TECHNICAL SPECIFICATIONS

VOIXTREME CONFIGURATION FILE

Referenced files: _vtx_configuration.jcd, _vtx_configuration.jcf

Hub One S.A.
Continental Square, 1 2 Place de Londres, Bât. Mercure
93290 TREMBLAY EN FRANCE
FRANCE

hubone.fr
Une filiale du **Groupe ADP**

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1.1	11/05/2017	Input.BatteryLow and Input.BatteryMessage added. Default values on Microphone.Mode, Calibrate.Portrait and Calibrate.TargetOK changed. Default values depending on languages assigned to "".
1.2	17/05/2017	Microphone.HeadsetConnectControl added PauseInfo moved to Input property
1.3	25/05/2017	Microphone.Mode possible value NFC added New languages added on list AsrTuning.Languages
1.4	06/06/2017	SpeakerNext section added
1.5	15/06/2017	SpeakerNext section completion Change order sections: after Keywords, SpeakerNext. Then Microphone and Calibrate
1.6	30/06/2017	SpeakerNext section deleted Default values for TtsTuning.TtsRate, TtsTuning.TtsVolume and TtsTuning.TtsPitch better adjusted Input.SpeedSet, Input.VolumeSet and Input.PitchSet properties added
1.7	9/8/2017	TtsTuning.AskUser added -> Not Boolean but Enum value
1.8	5/9/2017	Microphone.AskUser -> Not Boolean but Enum value
1.9	8/9/2017	Microphone.Bluetooth.UseDeviceMajor added as Enum value
1.10	14/9/2017	Microphone.Bluetooth.UseDeviceMajor comments completed
1.11	11/10/2017	Microphone.Bluetooth.HeadSetConnectControl deleted Microphone.Bluetooth.IntentScanner and Microphone.Bluetooth.UseScanCamera added
1.12	19/10/2017	Microphone.Bluetooth.UseScanCamera comments completed
1.13	04/04/2018	Complete available languages
1.14	15/05/2018	Input.RecordSound results in pcm files not wav files
1.15	23/08/2018	AU and HR languages added
1.16	20/11/2018	CZ languages added

1.17	13/12/2018	Calibrate.HeadsetType added
1.18	25/01/2019	Input.BatteryLog added
1.19	12/03/2019	If TargetOK=0, the calibrate procedure is skipped
1.20	09/04/2019	Microphone.IntentScanner.HasCategory, Category added New section FloatingLicense
1.21	19/06/2019	Microphone.Bluetooth.UnpairAll added
1.22	13/09/2019	Microphone.Mode default value changed from WIRED to OPEN Calibrate.AsrType, value K added
1.23	11/10/2019	Boolean parameters description improved
1.23	12/02/2020	Bluetooth.AbortSpeechWhenLost, Bluetooth.ScoReconnectTime, Bluetooth.ReconnectText and Bluetooth.AudioMode added
1.24	23/03/2020	New value MODE_NATIVE added to param Bluetooth.AudioMode
1.25	31/03/2020	Input.RecordSound value 2 added. Complete description about generated folder management. Change default value to 2 Microphone.Bluetooth.AudioMode change default value to MODE_NATIVE
1.26	13/05/2020	Calibrate.AsrType new value LIST
1.27	14/05/2020	New parameter Calibrate.AutoResetTimeout
1.28	15/12/2020	New parameter Microphone.Bluetooth.NFCOffAfterConnect
1.29	26/05/2021	New parameter Calibrate.DisplayLanguage

