

# OpenADR 2.0a

## Protocol Implementation

### Conformance Statement (PICS)

Version 1.0.5  
Valid for Certification as of February 12, 2014

Manufacturer:	Industrial Technology Research Institute
Product Type:	VTN
Product Name:	ICL-VTN 2.0b Driver
Firmware Revision:	1.0
<i>Tested OpenADR 2.0b Profile Spec version:</i>	1.0

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: Industrial Technology Research Institute

Representative Name and Title: Chun-Shiow Chen, Division Director

Signature: Chun-Shiow Chen

Date: 03-11-2015

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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 provides 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 2.0a implementations should validate against the Energy Interop schemas.

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

## References

- OpenADR 2.0a Profile Specification 1.0
- OpenADR 2.0a Test Specification V1.0.5
- OpenADR 2.0a Schema

## Abbreviations and Conventions

The PICS information is comprised of 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** – 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, or N/A if no answer is required.
- **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

## 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 y or n.

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.

### NOTES:

- OpenADR2.0a does NOT have any optional features. However there are payload elements that can be left out of the messages (payloads) -> Optional Payload Elements.
- If an implementation includes a VTN and a VEN interface, EACH interface must be submitted in a separate PICS document.
- All certified products will be posted on the OpenADR Alliance website. A manufacturer can request to delay the web posting for up to 3 months. (see below)

## 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.

Industrial Technology Research Institute herewith requests that the submitted product shall not be posted on the OpenADR Alliance product web page until \_\_\_\_\_ (date, max 3 months from submittal).

Name: Chun-Shiow Chen

Signature: Chun-Shiow Chen

## Implementation and Supplier Information

Date of Statement	2015.
Product Name	ICL-VTN 2.0b Driver
Product Model Number	ICL-VTN 2.0b Driver
Firmware Version	1.0
Non-Default Hardware Configuration (if applicable)	NA
Non-Default Software Configuration (if applicable)	NA
Supplier Name, Address, Phone, Email	Supplier Name: Industrial Technology Research Institute Address: 195, Sec. 4, Chung Hsing Rd., Chutung, Hsinchu, Taiwan 31040, R.O.C. Phone: 886-3-591-5740 E-Mail: <a href="mailto:Wenshiang.t@itri.org.tw">Wenshiang.t@itri.org.tw</a>
Contact name, email, phone for questions	Wenshiang Tang E-Mail: <a href="mailto:Wenshiang.t@itri.org.tw">Wenshiang.t@itri.org.tw</a> Phone: 886-3-591-5740

## Global Statement of Conformance

Are all mandatory capabilities supported for the indicated roles supported by this implementation? (Must be 'yes' to obtain certification)	<input type="checkbox"/> Yes <input type="checkbox"/> No
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## Role

Item	Role	Status	Support
1	VEN	0-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2	VTN	0-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

0-1) Must answer Yes to one Role. A device may be both a VEN and a VTN, however, in this case two PICS documents must be submitted.

## Profiles

VTN			VEN		
	Status	Support		Status	Support
"A" Profile	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	"A" Profile	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Note: Must answer Yes for Roles supported (VEN and/or VTN)

## Transports

VTN			VEN		
	Status	Support		Status	Support
Simple HTTP	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Simple HTTP	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Note: Must answer Yes for Roles supported (VEN and/or VTN)

## Message Exchange Patterns

VTN			VEN		
	Status	Support		Status	Support
Push	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Push	0-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pull	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pull	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

0-1) A VEN Implementation must support pull, and can optionally also support push

Note: Must answer Yes for at least one exchange pattern for each Roles supported (VEN and/or VTN)

## Core Operation Requirements

Indicate the operation sequences supported.

Item	Service	App Level Exchange Sequence	Reference	Status	Support
1	EiEvent Push	VTN: oadrDistributeEvent VEN: oadrCreatedEvent (2) VTN: oadrResponse		C-1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
2	EiEvent Pull	VEN :oadrRequestEvent VTN: oadrDistributeEvent VEN: oadrCreatedEvent (2) VTN:oadrResponse		C-1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

1) Push implementations must support items 1. Pull implementations must support item 2.

