

# Digital Future Text-to-Speech SDK Programmer's Guide for Visual Basic 6

Version 3.5.0



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## Chapter 1: Overview

Digital Future Text-to-Speech SDK (DF TTS SDK) is the only **true OS native** (no COM/ActiveX, client-server, etc overheads) cross-platform provider-independent technology that provides standardized and unified API's for the implementation of the conversion of text data into speech.

The currently supported technologies are:

- Voiceware Co., Ltd. VoiceText™ for U.S. English, Chinese, Japanese, Korean
- Cepstral LLC for U.S. English, U.K. English, French, German, Spanish, Italian
- AT&T Natural Voices™ ( **for internal use only** and not covered by the license of this SDK. If you are interested in using this technology, you must obtain developer licensing from AT&T directly. Please contact us at [sales@digitalfuturesoft.com](mailto:sales@digitalfuturesoft.com) for details.)

This document contains descriptions and examples of DF TTS SDK API's, necessary for developing text-to-speech enabled software applications in Visual Basic 6.

Appendix 2 of the present manual includes explanations on the DF TTS SDK Tag Set, which controls inflection information (pitch, sound speed, volume, pause) as well as

the SSML Tag Set, one of the VoiceXML 2.0 standards defined by W3C (World Wide Web Consortium).

**Supported platforms:** Microsoft ® Windows ™ (all versions), (Windows Mobile (2003 and up) with C++ and .NET), (Mac OS X and Linux with C++ and Java).

**Supported Visual Basic 6 compilers/ IDE's:** Microsoft ® Visual Basic 6.

## Chapter 2: Getting Started

DF TTS SDK API's are aimed at facilitating the integration of text-to-speech technology in software applications.

Microsoft ® Windows ™ VB6 SDK setup notes:

**1. The following DLLs need to be distributed with the application (the best practice is to place them in the application directory):**

*dftts.dll;*  
*vt\_eng.dll;*  
*vt\_chi.dll;*  
*vt\_jpn.dll;*  
*vt\_kor.dll;*  
*swift.dll;*

Note: All Dll's are located in the Windows\VB6\Dll\Release... folder.

**2. The developer will need to include the SDK P/Invoke declarations for VB 6 (see [Appendix 1](#) and refer to the VB6 sample you received with this SDK).**

## Chapter 3: DF TTS SDK Function References

This chapter describes DF TTS SDK Function References, which can be divided into 4 categories.

- Basic API's (loading/unloading the synthesis engine and the User Dictionary, language helper functions)

InitDFTTSEngineEx3()  
UninitDFTTSEngine()  
MakeLanguage()  
GetMainLanguage()  
GetSubLanguage()  
LoadDFTTSUserDict()  
UnloadDFTTSUserDict()

- Sound Card API's (Play/Stop/Pause/Resume of synthesized sound output via sound card)  
DFTTSSpeak()

DFTTSStop()  
DFTTSPause()  
DFTTSResume()

- File API's (Synthesize and save to a voice file)  
DFTTSExportToFileEx()
- Buffering API's (Synthesize to a voice buffer)  
DFTTSExportToBuffer() (not currently supported by the Desktop SDK)
- Information API's (Get Voice Information)  
GetDFTTSVoice()

## InitDFTTSEngineEx3

Loads the synthesizer's TTS database.

### Synopsis

```
Public Declare Sub InitDFTTSEngineEx3 Lib "dftts.dll" ( _  
    ByVal hwndWinOwner As Long, _  
    ByVal szNeoSpeechDBFolderPathKate As String, _  
    ByVal szNeoSpeechDBFolderPathPaul As String, _  
    ByVal szNeoSpeechDBFolderPathMiyu As String, _  
    ByVal szNeoSpeechDBFolderPathShow As String, _  
    ByVal szNeoSpeechDBFolderPathMisaki As String, _  
    ByVal szNeoSpeechDBFolderPathLily As String, _  
    ByVal szNeoSpeechDBFolderPathWang As String, _  
    ByVal szNeoSpeechDBFolderPathJunwoo As String, _  
    ByVal szNeoSpeechDBFolderPathSujin As String, _  
    ByVal szNeoSpeechDBFolderPathYumi As String, _  
    ByVal szNeoSpeechDBFolderPathGyuri As String, _  
    ByVal szNeoSpeechDBFolderPathDayoung As String, _  
    ByVal szNeoSpeechLicFilePathKate As String, _  
    ByVal szNeoSpeechLicFilePathPaul As String, _  
    ByVal szNeoSpeechLicFilePathMiyu As String, _  
    ByVal szNeoSpeechLicFilePathShow As String, _  
    ByVal szNeoSpeechLicFilePathMisaki As String, _  
    ByVal szNeoSpeechLicFilePathLily As String, _  
    ByVal szNeoSpeechLicFilePathWang As String, _  
    ByVal szNeoSpeechLicFilePathJunwoo As String, _  
    ByVal szNeoSpeechLicFilePathSujin As String, _  
    ByVal szNeoSpeechLicFilePathYumi As String, _  
    ByVal szNeoSpeechLicFilePathGyuri As String, _  
    ByVal szNeoSpeechLicFilePathDayoung As String, ByRef  
psiLoadedEngines As Long, ByRef psiLoadedEnginesReturnValues As Long)
```

### Parameters

hwndWinOwner

Use window handle (Win32) used for speech event processing.

12 szNeoSpeechDBFolderPath[VoiceName] parameters

The paths where the NeoSpeech synthesizer databases are located for the supported NeoSpeech voices.

12 szNeoSpeechLicFilePath[VoiceName] parameters

NeoSpeech VoiceText™ License verification files for the indicated voices

[IN] psiLoadedEngines

An array with currently used engine types (in VB6 you only pass the first member of the array: see example).

[IN] psiLoadedEnginesReturnValues

An array with the load status return values for each engine (in VB6 you only pass the first member of the array: see example).

**Note:** All other vendors' voices are automatically loaded and you do not need to specify DB paths for them.

## Description

The function loads the synthesizer database and it is used when the program starts.

## Return Values

None

## Notes

The array psiLoadedEngines has member values NEOSPEECHVOICETEXT (0) (first 12 members to match with the 12 NeoSpeech voices supported), CEPSTRAL (1) for the whole Cepstral engine (member # 13), ATTNV (2) for the whole ATTNV engine (member # 14 (internal use only)), MACOSXSPMAN (4) for the whole MACOSXSPMAN engine (member # 15) and MSSAPI (3) for the whole MSSAPI engine (member # 16).

The first 12 members of psiLoadedEnginesReturnValues (psiLoadedEnginesReturnValues[0] through [11]) return the load status of each supported NEOSPEECHVOICETEXT voice in the load order (see Parameters section).

The thirteenth member of psiLoadedEnginesReturnValues (psiLoadedEnginesReturnValues [12]) returns the load status of the whole engine CEPSTRAL.

The fourteenth member (psiLoadedEnginesReturnValues [13]) returns the load status of the whole engine ATTNV.

The fifteenth member (psiLoadedEnginesReturnValues [14]) returns the load status of the whole engine MACOSXSPMAN.

The sixteenth member (psiLoadedEnginesReturnValues [15]) returns the load status of the whole engine MSSAPI.

See the VB6 sample for further clarification.

**Important Note:** MACOSXSPMAN (only valid for Mac OS X) and MSSAPI are not supported by the VB6 SDK.

Each member of `psiLoadedEnginesReturnValues` can hold the following status codes:

When the database is successfully loaded, it returns `INIT_DFTTS_ENGINE_SUCCESS`. The following **common** values are returned when error occurs:

[`INIT_DFTTS_ENGINE_ERROR_DB_PATH_DIFFERENT`] Tried to load the synthesizer database with different values of `szNeoSpeechDBFolderPath` in case of using multiple synthesizer databases

[`INIT_DFTTS_ENGINE_ERROR_CHANNEL_MEM_FAIL`] Failed to secure channel memory

[`INIT_DFTTS_ENGINE_ERROR_DB_MORPHEME_ANALYSIS_FAIL`] Failed to load DB for the Morpheme Analysis

[`INIT_DFTTS_ENGINE_ERROR_DB_BREAK_INDEX_FAIL`] Failed to load DB for the Break Index

[`INIT_DFTTS_ENGINE_ERROR_DB_TEXT_PREP_FAIL`] Failed to load DB for the Text Pre-Processing

[`INIT_DFTTS_ENGINE_ERROR_DB_ACOU_MODEL_FAIL`] Failed to load DB for the Acoustic Model

[`INIT_DFTTS_ENGINE_ERROR_DB_UNIT_SEL_FAIL`] Failed to load DB for Unit Selection

[`INIT_DFTTS_ENGINE_ERROR_DB_PROS_MODEL_FAIL`] Failed to load DB for Prosody Model

[`INIT_DFTTS_ENGINE_ERROR_DB_SPEECH_DB_FAIL`] Failed to load DB for Speech Database

[`INIT_DFTTS_ENGINE_ERROR_DB_PITCH_LOC_INFO_FAIL`] Failed to load DB for Pitch Location Information

[`INIT_DFTTS_ENGINE_ERROR_OTHER`] Other errors

**See enumeration `InitDFTTSEngineReturnValue` for all error codes.**

## See Also

`UninitDFTTSEngine()`

## Example (see the VB6 sample)

```
Dim szNeospDBPaths(NEOSPEECH_NUM_VOICES - 1) As String
```

```
bIsPaused = False
```

```
szNeospDBPaths(0) = vbNullString 'Kate  
szNeospDBPaths(1) = "C:\Program Files\VT\Paul\M16" 'Paul  
szNeospDBPaths(2) = vbNullString 'Miyu  
szNeospDBPaths(3) = vbNullString 'Show  
szNeospDBPaths(4) = vbNullString 'Misaki  
szNeospDBPaths(5) = vbNullString 'Lily  
szNeospDBPaths(6) = vbNullString 'Wang  
szNeospDBPaths(7) = vbNullString 'Junwoo  
szNeospDBPaths(8) = vbNullString 'Sujin  
szNeospDBPaths(9) = vbNullString 'Yumi  
szNeospDBPaths(10) = vbNullString 'Gyuri  
szNeospDBPaths(11) = vbNullString 'Dayoung
```

```
Dim szNeospLicPaths(NEOSPEECH_NUM_VOICES - 1) As String
```

```

szNeospLicPaths(0) = vbNullString 'Kate
szNeospLicPaths(1) = "C:\Program Files\VW\VT\Paul\M16\data-common\verify\verification.txt" 'Paul
szNeospLicPaths(2) = vbNullString 'Miyu
szNeospLicPaths(3) = vbNullString 'Show
szNeospLicPaths(4) = vbNullString 'Misaki
szNeospLicPaths(5) = vbNullString 'Lily
szNeospLicPaths(6) = vbNullString 'Wang
szNeospLicPaths(7) = vbNullString 'Junwoo
szNeospLicPaths(8) = vbNullString 'Sujin
szNeospLicPaths(9) = vbNullString 'Yumi
szNeospLicPaths(10) = vbNullString 'Gyuri
szNeospLicPaths(11) = vbNullString 'Dayoung

Dim iLoadedEngines(0 To NUM_ENGINE_INITIALIZATIONS - 1) As Integer
Dim iLoadedEnginesReturnValues(0 To NUM_ENGINE_INITIALIZATIONS - 1) As Integer

Call InitDFTTSEngineEx3(Me.hwnd, _
    szNeospDBPaths(0), _
    szNeospDBPaths(1), _
    szNeospDBPaths(2), _
    szNeospDBPaths(3), _
    szNeospDBPaths(4), _
    szNeospDBPaths(5), _
    szNeospDBPaths(6), _
    szNeospDBPaths(7), _
    szNeospDBPaths(8), _
    szNeospDBPaths(9), _
    szNeospDBPaths(10), _
    szNeospDBPaths(11), _
    szNeospLicPaths(0), _
    szNeospLicPaths(1), _
    szNeospLicPaths(2), _
    szNeospLicPaths(3), _
    szNeospLicPaths(4), _
    szNeospLicPaths(5), _
    szNeospLicPaths(6), _
    szNeospLicPaths(7), _
    szNeospLicPaths(8), szNeospLicPaths(9), szNeospLicPaths(10), szNeospLicPaths(11),
iLoadedEngines(0), iLoadedEnginesReturnValues(0))

'Catch load errors

Dim sEngineName As String
sEngineName = ""

Dim result As InitDFTTSEngineReturnValue

Dim sNeospVoiceNames(0 To NEOSPEECH_NUM_VOICES - 1) As String

sNeospVoiceNames(0) = NEOSPEECH_KATE_ENG_NAMESTR
sNeospVoiceNames(1) = NEOSPEECH_PAUL_ENG_NAMESTR
sNeospVoiceNames(2) = NEOSPEECH_MIYU_JPN_NAMESTR
sNeospVoiceNames(3) = NEOSPEECH_SHOW_JPN_NAMESTR
sNeospVoiceNames(4) = NEOSPEECH_MISAKI_JPN_NAMESTR
sNeospVoiceNames(5) = NEOSPEECH_LILY_CHI_NAMESTR
sNeospVoiceNames(6) = NEOSPEECH_WANG_CHI_NAMESTR
sNeospVoiceNames(7) = NEOSPEECH_JUNWOO_KOR_NAMESTR
sNeospVoiceNames(8) = NEOSPEECH_SUJIN_KOR_NAMESTR
sNeospVoiceNames(9) = NEOSPEECH_YUMI_KOR_NAMESTR
sNeospVoiceNames(10) = NEOSPEECH_GYURI_KOR_NAMESTR
sNeospVoiceNames(11) = NEOSPEECH_DAYOUNG_KOR_NAMESTR

Dim intI As Integer

```

```

For intI = 0 To NUM_ENGINE_INITIALIZATIONS - 1

    If iLoadedEngines(intI) = NEOSPEECHVOICETEXT Then

        sEngineName = "NEOPSEECHVOICETEXT Engine Load Result for voice " & _
            sNeospVoiceNames(intI) & ": "

    ElseIf iLoadedEngines(intI) = CEPSTRAL Then

        sEngineName = "CEPSTRAL Engine Load Result: "

    ElseIf iLoadedEngines(intI) = ATTNV Then

        sEngineName = "ATTNV (INTERNAL USE ONLY) Engine Load Result: "

    End If

    result = iLoadedEnginesReturnValues(intI)

    Debug.Print sEngineName & result & vbNewLine

    'MsgBox sEngineName & result & vbNewLine

Next

```

## UninitDFTTSEngine

Unloads the synthesizer's voice DB's

### Synopsis

**Public Declare Function** UninitDFTTSEngine **Lib** "dftts.dll" **( ) As Integer**

### Parameters

*None.*

### Description

The function frees the assigned memory by unloading the synthesizer voice DB's and all internal objects.

