

API Specification Documentation

(CIDataSolutions App)

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1.0	05-Oct-2017	Robert Ballard – Trovema Technologies	Initial draft
1.1	10-Oct-2017	Robert Ballard – Trovema Technologies	Get file to download correction
1.2	1-Mar-2018	Robert Ballard – Trovema Technologies	Fix data sent about instrument's configuration
2.0	12-Apr-2018	Robert Ballard – Trovema Technologies	New function: create partial wls files. Return data in JSON format.
2.01	20-Jul-2018	Robert Ballard – Trovema Technologies	Fixed a typo for the method ShowFile
2.02	23-Jul-2018	Robert Ballard – Trovema Technologies	Changed Methods type from POST to GET
2.03	25-Jul-2018	Robert Ballard – Trovema Technologies	New function: get a list of instruments' serial number accessible to an integrator.
2.04	06-Aug-2018	Robert Ballard – Trovema Technologies	Specify meaning of attribute Actif in showConfig
2.05	13-Aug-2018	Robert Ballard – Trovema Technologies	Modify showISNIInstrumentList to allow for a list of Usernames
2.06	13-Aug-2018	Robert Ballard – Trovema Technologies	New function to manage relation between user and integrator
2.07	19-Apr-2019	Robert Ballard – Trovema Technologies	New function to update a wlg file
2.08	11-Sept-2019	Robert Ballard – Trovema Technologies	Clarification of the partial file creation function.
2.09	12-Mar-2020	Robert Ballard – Trovema Technologies	Fix every example.

Version	Date	Author	Description
2.10	21-Dec-2020	Robert Ballard – Trovema Technologies	Remove function: create partial wls files.

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Methods

1. Get configuration information

Information on an instrument's configuration. Result returned in JSON format.

1: Request for showConfig

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=showConfig&user_name=The_User_Name&SN=The_SN&ISN=The_ISN

Type	Params	Values
GET	User_Name	string
GET	SN	string
GET	ISN	string

User_Name, SN and ISN

User_Name, SN and ISN must be sent with all client requests. The combination of these 3 parameters helps the server to validate the request source.

Response to showConfig

If not successful:

- Status_Code See list at the end of this document,
- Status_Desc See list at the end of this document,
- SN ASCII string

Possible status codes:

401, 403, 404, 410, 411, 412, 413, 414, 415, 416

1: Response to showConfig for NSRT

If successful and instrument is NSRT:

- **Model** ASCII string
- **SN** ASCII string
- **Firmware_Revision** ASCII string
- **Flash_Capacity** Integer. Number of bytes available to store data.
- **Date_of_Birth** Integer (64-bit UTC based on Dec 31 1903)
- **Last_Calibration** Integer (64-bit UTC based on Dec 31 1903)
- **User_ID** ASCII string
- **Temperature_Max** Float. Maximum temperature ever recorded
- **Temperature_Min** Float. Minimum temperature ever recorded
- **Instrument_TZ** Integer. Time zone the instrument is (in seconds).
- **Manufacturer** ASCII string
- **Actif**
 - 0 -> Inactive. No current subscription associated to the instrument.
 - 1 -> Active. Current subscription associated to the instrument.
- **NSRT_Weighting** Integer. Weighting curve:
 - 0 -> dB-C
 - 1 -> dB-A (default)
 - 2 -> dB-Z
- **NSRT_Manifest_Lmax** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
- **NSRT_Manifest_LEQ** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
- **NSRT_Manifest_Lmin** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
- **NSRT_Time_Constant** Float. Time constant of the instrument in seconds
 - Ex. Slow 1.0
 - Ex. Fast 0.125 (default)
- **NSRT_Log_Interval** Float. Log interval in seconds (default is 1.0) min is currently 125 ms)
- **NSRT_Fs** Integer. Sampling frequency in Hz (default: 32000).
- **NSRTW_Connect_Interval** Float. The connection interval (in seconds) (default: 0).
- **NSRTW_Start_Date_Time** Integer (64-bit UTC based on Dec 31 1903) (default: 0)
- **NSRTW_Periodic_Connect** Boolean. Indicates whether instrument reporting is active (instrument will connect) or not. (0-Not Active / 1-Active) (default: 0)
- **NSRTW_Noise_Email** Boolean. Indicates if the Noise email is active (will send an email upon over-level) or not (0 – Inactive / 1 – Active) (default: 0)

- **NSRTW_Batt_Email** Boolean. Indicates if the Low-battery email is active (will send an email upon a low-battery event) or not (0 – Inactive / 1 – Active) (default: 0)
- **Noise_Threshold** Float. Noise threshold that will trigger the email (in dB) (default: 94).