SECTION ASR TUNING

Name	Type	Detail	Comments
AsrTuning	object		ASR engine settings to tune the ASR engine.
- *AsrTuning.AsrMode*	enum	default: "1"	Whether to use ASR engine. Possible values: 0=Do not use ASR, 1=Use ASR.
- *AsrTuning.ReliabilityLevel*	string	default: "4000"	Minimum reliability level necessary to accept a word recognition. When a word is recognized, ASR engine returns a 'reliability level' which is the confidence level that the engine assigns to the recognition (up to 10000). A low reliability level denotes a confusing recognition that will be rejected.
- *AsrTuning.MinSpeechDur*	string	default: "200"	Minimum speech duration of any utterance that will be recognized, measured in ms.
- *AsrTuning.TrailingSilence*	string	default: "200"	Trailing silence to consider that the utterance is finished, measure in ms.
- *AsrTuning.TimeoutSpeech*	string	default: "10000"	Maximum duration an utterance can have, measure in ms.
- *AsrTuning.AsrThreshold*	string	default: "50"	Audio signal energy threshold (0 to 100) to detect a voice speech. Near to 0 needs to speak whispering. Near to 100 needs to speak very loud. In quiet environments it is possible to set a low value (50) to improve the user's working comfort. The values may change with the hardware (PDA, headset).

			In a noisy environment it is needed to set this value to a high level (80) to avoid background noise to start recognition engine. Because of this, the user will need to speak louder.
- *AsrTuning.MicGain*	string	default: "50"	This option sets the microphone input amplification, available only on some platforms. The value goes from 0 to 15. Use a higher value for a quiet environment, and a lower value for a noisier one.
- *AsrTuning.MicBoost*	string	default: "50"	This option sets special microphone input amplification (20db), available only on some platforms. Activate on very low input microphones only.
- *AsrTuning.Language*	string	default: ""	The language for the speech to be recognized. Possible values: EN, FR, SP, PT, PL, RU, FL, GE, US, CA, ES, IT, JP, CZ, CM, GR, RI, PP, TR, HU, SW, FI, TW, ID, AU, HR.

SECTION TTS TUNING

Name	Type	Detail	Comments
TTS Tuning	object		TTS engine settings to tune the TTS engine.
- *TtsTuning.TtsMode*	enum	default: "1"	Whether to load and initialize the TTS engine. Possible values: 0=Do not use ASR, 1=Use ASR.
- *TtsTuning.TtsRate*	string	default: "25"	Default speed of TTS engine (0 to 100).
- *TtsTuning.TtsVolume*	string	default: "60"	Default volume of TTS engine (0 to 100).
- *TtsTuning.TtsPitch*	string	default: "33"	Default voice pitch of TTS engine (0 to 100).
- *TtsTuning.TtsVoice*	string	default: ""	Default voice for the Tts. You can choose from a given list.
- *TtsTuning.AskUser*	enum	default: "1"	Ask the user about selecting the voice to use in calibration process. Possible values: 0=Do not ask to select voice, 1=Ask to select voice

SECTION INPUT

Name	Type	Detail	Comments
Input	Object		This section groups the global options for any voice input.
- *Input.BeepStart*	string	default: "$/voixtremeStart.wav"	When the ASR engine is ready to hear the user (the voice announcement by TTS is finished) a beep is performed to advise operator to speak. This beep will be configured to adapt to user preferences and noise environment.
- *Input.BeepFinalOk*	string	default: "$/voixtremeGood.wav"	ASR's correct recognition signal beep.
- *Input.BeepFinalEr*	string	default: "$/voixtremeBad.wav"	ASR's incorrect recognition signal beep, done after any utterance that cannot be recognized.
- *Input.LogFile*	string	default: "$/voixtremeLog.log"	The log file location and name, which contains user voice activity.
- *Input.LogLevel*	string	default: "1"	Add some additional details about recognition if set to 2.
- *Input.RecordSound*	string	default: "2"	RecordSound="1": records all input sounds RecordSound="2" records calibrate sounds only The sounds are saved in the \VoiXtremeRecords folder as pcm files. Input sounds now will use only 0000 to 0020 directories, then the directories are shifted. 0000 holds the last sounds and the 0020 hold the oldest sounds Warning, this option will use much space on the storage disk. Set to 1 or 2 only for testing or tuning purposes.