**It must be called before the program exits otherwise there will be memory corruption!**

### Return Values

*None.*

### See Also

InitDFTTSEngineEx3()



## Example

```
Private Sub Form_Unload(Cancel As Integer)

    Dim result As UninitDFTTSEngineReturnValue

    result = UninitDFTTSEngine

    If result <> UNINIT_DFTTS_ENGINE_SUCCESS Then
        MsgBox "SDK uninitialization failed.", vbCritical, "Error"
    End If

End Sub
```

## MakeLanguage

Creates a language id from a main language id and a sub-language id.

### Synopsis

```
Public Declare Function MakeLanguage Lib "dftts.dll" (ByVal mainlang As Integer, _
    ByVal sublang As Integer _
    ) As Integer
```

### Parameters

*mainlang*

The id of the main or primary language. See the .NET SDK regions for all language constants.

*sublang*

The id of the sub-language. See the .NET SDK regions for all language constants.

### Description

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

### Return Values

The language id needed for the SDK.

## See Also

GetMainLanguage()  
GetSubLanguage()

## GetMainLanguage

A Helper function that returns the main language id from a language id.

### Synopsis

**Public Declare Function** GetMainLanguage Lib "dftts.dll" (ByVal lang As Integer) As Integer

### Parameters

*lang*

The id of the language.

### Description

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

### Return Values

The id of the primary language used in the creation of the language id (lang parameter).

## See Also

MakeLanguage()  
GetSubLanguage()

## GetSubLanguage

A Helper function that returns the sub-language id from a language id.

### Synopsis

**Public Declare Function** GetSubLanguage Lib "dftts.dll" (ByVal lang As Integer) As Integer

## Parameters

*lang*

The id of the language.

## Description

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

## Return Values

The id of the sub-language used in the creation of the language id (lang parameter).

## See Also

MakeLanguage()

GetMainLanguage()

## LoadDFTTSUserDict

Loads the User Dictionary.

## Synopsis

```
Public Declare Function LoadDFTTSUserDict Lib "dftts.dll" ( _  
    ByVal iDictIndex As Integer, _  
    ByVal szDictName As String, _  
    ByVal szDictFileName As String, _  
    ByVal vet As Integer, ByVal lang As Integer, ByVal szVoiceName As String, _  
    ByVal szDictContents As String) As Integer
```

## Parameters

*iDictIndex*

Dictionary index in case of using more than one user dictionary (only valid for NEOSPEECHVOICETEXT).

Default user dictionary uses the value of 0 and it can take the values between 1~1023.

*szDictName*

Dictionary name (only valid with engine ATTNV (*internal use only*)).

#### *szDictFileName*

The name of user dictionary file (only valid for NEOSPEECHVOICETEXT and CEPSTRAL).

#### *vet*

Load for the specified engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV)

#### *lang*

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

#### *szVoiceName*

Voice to load the dictionary for (only valid for CEPSTRAL, where the dictionary is loaded for a voice)

#### *szDictContents*

Phoneme contents for the dictionary (only ATTNV where instead of a dictionary file we supply the actual character contents)

## **Description**

This function loads the user dictionaries that are separate from and in addition to the default dictionary that is included in the TTS DB.

This has to be used after the completion of the loading of the synthesizer DB's. iDictIndex is used during synthesis by NEOSPEECHVOICETEXT.

**Note:** For detailed instructions on how to build dictionaries for each engine provider, see instructions provided with the SDK in folder DictionarySystems.

## **Return Values**

LOAD\_USER\_DICT\_SUCCESS is returned when user dictionary is successfully loaded. The following common error codes are returned when errors occur (for more errors see the enumeration LoadDFTTSUserDictReturnValue):

[LOAD\_USER\_DICT\_ERROR\_DICTIDX\_NOT\_VALID] iDictIndex value is not within the valid range

[LOAD\_USER\_DICT\_ERROR\_DICT\_ALREADY\_LOADED] User dictionary file corresponding to *dictidx* is already loaded.  
[LOAD\_USER\_DICT\_ERROR\_NO\_DICT\_FILE\_OR\_ENTRY] Loading failed because there was no user dictionary files or valid entry  
[LOAD\_USER\_DICT\_ERROR\_OTHER] Other errors

## See Also

UnloadDFTTSUserDict()

## Example (see VB6 sample)

Dim dictreturn As LoadDFTTSUserDictReturnValue

'User Dictionary Loading: \_  
(read dictionary documentation per engine located in folder DictionarySystems)

'This is how to load a dictionary for the NeoSpeech provider (the dictionary is loaded  
\_ by language from a file (see file in exe directory) (the dict name, voice name, \_ dict content do NOT matter), the dictionary number matters)

'MakeLanguage(LANG\_ENGLISH, SUBLANG\_ENGLISH\_US) = 1033 - You can just use  
'1033

```
dictreturn = LoadDFTTSUserDict(1, vbNullString, _  
    "neospeech_userdict_eng.csv", _  
    NEOSPEECHVOICETEXT, MakeLanguage(LANG_ENGLISH,  
    SUBLANG_ENGLISH_US), _  
    vbNullString, vbNullString)
```

'This is how to load a dictionary for the Cepstral provider (the dictionary is loaded  
'by voice from a file (see file in exe directory);  
'The dictionary number, dict name, dict content do NOT matter.)

```
dictreturn = LoadDFTTSUserDict(-1, vbNullString, _  
    "cepstral_dictionary.txt", _  
    CEPSTRAL, LANG_SUBLANG_NEUTRAL, "David", vbNullString)
```

If dictreturn <> LOAD\_USER\_DICT\_SUCCESS Then  
MsgBox "SDK Load Dictionary failed with error: " & dictreturn, vbCritical, "Error"  
End If

## UnloadDFTTSUserDict

Unloads the User Dictionary.

## Synopsis

```
Public Declare Function UnloadDFTTSUserDict Lib "dftts.dll" ( _  
    ByVal iDictIndex As Integer, _  
    ByVal szDictName As String, _  
    ByVal vet As Integer, ByVal lang As Integer) As Integer
```

## Parameters

### *iDictIndex*

Dictionary index in case of using more than one user dictionary (only valid for NEOSPEECHVOICETEXT).

Default user dictionary uses the value of 0 and it can take the values between 1~1023.

### *szDictName*

Dictionary name (only valid with engine ATTNV (*internal use only*)).

### *vet*

Unload for the specified engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV).

### *lang*

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

## Description

The function unloads the user dictionary.

Any user dictionary that has not been unloaded is automatically unloaded during the process of unloading the synthesizer DB.

CEPSTRAL engine does not support user dictionary unloading. The dictionary data unloads with the unloading of the voice DB.

## Return Values

UNLOAD\_USER\_DICT\_SUCCESS is returned when user dictionary is successfully loaded. The following error codes are returned when errors occur:

[UNLOAD\_USER\_DICT\_ERROR\_DICTIDX\_NOT\_VALID] iDictIndex value is not within the valid range

[UNLOAD\_USER\_DICT\_ERROR\_DICT\_UNLOADED] User dictionary file corresponding to iDictIndex is already unloaded.

[UNLOAD\_USER\_DICT\_ERROR\_OTHER] Other errors

## See Also

LoadDFTTSUserDict()

## Example

```
Call UnloadDFTTSUserDict(1, "", NEOSPEECHVOICETEXT, 1033)
```

## DFTTSSpeak

It plays synthesized TTS output through a sound card.

## Synopsis

```
Public Declare Function DFTTSSpeak Lib "dftts.dll" (ByVal hwndWinOwner As Long, _  
ByVal vet As Integer, ByVal szVoiceName As String, ByVal iVoiceID As Integer, _  
ByVal lang As Integer, ByVal szText As String, ByVal iPitch As Integer, _  
ByVal iSpeed As Integer, ByVal iVolume As Integer, ByVal iPause As Integer, _  
ByVal iDictID As Integer, ByVal ttTextType As Integer, _  
ByVal ofOutPutFormat As Integer) As Integer
```

## Parameters

hwndWinOwner

Window handle (WIN32) where to send speech event messages.

vet

Which engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV (*internal use only*)).

szVoiceName

Internal voice name (matters for CEPSTRAL and ATTNV). Example: "David" or "Mike16".

iVoiceID

Internal voice id (matters for NEOSPEECHVOICETEXT).

See the API declarations (values of NEOSPEECH\_KATE\_ENG, etc).

lang

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

szText

Text string to be synthesized (no size limit).

iPitch

Defines the pitch of synthesized voice.

The default value is set to 100(%). The possible pitch range varies depending on the engine type (see below). ATTNV does not support pitch modifications by design.

For -1, use default value.

iSpeed

Defines the speed of synthesized voice. The default value is set to 100%. The range varies depending on the engine type (see below).

For -1, use default value.

iVolume

Defines the volume of synthesized voice. The default value is set to 100%. The range varies depending on the engine type (see below).

For -1, use default value.

iPause

Defines the length of pause between sentences of synthesized voice (NEOSPEECHVOICETEXT ONLY). The default value is set to 670(msec). The range is 0~20000(msec) and the lower value indicates shorter pause.

For -1, use default value

The following enumeration outlines the default values and supported ranges between engines (see API declaration):

```
Public Enum DFTTSPredefinedSpeechParams
```

```
DF_TTS_DEFAULT_PITCH = 100 /*100%*/
DF_TTS_DEFAULT_SPEED = 100 /*100%*/
DF_TTS_DEFAULT_VOLUME = 100 /*100%*/
DF_TTS_DEFAULT_PAUSE = 670 /*670 msec*/
DF_TTS_NEOSPEECH_MIN_PITCH = 50
DF_TTS_NEOSPEECH_MAX_PITCH = 200
DF_TTS_NEOSPEECH_MIN_SPEED = 50
DF_TTS_NEOSPEECH_MAX_SPEED = 400
DF_TTS_NEOSPEECH_MIN_VOLUME = 0
DF_TTS_NEOSPEECH_MAX_VOLUME = 500
DF_TTS_NEOSPEECH_MIN_PAUSE = 0
DF_TTS_NEOSPEECH_MAX_PAUSE = 20000
DF_TTS_CEPSTRAL_MIN_PITCH = 100
DF_TTS_CEPSTRAL_MAX_PITCH = 500
DF_TTS_CEPSTRAL_MIN_SPEED = 0
DF_TTS_CEPSTRAL_MAX_SPEED = 400
DF_TTS_CEPSTRAL_MIN_VOLUME = 0
DF_TTS_CEPSTRAL_MAX_VOLUME = 500
DF_TTS_ATTNNV_MIN_SPEED = 13
DF_TTS_ATTNNV_MAX_SPEED = 800
DF_TTS_ATTNNV_MIN_VOLUME = 0
```



End Enum

ID of the user dictionary when multiple user dictionaries are in use. The default user's uses value 0 and the range is between 1~1023 (ONLY applicable with NEOSPEECHVOICETEXT).  
For -1, use default value.

For regular text, use `DFTTS_TEXT_TYPE_PLAIN`, and for VoiceXML/SSML text, use `DFTTS_TEXT_TYPE_XML`. The value of `-1` is regarded as regular text.

Speech output format (MSSAPI only). Must be -1 since MSSAPI is only used with unmanaged SDK applications.

The function synthesizes text entries and produces the TTS output through a sound card. **On Windows, it sends the message WM\_USER+12359 with the beginning character number of the word being spoken (zero-based and in regard to the whole text fed to the engine) in WPARAM and the end character number in LPARAM. The SDK sends WM\_USER+12359 with WPARAM "0" and LPARAM "-1" when synthesizing is complete. To test this behavior use Spy++. Check the sample code (Module1 and Form1 code) to see how these values are acquired by capturing the message directly in the window procedure (in the sample WIN\_SPEAK\_MSG = WM\_USER+12359):**

- ```
IpPrevWndProc = SetWindowLong(gHW, GWL_WNDPROC, _
                               AddressOf WindowProc)
```

End Sub

Public Sub Unhook()

'Reset the message handler for this window

If gHW = 0 Then Exit Sub

Call SetWindowLong(gHW, GWL\_WNDPROC, IpPrevWndProc)

gHW = 0

End Sub

2. Call Hook in Form1\_Load and UnHook in Form1\_UnLoad (see sample).
3. Access the window procedure and capture messages (see Module1 in sample):

```
Public Function WindowProc(ByVal hw As Long, ByVal uMsg As Long, _  
                          ByVal wParam As Long, _  
                          ByVal lParam As Long) As Long
```

```
    Select Case uMsg
```

```
        Case WIN_EXPORT_MSG
```

```
            MsgBox "Export Successful!"
```

```
        Case WIN_SPEAK_MSG
```

```
            Form1.Label1.Caption = "OnWord: Start Character: " & wParam & _  
                                   ", End Character: " & lParam
```

```
    End Select
```

'Pass message on to the original window message handler

```
WindowProc = CallWindowProc(IpPrevWndProc, hw, _  
                             uMsg, wParam, _  
                             lParam)
```

End Function

If DFTTSSpeak() is called again during playback, it stops what was being played for the specified engine provider and plays the new TTS output that was requested. This behavior may not be supported with all engines.

