/VTN M K Yes No 344 VEN/VTN M K Yes No 345 VEN/VTN M K Yes No 346 VEN/VTN M K Yes No 346 VEN/VTN M K Yes No 347 VEN/VTN M K Yes No 348 VEN/VTN M K Yes No 349 VEN/VTN M K Yes No 340 VEN/VTN M K Yes No		· .		
327				
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330				., .,
331		•		
333 VEN/VTN M X Yes No 334 VEN/VTN M X Yes No 335 VEN/VTN M X Yes No 336 VEN/VTN M X Yes No 337 VEN/VTN M X Yes No 337 VEN/VTN M X Yes No 338 VEN/VTN M X Yes No 339 VEN/VTN M X Yes No 340 VEN/VTN M X Yes No 341 VEN/VTN M X Yes No 342 VEN/VTN M X Yes No 342 VEN/VTN M X Yes No 344 VEN/VTN M X Yes No 345 VEN/VTN M X Yes No 345 VEN/VTN M X Yes No 346 VEN/VTN M X Yes No 346 VEN/VTN M X Yes No 346 VEN/VTN M X Yes No 400 VEN/VTN M X Yes No 401 VEN/VTN M X Yes No 402 VEN/VTN M X Yes No 403 VEN/VTN M X Yes No 404 VEN/VTN M X Yes No 405 VEN/VTN M X Yes No 406 VEN/VTN M X Yes No 406 VEN/VTN M X Yes No 407 VEN/VTN M X Yes No 407 VEN/VTN M X Yes No 500 VEN/VTN M X Yes No 500 VEN/VTN C-2 X Yes No 500 VEN/VTN M X Yes N		,		
334				
335				
336		· .		
337 VEN/VTN M X Yes No 338 VEN/VTN M X Yes No 339 VEN/VTN M X Yes No 340 VEN/VTN M X Yes No 341 VEN/VTN M X Yes No 342 VEN/VTN M X Yes No 343 VEN/VTN M X Yes No 344 VEN/VTN M X Yes No 345 VEN/VTN M X Yes No 345 VEN/VTN M X Yes No 346 VEN/VTN M X Yes No 346 VEN/VTN M X Yes No 340 VEN/VTN M X Yes No 341 VEN/VTN M X Yes No 342 XEN/VTN M X Yes No XEN/VTN XEN/VTS				
338				
339 VEN/VTN M K Yes No		· .		
340 VEN/VTN M [X]Yes []No 341 VEN/VTN M [X]Yes []No 342 VEN/VTN M [X]Yes []No 343 VEN/VTN M [X]Yes []No 344 VEN/VTN O [X]Yes []No 345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 503 VEN/VTN M [X]Yes []No <t< td=""><td></td><td></td><td></td><td></td></t<>				
341 VEN/VTN M [X]Yes []No 342 VEN/VTN M [X]Yes []No 343 VEN/VTN M [X]Yes []No 344 VEN/VTN M [X]Yes []No 345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 506 VEN/VTN M [X]Yes []No 509 VEN/VTN M [X]Yes []No <t< td=""><td></td><td></td><td></td><td></td></t<>				
342 VEN/VTN M [X]Yes []No 343 VEN/VTN M [X]Yes []No 344 VEN/VTN O [X]Yes []No 345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 504 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 509 VEN/VTN M [X]Yes []No <t< td=""><td></td><td></td><td></td><td></td></t<>				
343 VEN/VTN M [X]Yes []No 344 VEN/VTN O [X]Yes []No 345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No				
344 VEN/VTN O [X]Yes []No 345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No		,		
345 VEN/VTN M [X]Yes []No 346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No		•		
346 VEN/VTN M [X]Yes []No 400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No				
400 VEN/VTN M [X]Yes []No 401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN M [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No				
401 VEN/VTN M [X]Yes []No 402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN M [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No				
402 VEN/VTN M [X]Yes []No 403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No				
403 VEN/VTN M [X]Yes []No 404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 407 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No		,		
404 VEN/VTN M [X]Yes []No 405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 407 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [Y]Yes []No 514 VEN/VTN O []Yes [X]No				
405 VEN/VTN M [X]Yes []No 406 VEN/VTN M [X]Yes []No 407 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN O []Yes [X]No				
406 VEN/VTN M [X]Yes []No 407 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN M [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [Y]Yes []No 514 VEN/VTN O []Yes [X]No				
407 VEN/VTN M [X]Yes []No 500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [Y]Yes []No 514 VEN/VTN O []Yes [X]No				
500 VEN/VTN C-2 [X]Yes []No 501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
501 VEN/VTN C-2 [X]Yes []No 502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No		,		
502 VEN/VTN C-2 [X]Yes []No 506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No		•		
506 VEN/VTN M [X]Yes []No 507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
507 VEN/VTN M [X]Yes []No 508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
508 VEN M [X]Yes []No 509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No		· .		
509 VEN/VTN M [X]Yes []No 510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
510 VEN/VTN M [X]Yes []No 511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
511 VEN/VTN M [X]Yes []No 512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No	510		M	
512 VEN/VTN M [X]Yes []No 514 VEN/VTN O []Yes [X]No				
514 VEN/VTN O []Yes [X]No				