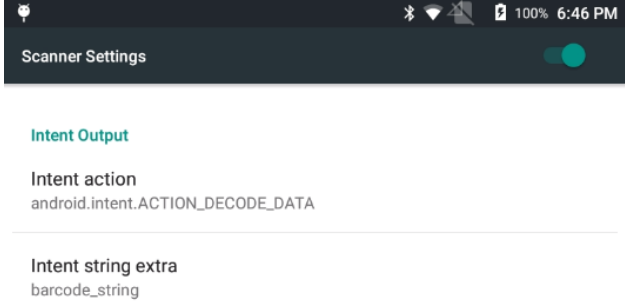|			
- *Input.SaveAdaptation*	string	default: "1"	If set to 1, the 'Speaker Profile Adaptation' mechanism is performed and current data is stored on \VoiXtremeRecords folder. This mechanism allows voice engine to dynamically adapt to particular user voice in all the voice process.
- *Input.ExpectedBonus*	string	default: "20"	When a response is marked as 'expected' its reliability level is increased by this value.
- *Input.ExpectedMalus*	string	default: "12"	When a response is marked as 'expected' other reliability level is decreased by this value.
- *Input.BatteryLog*	string	default: "0"	Log to the file _vxt_battery_level.txt the current battery level.
- *Input.BatteryLow*	string	default: "0"	Minimum battery level to say a voice alert (0 to 100). If set to 0, battery low voice alert suppressed.
- *Input.BatteryMessage*	string	default: ""	When battery level is low, this sentence will be said to user.
- *Input.PauseInfo*	string	default: ""	When the voice system is in pause mode, this sentence will be said to user in case of 'information' (ResInfo) keyword recognition.
- *Input.SpeedSet*	string	default: ""	Said when setting the TTS speed by keywords.
- *Input.VolumeSet*	string	default: ""	Said when setting the TTS volume by keywords.
- *Input.PitchSet*	string	default: ""	Said when setting the TTS pitch by keywords.

SECTION KEYWORDS

Name	Type	Detail	Comments
Keywords	object		This section groups the usage of the internal keywords managed by the voice engine itself. The keywords must be defined in the grammar to be recognized. Upon a keyword is recognized, the action performed by this keyword is defined in this table. If a keyword is defined in the grammar but is not defined in this table it will be consider as data and sent 'as is' as user input. If a keyword is defined in this section, but is not present in the grammar it will never be recognized. To be recognized, a keyword must be in an active grammar.
- *Keywords.ResPause*	string	default: ""	This keyword of the 'suspend' grammar allows switching to pause state from active state.
- *Keywords.ResResume*	string	default: ""	This keyword of the 'resume' grammar allows switching from pause state to active state.
- *Keywords.ResRepeat*	string	default: ""	This is the keyword the user should say to ask for a repetition (voice announcement before ASR) during ASR recognition.
- *Keywords.ResInfo*	string	default: ""	This keyword allows hearing the configured information sentence about the input context.
- *Keywords.SpeedUp*	string	default: ""	This keyword allows to dynamically set up by user the TTS speed (0 to 100), increasing by 10 by 10 steps.
- *Keywords.SpeedDn*	string	default: ""	This keyword allows to dynamically set up by user the TTS speed (0 to 100), decreasing by 10 by 10 steps.

- *Keywords.VolumeUp*	string	default: ""	This keyword allows to dynamically set up by user the TTS volume (0 to 100), increasing by 5 by 5 steps.
- *Keywords.VolumeDn*	string	default: ""	This keyword allows to dynamically set up by user the TTS volume (0 to 100), decreasing by 5 by 5 steps.
- *Keywords.PitchUp*	string	default: ""	This keyword allows to dynamically set up by user the TTS pitch (0 to 100), increasing by 5 by 5 steps.
- *Keywords.PitchDn*	string	default: ""	This keyword allows to dynamically set up by user the TTS pitch (0 to 100), decreasing by 5 by 5 steps.
- *Keywords.CtlDelete*	string	default: ""	It defines the keyword used in 'Calculator' and 'Millenium2' mode which will be said to revert the last action.
- *Keywords.CtlAccept*	string	default: ""	It defines the keyword of the 'controls' grammar which will be said to accept an action.
- *Keywords.CtlCancel*	string	default: ""	It defines the keyword of the 'controls' grammar which will be said to cancel an action.
- *Keywords.CtlCalcInfo*	string	default: ""	It defines the keyword used in 'Calculator' mode. It performs an informational customizable announce about the total expected and remaining quantity. This keyword must be present in the calculator grammar.
- *Keywords.CtlCalcEnd*	string	default: ""	It defines the keyword used in 'Calculator' mode. It forces the calculator input mode to terminate, even if the requested quantity is not reached. The current quantity and the current terminator are sent to the host application. This keyword must be present in the calculator grammar.