## Return Values

DFTTS\_SPEAK\_SUCCESS is returned when it was executed successfully. The following error codes are returned when errors occur:

[DFTTS\_SPEAK\_ERROR\_CHANNEL\_MEM\_FAIL] Failed to secure channel memory

[DFTTS\_SPEAK\_ERROR\_TEXT\_NULL] The text string is a NULL pointer

[DFTTS\_SPEAK\_ERROR\_TEXT\_ZERO\_LEN] The length of text string is 0

[DFTTS\_SPEAK\_ERROR\_DB\_NOT\_LOADED] The TTS DB of the voice requested is not loaded

[DFTTS\_SPEAK\_ERROR\_SET\_SOUND\_CARD\_FAIL] Failed to set the sound card

Additional return values:

DFTTS\_SPEAK\_ERROR\_UNIMPLEMENTED,  
DFTTS\_SPEAK\_ERROR\_INTERNAL,  
DFTTS\_SPEAK\_ERROR\_INVALID\_PARAM,  
DFTTS\_SPEAK\_ERROR\_INVALID\_POINTER,  
DFTTS\_SPEAK\_ERROR\_OBJECT\_NOT\_FOUND,  
DFTTS\_SPEAK\_ERROR\_UNKNOWN\_ENCODING,  
DFTTS\_SPEAK\_ERROR\_INTERRUPTED,  
DFTTS\_SPEAK\_ERROR\_INVALID\_VOICE,  
DFTTS\_SPEAK\_ERROR\_WRONG\_EVENT,  
DFTTS\_SPEAK\_ERROR\_ENGINE\_INUSE,  
DFTTS\_SPEAK\_ERROR\_NETWORK\_ERROR,  
DFTTS\_SPEAK\_ERROR\_INVALID\_KEY,  
DFTTS\_SPEAK\_ERROR\_QUEUE\_FULL,  
DFTTS\_SPEAK\_ERROR\_TOKEN\_TIMEOUT,  
DFTTS\_SPEAK\_ERROR\_FAILED,  
DFTTS\_SPEAK\_ERROR\_INVALIDARG,  
DFTTS\_SPEAK\_ERROR\_OUTOFMEMORY,  
DFTTS\_SPEAK\_ERROR\_NOTIMPL,  
DFTTS\_SPEAK\_ERROR\_ABORT,  
DFTTS\_SPEAK\_ERROR\_UNKNOWN,  
DFTTS\_SPEAK\_ERROR\_BADHANDLE,  
DFTTS\_SPEAK\_ERROR\_EXCEPTION,  
DFTTS\_SPEAK\_ERROR\_EMPTY,  
DFTTS\_SPEAK\_ERROR\_FULL,  
DFTTS\_SPEAK\_ERROR\_INVALIDSTATE,  
DFTTS\_SPEAK\_ERROR\_BADVERSION,  
DFTTS\_SPEAK\_ERROR\_INSUFFICIENT\_BUFFER,  
DFTTS\_SPEAK\_ERROR\_UNSUPPORTED,  
DFTTS\_SPEAK\_ERROR\_NOLICENSE,  
DFTTS\_SPEAK\_ERROR\_CREATECHILDPROCESS\_FAILED,  
DFTTS\_SPEAK\_ERROR\_NOENVIRONMENTPATH,  
DFTTS\_SPEAK\_ERROR\_TIMEOUT,  
DFTTS\_SPEAK\_ERROR\_OUTOFRESOURCES,  
DFTTS\_SPEAK\_ERROR\_NOVOICES,  
DFTTS\_SPEAK\_ERROR\_CREATEFAIL,  
DFTTS\_SPEAK\_ERROR\_CONNECTFAIL,  
DFTTS\_SPEAK\_ERROR\_BINDFAIL,  
DFTTS\_SPEAK\_ERROR\_LISTENFAIL,  
DFTTS\_SPEAK\_ERROR\_CONNECTIONCLOSED,  
DFTTS\_SPEAK\_ERROR\_ACCEPTFAIL,  
DFTTS\_SPEAK\_ERROR\_SOCKETTIMEOUT,  
DFTTS\_SPEAK\_ERROR\_SOCKETERROR,  
DFTTS\_SPEAK\_ERROR\_NOMORESERSERVERS,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_WOULDBLOCK,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EINPROGRESS,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EALREADY,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTSOCK,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EDESTADDRREQ,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EMSGSIZE,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROTOTYPE,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOPROTOOPT,

DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROTONOSUPPORT,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ESOCKTNOSUPPORT,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EOPNOTSUPP,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPFNOSUPPORT,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EAFNOSUPPORT,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EADDRINUSE,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EADDRNOTAVAIL,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETDOWN,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETUNREACH,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETRESET,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNABORTED,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNRESET,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOBUFS,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EISCONN,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTCONN,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ESHUTDOWN,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ETOOMANYREFS,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNREFUSED,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ELOOP,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENAMETOOLONG,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EHOSTDOWN,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EHOSTUNREACH,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTEMPTY,  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROCLIM,  
DFTTS\_SPEAK\_ERROR\_THREADSTARTED,  
DFTTS\_SPEAK\_ERROR\_THREADNOTSTARTED,  
DFTTS\_SPEAK\_ERROR\_THREADCOULDNOTCREATE,  
DFTTS\_SPEAK\_ERROR\_BADNVFILE,  
DFTTS\_SPEAK\_ERROR\_NOAUDIODRIVER,  
DFTTS\_SPEAK\_ERROR\_DICTNOTFOUND,  
DFTTS\_SPEAK\_ERROR\_ALREADYPLAYING,  
DFTTS\_SPEAK\_ERROR\_AUDIOFORMATNOTSUPPORTED,  
DFTTS\_SPEAK\_ERROR\_XML\_INVALID,  
DFTTS\_SPEAK\_ERROR\_WL\_INVALID,  
DFTTS\_SPEAK\_ERROR\_INVALIDPHONESET,  
DFTTS\_SPEAK\_ERROR\_INVALIDPHONEME,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_CREATEFAILED,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_ALREADYEXISTS,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_NOTFOUND,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_INVALIDOP,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_NOTOPEN,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_LOCKFAILED,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_ABANDONED,  
DFTTS\_SPEAK\_ERROR\_MSGQ\_OPENFAILED,

[DFTTS\_SPEAK\_ERROR\_OTHER] Other errors

## Example (see VB6 sample)

```
Dim result As DFTTSSpeakReturnValue

Dim currentCIndex As Integer

currentCIndex = Combo1.ListIndex + 1

result = DFTTSSpeak(Me.hwnd, _
    cDataVoiceEngines.Item(currentCIndex), _
    cDataVoiceNames.Item(currentCIndex), _
    cDataVoiceIds.Item(currentCIndex), _
    cDataVoiceLangs.Item(currentCIndex), Text1.Text, -1, _
    -1, -1, -1, _
    1, DFTTS_TEXT_TYPE_XML, -1)

If result <> DFTTS_SPEAK_SUCCESS Then
    MsgBox "SDK Speak failed with error: " & result, vbCritical, "Error"
Else
    bIsSpeaking = True
End If
```

## DFTTSStop

It stops the playback of synthesized voices from a sound card.

### Synopsis

```
Public Declare Function DFTTSStop Lib "dftts.dll" (ByVal vet As Integer, _
    ByVal lang As Integer) As Integer
```

### Parameters

vet

Which engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV (*internal use only*)).

lang

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

## Notes

Using DFTTSSpeak(), stops the playback of synthesized voice before synthesizing.

## Return Values

DFTTS\_STOP\_SUCCESS,  
DFTTS\_STOP\_ERROR\_INVALID\_POINTER,  
DFTTS\_STOP\_ERROR\_OTHER

## DFTTSPause

Pauses the playback of synthesized voices from a sound card.

## Synopsis

Public Declare Function DFTTSPause Lib "dftts.dll" (ByVal vet As Integer, \_  
ByVal lang As Integer) As Integer

## Parameters

vet

Which engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV (internal use only)).

lang

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

## Description

Pauses the playback of synthesized voice that is carried out using DFTTSSpeak().

## Return Values

DFTTS\_PAUSE\_SUCCESS,  
DFTTS\_PAUSE\_ERROR\_UNIMPLEMENTED,  
DFTTS\_PAUSE\_ERROR\_INTERNAL,  
DFTTS\_PAUSE\_ERROR\_INVALID\_PARAM,  
DFTTS\_PAUSE\_ERROR\_INVALID\_POINTER,

```
DFTTS_PAUSE_ERROR_OBJECT_NOT_FOUND,  
DFTTS_PAUSE_ERROR_UNKNOWN_ENCODING,  
DFTTS_PAUSE_ERROR_INTERRUPTED,  
DFTTS_PAUSE_ERROR_INVALID_VOICE,  
DFTTS_PAUSE_ERROR_WRONG_EVENT,  
DFTTS_PAUSE_ERROR_ENGINE_INUSE,  
DFTTS_PAUSE_ERROR_NETWORK_ERROR,  
DFTTS_PAUSE_ERROR_INVALID_KEY,  
DFTTS_PAUSE_ERROR_QUEUE_FULL,  
DFTTS_PAUSE_ERROR_TOKEN_TIMEOUT,  
DFTTS_PAUSE_ERROR_OTHER
```

## DFTTSResume

Resumes the playback of the synthesized voice from a sound card.

### Synopsis

```
Public Declare Function DFTTSResume Lib "dftts.dll" (ByVal vet As Integer, _  
  ByVal lang As Integer) As Integer
```

### Parameters

vet

Which engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV (*internal use only*)).

lang

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the VB6 SDK P/Invoke declarations (Appendix 1) for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.

### Description

Resumes the playback of synthesized voice that was paused using DFTTSPause().

### Return Values

DFTTS\_RESUME\_SUCCESS if succeeded (check [enum](#) DFTTSResumeReturnValue for the list of all error codes)

## DFTTSExportToFileEx

It saves the synthesized output as a file.

### Synopsis

```
Public Declare Function DFTTSExportToFileEx Lib "dftts.dll" (ByVal vet As Integer, _  
    ByVal szVoiceName As String, ByVal iVoiceID As Integer, _  
    ByVal lang As Integer, ByVal szText As String, ByVal iPitch As Integer, _  
    ByVal iSpeed As Integer, ByVal iVolume As Integer, _  
    ByVal iPause As Integer, _  
    ByVal iDictID As Integer, ByVal ttTextType As Integer, _  
    ByVal szFilePath As String, ByVal ffFileFormat As Integer, _  
    ByVal szAudioEncoding As String, ByVal iAudioSamplingRate As Integer, _  
    ByVal iAudioChannels As Integer) As Integer
```

### Parameters

hwndWinOwner

Window handle (WIN32) where to send speech event messages

vet

Which engine type (NEOSPEECHVOICETEXT, CEPSTRAL, or ATTNV (*internal use only*)).

szVoiceName

Internal voice name (matters for CEPSTRAL and ATTNV). Example: "David" or "Mike16".

iVoiceID

Internal voice id (matters for NEOSPEECHVOICETEXT).

See the API declarations (values of NEOSPEECH\_KATE\_ENG, etc)

lang

Language id (only valid for NEOSPEECHVOICETEXT).

The new language system of the SDK is designed after the Windows language id implementation.

See the .NET SDK regions for all language constants. A language id is derived from a primary language id and a sub-language id.

To create a language id you must use MakeLanguage with the desired main and sub-language ids.

U.S. English language id is 1033.

To obtain a primary language id from a created with MakeLanguage id, use GetMainLanguage.

To obtain a sub-language id from a created with MakeLanguage id, use GetSubLanguage.



szText

Text string to be synthesized (no size limit).

iPitch

Defines the pitch of synthesized voice.

The default value is set to 100(%). The possible pitch range varies depending on the engine type (see below). ATTNV does not support pitch modifications by design.

For -1, use default value.

iSpeed

Defines the speed of synthesized voice. The default value is set to 100%. The range varies depending on the engine type (see below).

For -1, use default value.

iVolume

Defines the volume of synthesized voice. The default value is set to 100%. The range varies depending on the engine type (see below).

For -1, use default value.

iPause

Defines the length of pause between sentences of synthesized voice (NEOSPEECHVOICETEXT ONLY). The default value is set to 670(msec). The range is 0~20000(msec) and the lower value indicates shorter pause.