^{515 |} VEN/VTN | M
C-1) Required for all but Report Only VENs.

C-2) All VTNs and Simple HTTP VENs must support this requirement.



Implementation Capabilities and ConfigurationFor each of the questions below, indicate if the implementation has the necessary functionality, configurability, and documentation to successfully complete the certification testing process.

Item	Description	Support
1	Does the implementation being submitted for certification support the capabilities outlined in the DUT Implementation Limits section of the OpenADR 2.0b Test Specification documentation? Note that these limits do not imply minimum market needs for a "b" profile implementation.	[X]Yes []No
2	Does the implementation being submitted for certification support methodologies necessary to trigger specific actions during test execution as outlined in the DUT Configuration Requirements section of the OpenADR 2.0b Test Specification documentation?	[X]Yes []No
3	Have you attached documentation to this PICS statement regarding how to configure the implementation as outlined in Appendix A of the OpenADR Certification Test Harness User Guide?	[X]Yes []No
4	Does the implementation being submitted for certification have pre-installed x.509 certificates from the OpenADR/NetworkFX portal?	[X]Yes []No
5	Does the VEN's being submitted for certification must have host authentication of the X.509 client certificate CN field disabled in order to avoid complex reconfiguration of the test harness and Openfire server? Answer No if not testing a VEN	[X]Yes []No
6	Does the VTN being submitted for certification have the XMPP Server per-configured for the user name of 11111111111 which the test harness uses to connect to the implementation's VTN XMPP server. Answer No if not testing a VTN or XMPP is not supported	[]Yes [X]No
7)	Does the VTN being offer reports as part of its metadata report. If so, periodic reporting will be tested. Answer No if not testing a VTN or no reports are supported	[]Yes [X]No



Optional Test Case Guidelines
Following test cases may be skipped if the criterion noted is met.