2)The oadrCreatedEvent application layer response is conditional based upon the state of the oadrResponseRequired element in each event contained in the OadrDistributeEvent payload.

## Core Operation Payload Schema Conformance

For each payload generated by an implementation, indicate if it conforms to the indicated schema.

Item	Requirement	Reference	Support
1	oadrDistributeEvent validates against the Alliance "A" profile schema	Alliance Schema	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
2	oadriCreatedEvent validates against the Alliance "A" profile schema	Alliance Schema	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
3	oadrRequestEvent validates against the Alliance "A" profile schema	Alliance Schema	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
4	oadrResponse validates against the Alliance "A" profile schema	Alliance Schema	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Note: VTNs generate items 1 and 4, Push VENS item 2, and Pull VENS items 2 and 3.

## Alliance Core Optional Element/Attribute Support

Indicate which of the following optional elements that are part of the Alliance “A” profile schema are included in your payloads.

Item	Element/Attribute	Support
1	oadrDisributeEvent:eiResponse:responseDescription	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	oadrDisributeEvent:eiEvent:eventDescriptor:priority	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	oadrDisributeEvent:eiEvent:eventDescriptor:testEvent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	oadrDisributeEvent:eiEvent:eventDescriptor:vtnComment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	oadrDisributeEvent:eiEvent:eiActivePeriod:properties:tolerance	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	oadrDisributeEvent:eiEvent:eiActivePeriod:properties:tolerance:tolerate:startafter	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	oadrDisributeEvent:eiEvent:eiActivePeriod:properties:x-eiRampUp	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8	oadrDisributeEvent:eiEvent:eiActivePeriod:properties:x-eiRecovery	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9	oadrDisributeEvent:eiEvent:eiTarget:groupID	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	oadrDisributeEvent:eiEvent:eiTarget:resourceID	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	oadrDisributeEvent:eiEvent:eiTarget:venID	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	oadrDisributeEvent:eiEvent:eiTarget:partyID	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	oadrCreatedEvent :eiCreatedEvent:eiResponse:responseDescription	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
14	oadrCreatedEvent :eiCreatedEvent:eventResponses:eventResponse:responseDescription	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15	oadrRequestEvent :eiRequestEvent:replyLimit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
16	oadrResponse:eiResponse:responseDescription	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1)Elements that are conditionally optional based upon the operational state where not included in this list.

Note: Items 13, 14, and 15 apply to a device playing the VEN Role, all others apply to a VTN.



## Alliance “a” Profile Detailed Requirements

In addition to the requirements defined by the schema, the OpenADR 2.0a 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 2.0a Profile Specification while reviewing the following conformance rules

Conformance Rule	Roles	Reference	Status	Support
1	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
17	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
18	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
19	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
20	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
21	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

22	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
23	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
25	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
27	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
29	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
30	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
31	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
32	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
33	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
35	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
36	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
37	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
38	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
40	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
41	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
42	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
43	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
44	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
45	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
46	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
47	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
48	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
49	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	O	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
50	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
51	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

52	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
53	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
54	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
55	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
56	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
57	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
58	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
59	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
60	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
61	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
62	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
63	VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
64	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
65	VEN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
66	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
67	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
68	VEN VTN	OpenADR 2.0a Profile Spec, Section 11.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Note: Items 54, 55, and 64 apply to a pull VEN only. Item 66 applies to a push VTN Only.