For -1, use default value

The following enumeration outlines the default values and supported ranges between engines (see API declaration):

`Public Enum` DFTTSPredefinedSpeechParams

```
DF_TTS_DEFAULT_PITCH = 100 '/*100%*/
DF_TTS_DEFAULT_SPEED = 100 '/*100%*/
DF_TTS_DEFAULT_VOLUME = 100 '/*100%*/
DF_TTS_DEFAULT_PAUSE = 670 '/*670 msec*/
DF_TTS_NEOSPEECH_MIN_PITCH = 50
DF_TTS_NEOSPEECH_MAX_PITCH = 200
DF_TTS_NEOSPEECH_MIN_SPEED = 50
DF_TTS_NEOSPEECH_MAX_SPEED = 400
DF_TTS_NEOSPEECH_MIN_VOLUME = 0
DF_TTS_NEOSPEECH_MAX_VOLUME = 500
DF_TTS_NEOSPEECH_MIN_PAUSE = 0
DF_TTS_NEOSPEECH_MAX_PAUSE = 20000
DF_TTS_CEPSTRAL_MIN_PITCH = 100
DF_TTS_CEPSTRAL_MAX_PITCH = 500
DF_TTS_CEPSTRAL_MIN_SPEED = 0
DF_TTS_CEPSTRAL_MAX_SPEED = 400
DF_TTS_CEPSTRAL_MIN_VOLUME = 0
DF_TTS_CEPSTRAL_MAX_VOLUME = 500
DF_TTS_ATTNV_MIN_SPEED = 13
DF_TTS_ATTNV_MAX_SPEED = 800
DF_TTS_ATTNV_MIN_VOLUME = 0
DF_TTS_ATTNV_MAX_VOLUME = 500
DF_TTS_ATTNV_MIN_PITCH = 0 '/*AT&T NV do not support this*/
DF_TTS_ATTNV_MAX_PITCH = 0 '/*AT&T NV do not support this*/
DF_TTS_MACOSXSPMAN_MIN_PITCH = 1
```

```

DF_TTS_MACOSXSPMAN_MAX_PITCH = 1000
DF_TTS_MACOSXSPMAN_MIN_SPEED = 1
DF_TTS_MACOSXSPMAN_MAX_SPEED = 1000
DF_TTS_MACOSXSPMAN_MIN_VOLUME = 100
DF_TTS_MACOSXSPMAN_MAX_VOLUME = 500
DF_TTS_MSSAPI_MIN_PITCH = 30
DF_TTS_MSSAPI_MAX_PITCH = 350
DF_TTS_MSSAPI_MIN_SPEED = 30
DF_TTS_MSSAPI_MAX_SPEED = 350
DF_TTS_MSSAPI_MIN_VOLUME = 0
DF_TTS_MSSAPI_MAX_VOLUME = 100

```

End Enum

iDictID

ID of the user dictionary when multiple user dictionaries are in use. The default dictionary uses value 0 and the range is between 1~1023 (ONLY applicable with NEOSPEECHVOICETEXT).

For -1, use default value.

ttTextType

Defines the text type to be synthesized.

For regular text, use DFTTS\_TEXT\_TYPE\_PLAIN, and for VoiceXML/SSML text, use DFTTS\_TEXT\_TYPE\_XML. The value of -1 is regarded as regular text.

szFilePath

File path to save the synthesized voice output under.

ffFileFormat

Defines the types of synthesized output formats.

**CEPSTRAL:** Ignored.

**ATTNV:** Ignored. It always exports as PCM WAV.

**NEOSPEECHVOICETEXT:** The followings are the types of synthesized output file format that the DF TTS SDK supports for NeoSpeech VoiceText™:

```

VT_FILE_API_FMT_S16PCM 16bits Linear PCM
VT_FILE_API_FMT_ALAW 8bits A-law PCM
VT_FILE_API_FMT_MULAW 8bits Mu-law PCM
VT_FILE_API_FMT_DADPCM 4bits Dialogic ADPCM
VT_FILE_API_FMT_S16PCM_WAVE 16bits Linear PCM WAVE
VT_FILE_API_FMT_U08PCM_WAVE 8bits Unsigned Linear PCM WAVE
VT_FILE_API_FMT_IMA_WAVE 4bits IMA ADPCM WAVE
VT_FILE_API_FMT_ALAW_WAVE 8bits A-law PCM WAVE
VT_FILE_API_FMT_MULAW_WAVE 8bits Mu-law PCM WAVE
VT_FILE_API_FMT_MULAW_AU 8bits Mu-law PCM SUN AU

```

szAudioEncoding, iAudioSamplingRate, iAudioChannels

**NEOSPEECHVOICETEXT:** Ignored.

**ATTNV:** Ignored.

**CEPSTRAL:** Possible values:

szAudioEncoding:

"pcm16", "pcm8" PCM 16 bit/8 bit WAV  
"ulaw" -  $\mu$ -Law (8-bit), "alaw" - A-Law (8-bit)  
"riff": Microsoft RIFF (WAV) file  
"snd": Sun/NeXT .au (SND) format.  
"raw": unheadered audio data, native byte order  
"le": unheadered audio data, little-endian (LSB first)  
"be": unheadered audio data, big-endian (MSB first)

iAudioSamplingRate:

8000 (8 KHz), 16000 (16 KHz), 11025 (11.025 kHz), etc.

iAudioChannels:

1 (mono), 2 (stereo)

Note: ATTNV ignores all format parameters and always exports in PCM WAV format.

## Notes

**On Windows, *DFTTSExportToFile...*() SDK function sends the message **WM\_USER+12360** with WPARAM "0" and LPARAM "-1" when audio file synthesizing is complete. To test this behavior use Spy++. Check the sample code to see how these values are acquired by capturing the message directly in the window procedure (in the sample `WIN_EXPORT_MSG = WM_USER+12360`):**

- You must subclass the main Form of the application (see Module1 for the Win32 API declarations). In Form1 code you must have:

```
Public Sub Hook()
```

```
    gHW = Me.hwnd
```

```
    lpPrevWndProc = SetWindowLong(gHW, GWL_WNDPROC, _  
                                  AddressOf WindowProc)
```

```
End Sub
```

```
Public Sub Unhook()
```

```
    'Reset the message handler for this window
```

```
    If gHW = 0 Then Exit Sub
```

```
    Call SetWindowLong(gHW, GWL_WNDPROC, lpPrevWndProc)  
    gHW = 0
```

```
End Sub
```

- Call Hook in Form1\_Load and UnHook in Form1\_UnLoad (see sample).
- Access the window procedure and capture messages (see Module1 in sample):

```

Public Function WindowProc(ByVal hw As Long, ByVal uMsg As Long, _
    ByVal wParam As Long, _
    ByVal lParam As Long) As Long

    Select Case uMsg
        Case WIN_EXPORT_MSG
            MsgBox "Export Successful!"
        Case WIN_SPEAK_MSG
            Form1.Label1.Caption = "OnWord: Start Character: " & wParam & _
                ", End Character: " & lParam + 1
    End Select

    'Pass message on to the original window message handler
    WindowProc = CallWindowProc(lpPrevWndProc, hw, _
        uMsg, wParam, _
        lParam)

End Function

```

## Return Values

DFTTS\_EXPORT\_SUCCESS is returned when successfully synthesized and the following error codes are returned when errors occur:

[DFTTS\_EXPORT\_ERROR\_FORMAT\_NOT\_SUPPORTED] Used format that is not supported.  
 [DFTTS\_EXPORT\_ERROR\_CHANNEL\_MEM\_FAIL] Failed to secure channel memory  
 [DFTTS\_EXPORT\_ERROR\_TEXT\_NULL] Text string is a NULL pointer  
 [DFTTS\_EXPORT\_ERROR\_TEXT\_ZERO\_LEN] The length of text string is 0.  
 [DFTTS\_EXPORT\_ERROR\_DB\_NOT\_LOADED] The TTS DB of the voice requested is not loaded  
 [DFTTS\_EXPORT\_ERROR\_GEN\_FILE\_FAIL] Failed to generate the synthesized voice file

Additional return values:

DFTTS\_EXPORT\_ERROR\_BUFFER\_NULL,  
 DFTTS\_EXPORT\_ERROR\_THREAD\_IN\_USE,  
 DFTTS\_EXPORT\_ERROR\_UNIMPLEMENTED,  
 DFTTS\_EXPORT\_ERROR\_INTERNAL,  
 DFTTS\_EXPORT\_ERROR\_INVALID\_PARAM,  
 DFTTS\_EXPORT\_ERROR\_INVALID\_POINTER,  
 DFTTS\_EXPORT\_ERROR\_OBJECT\_NOT\_FOUND,  
 DFTTS\_EXPORT\_ERROR\_UNKNOWN\_ENCODING,  
 DFTTS\_EXPORT\_ERROR\_INTERRUPTED,  
 DFTTS\_EXPORT\_ERROR\_INVALID\_VOICE,  
 DFTTS\_EXPORT\_ERROR\_WRONG\_EVENT,  
 DFTTS\_EXPORT\_ERROR\_ENGINE\_INUSE,  
 DFTTS\_EXPORT\_ERROR\_NETWORK\_ERROR,

DFTTS\_EXPORT\_ERROR\_INVALID\_KEY,  
DFTTS\_EXPORT\_ERROR\_QUEUE\_FULL,  
DFTTS\_EXPORT\_ERROR\_TOKEN\_TIMEOUT,  
DFTTS\_EXPORT\_ERROR\_FAILED,  
DFTTS\_EXPORT\_ERROR\_INVALIDARG,  
DFTTS\_EXPORT\_ERROR\_OUTOFMEMORY,  
DFTTS\_EXPORT\_ERROR\_NOTIMPL,  
DFTTS\_EXPORT\_ERROR\_ABORT,  
DFTTS\_EXPORT\_ERROR\_UNKNOWN,  
DFTTS\_EXPORT\_ERROR\_BADHANDLE,  
DFTTS\_EXPORT\_ERROR\_EXCEPTION,  
DFTTS\_EXPORT\_ERROR\_EMPTY,  
DFTTS\_EXPORT\_ERROR\_FULL,  
DFTTS\_EXPORT\_ERROR\_INVALIDSTATE,  
DFTTS\_EXPORT\_ERROR\_BADVERSION,  
DFTTS\_EXPORT\_ERROR\_INSUFFICIENT\_BUFFER,  
DFTTS\_EXPORT\_ERROR\_UNSUPPORTED,  
DFTTS\_EXPORT\_ERROR\_NOLICENSE,  
DFTTS\_EXPORT\_ERROR\_CREATECHILDPROCESS\_FAILED,  
DFTTS\_EXPORT\_ERROR\_NOENVIRONMENTPATH,  
DFTTS\_EXPORT\_ERROR\_TIMEOUT,  
DFTTS\_EXPORT\_ERROR\_OUTOFRESOURCES,  
DFTTS\_EXPORT\_ERROR\_NOVOICES,  
DFTTS\_EXPORT\_ERROR\_CREATEFAIL,  
DFTTS\_EXPORT\_ERROR\_CONNECTFAIL,  
DFTTS\_EXPORT\_ERROR\_BINDFAIL,  
DFTTS\_EXPORT\_ERROR\_LISTENFAIL,  
DFTTS\_EXPORT\_ERROR\_CONNECTIONCLOSED,  
DFTTS\_EXPORT\_ERROR\_ACCEPTFAIL,  
DFTTS\_EXPORT\_ERROR\_SOCKETTIMEOUT,  
DFTTS\_EXPORT\_ERROR\_SOCKETERROR,  
DFTTS\_EXPORT\_ERROR\_NOMORESERVERS,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EWOULDBLOCK,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EINPROGRESS,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EALREADY,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOTSOCK,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EDESTADDRREQ,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EMSGSIZE,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPROTOTYPE,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOPROTOOPT,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPROTONOSUPPORT,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ESOCKTNOSUPPORT,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EOPNOTSUPP,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPFNOSUPPORT,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EAFNOSUPPORT,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EADDRINUSE,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EADDRNOTAVAIL,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETDOWN,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETUNREACH,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETRESET,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ECONNABORTED,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ECONNRESET,  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOBUFS,

```

DFTTS_EXPORT_ERROR_SOCKET_EISCONN,
DFTTS_EXPORT_ERROR_SOCKET_ENOTCONN,
DFTTS_EXPORT_ERROR_SOCKET_ESHUTDOWN,
DFTTS_EXPORT_ERROR_SOCKET_ETOOMANYREFS,
DFTTS_EXPORT_ERROR_SOCKET_ECONNREFUSED,
DFTTS_EXPORT_ERROR_SOCKET_ELOOP,
DFTTS_EXPORT_ERROR_SOCKET_ENAMETOOLONG,
DFTTS_EXPORT_ERROR_SOCKET_EHOSTDOWN,
DFTTS_EXPORT_ERROR_SOCKET_EHOSTUNREACH,
DFTTS_EXPORT_ERROR_SOCKET_ENOTEMPTY,
DFTTS_EXPORT_ERROR_SOCKET_EPROCLIM,
DFTTS_EXPORT_ERROR_THREADSTARTED,
DFTTS_EXPORT_ERROR_THREADNOTSTARTED,
DFTTS_EXPORT_ERROR_THREADCOULDNOTCREATE,
DFTTS_EXPORT_ERROR_BADNVFILE,
DFTTS_EXPORT_ERROR_NOAUDIODRIVER,
DFTTS_EXPORT_ERROR_DICTNOTFOUND,
DFTTS_EXPORT_ERROR_ALREADYPLAYING,
DFTTS_EXPORT_ERROR_AUDIOFORMATNOTSUPPORTED,
DFTTS_EXPORT_ERROR_XML_INVALID,
DFTTS_EXPORT_ERROR_WL_INVALID,
DFTTS_EXPORT_ERROR_INVALIDPHONESET,
DFTTS_EXPORT_ERROR_INVALIDPHONEME,
DFTTS_EXPORT_ERROR_MSGQ_CREATEFAILED,
DFTTS_EXPORT_ERROR_MSGQ_ALREADYEXISTS,
DFTTS_EXPORT_ERROR_MSGQ_NOTFOUND,
DFTTS_EXPORT_ERROR_MSGQ_INVALIDOP,
DFTTS_EXPORT_ERROR_MSGQ_NOTOPEN,
DFTTS_EXPORT_ERROR_MSGQ_LOCKFAILED,
DFTTS_EXPORT_ERROR_MSGQ_ABANDONED,
DFTTS_EXPORT_ERROR_MSGQ_OPENFAILED,
[DFTTS_EXPORT_ERROR_OTHER] Other errors

```

### **Example (see VB6 sample)**

```
Dim currentCIndex As Integer
```

```
currentCIndex = Combo1.ListIndex + 1
```

```
Dim result As DFTTSExportReturnValue
```

```
Dim format As Integer
```

```
format = 0
```

```
If cDataVoiceEngines.Item(currentCIndex) = NEOSPEECHVOICETEXT Then
```

```
    format = VT_FILE_API_FMT_ALAW_WAVE
```

```
End If
```

```
' Example for NeoSpeech Paul
```

```
result = DFTTSExportToFileEx(cDataVoiceEngines.Item(currentCIndex), _
    cDataVoiceNames.Item(currentCIndex), cDataVoiceIds.Item(currentCIndex), _
```

```

cDataVoiceLangs.Item(currentCIndex), Text1.Text, -1, _
-1, -1, -1, _
-1, DFTTS_TEXT_TYPE_XML, _
sFileName, format, _
"pcm16", 16000, _
2)

```

```

If result <> DFTTS_EXPORT_SUCCESS Then
    MsgBox "SDK Export failed with error: " & result, vbCritical, "Error"
End If

```

## GetDFTTSVoice

Returns information about an SDK-supported voice installed on the current system (voice name, engine, voice id, language id).