SECTION MICROPHONE

Name	Type	Detail	Comments
Microphone	object		Microphone usage.
- *Microphone.Mode*	string	default: "OPEN"	Microphone usage. Possible values: WIRED (Headset), WIRELESS (Bluetooth), OPEN (Device), NFC.
- *Microphone.AskUser*	enum	default: "1"	Ask the user about the microphone usage on calibrate. Possible values: 0=Do not ask about microphone usage, 1=Ask about microphone usage
- *Microphone.Bluetooth*	object		Bluetooth-microphone settings
o *Filter*	string	default: ""	Name to filter the discovered BT devices.
o *PIN*	string	default: ""	Security PIN to set automatically at paring time.
o *UnpairAll* *(Available from Calibrate v6.1.2.500)*	boolean	default: false	True: unpair all previously bonded headsets except for the one that is being currently used. Recommended to be set as true with EVA and SpeakerNext apps
o *UseDeviceMajor*	boolean	default: true	True: filter by BT Major class to associate to BT devices. BT Major class indicates the general family of device with which the device is associated. With paired devices this property is ignored because the device type is already known.

o *IntentScanner*	object		Some devices use an implicit intent from the scanner to pair with the BT headset. These parameters can be found in the Scanner Settings option from Android devices Settings screen: **Scanner Settings** **Intent Output** Intent action android.intent.ACTION_DECODE_DATA Intent string extra barcode_string
▪ *Action*	string	default = ""	General action to be performed For **SEUIC** devices set as: "com.android.server.scannerservice.broadcast" For **Unitech** devices set as: "android.intent.ACTION_DECODE_DATA" For **Zebra** devices set as: "com.datawedgetotellnext.barcode" For **M3 mobile** devices set as: "com.android.server.scannerservice.broadcast" For **Datalogic** devices set as: "com.datalogic.decodewedge.decode_action"
▪ *Extra*	string	default = ""	Extended information For **SEUIC** devices set as: "scannerdata" For **Unitech** devices set as: "barcode_string" For **Zebra** devices set as:

			"com.symbol.datawedge.data_string" For **M3 mobile** devices set as: "m3scannerdata" For **Datalogic** devices set as: "com.datalogic.decode.intentwedge.barcode_string"
▪ *HasCategory*	boolean	default = false	True: the category parameter is applied
▪ *Category*	string	default = ""	Specifies the category of Intent to be handled. For **Datalogic** devices: "Category": "", "HasCategory": true **Other** devices: "HasCategory": false
o *UseScanCamera*	boolean	default = false	True: use the internal camera to scan barcode from WIRELESS device for pairing. This option is valid for any devices with the Barscanner Camera installed. If this parameter is set to TRUE, IntentScanner parameters will be obviated, so these could be not configurated.
o *NFCOffAfterConnect* *(Available from BT Pairing 7.0.4.512, VoiXtreme Engine 4.2.5.506 and Calibrate 6.1.2.512)*	boolean	default = false	True: NFC is turned off during Beep Test and while using Voice. If the headset is lost, NFC will be turned back on again. Then back off when re-connected. This option is valid for Datalogic devices and the DLIntentSDK.1.0.18-release.apk installed.
o *AbortSpeechWhenLost* *(Available from Calibrate 6.1.2.506+ and Engine 4.2.5.501)*	boolean	default = false	True: when the connection with the headset is lost, the listening system is also disconnected. False: when the connection with the headset is lost, the listening system is still alive through the device speaker.

o *ScoReconnectTime* *(Available from* *Calibrate 6.1.2.506+* *and Engine 4.2.5.501)*	integer	default = 999	Delay (in msec) before attempting to reconnect the headset
o *ReconnectText* *(Available from* *Calibrate 6.1.2.506+* *and Engine 4.2.5.501)*	string	default = ""	Phrase announced when the headset is reconnected. If empty string, the phrase will be: Voixtreme version x.x.x
o *AudioMode* *(Available from* *Calibrate 6.1.2.506+* *and Engine 4.2.5.501)*	string	default = "MODE_NATIVE"	Stream type used to communication with the Headset. Possible values: DEFAULT, MODE_NORMAL, MODE_IN_COMMUNICATION, MODE_NATIVE