1: Example for showConfig for NSRT

```
"Last_Calibration":3588500845,
"Instrument_TZ":-18000,
"User_ID":"Hangar_Serge",
"NSRT_Log_Interval":1.0,
"NSRT_Manifest_LEQ":1,
"Status_Desc":"OK: Success",
"NSRTW_Batt_Email":1,
"NSRT_Manifest_LMin":1,
"SN":"CHlcLtU689+XAjNyY6j5FD",
"NSRTW_Periodic_Connect":1,
"Date_Of_Birth":3585908730,
"NSRT_Manifest_LMax":1,
"NSRT_Time_Constant":0.125,
"Noise_Threshold":100.0,
"Firmware_Revision":1.30,
"Status_Code":200,
"Model":"NSRTW_mk2",
"Manufacturer":"Convergence Instruments",
"Temperature_Max":40.1,
"NSRTW_Noise_Email":1,
"Temperature_Min":19.3,
"NSRT_Weighting":1,
"NSRTW_Start_Date_Time":3588601420,
"NSRT_Fs":32000,
"Actif":1,
"NSRTW_Connect_Interval":600.0,
"Flash_Capacity":16777216
```

1: Response to showConfig for VSEW

If successful and Instrument is VSEW:

- **Model** ASCII string
- **SN** ASCII string
- **Firmware_Revision** ASCII string
- **Flash_Capacity** Integer. Number of bytes available to store data.
- **Date_of_Birth** Integer (64-bit UTC based on Dec 31 1903)
- **Last_Calibration** Integer (64-bit UTC based on Dec 31 1903)
- **User_ID** ASCII string
- **Temperature_Max** Float. Maximum temperature ever recorded
- **Temperature_Min** Float. Minimum temperature ever recorded
- **Instrument_TZ** Integer. Time zone the instrument is (in seconds).
- **Manufacturer** ASCII string
- **Actif**
 - 0 -> Inactive. No current subscription associated to the instrument.
 - 1 -> Active. Current subscription associated to the instrument.
- **VSEW_SignalType** Integer. Measurement:
 - 0 -> Acceleration (default)
 - 1 -> Velocity
- **VSEW_Fs** Integer. Sampling frequency in Hz (default: 4 kHz). The available sampling frequencies are:
 - 4 kHz, 2 kHz, 1 kHz, 500 Hz, 250 Hz, 125 Hz, 63 Hz, 32 Hz, 16 Hz, 8 Hz, 4 Hz
- **VSEW_HighPass_Freq** Float. Cutoff Frequency (Hz) (default: 1.0 Hz)
- **VSEW_HighPass_On** Boolean value (0-Off / 1-On) (default: 0)
- **VSEW_AutoRec_Threshold** Float. Threshold for AutoRec (default: 200.0)
This value is expressed in the scale corresponding to the signal type:
 - For acceleration: m/s^2
 - For velocity: m/sThe default insures that the threshold is never reached for velocity or acceleration.
Because of the wide range of values possible (from $\mu m/s$ to tens of m/s^2), we recommend to display this value in engineering units (a value followed by e^x , where x is a multiple of 3 (ex: -6, -3, 0, 3, 6...etc.))
- **VSEW_AutoRec_Time** Float. Min quiet time in seconds (default is 5.0).
- **VSEW_AutoRec_Action** Integer. Action to take when timer is triggered, or through WiFi action:
 - 0 -> Record (default)
 - 1 -> AutoRec
- **VSEW_Log_Interval** Float. Log interval in seconds (default is 1.0) min is currently 125 ms)
- **VSEW_Contents** Integer. Contents of recording:
 - 0 -> RMS peaks and average (default)
 - 1 -> Signal peaks and average
 - 2 -> Raw signal
- **VSEW_Manifest_X** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – X axis
Note: This value is only relevant when *VSEW_Contents* is set to *Raw Signal*.