### Synopsis

```

Public Declare Function GetDFTTSVoice Lib "dftts.dll" ( _
    ByVal iVoiceInfoIdIn As Integer, _
    ByRef pvetOut As Integer, _
    ByVal szVoiceNameOut As String, _
    ByRef piVoiceNameLenOut As Integer, _
    ByRef piVoiceIDOut As Integer, _
    ByRef plangOut As Integer _
) As Integer

```

### Parameters

[IN] iVoiceInfoIdIn  
Zero-based number of the voice info retrieval.

[OUT] pvetOut  
Voice engine type of the retrieved voice (NEOSPEECHVOICETEXT, CEPSTRAL, ATTNV, MACOSXSPMAN or MSSAPI).

[IN] [OUT] szVoiceNameOut  
ASCII c-string name of the voice. Must have sufficient size to hold the retrieved voice name.

[OUT] piVoiceNameLenOut  
The length of szVoiceNameOut. Does not count the null-terminating character ('\0').

[OUT] piVoiceIDOut  
Voice id of the retrieved voice. Only matters for NEOSPEECHVOICETEXT. Other voices will have an id of -1.

[OUT] plangOut  
Language id of the retrieved voice. Only makes a difference right now for NEOSPEECHVOICETEXT.

### Return Values

GET\_DFTTS\_VI\_SUCCESS when the information is successfully retrieved.

GET\_DFTTS\_VI\_NO\_MORE\_ITEMS when there is no voice information for the provided retrieval id (see sample).  
GET\_DFTTS\_VI\_ERROR\_BUFFER\_TOO\_SMALL when the buffer szVoiceNameOut is too small to hold the retrieved voice name.  
GET\_DFTTS\_VI\_ERROR\_OTHER other errors.

### **Example (see VB6 samples)**

'This is how to list all installed supported voices  
'We assign our collections here

```
Dim szVoiceName As String
szVoiceName = "*****"

    Dim iVoiceNameLen As Integer
    iVoiceNameLen = 0

    Dim vet As Integer
    vet = 0

    Dim lang As Integer
    lang = 0

    Dim iVoiceID As Integer
    iVoiceID = 0

    Dim bSetDefault As Boolean
    bSetDefault = False

    Dim z As Integer
    z = 0

    Dim iUsedNumOfVoices As Integer
    iUsedNumOfVoices = 0

    Set cDataVoiceNames = New Collection

    Set cDataVoiceEngines = New Collection

    Set cDataVoiceLangs = New Collection

    Set cDataVoiceIds = New Collection

    Do While 0 = 0

        Dim viresult As DFTTSVoiceInfoReturnValue

        viresult = GetDFTTSVoice( _
            z, vet, szVoiceName, iVoiceNameLen, _
```



iVoiceID, lang)

'DO NOT USE MSSAPI NATIVELY FROM VB! IT WILL CRASH THE APP!!!  
If viresult = GET\_DFTTS\_VI\_SUCCESS And vet <> MSSAPI Then

iUsedNumOfVoices = iUsedNumOfVoices + 1

'MUST Left\$ to lose the NULL terminating character!  
cDataVoiceNames.Add Left\$(szVoiceName, iVoiceNameLen)

cDataVoiceEngines.Add vet

cDataVoiceLangs.Add lang

cDataVoiceIds.Add iVoiceID

Else

Exit Do

End If

z = z + 1

Loop

Dim it As Variant

For Each it In cDataVoiceNames

Combo1.AddItem CStr(it)

Next

Combo1.ListIndex = 0

If iUsedNumOfVoices = 0 Then  
MsgBox "No voices can be found on your system! Please download and install at  
least 1 voice!"  
End If

# Appendix 1

## SDK P/Invoke Decalarations for VB 6

```
Public Const NEOSPEECH_NUM_VOICES As Integer = 12
```

```
Public Const NUM_ENGINE_INITIALIZATIONS As Integer = 16
```

```
Public Declare Function GetDFTTSTNumVoices Lib "dftts.dll" () As Integer
```

```
Public Declare Function GetDFTTSVoice Lib "dftts.dll" (ByVal iVoiceInfoIdIn As Integer, _
```

```
ByRef pvetOut As Integer, _  
ByVal szVoiceNameOut As String, _  
ByRef piVoiceNameLenOut As Integer, _  
ByRef piVoiceIDOut As Integer, _  
ByRef plangOut As Integer _  
) As Integer
```

```
Public Declare Sub InitDFTTSEngineEx3 Lib "dftts.dll" (ByVal hwndWinOwner As Long, _
```

```
ByVal szNeoSpeechDBFolderPathKate As String, _  
ByVal szNeoSpeechDBFolderPathPaul As String, _  
ByVal szNeoSpeechDBFolderPathMiyu As String, _  
ByVal szNeoSpeechDBFolderPathShow As String, _  
ByVal szNeoSpeechDBFolderPathMisaki As String, _  
ByVal szNeoSpeechDBFolderPathLily As String, _  
ByVal szNeoSpeechDBFolderPathWang As String, _  
ByVal szNeoSpeechDBFolderPathJunwoo As String, _  
ByVal szNeoSpeechDBFolderPathSujin As String, _  
ByVal szNeoSpeechDBFolderPathYumi As String, _  
ByVal szNeoSpeechDBFolderPathGyuri As String, _  
ByVal szNeoSpeechDBFolderPathDayoung As String, _  
ByVal szNeoSpeechLicFilePathKate As String, _  
ByVal szNeoSpeechLicFilePathPaul As String, _  
ByVal szNeoSpeechLicFilePathMiyu As String, _  
ByVal szNeoSpeechLicFilePathShow As String, _  
ByVal szNeoSpeechLicFilePathMisaki As String, _  
ByVal szNeoSpeechLicFilePathLily As String, _  
ByVal szNeoSpeechLicFilePathWang As String, _  
ByVal szNeoSpeechLicFilePathJunwoo As String, _  
ByVal szNeoSpeechLicFilePathSujin As String, _  
ByVal szNeoSpeechLicFilePathYumi As String, _  
ByVal szNeoSpeechLicFilePathGyuri As String, _  
ByVal szNeoSpeechLicFilePathDayoung As String, ByRef  
psiLoadedEngines As Long, ByRef psiLoadedEnginesReturnValues As Long)
```

```

Public Declare Function UninitDFTTSEngine Lib "dftts.dll" () As Integer

Public Declare Function MakeLanguage Lib "dftts.dll" (ByVal mainlang As Integer, _
    ByVal sublang As Integer _
    ) As Integer

Public Declare Function GetMainLanguage Lib "dftts.dll" (ByVal lang As Integer) As Integer

Public Declare Function GetSubLanguage Lib "dftts.dll" (ByVal lang As Integer) As Integer

Public Declare Function LoadDFTTSUserDict Lib "dftts.dll" (ByVal iDictIndex As Integer, _
    ByVal szDictName As String, _
    ByVal szDictFileName As String, _
    ByVal vet As Integer, ByVal lang As Integer, ByVal szVoiceName As String, _
    ByVal szDictContents As String) As Integer

Public Declare Function UnloadDFTTSUserDict Lib "dftts.dll" (ByVal iDictIndex As Integer, _
    ByVal szDictName As String, _
    ByVal vet As Integer, ByVal lang As Integer) As Integer

Public Declare Function DFTTSSpeak Lib "dftts.dll" (ByVal hwndWinOwner As Long, _
    ByVal vet As Integer, ByVal szVoiceName As String, ByVal iVoiceID As Integer, _
    ByVal lang As Integer, ByVal szText As String, ByVal iPitch As Integer,
    _
    ByVal iSpeed As Integer, ByVal iVolume As Integer, ByVal iPause As Integer, _
    ByVal iDictID As Integer, ByVal ttTextType As Integer, _
    ByVal ofOutPutFormat As Integer) As Integer

Public Declare Function DFTTSPause Lib "dftts.dll" (ByVal vet As Integer, _
    ByVal lang As Integer) As Integer

Public Declare Function DFTTSResume Lib "dftts.dll" (ByVal vet As Integer, _
    ByVal lang As Integer) As Integer

Public Declare Function DFTTSStop Lib "dftts.dll" (ByVal vet As Integer, _
    ByVal lang As Integer) As Integer

Public Declare Function DFTTSExportToFileEx Lib "dftts.dll" (ByVal vet As Integer, _
    ByVal szVoiceName As String, ByVal iVoiceID As Integer, _
    ByVal lang As Integer, ByVal szText As String, ByVal iPitch As Integer,
    _
    ByVal iSpeed As Integer, ByVal iVolume As Integer, ByVal iPause As Integer, _
    ByVal iDictID As Integer, ByVal ttTextType As Integer, _
    ByVal szFilePath As String, ByVal ffFileFormat As Integer, _

```

ByVal szAudioEncoding As String, ByVal iAudioSamplingRate As Integer, \_  
ByVal iAudioChannels As Integer) As Integer

Public Enum DFTTSPredefinedSpeechParams

DF\_TTS\_DEFAULT\_PITCH = 100 '/\*100%\*/  
DF\_TTS\_DEFAULT\_SPEED = 100 '/\*100%\*/  
DF\_TTS\_DEFAULT\_VOLUME = 100 '/\*100%\*/  
DF\_TTS\_DEFAULT\_PAUSE = 670 '/\*670 msec\*/  
DF\_TTS\_NEOSPEECH\_MIN\_PITCH = 50  
DF\_TTS\_NEOSPEECH\_MAX\_PITCH = 200  
DF\_TTS\_NEOSPEECH\_MIN\_SPEED = 50  
DF\_TTS\_NEOSPEECH\_MAX\_SPEED = 400  
DF\_TTS\_NEOSPEECH\_MIN\_VOLUME = 0  
DF\_TTS\_NEOSPEECH\_MAX\_VOLUME = 500  
DF\_TTS\_NEOSPEECH\_MIN\_PAUSE = 0  
DF\_TTS\_NEOSPEECH\_MAX\_PAUSE = 20000  
DF\_TTS\_CEPSTRAL\_MIN\_PITCH = 100  
DF\_TTS\_CEPSTRAL\_MAX\_PITCH = 500  
DF\_TTS\_CEPSTRAL\_MIN\_SPEED = 0  
DF\_TTS\_CEPSTRAL\_MAX\_SPEED = 400  
DF\_TTS\_CEPSTRAL\_MIN\_VOLUME = 0  
DF\_TTS\_CEPSTRAL\_MAX\_VOLUME = 500  
DF\_TTS\_ATTNV\_MIN\_SPEED = 13  
DF\_TTS\_ATTNV\_MAX\_SPEED = 800  
DF\_TTS\_ATTNV\_MIN\_VOLUME = 0  
DF\_TTS\_ATTNV\_MAX\_VOLUME = 500  
DF\_TTS\_ATTNV\_MIN\_PITCH = 0 '/\*AT&T NV do not support this\*/  
DF\_TTS\_ATTNV\_MAX\_PITCH = 0 '/\*AT&T NV do not support this\*/  
DF\_TTS\_MACOSXSPMAN\_MIN\_PITCH = 1  
DF\_TTS\_MACOSXSPMAN\_MAX\_PITCH = 1000  
DF\_TTS\_MACOSXSPMAN\_MIN\_SPEED = 1  
DF\_TTS\_MACOSXSPMAN\_MAX\_SPEED = 1000  
DF\_TTS\_MACOSXSPMAN\_MIN\_VOLUME = 100  
DF\_TTS\_MACOSXSPMAN\_MAX\_VOLUME = 500  
DF\_TTS\_MSSAPI\_MIN\_PITCH = 30  
DF\_TTS\_MSSAPI\_MAX\_PITCH = 350  
DF\_TTS\_MSSAPI\_MIN\_SPEED = 30  
DF\_TTS\_MSSAPI\_MAX\_SPEED = 350  
DF\_TTS\_MSSAPI\_MIN\_VOLUME = 0  
DF\_TTS\_MSSAPI\_MAX\_VOLUME = 100