## Simple HTTP Transport Implementation Detailed Requirements

Item	Requirement	Reference	Status	Support
1	Are endpoint names formatted as follows:  <i>https://&lt;hostname&gt;(:port)/(prefix)/OpenADR2/Simple/&lt;service&gt;</i>	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Are all messages sent using the HTTP POST method?	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	When a request fails for any reason (either due to physical or network-level failure or a timeout) does the requestor institute 'back-off' or quiesce logic to avoid flooding the network or receiver with requests?	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the Device under test include the following mandatory http headers in Requests: <ul style="list-style-type: none"> <li>• Host</li> <li>• Content-Length</li> </ul>	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	If the device under test includes an Accept or Content-Type http header, is it "application/XML"?	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	If the device under test includes a Content-Type header with a character encoding, is it "application/XML;charset=utf-8"?	OpenADR Profile Spec, Section 9.1		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Unique base path for VTN and VEN if in the same device	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	In a push scenario, are application level requests acknowledged with a transport layer ack, followed by an async application level response in the form of a http request	OpenADR Profile Spec, Section 9.1	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Note that behavior intrinsic to http, such as dealing with content encoding and response to 401 was not included in the PICS statements

## Security Features

Item	Requirement	Reference	Status	Support
1	Does the implementation support both client and server X.509v3 certificates with key lengths as follows: <ul style="list-style-type: none"> <li>ECC 256 bits or longer</li> <li>RSA 2048 Bits or longer</li> </ul>	OpenADR Profile Spec, Section 10.2	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the implementation support TLS version 1.0	OpenADR Profile Spec, Section 10.5	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the implementation support TLS 1.2?	OpenADR Profile Spec, Section 10.5	O	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the implementation support an ECC certificate and ECC ciphers for TLS 1.0 and TLS 1.2 (if supported)	OpenADR Profile Spec, Section 10.2 and 10.5	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the implementation support an RSA certificate and RSA ciphers for TLS 1.0 and TLS 1.2 (if supported)	OpenADR Profile Spec, Section 10.2 and 10.5	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

C-1 VEN implementations must support either RSA or ECC, and may support both. VTN must support both ECC and RSA.

## Implementation Capabilities and Configuration

<p>Does the implementation being submitted for certification support the following minimum capabilities necessary for successful execution of the certification test suite. Note that these limits do not imply minimum market needs for an “a” profile implementations.</p> <ul style="list-style-type: none"> <li>-responseDescription, vtnComment – 250 characters</li> <li>-venID, vtnID, requestID, uid, groupID, partyID, resourceID, eventID – 50 characters</li> <li>-SignalName, MarketContext – 100 characters</li> <li>- Maximum size of oadrDistributeEvent: A payload with 4 events each with 3 intervals and a payload with 1 event containing 24 intervals</li> <li>-Number of instances of groupID, resourceID, partyID in eiTarget – 4</li> <li>-Number of eventResponses in oadrResponse - 4</li> </ul>	<p><input checked="" type="checkbox"/>Yes   <input type="checkbox"/>No</p>
<p>Does the implementation, if a VEN, provide some visual means for a test engineer to determine that an event is currently active ? Attached documentation to this PICS statement regarding how this is accomplished.</p>	<p><input type="checkbox"/>Yes   <input checked="" type="checkbox"/>No <input type="checkbox"/>N/A</p>
<p>Does the implementation, if a VTN, include the VTN Test Interface described in the OpenADR Test Specification?</p>	<p><input checked="" type="checkbox"/>Yes   <input type="checkbox"/>No <input type="checkbox"/>N/A</p>
<p>Have you attached documentation to this PICS statement regarding how to configure the implementation regarding the items noted below?</p> <p><b><u>VTN and VENs</u></b></p> <ul style="list-style-type: none"> <li>• How to configure the marketContext URI so that the so that the implementation and test harness can interact with respect to the same marketContext.</li> <li>• How to initialize the implementation such that all events are cleared from the data store.</li> <li>• How to configure or determine the assigned VEN or VTN ID.</li> <li>• If supported, how to configure additional identification values used by the VEN including groupID, resourceID, or partyID.</li> <li>• How to install x.509 certificates in the implemantions trust store.</li> </ul> <p><b><u>VENs</u></b></p> <ul style="list-style-type: none"> <li>• How to trigger oadrRequestEvent requests</li> <li>• How to opt out of an event.</li> <li>• How to set the polling frequency.</li> </ul>	<p><input checked="" type="checkbox"/>Yes   <input type="checkbox"/>No</p>