	ing test cases may be skipped if the criterion noted is met.	
Item	Criteria	Support
1	Implementations will support either a push and/or pull exchange model. XMPP is always push, whereas HTTP may be either push or pull. Test cases are listed within Eclipse in a tree with branches labels Push or Pull. Only test cases appropriate to the exchange models supported should be run on the implementation.	HTTP Pull
2	If the implementation supports multiple transport and exchange model combinations, the full test suite shall be run across at least one push and one pull configuration. If there is more than one push configuration, then at least 4 non-negative randomly selected test cases shall be run across each service, with execution of the GO_9005_TH_xxx/GO_9010_TH_xxx security test being mandatory as part of the test cases run.	N/A
3	The following test cases may be skipped if HISTORY_USAGE reporting is not supported by a full function VEN. However, Report Only VENs must pass these test cases. _R1_3130_TH_VTN _R0_8130_TH_VTN _R1_3140_TH_VTN _R0_8140_TH_VTN	[]Yes [X]No
4	If the implementation is a Report Only VEN, then all of the tests under the EiEvent and EiOpt service headings may be skipped as these services are not required.	N/A
5	If the answer to question 7 in the Implementation Capabilities and Configuration section is No and the implementation is a VTN, the following test cases may be skipped: R1_3080_TH_VEN R1_3090_TH_VEN R1_3100_TH_VEN R1_3120_TH_VEN R0_8080_TH_VEN R0_8090_TH_VEN R0_8090_TH_VEN R0_8120_TH_VEN	[]Yes [X]No
6	If the VTN cannot send an Empty oadrDisributeEvent skip test case E0_6010_TH_VEN	N/A
7	If the VTN cannot be configured to set oadrResponseRequired to never skip test cases A_E2_0468, A_E2_0480, A_E2_0498, A_E3_0468, A_E3_0480, and A_E3_0498	N/A



8	If VEN cannot be configure with multiple Market Context, skip test case A_E1_0285 and A_E0_0285	[X]Yes []No
9	If the VTN cannot set a ramp up period skip test cases A_E2_0527 and A_E3_0527	N/A
10	If the VTN cannot configure multiple intervals in an event skip test case A_E2_0432 and A_E3_0432	N/A
11	If a VTN cannot set an event's priority skip test case A_E2_0510, A_E3_0510, A_E2_0520, and A_E3_0520	N/A
12	If the VTN does not support configuration of eiTarget subelements, skip test case A_E3_0435 and A_E2_0435.	N/A
13	If the VTN does not support configuration of randomization with a startafter element skip test cases A_E2_0685 and A_E3_0685.	N/A
14	If the VEN cannot be configured to request reports from VTN skip test case R1_3070_TH_VTN_1, R0_8070_TH_VTN_1, R1_3080_TH_VTN_1, R0_8080_TH_VTN_1, R1_3090_TH_VTN_1, R0_8090_TH_VTN_1, R1_3100_TH_VTN_1, R0_8100_TH_VTN_1, R1_3120_TH_VTN_1 and R0_8120_TH_VTN.	[]Yes [X]No
15	If the VTN or VEN cannot be configured to send piggy back report requests and report cancellation payloads skip test cases R1_3050_TH_VEN, R0_8050_TH_VEN_1, R1_3060_TH_VEN, R0_8060_TH_VEN, R1_3120_TH_VTN_1 and R0_8120_TH_VTN.	[X]Yes []No
16	Test cases E1_1050_TH_VTN and E1_6050_TH_VTN may be skipped the VEN cannot configured to send an async oadrRequestEvent as required by this test case.	[X]Yes []No



Pull VEN Configuration

Characteristic	Test Harness (VTN) Property	DUT VEN Configuration
ven ID of the DUT	VEN_ID=TH_VEN	TH_VEN
vtnID of the test harness	VTN_ID=TH_VTN	TH_VTN
Market Context Associated with VEN	DR_MarketContext_1_Name= http://MarketContext1 DR_MarketContext_2_Name= http://MarketContext2	http://MarketContext1 http://MarketContext2 http://A890123456789012345 67890123456789012345678901 23456789012345678901234567 8901234567890123456789
Resource Supported If the DUT requires a special string	ResourceIDs=HELLO, hello1,hello2,hello3 Device_Class=Thermostat,St rip_Heater TestEventString=Test Event	HELLO, hello1, hello2, hello3
to invoke a test event, add it to properties	restruction ing-rest event	
HTTP Configuration	Transport_Type=HTTP HTTP_VtnURL_Port=8080 HTTP_Security= HTTP_SHA256_Security	