End Enum

Public Enum DFTTSVoiceEngineType

NOENGINE = -4  
ALLENGINES = -3  
NEOSPEECHVOICETEXT = 0  
CEPSTRAL  
ATTNV

MSSAPI  
MACOSXSPMAN

End Enum

Public Enum InitDFTTSEngineReturnValue

INIT\_DFTTS\_ENGINE\_SUCCESS  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_PATH\_DIFFERENT  
INIT\_DFTTS\_ENGINE\_ERROR\_CHANNEL\_MEM\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_MORPHEME\_ANALYSIS\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_BREAK\_INDEX\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_TEXT\_PREP\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_ACOU\_MODEL\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_UNIT\_SEL\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_PROS\_MODEL\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_SPEECH\_DB\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_DB\_PITCH\_LOC\_INFO\_FAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_FAILED  
INIT\_DFTTS\_ENGINE\_ERROR\_INVALIDARG  
INIT\_DFTTS\_ENGINE\_ERROR\_OUTOFMEMORY  
INIT\_DFTTS\_ENGINE\_ERROR\_NOTIMPL  
INIT\_DFTTS\_ENGINE\_ERROR\_ABORT  
INIT\_DFTTS\_ENGINE\_ERROR\_UNKNOWN  
INIT\_DFTTS\_ENGINE\_ERROR\_BADHANDLE  
INIT\_DFTTS\_ENGINE\_ERROR\_EXCEPTION  
INIT\_DFTTS\_ENGINE\_ERROR\_EMPTY  
INIT\_DFTTS\_ENGINE\_ERROR\_FULL  
INIT\_DFTTS\_ENGINE\_ERROR\_INVALIDSTATE  
INIT\_DFTTS\_ENGINE\_ERROR\_BADVERSION  
INIT\_DFTTS\_ENGINE\_ERROR\_INSUFFICIENT\_BUFFER  
INIT\_DFTTS\_ENGINE\_ERROR\_UNSUPPORTED  
INIT\_DFTTS\_ENGINE\_ERROR\_NOLICENSE  
INIT\_DFTTS\_ENGINE\_ERROR\_CREATECHILDPROCESS\_FAILED  
INIT\_DFTTS\_ENGINE\_ERROR\_NOENVIRONMENTPATH  
INIT\_DFTTS\_ENGINE\_ERROR\_TIMEOUT  
INIT\_DFTTS\_ENGINE\_ERROR\_OUTOFRESOURCES  
INIT\_DFTTS\_ENGINE\_ERROR\_NOVOICES  
INIT\_DFTTS\_ENGINE\_ERROR\_CREATEFAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_CONNECTFAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_BINDFAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_LISTENFAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_CONNECTIONCLOSED  
INIT\_DFTTS\_ENGINE\_ERROR\_ACCEPTFAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKETTIMEOUT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKETERROR  
INIT\_DFTTS\_ENGINE\_ERROR\_NOMORESERSERVERS  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EWOULDBLOCK  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EINPROGRESS  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EALREADY  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENOTSOCK  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EDESTADDRREQ  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET EMSGSIZE

INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EPROTOTYPE  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENOPROTOOPT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EPROTONOSUPPORT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ESOCKTNOSUPPORT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EOPNOTSUPP  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EPFNOSUPPORT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EAFNOSUPPORT  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EADDRINUSE  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EADDRNOTAVAIL  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENETDOWN  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENETUNREACH  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENETRESET  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ECONNABORTED  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ECONNRESET  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENOBUFS  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EISCONN  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENOTCONN  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ESHUTDOWN  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ETOOMANYREFS  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ECONNREFUSED  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ELOOP  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENAMETOOLONG  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EHOSTDOWN  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EHOSTUNREACH  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_ENOTEMPTY  
INIT\_DFTTS\_ENGINE\_ERROR\_SOCKET\_EPROCLIM  
INIT\_DFTTS\_ENGINE\_ERROR\_THREADSTARTED  
INIT\_DFTTS\_ENGINE\_ERROR\_THREADNOTSTARTED  
INIT\_DFTTS\_ENGINE\_ERROR\_THREADCOULDNOTCREATE  
INIT\_DFTTS\_ENGINE\_ERROR\_BADNVFILE  
INIT\_DFTTS\_ENGINE\_ERROR\_NOAUDIODRIVER  
INIT\_DFTTS\_ENGINE\_ERROR\_DICTNOTFOUND  
INIT\_DFTTS\_ENGINE\_ERROR\_OTHER

End Enum

Public Enum UninitDFTTSEngineReturnValue

UNINIT\_DFTTS\_ENGINE\_SUCCESS  
UNINIT\_DFTTS\_ENGINE\_FAIL

End Enum

Public Enum LoadDFTTSUserDictReturnValue

LOAD\_USER\_DICT\_SUCCESS  
LOAD\_USER\_DICT\_ERROR\_DICTIDX\_NOT\_VALID  
LOAD\_USER\_DICT\_ERROR\_DICT\_ALREADY\_LOADED  
LOAD\_USER\_DICT\_ERROR\_DICT\_WORD\_ALREADY\_LOADED  
LOAD\_USER\_DICT\_ERROR\_NO\_DICT\_FILE\_OR\_ENTRY  
LOAD\_USER\_DICT\_ERROR\_INVALID\_DICT\_FILE  
LOAD\_USER\_DICT\_ERROR\_INVALID\_VOICE  
LOAD\_USER\_DICT\_ERROR\_INVALID\_ARG

LOAD\_USER\_DICT\_ERROR\_INVALID\_PHONEME\_SET  
LOAD\_USER\_DICT\_ERROR\_INVALID\_PHONEME  
LOAD\_USER\_DICT\_ERROR\_INVALID\_PARTOFSP  
LOAD\_USER\_DICT\_ERROR\_DENIED  
LOAD\_USER\_DICT\_ERROR\_OUTOFMEMORY  
LOAD\_USER\_DICT\_ERROR\_INTERNAL  
LOAD\_USER\_DICT\_ERROR\_OTHER

End Enum

Public Enum UnloadDFTTSUserDictReturnValue

UNLOAD\_USER\_DICT\_SUCCESS  
UNLOAD\_USER\_DICT\_ERROR\_DICTIDX\_NOT\_VALID  
UNLOAD\_USER\_DICT\_ERROR\_DICT\_UNLOADED  
UNLOAD\_USER\_DICT\_ERROR\_NO\_DICT\_FILE\_OR\_ENTRY  
UNLOAD\_USER\_DICT\_ERROR\_INVALID\_PARTOFSP  
UNLOAD\_USER\_DICT\_ERROR\_INVALID\_PHONEME\_SET  
UNLOAD\_USER\_DICT\_ERROR\_INTERNAL  
UNLOAD\_USER\_DICT\_ERROR\_OTHER

End Enum

Public Enum DFTTSTextType

DFTTS\_TEXT\_TYPE\_PLAIN  
DFTTS\_TEXT\_TYPE\_XML

End Enum

Public Enum DFTTSSpeakReturnValue

DFTTS\_SPEAK\_SUCCESS  
DFTTS\_SPEAK\_ERROR\_CHANNEL\_MEM\_FAIL  
DFTTS\_SPEAK\_ERROR\_TEXT\_NULL  
DFTTS\_SPEAK\_ERROR\_TEXT\_ZERO\_LEN  
DFTTS\_SPEAK\_ERROR\_DB\_NOT\_LOADED  
DFTTS\_SPEAK\_ERROR\_SET\_SOUND\_CARD\_FAIL  
DFTTS\_SPEAK\_ERROR\_UNIMPLEMENTED  
DFTTS\_SPEAK\_ERROR\_INTERNAL  
DFTTS\_SPEAK\_ERROR\_INVALID\_PARAM  
DFTTS\_SPEAK\_ERROR\_INVALID\_POINTER  
DFTTS\_SPEAK\_ERROR\_UNKNOWN\_ENCODING  
DFTTS\_SPEAK\_ERROR\_OBJECT\_NOT\_FOUND  
DFTTS\_SPEAK\_ERROR\_INTERRUPTED  
DFTTS\_SPEAK\_ERROR\_INVALID\_VOICE  
DFTTS\_SPEAK\_ERROR\_WRONG\_EVENT  
DFTTS\_SPEAK\_ERROR\_ENGINE\_INUSE  
DFTTS\_SPEAK\_ERROR\_NETWORK\_ERROR  
DFTTS\_SPEAK\_ERROR\_INVALID\_KEY  
DFTTS\_SPEAK\_ERROR\_QUEUE\_FULL  
DFTTS\_SPEAK\_ERROR\_TOKEN\_TIMEOUT

DFTTS\_SPEAK\_ERROR\_FAILED  
DFTTS\_SPEAK\_ERROR\_INVALIDARG  
DFTTS\_SPEAK\_ERROR\_OUTOFMEMORY  
DFTTS\_SPEAK\_ERROR\_NOTIMPL  
DFTTS\_SPEAK\_ERROR\_ABORT  
DFTTS\_SPEAK\_ERROR\_UNKNOWN  
DFTTS\_SPEAK\_ERROR\_BADHANDLE  
DFTTS\_SPEAK\_ERROR\_EXCEPTION  
DFTTS\_SPEAK\_ERROR\_EMPTY  
DFTTS\_SPEAK\_ERROR\_FULL  
DFTTS\_SPEAK\_ERROR\_INVALIDSTATE  
DFTTS\_SPEAK\_ERROR\_BADVERSION  
DFTTS\_SPEAK\_ERROR\_INSUFFICIENT\_BUFFER  
DFTTS\_SPEAK\_ERROR\_UNSUPPORTED  
DFTTS\_SPEAK\_ERROR\_NOLICENSE  
DFTTS\_SPEAK\_ERROR\_CREATECHILDPROCESS\_FAILED  
DFTTS\_SPEAK\_ERROR\_NOENVIRONMENTPATH  
DFTTS\_SPEAK\_ERROR\_TIMEOUT  
DFTTS\_SPEAK\_ERROR\_OUTOFRESOURCES  
DFTTS\_SPEAK\_ERROR\_NOVOICES  
DFTTS\_SPEAK\_ERROR\_CREATEFAIL  
DFTTS\_SPEAK\_ERROR\_CONNECTFAIL  
DFTTS\_SPEAK\_ERROR\_BINDFAIL  
DFTTS\_SPEAK\_ERROR\_LISTENFAIL  
DFTTS\_SPEAK\_ERROR\_CONNECTIONCLOSED  
DFTTS\_SPEAK\_ERROR\_ACCEPTFAIL  
DFTTS\_SPEAK\_ERROR\_SOCKETTIMEOUT  
DFTTS\_SPEAK\_ERROR\_SOCKETERROR  
DFTTS\_SPEAK\_ERROR\_NOMORESERSERVERS  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EWOULDBLOCK  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EINPROGRESS  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EALREADY  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTSOCK  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EDESTADDRREQ  
DFTTS\_SPEAK\_ERROR\_SOCKET EMSGSIZE  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROTOTYPE  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOPROTOOPT  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROTONOSUPPORT  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ESOCKTNOSUPPORT  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EOPNOTSUPP  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPFNOSUPPORT  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EAFNOSUPPORT  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EADDRINUSE  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EADDRNOTAVAIL  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETDOWN  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETUNREACH  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENETRESET  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNABORTED  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNRESET  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOBUFS  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EISCONN  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTCONN  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ESHUTDOWN



DFTTS\_SPEAK\_ERROR\_SOCKET\_ETOOMANYREFS  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ECONNREFUSED  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ELOOP  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENAMETOOLONG  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EHOSTDOWN  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EHOSTUNREACH  
DFTTS\_SPEAK\_ERROR\_SOCKET\_ENOTEMPTY  
DFTTS\_SPEAK\_ERROR\_SOCKET\_EPROCLIM  
DFTTS\_SPEAK\_ERROR\_THREADSTARTED  
DFTTS\_SPEAK\_ERROR\_THREADNOTSTARTED  
DFTTS\_SPEAK\_ERROR\_THREADCOULDNOTCREATE  
DFTTS\_SPEAK\_ERROR\_BADNVFILE  
DFTTS\_SPEAK\_ERROR\_NOAUDIODRIVER  
DFTTS\_SPEAK\_ERROR\_DICTNOTFOUND  
DFTTS\_SPEAK\_ERROR\_ALREADYPLAYING  
DFTTS\_SPEAK\_ERROR\_AUDIOFORMATNOTSUPPORTED  
DFTTS\_SPEAK\_ERROR\_XML\_INVALID  
DFTTS\_SPEAK\_ERROR\_WL\_INVALID  
DFTTS\_SPEAK\_ERROR\_INVALIDPHONESET  
DFTTS\_SPEAK\_ERROR\_INVALIDPHONEME  
DFTTS\_SPEAK\_ERROR\_MSGQ\_CREATEFAILED  
DFTTS\_SPEAK\_ERROR\_MSGQ\_ALREADYEXISTS  
DFTTS\_SPEAK\_ERROR\_MSGQ\_NOTFOUND  
DFTTS\_SPEAK\_ERROR\_MSGQ\_INVALIDOP  
DFTTS\_SPEAK\_ERROR\_MSGQ\_NOTOPEN  
DFTTS\_SPEAK\_ERROR\_MSGQ\_LOCKFAILED  
DFTTS\_SPEAK\_ERROR\_MSGQ\_ABANDONED  
DFTTS\_SPEAK\_ERROR\_MSGQ\_OPENFAILED  
DFTTS\_SPEAK\_ERROR\_OTHER