SECTION CALIBRATE

Name	Type	Detail	Comments
Calibrate	object		Allows the ASR engine to adapt to current user and environmental noise conditions.
- *Calibrate.DisplayLanguage*	string	default: "EN"	Language in which messages are displayed on the screen. Possible values: EN, ES, FR
- *Calibrate.Portrait*	boolean	default: true	True: screen orientation Portrait False: screen orientation Landscape
- *Calibrate.TargetReliability*	integer	default: 5000	Minimum reliability level necessary to validate a recognition.
- *Calibrate.HeadsetType*	integer	default: 1	Internal use only. Possible values: 1: uses Headset Pairing implementation 1 2: uses Headset Pairing implementation 2
- *Calibrate.TargetOk*	integer	default: 2	It defines the number of valid recognitions requested to terminate the calibration procedure. If TargetOk=0, the calibrate procedure is skipped.
- *Calibrate.SequenceMode*	integer	default: 0	It chooses the mode to play the customized calibrate file. Possible values are: 0: pure random (the words are selected at random). 2: sequential (as defined in the AsrCalibrate.txt file).

- Calibrate.AsrType	string	default: H	It chooses the ASR mode of the calibrate input. Possible values are: D= Separated digits E= Double Digits, up to 99 H= Hundreds, up to 999 K= Kilos, from 0 to 9999 LIST= use the AsrType (first parameter) from the _vxt_calibratelist.txt file
- Calibrate.ExtraGrammars	string	default: "0123456789"	Grammars to use during the calibration sequence.
- Calibrate.AutoResetTimeout	integer	default: 0	Delay (in msec) before resetting the VoiXtreme service because of no activity detected. The minimum recommended value in case of using this parameter is 7000
- Calibrate.AnnounceOk	string	default: ""	Phrase announced when a word is valid.
- Calibrate.AnnounceNER	string	default: ""	Phrase announced when a word is recognized but not reliable enough.
- Calibrate.AnnounceER	string	default: ""	Phrase announced when a word is invalid.
- Calibrate.Welcome	string	default: ""	Phrase announced when ASR calibrate starts.
- Calibrate.Goodbye	string	default: ""	Phrase announced when ASR calibrate ends.

SECTION FLOATINGLICENSE

Name	Type	Detail	Comments
FloatingLicense	object		The server of the Floating License system.
- *FloatingLicense.ServerIP*	string	default: "10.10.10.1"	The URL or IP of the FL Server.
- *FloatingLicense.ServerPort*	string	default: "7391"	The TCP port number of the FL Server.

VALUE TYPES

Name in this file	Description
"boolean"	A property that can be set or not set, enabled or disabled, with only two possible values, *true* and *false*.
"integer"	A number without decimal part such as *123*, *-50*, but not such as *3.14*. The minimum and maximum values depend on the property.
"string"	A piece of text. The minimum and maximum length depend on the property.
"hexstring"	Special type of string that allows */xx \xx*, where x is a hexadecimal digit. Or *..n* where n is a character. For example to write an "****" you should write *..*.
"scancode"	A value of type "string" that contains exactly 4 characters, each of them being a valid hexadecimal character (from 0 to 9 and from A to F). For example: *0009* → *TAB*
"color"	A value of type "string" that represents a color. Colors are defined as hexadecimal values. "*AARRGGBB*", "*RRGGBB*", "*RGB*".
"enum"	A value of type string that can only have one value among several predefined values.
"object"	Represent a (fixed length) set of values. Each value is identified by a name. An object's value is determined by its children, each of them

	being either a string, an integral, or any other value type (including objects).
"array"	Represent a (variable length) set of values. Each value is identified by a position (starting from 0 and consecutive). An array's value is determined by its children, each of them being either a string, an integral, or any other value type (including arrays).
"array of objects"	An array that only contains values of type "object" as children.

See **Configuration-File-XXX** manuals for value options.