- **VSEW_Manifest_Y** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Y axis
Note: This value is only relevant when *VSEW_Contents* is set to *Raw Signal*.
- **VSEW_Manifest_Z** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Z axis
Note: This value is only relevant when *VSEW_Contents* is set to *Raw Signal*.
- **VSEW_Manifest_Xmax** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – X axis – max value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Ymax** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Y axis – max value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Zmax** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Z axis – max value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Xavg** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – X axis – average value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Yavg** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Y axis – average value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Zavg** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Z axis – average value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Xmin** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – X axis – min value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Ymin** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Y axis – min value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Manifest_Zmin** Boolean value (0-Not Recorded / 1-Recorded) (default: 1)
Raw Signal – Z axis – min value
Note: This value is only relevant when *VSEW_Contents* is set to *Signal Pk & Avg or RMS Pk & Avg*.
- **VSEW_Start_Date_Time** Integer (64-bit UTC based on Dec 31 1903) (default: 0)
- **VSEW_Periodic_Connect** Boolean. Indicates whether instrument reporting is active (instrument will connect) or not. (0-Not Active / 1-Active) (default: 0)
- **VSEW_Batt_Email** Boolean. Indicates if the Low-battery email is active (will send an email upon a low-battery event) or not (0 – Inactive / 1 – Active) (default: 0)
- **SensorAlarm_Threshold** Float. Sensor threshold that will trigger the email (default: 200).

This value is expressed in the scale corresponding to the signal type:

- For acceleration: m/s^2
- For velocity: m/s

1: Example for showConfig for VSEW

```
"Last_Calibration":0,  
"VSEW_AutoRec_Threshold":10.0,  
"VSEW_Start_Date_Time":3615400522,  
"Instrument_TZ":-14400,  
"VSEW_Manifest_XMax":0,  
"User_ID": "",  
"VSEW_Manifest_YAvg":0,  
"VSEW_Manifest_YMin":0,  
"SensorAlarm_Threshold":10.0,  
"Status_Desc":"OK: Success",  
"VSEW_HighPass_On":1,  
"VSEW_Manifest_X":1,  
"VSEW_Manifest_Y":1,  
"VSEW_Manifest_Z":1,  
"VSEW_Contents":2,  
"VSEW_Manifest_ZMax":0,  
"SN":"AHjcJ1W4+fU%qnrwQ8jZnD",  
"Date_Of_Birth":3610642738,  
"VSEW_AutoRec_Time":5.0,  
"VSEW_Log_Interval":1.0,  
"Firmware_Revision":1.40,  
"VSEW_SignalType":0,  
"VSEW_Manifest_ZAvg":0,  
"VSEW_Manifest_ZMin":0,  
"Status_Code":202,  
"Model":"VSEW_mk2",  
"Manufacturer":"Convergence Instruments",  
"Temperature_Max":37.0,  
"Temperature_Min":16.1,  
"VSEW_SensorAlarm_Email":1,  
"VSEW_Fs":4000,  
"VSEW_Manifest_XAvg":0,  
"VSEW_Manifest_XMin":0,  
"VSEW_Periodic_Connect":0,  
"VSEW_Batt_Email":1,  
"VSEW_HighPass_Freq":1.0,  
"VSEW_Manifest_YMax":0,  
"Actif":0,  
"VSEW_AutoRec_Action":0,  
"Flash_Capacity":16777216
```

2. Get instrument's list of files

Get the list of files associated to the instrument. Result returned in JSON format.

2: Request for showInstrumentList

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=showInstrumentList &user_name= The_User_Name &SN= The_SN &ISN= The_ISN

Type	Params	Values
GET	User_Name	string
GET	SN	string
GET	ISN	string

User_Name, SN and ISN

User_Name, SN and ISN must be sent with all client requests. The combination of these 3 parameters helps the server to validate the request source.

2: Response to showInstrumentList

If not successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- SN ASCII string
- List Empty string

Possible status codes:

401, 403, 404, 410, 411, 412, 413

If successful :

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- SN ASCII string
- List Listing of files without the extension separated by a comma

Example:

```
"Status_Code":202,  
"SN":"CHlcltU689 XAjNyY6j5FD",  
"List":"CID_29_2017_10_20__19h21m11s,CID_29_2017_11_22__00h11m20s,CID_29_2017_12_24__06h01  
m28s,CID_29_2018_01_25__12h04m56s,CID_29_2018_02_26__17h55m49s,CID_29_2018_02_26__21h55  
m49s,CID_29_2018_03_31__03h45m24s",  
"Status_Desc":"OK: Success"
```

3. Get link to download file

Get the link to download the requested file. Result returned in JSON format if unsuccessful, otherwise, we return the file to download.

3: Request for showFile

Method	URL
GET	<code>https://www.cidatasolutions.com/cfc/api.cfc?method=showFile&user_name=the_User_Name&SN=The_SN&ISN=The_ISN&FileName=The_FileName&FileExt=The_FileExt</code>

Type	Params	Values
GET	User_Name	string
GET	SN	string
GET	ISN	string
GET	FileName	string
GET	FileExt	string

User_Name, SN and ISN

User_Name, SN and ISN must be sent with all client requests. The combination of these 3 parameters helps the server to validate the request source.

