**OpenADR 2.0a**

Protocol Implementation

Conformance Statement (PICS)

Version 1.1.3

Valid for Certification as of March 2, 2018

|  |  |
| --- | --- |
| Manufacturer: | CUROO Inc. |
| Product Type: | VEN |
| Product Name: | CUROO DRMS VEN |
| Firmware Revision: | 1.0 |
| *Tested OpenADR 2.0a Profile Spec version:* | 1.0 |

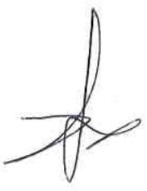
Disclaimer:

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: CUROO Inc.

Representative Name and Title: TAEYOUNG KIM, CEO



Signature:

Date: December 10, 2019

# Revisions:

|  |  |  |
| --- | --- | --- |
| **Version** | **Changes** | **Date/Editor** |
| 1.0.6 | * Corrections | 11/7/2015 JZ |
| 1.1.0 | * Version Change Only | 2/22/2016 |
| 1.1.2 | * Version Change Only | 4/25/2017 |
| 1.1.3 | * Corrected test specification and profiles specification references | 12/12/18 |

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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 V1.1.3
* 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 of no answer is required.
* **Values Allowed Column** – Optional column representing set of values allowed
* **Values Supported Column** – Optional column where supplier can indication 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 rational 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 much 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)

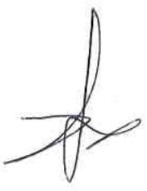
## Documents required for final certification

* 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.**

CUROO Inc (Manufacturer) herewith requests that the submitted product shall not be posted on the OpenADR Alliance product web page until January 1, 2020 (date, max 3 months from submittal).

Name: TAEYOUNG KIM



Signature:

# Implementation and Supplier Information

|  |  |
| --- | --- |
| Date of Statement | December 10, 2019 |
| Product Name | CUROO DRMS VEN |
| Product Model Number | 1 |
| Firmware Version | 1.0 |
| Non-Default Hardware Configuration (if applicable) | N/A |
| Non-Default Software Configuration (if applicable) | N/A |
| Supplier Name, Address, Phone, Email | CUROO, SK V1 1104, 830, Dongtansunhwan-daero, Hwasung-si, Gyeonggi-do, Republic of Korea  +82-10-6413-9101, curoo@curoo.co.kr |
| Contact name, email, phone for questions | CHEOLHYEON JIN, +82-10-7223-6428, chjin@curoo.co.kr |

# Global Statement of Conformance

|  |  |
| --- | --- |
| **Requirement** | **Support** |
| Are all mandatory capabilities supported for the indicated roles supported by this implementation? (Must be ‘yes’ to obtain certification) | [√]Yes [ ]No |

# Roles

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Role** | **Status** | **Support** |
| 1 | VEN | O-1 | [√]Yes [ ]No |
| 2 | VTN | O-1 | [ ]Yes [√]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 | [ ]Yes [ ]No | “A” Profile | M | [√]Yes [ ]No |

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

# Transports

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VTN** | | | **VEN** | | |
|  | **Status** | **Support** |  | **Status** | **Support** |
| Simple HTTP | M | [ ]Yes [ ]No | Simple HTTP | M | [√]Yes [ ]No |

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

# Message Exchange Patterns

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VTN** | | | **VEN** | | |
|  | **Status** | **Support** |  | **Status** | **Support** |
| Push | M | [ ]Yes [ ]No | Push | 0-1 | [ ]Yes [ ]No |
| Pull | M | [ ]Yes [ ]No | Pull | M | [√]Yes [ ]No |

* 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 | [ ]Yes [√]No [ ]N/A |
| 2 | EiEvent  Pull | VEN :oadrRequestEvent  VTN: oadrDistributeEvent  VEN: oadrCreatedEvent (2)  VTN:oadrResponse |  | C-1 | [√]Yes [ ]No [ ]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 | [ ]Yes [ ]No  [√]N/A |
| 2 | oadriCreatedEvent validates against the Alliance “A” profile schema | Alliance Schema | [√]Yes [ ]No  [ ]N/A |
| 3 | oadrRequestEvent validates against the Alliance “A” profile schema | Alliance Schema | [√]Yes [ ]No  [ ]N/A |
| 4 | oardResponse validates against the Alliance “A” profile schema | Alliance Schema | [ ]Yes [ ]No  [√]N/A |

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

# 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 | [ ]Yes [ ]No |
| 2 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 3 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 4 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 5 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 6 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 7 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 8 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 9 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 10 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 12 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 13 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 14 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 15 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 16 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 17 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 18 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 19 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 20 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 21 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 22 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 23 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 25 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 27 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 29 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 30 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 31 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 32 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 33 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 35 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 36 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 37 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 38 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 40 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 41 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 42 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 43 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 44 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 45 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 46 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 47 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 48 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 49 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | O | [√]Yes [ ]No |
| 50 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 51 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 52 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 53 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 54 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 55 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 56 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 57 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 58 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 59 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 60 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 61 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 62 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 63 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 64 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 65 | VEN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 66 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |
| 67 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 68 | VEN  VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [√]Yes [ ]No |
| 70 | VTN | OpenADR 2.0a Profile Spec, Section 11.2 | M | [ ]Yes [ ]No |

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

# 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 2.0a Test Specification documentation? Note that these limits do not imply minimum market needs for a “a” profile implementation. | [√]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? | [√]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? | [√]Yes [ ]No |
| 4 | Does the implementation being submitted for certification have pre-installed x.509 certificates from the OpenADR/NetworkFX portal? | [√]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 | [√]Yes [ ]No |

# Optional Test Case Guidelines

|  |  |
| --- | --- |
| Can the push VEN be configured to do and Async oadrRequestEvent? If no, skip test case E0\_0290 | [ ]Yes [√]No |
| 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 | [ ]Yes [√]No |
| Can the VTN set a ramp up period?  If no, skip test cases E2\_0527 and E3\_0527 | [ ]Yes [√]No |
| Can the VTN send an event with multiple intervals in an event?  If no, skip test case E2\_0432 and E3\_0432 | [ ]Yes [√]No |
| Can the VTN set an event’s priority?  If no, skip test case E2\_0510, E3\_0510, E2\_ 0520, and E3\_0520 | [ ]Yes [√]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 | [ ]Yes [√]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 | [ ]Yes [√]No |

--- End of Document ---