

API Specification Documentation

(CIDataSolutions App)

Version	Date	Author	Description
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.

Index

Table of Contents

<i>Index</i>	2
1. Get configuration information	3
1: Request for showConfig.....	3
1: Response to showConfig for NSRT.....	4
1: Example for showConfig for NSRT.....	5
1: Response to showConfig for VSEW.....	6
1: Example for showConfig for VSEW.....	8
2. Get instrument's list of files	9
2: Request for showInstrumentList.....	9
2: Response to showInstrumentList If not successful:.....	9
3. Get link to download file	10
3: Request for showFile	10
3: Response to showFile.....	10
4. Create and get link to download file containing partial data.....	11
4: Request for createPartialFile.....	11
4: Response to createPartialFile	11
5. Get integrator's list of instruments serial number available.....	12
5: Request for showISNInstrumentList.....	12
5: Response to showISNInstrumentList	12
6. Manage relation between user and integrator	13
6: Request for manageUser	13
6: Response to manageUser.....	13
7. Update a wlg file	14
7: Request for updateWLGfile.....	14
7: Response to createPartialFile	14
Glossary: Conventions.....	15
Examples.....	15
Status Codes: List of possible status codes	16

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={User_Name}&SN={SN}&ISN={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={User_Name}&SN={SN}&ISN={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	https://www.cidatasolutions.com/cfc/api.cfc?method=showFile&user_name={User_Name}&SN={SN}&ISN={ISN}&FileName={FileName}&FileExt={FileExt}

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. Create and get link to download file containing partial data

Create a wls file for specific time span and get the link to download the requested file. Result returned in JSON format if unsuccessful, otherwise, we return the file to download. The wls file will be erased from the server after 12 to 36 hours of existence.

4: Request for createPartialFile

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=createPartialFile&user_name={User_Name}&SN={SN}&ISN={ISN}&FileName={FileName}&FileExt={FileExt}&StartUTC={StartUTC}&EndUTC={EndUTC}

Type	Params	Values
GET	User_Name	string
GET	SN	string
GET	ISN	string
GET	FileName	string
GET	FileExt	string
GET	StartUTC	string
GET	EndUTC	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 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. At this time, **only wlg extension is supported.**

StartUTC and EndUTC

StartUTC and EndUTC must be sent with all client requests. The value must be 0 or greater and represent time in seconds.

4: 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
- FilePath Empty string

Possible status codes:

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

If successful:

The file is returned **with wls format.**

5. 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.

5: Request for showISNInstrumentList

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

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

5: 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

6. Manage relation between user and integrator

Adding or deleting a username associated to an integrator

6: Request for manageUser

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=manageUser &user_name={User_Name}&ISN={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.

6: 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

7. Update a wlg file

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

7: Request for updateWLGfile

Method	URL
GET	https://www.cidatasolutions.com/cfc/api.cfc?method=updateWLGfile&user_name={UserName}&SN={SN}&ISN={ISN}&FileName={FileName}&FileExt={FileExt}

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.

7: 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;