## Optional Test Case Guidelines

Can the push VTN send an empty oadrDisributeEvent? If no, skip test case E0_0020	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Can the push VEN be configured to do concurrent push and pull? If no, skip test case E0_0290	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Can the VTN implementation set oadrResponseRequired to never? If no, skip test cases E2_0468, E2_0480, E2_0498, E3_0468, E3_0480, and E3_0498	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Can the VTN set a ramp up period? If no, skip test cases E2_0527 and E3_0527	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Can the VTN send an event with multiple intervals in an event? If no, skip test case E2_0432 and E3_0432	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Can the VTN set an event's priority? If no, skip test case E2_0510, E3_0510, E2_0520, and E3_0520	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Can the VTN be configured to set at least one eiTarget sub elements including partyID, resourceID, venID, or groupID? If no, skip test cases E2_0435 and E3_0435	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the device support configuration of the VTN to randomize events using the startafter element? If no, skip test cases E2_0685, E3_0685	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

--- End of Document ---

# OpenADR 2.0b

## Protocol Implementation Conformance Statement (PICS)

Version 1.0.6

Valid for Certification as of September 10, 2013

Manufacturer:	Industrial Technology Research Institute
Product Type:	VTN
Product Name:	ICL-VTN 2.0b Driver
Firmware Revision:	1.0
<i>Tested OpenADR 2.0b Profile Spec version:</i>	1.0

#### 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: Industrial Technology Research Institute

Representative Name and Title: Chun-Shiow Chen, Division Director

Signature: Chun-Shiow Chen

Date: 03-11-2015



## Revisions:

Version	Changes	Date/Editor
1.0.0	<ul style="list-style-type: none"> <li>Released Version</li> </ul>	06/28/13
1.0.1	<ul style="list-style-type: none"> <li>Added additional optional test case conditions</li> </ul>	07/28/13
1.0.2	<ul style="list-style-type: none"> <li>Added test case A_E1_0285 and A_E0_0285 to optional list</li> </ul>	08/15/13
1.0.4	<ul style="list-style-type: none"> <li>Added test case A_E3_0680 to optional list</li> </ul>	08/20/13
1.0.5	<ul style="list-style-type: none"> <li>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_1, 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.</li> </ul>	09/09/13
1.0.6	<ul style="list-style-type: none"> <li>Corrected typo.</li> <li>Removed test case A_E0_0295.</li> <li>Mentioned G0_9005.</li> </ul>	2/11/2014 EP, BD

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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 1.0
- OpenADR 2.0b Test Spec V1.0.6
- 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 1.0.

## 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.**

Industrial Technology Research Institute (Manufacturer) herewith requests that the submitted product shall not be posted on the OpenADR Alliance product web page until \_\_\_\_\_ (date, max 3 months from submittal).

Name: Chun-Shiow Chen

Signature: Chun-shiow Chen

## Implementation and Supplier Information

Date of Statement	2015.
Product Name	ICL-VTN 2.0b Driver
Product Model Number	ICL-VTN 2.0b Driver
Version Number(s)	1.0
Non-Default Hardware Configuration	NA
Non-Default Software Configuration	NA
Supplier Name, Address, Phone, Email	Supplier Name: Industrial Technology Research Institute Address: 195, Sec. 4, Chung Hsing Rd., Chutung, Hsinchu, Taiwan 31040, R.O.C. Phone: 886-3-591-5740 E-Mail: <a href="mailto:Wenshiang.t@itri.org.tw">Wenshiang.t@itri.org.tw</a>
Contact name, email, phone for questions	Wenshiang Tang E-Mail: <a href="mailto:Wenshiang.t@itri.org.tw">Wenshiang.t@itri.org.tw</a> Phone: 886-3-591-5740

## Global Statement of Conformance

Requirement	Support
Are all mandatory capabilities supported for the indicated roles supported by this implementation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## Roles

Item	Role	Status	Support
1	VEN - Full Function	O-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	VEN - Energy Reporting Only	O-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	VTN	O-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

O-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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VEN/VTN	"B" Profile	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

C-1) VTNs must support the A

C-1) VENs may support ONLY the 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VEN/VTN	SimpleHTTP - Push	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	VEN/VTN	XMPP - Push	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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.