FileName, FileExt

FileName and FileExt must be sent with all client requests. The combination of these 2 parameters determine the file to be returned for download.

3: Response to showFile

If not successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- SN ASCII string
- FilePath Empty string

Possible status codes:

401, 403, 404, 410, 411, 412, 413, 414, 415, 416

If successful:

The file is returned.

4. Get integrator's list of instruments serial number available

Show a list of instruments serial number related to the user_name provided and available to the integrator.

4: Request for showISNInstrumentList

Method 1	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=showISNInstrumentList &user_name=The_User_Name&ISN=The_ISN

Method 2	URL
POST	https://www.cidatasolutions.com/cfc/api.cfc?method=showISNInstrumentList &user_name=The_User_Name&ISN=The_ISN

Type	Params	Values
GET	User_Name	String of 0 or more user names
GET	ISN	String
POST	User_Name	Form element consisting of a list of user names

User_Name and ISN

User_Name and ISN must be sent with all client requests. The combination of these 2 parameters helps the server to validate the request source.

4: Response to showISNInstrumentList

If not successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- ISN ASCII string
- List Empty string

Possible status codes:

401, 413

If successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- ISN ASCII string
- List JSON list of serial number (SN) and User_Name

5. Manage relation between user and integrator

Adding or deleting a username associated to an integrator

5: Request for manageUser

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=manageUser &user_name=The_User_Name&ISN=The_ISN&Action=Add or Delete

Type	Params	Values
GET	User_Name	String
GET	ISN	String
GET	Action	String. Accepted values: Add; Delete

User_Name, ISN and Action

User_Name, ISN and Action must be sent with all client requests. The combination of these 3 parameters helps the server to validate the request source.

5: Response to manageUser

If not successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- ISN ASCII string
- User_Name ASCII string

Possible status codes:

401, 413

If successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- ISN ASCII string
- User_Name ASCII string

6. Update a wlg file

Update a wlg file to make sure we are receiving the most recent data.

6: Request for updateWLGfile

Method	URL
GET	<code>https://www.cidatasolutions.com/cfc/api.cfc?method=updateWLGfile&user_name=The_UserName&SN=The_SN&ISN=The_ISN&FileName=The_FileName&FileExt=The_FileExt</code>

Type	Params	Values
GET	User_Name	string
GET	SN	string
GET	ISN	string
GET	FileName	string
GET	FileExt	string

Filename

User_Name, SN and ISN

User_Name, SN and ISN must be sent with all client requests. The combination of these 3 parameters helps the server to validate the request source.

FileName and FileExt

FileName and FileExt must be sent with all client requests. The combination of these 2 parameters determine the file to be returned for analysing.

6: Response to createPartialFile

If not successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- SN ASCII string

Possible status codes:

401, 403, 404, 410, 411, 412, 413, 414, 415, 416

If successful:

- Status_Code See list at the end of this document
- Status_Desc See list at the end of this document
- SN ASCII string

Glossary

Glossary: Conventions

- **Client** - Client application.
- **Status** - HTTP status code of response.
- All request parameters are mandatory unless explicitly marked as [optional]

Examples

Examples

- Find examples of each of these methods at:
https://www.cidatasolutions.com/externe/outbox/test_api.cfm.

Status Codes

Status Codes: List of possible status codes

Status	Description
200	OK: Edited Instrument Info and (Re)Associated Instrument
201	OK: Added Instrument Info and (Re)Associated Instrument
202	OK: Success;
401	ERROR: User_Name not found;
402	ERROR: Cannot Activate. No Subscription
403	ERROR: The instrument associated to the SN parameter has no current subscription;
404	ERROR: The SN parameter does not correspond to a valid instrument;
405	ERROR: Instrument is not associated to the right company;
406	ERROR: Cannot Activate Instrument (Subscription Already Full);
407	ERROR: Missing company information to create a subscription;
408	ERROR: The instrument associated to the SN parameter is not active;
409	ERROR: The instrument associated to the SN parameter is not in our database
410	ERROR: The User_Name parameter is required but was not passed;
411	ERROR: The SN parameter is required but was not passed;
412	ERROR: The ISN parameter is required but was not passed;
413	ERROR: The ISN parameter provided is not valid;
414	ERROR: The FileName parameter is required but was not passed;
415	ERROR: The FileExt parameter provided is not valid;
416	ERROR: The file requested was not found;