End Enum

Public Enum DFTTSPauseReturnValue

DFTTS\_PAUSE\_SUCCESS  
DFTTS\_PAUSE\_ERROR\_UNIMPLEMENTED  
DFTTS\_PAUSE\_ERROR\_INTERNAL  
DFTTS\_PAUSE\_ERROR\_INVALID\_PARAM  
DFTTS\_PAUSE\_ERROR\_INVALID\_POINTER  
DFTTS\_PAUSE\_ERROR\_OBJECT\_NOT\_FOUND  
DFTTS\_PAUSE\_ERROR\_UNKNOWN\_ENCODING  
DFTTS\_PAUSE\_ERROR\_INTERRUPTED  
DFTTS\_PAUSE\_ERROR\_INVALID\_VOICE  
DFTTS\_PAUSE\_ERROR\_WRONG\_EVENT  
DFTTS\_PAUSE\_ERROR\_ENGINE\_INUSE  
DFTTS\_PAUSE\_ERROR\_NETWORK\_ERROR  
DFTTS\_PAUSE\_ERROR\_INVALID\_KEY  
DFTTS\_PAUSE\_ERROR\_QUEUE\_FULL  
DFTTS\_PAUSE\_ERROR\_TOKEN\_TIMEOUT  
DFTTS\_PAUSE\_ERROR\_OTHER

End Enum

Public Enum DFTTSResumeReturnValue

DFTTS\_RESUME\_SUCCESS  
DFTTS\_RESUME\_ERROR\_UNIMPLEMENTED  
DFTTS\_RESUME\_ERROR\_INTERNAL  
DFTTS\_RESUME\_ERROR\_INVALID\_PARAM  
DFTTS\_RESUME\_ERROR\_INVALID\_POINTER  
DFTTS\_RESUME\_ERROR\_OBJECT\_NOT\_FOUND  
DFTTS\_RESUME\_ERROR\_UNKNOWN\_ENCODING  
DFTTS\_RESUME\_ERROR\_INTERRUPTED  
DFTTS\_RESUME\_ERROR\_INVALID\_VOICE  
DFTTS\_RESUME\_ERROR\_WRONG\_EVENT  
DFTTS\_RESUME\_ERROR\_ENGINE\_INUSE  
DFTTS\_RESUME\_ERROR\_NETWORK\_ERROR  
DFTTS\_RESUME\_ERROR\_INVALID\_KEY  
DFTTS\_RESUME\_ERROR\_QUEUE\_FULL  
DFTTS\_RESUME\_ERROR\_TOKEN\_TIMEOUT  
DFTTS\_RESUME\_ERROR\_FAILED  
DFTTS\_RESUME\_ERROR\_INVALIDARG  
DFTTS\_RESUME\_ERROR\_OUTOFMEMORY  
DFTTS\_RESUME\_ERROR\_NOTIMPL  
DFTTS\_RESUME\_ERROR\_ABORT  
DFTTS\_RESUME\_ERROR\_UNKNOWN  
DFTTS\_RESUME\_ERROR\_BADHANDLE  
DFTTS\_RESUME\_ERROR\_EXCEPTION  
DFTTS\_RESUME\_ERROR\_EMPTY  
DFTTS\_RESUME\_ERROR\_FULL  
DFTTS\_RESUME\_ERROR\_INVALIDSTATE  
DFTTS\_RESUME\_ERROR\_BADVERSION  
DFTTS\_RESUME\_ERROR\_INSUFFICIENT\_BUFFER  
DFTTS\_RESUME\_ERROR\_UNSUPPORTED  
DFTTS\_RESUME\_ERROR\_NOLICENSE  
DFTTS\_RESUME\_ERROR\_CREATECHILDPROCESS\_FAILED  
DFTTS\_RESUME\_ERROR\_NOENVIRONMENTPATH  
DFTTS\_RESUME\_ERROR\_TIMEOUT  
DFTTS\_RESUME\_ERROR\_OUTOFRESOURCES  
DFTTS\_RESUME\_ERROR\_NOVOICES  
DFTTS\_RESUME\_ERROR\_CREATEFAIL  
DFTTS\_RESUME\_ERROR\_CONNECTFAIL  
DFTTS\_RESUME\_ERROR\_BINDFAIL  
DFTTS\_RESUME\_ERROR\_LISTENFAIL  
DFTTS\_RESUME\_ERROR\_CONNECTIONCLOSED  
DFTTS\_RESUME\_ERROR\_ACCEPTFAIL  
DFTTS\_RESUME\_ERROR\_SOCKETTIMEOUT  
DFTTS\_RESUME\_ERROR\_SOCKETERROR  
DFTTS\_RESUME\_ERROR\_NOMORESERSERS  
DFTTS\_RESUME\_ERROR\_SOCKET\_EWOULDBLOCK  
DFTTS\_RESUME\_ERROR\_SOCKET\_EINPROGRESS  
DFTTS\_RESUME\_ERROR\_SOCKET\_EALREADY  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENOTSOCK  
DFTTS\_RESUME\_ERROR\_SOCKET\_EDESTADDRREQ

DFTTS\_RESUME\_ERROR\_SOCKET\_MSGSIZE  
DFTTS\_RESUME\_ERROR\_SOCKET\_EPROTOTYPE  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENOPROTOOPT  
DFTTS\_RESUME\_ERROR\_SOCKET\_EPROTONOSUPPORT  
DFTTS\_RESUME\_ERROR\_SOCKET\_ESOCKTNOSUPPORT  
DFTTS\_RESUME\_ERROR\_SOCKET\_EOPNOTSUPP  
DFTTS\_RESUME\_ERROR\_SOCKET\_EPFNOSUPPORT  
DFTTS\_RESUME\_ERROR\_SOCKET\_EAFNOSUPPORT  
DFTTS\_RESUME\_ERROR\_SOCKET\_EADDRINUSE  
DFTTS\_RESUME\_ERROR\_SOCKET\_EADDRNOTAVAIL  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENETDOWN  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENETUNREACH  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENETRESET  
DFTTS\_RESUME\_ERROR\_SOCKET\_ECONNABORTED  
DFTTS\_RESUME\_ERROR\_SOCKET\_ECONNRESET  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENOBUFS  
DFTTS\_RESUME\_ERROR\_SOCKET\_EISCONN  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENOTCONN  
DFTTS\_RESUME\_ERROR\_SOCKET\_ESHUTDOWN  
DFTTS\_RESUME\_ERROR\_SOCKET\_ETOOMANYREFS  
DFTTS\_RESUME\_ERROR\_SOCKET\_ECONNREFUSED  
DFTTS\_RESUME\_ERROR\_SOCKET\_ELOOP  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENAMETOOLONG  
DFTTS\_RESUME\_ERROR\_SOCKET\_EHOSTDOWN  
DFTTS\_RESUME\_ERROR\_SOCKET\_EHOSTUNREACH  
DFTTS\_RESUME\_ERROR\_SOCKET\_ENOTEMPTY  
DFTTS\_RESUME\_ERROR\_SOCKET\_EPROCLIM  
DFTTS\_RESUME\_ERROR\_THREADSTARTED  
DFTTS\_RESUME\_ERROR\_THREADNOTSTARTED  
DFTTS\_RESUME\_ERROR\_THREADCOULDNOTCREATE  
DFTTS\_RESUME\_ERROR\_BADNVFILE  
DFTTS\_RESUME\_ERROR\_NOAUDIODRIVER  
DFTTS\_RESUME\_ERROR\_DICTNOTFOUND  
DFTTS\_RESUME\_ERROR\_ALREADYPLAYING  
DFTTS\_RESUME\_ERROR\_AUDIOFORMATNOTSUPPORTED  
DFTTS\_RESUME\_ERROR\_XML\_INVALID  
DFTTS\_RESUME\_ERROR\_WL\_INVALID  
DFTTS\_RESUME\_ERROR\_INVALIDPHONESET  
DFTTS\_RESUME\_ERROR\_INVALIDPHONEME  
DFTTS\_RESUME\_ERROR\_MSGQ\_CREATEFAILED  
DFTTS\_RESUME\_ERROR\_MSGQ\_ALREADYEXISTS  
DFTTS\_RESUME\_ERROR\_MSGQ\_NOTFOUND  
DFTTS\_RESUME\_ERROR\_MSGQ\_INVALIDOP  
DFTTS\_RESUME\_ERROR\_MSGQ\_NOTOPEN  
DFTTS\_RESUME\_ERROR\_MSGQ\_LOCKFAILED  
DFTTS\_RESUME\_ERROR\_MSGQ\_ABANDONED  
DFTTS\_RESUME\_ERROR\_MSGQ\_OPENFAILED  
DFTTS\_RESUME\_ERROR\_NOTHING\_TO\_RESUME  
DFTTS\_RESUME\_ERROR\_OTHER

End Enum

Public Enum DFTTSStopReturnValue

DFTTS\_STOP\_SUCCESS  
DFTTS\_STOP\_ERROR\_INVALID\_POINTER  
DFTTS\_STOP\_ERROR\_INVALID\_ARG  
DFTTS\_STOP\_ERROR\_OUT\_OF\_MEMORY  
DFTTS\_STOP\_ERROR\_INVALID\_FLAGS  
DFTTS\_STOP\_ERROR\_ENGINE\_INUSE  
DFTTS\_STOP\_ERROR\_OTHER

End Enum

Public Enum DFTTSExportReturnValue

DFTTS\_EXPORT\_SUCCESS  
DFTTS\_EXPORT\_ERROR\_FORMAT\_NOT\_SUPPORTED  
DFTTS\_EXPORT\_ERROR\_CHANNEL\_MEM\_FAIL  
DFTTS\_EXPORT\_ERROR\_TEXT\_NULL  
DFTTS\_EXPORT\_ERROR\_TEXT\_ZERO\_LEN  
DFTTS\_EXPORT\_ERROR\_DB\_NOT\_LOADED  
DFTTS\_EXPORT\_ERROR\_GEN\_FILE\_FAIL  
DFTTS\_EXPORT\_ERROR\_BUFFER\_NULL  
DFTTS\_EXPORT\_ERROR\_THREAD\_IN\_USE  
DFTTS\_EXPORT\_ERROR\_UNIMPLEMENTED  
DFTTS\_EXPORT\_ERROR\_INTERNAL  
DFTTS\_EXPORT\_ERROR\_INVALID\_PARAM  
DFTTS\_EXPORT\_ERROR\_INVALID\_POINTER  
DFTTS\_EXPORT\_ERROR\_OBJECT\_NOT\_FOUND  
DFTTS\_EXPORT\_ERROR\_UNKNOWN\_ENCODING  
DFTTS\_EXPORT\_ERROR\_INTERRUPTED  
DFTTS\_EXPORT\_ERROR\_INVALID\_VOICE  
DFTTS\_EXPORT\_ERROR\_WRONG\_EVENT  
DFTTS\_EXPORT\_ERROR\_ENGINE\_INUSE  
DFTTS\_EXPORT\_ERROR\_NETWORK\_ERROR  
DFTTS\_EXPORT\_ERROR\_INVALID\_KEY  
DFTTS\_EXPORT\_ERROR\_QUEUE\_FULL  
DFTTS\_EXPORT\_ERROR\_TOKEN\_TIMEOUT  
DFTTS\_EXPORT\_ERROR\_FAILED  
DFTTS\_EXPORT\_ERROR\_INVALIDARG  
DFTTS\_EXPORT\_ERROR\_OUTOFMEMORY  
DFTTS\_EXPORT\_ERROR\_NOTIMPL  
DFTTS\_EXPORT\_ERROR\_ABORT  
DFTTS\_EXPORT\_ERROR\_UNKNOWN  
DFTTS\_EXPORT\_ERROR\_BADHANDLE  
DFTTS\_EXPORT\_ERROR\_EXCEPTION  
DFTTS\_EXPORT\_ERROR\_EMPTY  
DFTTS\_EXPORT\_ERROR\_FULL  
DFTTS\_EXPORT\_ERROR\_INVALIDSTATE  
DFTTS\_EXPORT\_ERROR\_BADVERSION  
DFTTS\_EXPORT\_ERROR\_INSUFFICIENT\_BUFFER  
DFTTS\_EXPORT\_ERROR\_UNSUPPORTED  
DFTTS\_EXPORT\_ERROR\_NOLICENSE  
DFTTS\_EXPORT\_ERROR\_CREATECHILDPROCESS\_FAILED