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## 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VEN/VTN	EiOpt	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	VEN/VTN	EiReport	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	VEN/VTN	RiRegisterParty	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	VEN/VTN	OadrPoll	C-2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

C-1) VTNs and Full Function VENs must support Services. Not supported by Report Only VENs.

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

## Security Support

Requirements Reference: Conformance rules 67, 68, and 514

Item	Role	Security	Status	Support
1	VEN	SHA1 Security -TLS 1.0, 1.1 -Client and server x.509 certs with SHA1 -Alliance RSA <b>or</b> ECC SHA1 Ciphers -SASL_EXTERNAL (XMPP Only)	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2	VTN	SHA1 Security -TLS 1.0, 1.1 -Client and server x.509 certs with SHA1 -Alliance RSA <b>and</b> ECC SHA1 Ciphers -SASL_EXTERNAL (XMPP Only)	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	VEN	SHA2 Security -TLS 1.2 -Client and server x.509 certs with SHA2 -Alliance RSA <b>or</b> ECC SHA2 Ciphers -SASL_EXTERNAL (XMPP Only)	C-2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4	VTN	SHA2 Security -TLS 1.2 -Client and server x.509 certs with SHA2 -Alliance RSA <b>and</b> ECC SHA2 Ciphers -SASL_EXTERNAL (XMPP Only)	C-2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	VEN/VTN	XML Signatures	O	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

C-1) Support for these options is prohibited past an Alliance-defined grace period.

C-2) Support for these options is mandatory past an Alliance-defined grace period. Select option appropriate to role, mark other as N/A.

## 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	[ ]Yes [x]No
2	VEN	oadrRequestEvent	C-2	[ ]Yes [x]No
3	VEN	oadrCreatedEvent	C-2	[ ]Yes [x]No
4	VEN	oadrCreateOpt	C-2	[ ]Yes [x]No
5	VEN	oadrCancelOpt	C-2	[ ]Yes [x]No
6	VTN	oadrCanceledOpt	C-2	[x]Yes [ ]No
7	VEN	oadrQueryRegistration	M	[ ]Yes [x]No
8	VEN	oadrCreatePartyRegistration	M	[ ]Yes [x]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	M	[x]Yes [ ]No
15	VEN/VTN	oadrCreatedReport	M	[x]Yes [ ]No
16	VEN/VTN	oadrUpdateReport	M	[x]Yes [ ]No
17	VEN/VTN	oadrUpdatedReport	M	[x]Yes [ ]No
18	VEN/VTN	oadrCancelReport	M	[x]Yes [ ]No
19	VEN/VTN	oadrCanceledReport	M	[x]Yes [ ]No
20	VTN	oadrCreatedOpt	C-2	[x]Yes [ ]No
21	VTN	oadrDistributeEvent	C-2	[x]Yes [ ]No
22	VTN	oadrCreatedPartyRegistration	M	[x]Yes [ ]No
23	VTN	oadrRequestReregistration	M	[x]Yes [ ]No

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

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



## Operational Sequence Support

The table below demonstrates the operational sequences and the conditional behavior for each of the services. The VEN oadrPoll interaction pattern and push HTTP acknowledgement (empty payload) of oadrDistributeEvent are 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}} VTN: oadrDistributeEvent {Response Required, baseline} {VEN: oadrCreatedEvent {Opt State}} VTN: oadrResponse }	C-1	[x]Yes [ ]No
2	EiOpt	VEN: oadrCreateOpt {Availability schedule} VTN: oadrCreatedOpt ---- VEN: oadrCancelOpt VTN: oadrCanceledOpt --- VEN: oadrCreateOpt - {Event Opt State} VTN: oadrCreatedOpt	C-1	[x]Yes [ ]No
3	EiRegisterParty	VEN: oadrQueryRegistration VTN: oadrCreatedPartyRegistration ---- VEN: oadrCreatePartyRegistration VTN: oadrCreatedPartyRegistration ---- VEN/VTN: oadrCancelPartyRegistration VTN/VEN: oadrCanceledPartyRegistration --- VTN: oadrRequestReregistration VEN: oadrResponse VEN: oadrCreatePartyRegistration VTN: oadrCreatedPartyRegistration	M	[x]Yes [ ]No
4	EiReport	VEN/VTN: oadrRegisterReport 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}	C-3	[x]Yes [ ]No
5	OadrPoll	VEN: oadrPoll VTN: Any payload sent by VTN	C-2	[ ]Yes [x]No

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. All other payload interactions shown are mandatory.

## 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VEN/VTN	ELECTRICITY_PRICE	Price	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	VEN/VTN	LOAD_DISPATCH	setpoint	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1) The Alliance was still determining VTN report support at the time this was drafted.

## 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2	VEN	TELEMETRY_UASGE	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	VEN	TELEMETRY_STATUS	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4	VEN	HISTORY_USAGE	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	VTN	METADATA	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 (Rule)	Role	Status	Support
1	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	VEN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
17	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
18	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
19	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
20	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
21	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
22	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
23	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
25	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
27	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
29	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
30	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
31	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
32	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
33	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
35	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
36	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
37	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
38	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
40	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
41	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
42	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
43	VEN	C-1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
45	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
46	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
47	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
48	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
50	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
51	VEN/VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
52	VTN	C-1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

Item (Rule)	Role	Status	Support
311	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
312	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
313	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
314	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
315	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
316	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
317	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
318	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
319	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
321	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
322	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
324	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
325	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
327	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
328	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
329	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
330	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
331	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
333	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
334	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
335	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
336	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
337	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
338	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
339	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
340	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
341	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
342	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
343	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
400	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
401	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
402	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
403	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
404	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
405	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
406	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
407	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
500	VEN/VTN	C-2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
501	VEN/VTN	C-2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
502	VEN/VTN	C-2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
506	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
507	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
508	VEN	M	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
509	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
510	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
511	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
512	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
514	VEN/VTN	O	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
515	VEN/VTN	M	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

C-1) Required for all but Report Only VENs.

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

## Implementation Capabilities and Configuration

For 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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the implementation being submitted for certification have pre-installed x.509 certificates from the OpenADR/NetworkFX portal?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the VTN being submitted for certification have the XMPP Server per-configured for the user name of 111111111111 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## Optional Test Case Guidelines

Following test cases may be skipped if the criterion noted is met.

Item	Criteria	Support
1	Implementations will support either a push 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 model should be run on the implementation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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 G0_9005_xx_xxx/G0_9010_xx_xxx security test being mandatory as part of the test cases run.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Test cases R?_?130_TH_VTN and R?_?140_TH_VTN may be skipped if HISTORY_USAGE reporting is not supported by a full function VEN. However, Report Only VENs must pass these test cases.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 supported.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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_8080_TH_VEN R1_3090_TH_VEN R1_8090_TH_VEN R1_3100_TH_VEN R1_8100_TH_VEN R1_3120_TH_VEN R1_8120_TH_VEN	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	If the VEN cannot send an Empty oadrDisributeEvent skip test case A_E0_0020	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	If VEN cannot be configure with multiple Market Context, skip test case A_E1_0285 and A_E0_0285	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	If the implementation cannot resend an unchanged payload, the test case A_E3_0680 can be skipped.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	If the VTN cannot set a ramp up period skip test cases A_E2_0527 and A_E3_0527	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	If the VTN cannot configure multiple intervals in an event skip test case A_E2_0432 and A_E3_0432	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

13	If the VTN does not support configuration of eiTarget subelements, skip test case A_E3_0435 and A_E2_0435.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	If the VTN does not support configuration of randomization with a startafter element skip test cases A_E2_0685 and A_E3_0685.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15	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.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No