DFTTS\_EXPORT\_ERROR\_NOENVIRONMENTPATH  
DFTTS\_EXPORT\_ERROR\_TIMEOUT  
DFTTS\_EXPORT\_ERROR\_OUTOFRESOURCES  
DFTTS\_EXPORT\_ERROR\_NOVOICES  
DFTTS\_EXPORT\_ERROR\_CREATEFAIL  
DFTTS\_EXPORT\_ERROR\_CONNECTFAIL  
DFTTS\_EXPORT\_ERROR\_BINDFAIL  
DFTTS\_EXPORT\_ERROR\_LISTENFAIL  
DFTTS\_EXPORT\_ERROR\_CONNECTIONCLOSED  
DFTTS\_EXPORT\_ERROR\_ACCEPTFAIL  
DFTTS\_EXPORT\_ERROR\_SOCKETTIMEOUT  
DFTTS\_EXPORT\_ERROR\_SOCKETERROR  
DFTTS\_EXPORT\_ERROR\_NOMORESERSERVERS  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EWOULDBLOCK  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EINPROGRESS  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EALREADY  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOTSOCK  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EDESTADDRREQ  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EMSGSIZE  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPROTOTYPE  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOPROTOOPT  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPROTONOSUPPORT  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ESOCKTNOSUPPORT  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EOPNOTSUPP  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPFNOSUPPORT  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EAFNOSUPPORT  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EADDRINUSE  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EADDRNOTAVAIL  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETDOWN  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETUNREACH  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENETRESET  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ECONNABORTED  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ECONNRESET  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOBUFS  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EISCONN  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOTCONN  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ESHUTDOWN  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ETOOMANYREFS  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ECONNREFUSED  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ELOOP  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENAMETOOLONG  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EHOSTDOWN  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EHOSTUNREACH  
DFTTS\_EXPORT\_ERROR\_SOCKET\_ENOTEMPTY  
DFTTS\_EXPORT\_ERROR\_SOCKET\_EPROCLIM  
DFTTS\_EXPORT\_ERROR\_THREADSTARTED  
DFTTS\_EXPORT\_ERROR\_THREADNOTSTARTED  
DFTTS\_EXPORT\_ERROR\_THREADCOULDNOTCREATE  
DFTTS\_EXPORT\_ERROR\_BADNVFILE  
DFTTS\_EXPORT\_ERROR\_NOAUDIODRIVER  
DFTTS\_EXPORT\_ERROR\_DICTNOTFOUND  
DFTTS\_EXPORT\_ERROR\_ALREADYPLAYING  
DFTTS\_EXPORT\_ERROR\_AUDIOFORMATNOTSUPPORTED

```

DFTTS_EXPORT_ERROR_XML_INVALID
DFTTS_EXPORT_ERROR_WL_INVALID
DFTTS_EXPORT_ERROR_INVALIDPHONESET
DFTTS_EXPORT_ERROR_INVALIDPHONEME
DFTTS_EXPORT_ERROR_MSGQ_CREATEFAILED
DFTTS_EXPORT_ERROR_MSGQ_ALREADYEXISTS
DFTTS_EXPORT_ERROR_MSGQ_NOTFOUND
DFTTS_EXPORT_ERROR_MSGQ_INVALIDOP
DFTTS_EXPORT_ERROR_MSGQ_NOTOPEN
DFTTS_EXPORT_ERROR_MSGQ_LOCKFAILED
DFTTS_EXPORT_ERROR_MSGQ_ABANDONED
DFTTS_EXPORT_ERROR_MSGQ_OPENFAILED
DFTTS_EXPORT_ERROR_OTHER

```

End Enum

Public Enum DFTTSVoiceInfoReturnValue

```

GET_DFTTS_VI_SUCCESS
GET_DFTTS_VI_NO_MORE_ITEMS
GET_DFTTS_VI_ERROR_BUFFER_TOO_SMALL
GET_DFTTS_VI_ERROR_OTHER

```

End Enum

```

'
' Language IDs.
'
' The following two combinations of primary language ID and
' sublanguage ID have special semantics:
'
'   Primary Language ID   Sublanguage ID   Result
'   -----
'   LANG_NEUTRAL          SUBLANG_NEUTRAL   Language neutral
'   LANG_NEUTRAL          SUBLANG_DEFAULT   User default language
'   LANG_NEUTRAL          SUBLANG_SYS_DEFAULT System default language
'   LANG_INVARIANT        SUBLANG_NEUTRAL   Invariant locale
'
'
' Primary language IDs.
'

```

```

Public Const LANG_NEUTRAL = &H0
Public Const LANG_INVARIANT = &H7F

```

```

Public Const LANG_AFIKAANS = &H36
Public Const LANG_ALBANIAN = &H1C
Public Const LANG_ALSATIAN = &H84
Public Const LANG_AMHARIC = &H5E
Public Const LANG_ARABIC = &H1
Public Const LANG_ARMENIAN = &H2B
Public Const LANG_ASSAMESE = &H4D

```

Public Const LANG\_AZERI = &H2C  
 Public Const LANG\_BASHKIR = &H6D  
 Public Const LANG\_BASQUE = &H2D  
 Public Const LANG\_BELARUSIAN = &H23  
 Public Const LANG\_BENGALI = &H45  
 Public Const LANG\_BRETON = &H7E  
 Public Const LANG\_BOSNIAN = &H1A                   ' Use with  
 SUBLANG\_BOSNIAN\_\* Sublanguage IDs  
 Public Const LANG\_BOSNIAN\_NEUTRAL = &H781A               ' Use with the  
 ConvertDefaultLocale function  
 Public Const LANG\_BULGARIAN = &H2  
 Public Const LANG\_CATALAN = &H3  
 Public Const LANG\_CHINESE = &H4                   ' Use with SUBLANG\_CHINESE\_\*  
 Sublanguage IDs  
 Public Const LANG\_CHINESE\_SIMPLIFIED = &H4               ' Use with the  
 ConvertDefaultLocale function  
 Public Const LANG\_CHINESE\_TRADITIONAL = &H7C04           ' Use with the  
 ConvertDefaultLocale function  
 Public Const LANG\_CORSICAN = &H83  
 Public Const LANG\_CROATIAN = &H1A  
 Public Const LANG\_CZECH = &H5  
 Public Const LANG\_DANISH = &H6  
 Public Const LANG\_DARI = &H8C  
 Public Const LANG\_DIVEHI = &H65  
 Public Const LANG\_DUTCH = &H13  
 Public Const LANG\_ENGLISH = &H9  
 Public Const LANG\_ESTONIAN = &H25  
 Public Const LANG\_FAEROESE = &H38  
 Public Const LANG\_FARSI = &H29                   ' Deprecated: use LANG\_PERSIAN  
 instead  
 Public Const LANG\_FILIPINO = &H64  
 Public Const LANG\_FINNISH = &HB  
 Public Const LANG\_FRENCH = &HC  
 Public Const LANG\_FRISIAN = &H62  
 Public Const LANG\_GALICIAN = &H56  
 Public Const LANG\_GEORGIAN = &H37  
 Public Const LANG\_GERMAN = &H7  
 Public Const LANG\_GREEK = &H8  
 Public Const LANG\_GREENLANDIC = &H6F  
 Public Const LANG\_GUJARATI = &H47  
 Public Const LANG\_HAUSA = &H68  
 Public Const LANG\_HEBREW = &HD  
 Public Const LANG\_HINDI = &H39  
 Public Const LANG\_HUNGARIAN = &HE  
 Public Const LANG\_ICELANDIC = &HF  
 Public Const LANG\_IGBO = &H70  
 Public Const LANG\_INDONESIAN = &H21  
 Public Const LANG\_INUKTITUT = &H5D  
 Public Const LANG\_IRISH = &H3C                   ' Use with the  
 SUBLANG\_IRISH\_IRELAND Sublanguage ID  
 Public Const LANG\_ITALIAN = &H10  
 Public Const LANG\_JAPANESE = &H11  
 Public Const LANG\_KANNADA = &H4B

Public Const LANG\_KASHMIRI = &H60  
 Public Const LANG\_KAZAK = &H3F  
 Public Const LANG\_KHMER = &H53  
 Public Const LANG\_KICHE = &H86  
 Public Const LANG\_KINYARWANDA = &H87  
 Public Const LANG\_KONKANI = &H57  
 Public Const LANG\_KOREAN = &H12  
 Public Const LANG\_KYRGYZ = &H40  
 Public Const LANG\_LAO = &H54  
 Public Const LANG\_LATVIAN = &H26  
 Public Const LANG\_LITHUANIAN = &H27  
 Public Const LANG\_LOWER\_SORBIAN = &H2E  
 Public Const LANG\_LUXEMBOURGISH = &H6E  
 Public Const LANG\_MACEDONIAN = &H2F      ' the Former Yugoslav  
 Republic of Macedonia  
 Public Const LANG\_MALAY = &H3E  
 Public Const LANG\_MALAYALAM = &H4C  
 Public Const LANG\_MALTESE = &H3A  
 Public Const LANG\_MANIPURI = &H58  
 Public Const LANG\_MAORI = &H81  
 Public Const LANG\_MAPUDUNGUN = &H7A  
 Public Const LANG\_MARATHI = &H4E  
 Public Const LANG\_MOHAWK = &H7C  
 Public Const LANG\_MONGOLIAN = &H50  
 Public Const LANG\_NEPALI = &H61  
 Public Const LANG\_NORWEGIAN = &H14  
 Public Const LANG\_OCCITAN = &H82  
 Public Const LANG\_ORIYA = &H48  
 Public Const LANG\_PASHTO = &H63  
 Public Const LANG\_PERSIAN = &H29  
 Public Const LANG\_POLISH = &H15  
 Public Const LANG\_PORTUGUESE = &H16  
 Public Const LANG\_PUNJABI = &H46  
 Public Const LANG\_QUECHUA = &H6B  
 Public Const LANG\_ROMANIAN = &H18  
 Public Const LANG\_ROMANSH = &H17  
 Public Const LANG\_RUSSIAN = &H19  
 Public Const LANG\_SAMI = &H3B  
 Public Const LANG\_SANSKRIT = &H4F  
 Public Const LANG\_SERBIAN = &H1A      ' Use with the  
 SUBLANG\_SERBIAN\_\* Sublanguage IDs  
 Public Const LANG\_SERBIAN\_NEUTRAL = &H7C1A      ' Use with the  
 ConvertDefaultLocale function  
 Public Const LANG\_SINDHI = &H59  
 Public Const LANG\_SINHALESE = &H5B  
 Public Const LANG\_SLOVAK = &H1B  
 Public Const LANG\_SLOVENIAN = &H24  
 Public Const LANG\_SOTHO = &H6C  
 Public Const LANG\_SPANISH = &HA  
 Public Const LANG\_SWAHILI = &H41  
 Public Const LANG\_SWEDISH = &H1D  
 Public Const LANG\_SYRIAC = &H5A  
 Public Const LANG\_TAJIK = &H28



Public Const LANG\_TAMAZIGHT = &H5F  
 Public Const LANG\_TAMIL = &H49  
 Public Const LANG\_TATAR = &H44  
 Public Const LANG\_TELUGU = &H4A  
 Public Const LANG\_THAI = &H1E  
 Public Const LANG\_TIBETAN = &H51  
 Public Const LANG\_TIGRIGNA = &H73  
 Public Const LANG\_TSWANA = &H32  
 Public Const LANG\_TURKISH = &H1F  
 Public Const LANG\_TURKMEN = &H42  
 Public Const LANG\_UIGHUR = &H80  
 Public Const LANG\_UKRAINIAN = &H22  
 Public Const LANG\_UPPER\_SORBIAN = &H2E  
 Public Const LANG\_URDU = &H20  
 Public Const LANG\_UZBEK = &H43  
 Public Const LANG\_VIETNAMESE = &H2A  
 Public Const LANG\_WELSH = &H52  
 Public Const LANG\_WOLOF = &H88  
 Public Const LANG\_XHOSA = &H34  
 Public Const LANG\_YAKUT = &H85  
 Public Const LANG\_YI = &H78  
 Public Const LANG\_YORUBA = &H6A  
 Public Const LANG\_ZULU = &H35

,  
 ' Sublanguage IDs.  
 ,  
 ' The name immediately following SUBLANG\_ dictates which primary  
 ' language ID that sublanguage ID can be combined with to form a  
 ' valid language ID.  
 ,

|                                               |                    |
|-----------------------------------------------|--------------------|
| Public Const SUBLANG_NEUTRAL = &H0            | ' language neutral |
| Public Const SUBLANG_DEFAULT = &H1            | ' user default     |
| Public Const SUBLANG_SYS_DEFAULT = &H2        | ' system default   |
| Public Const SUBLANG_CUSTOM_DEFAULT = &H3     | ' default custom   |
| language/locale                               |                    |
| Public Const SUBLANG_CUSTOM_UNSPECIFIED = &H4 | ' custom           |
| language/locale                               |                    |
| Public Const SUBLANG_UI_CUSTOM_DEFAULT = &H5  | ' Default          |
| custom MUI language/locale                    |                    |

|                                                   |                 |
|---------------------------------------------------|-----------------|
| Public Const SUBLANG_AFRIKAANS_SOUTH_AFRICA = &H1 | ' Afrikaans     |
| (South Africa) = &H0436 af-ZA                     |                 |
| Public Const SUBLANG_ALBANIAN_ALBANIA = &H1       | ' Albanian      |
| (Albania) = &H041c sq-AL                          |                 |
| Public Const SUBLANG_ALSATIAN_FRANCE = &H1        | ' Alsatian      |
| (France) = &H0484                                 |                 |
| Public Const SUBLANG_AMHARIC_ETHIOPIA = &H1       | ' Amharic       |
| (Ethiopia) = &H045e                               |                 |
| Public Const SUBLANG_ARABIC_SAUDI_ARABIA = &H1    | ' Arabic (Saudi |
| Arabia)                                           |                 |

|                                                                 |                    |
|-----------------------------------------------------------------|--------------------|
| Public Const SUBLANG_ARABIC_IRAQ = &H2                          | ' Arabic (Iraq)    |
| Public Const SUBLANG_ARABIC_EGYPT = &H3                         | ' Arabic (Egypt)   |
| Public Const SUBLANG_ARABIC_LIBYA = &H4                         | ' Arabic (Libya)   |
| Public Const SUBLANG_ARABIC_ALGERIA = &H5                       | ' Arabic (Algeria) |
| Public Const SUBLANG_ARABIC_MOROCCO = &H6                       | ' Arabic           |
| (Morocco)                                                       |                    |
| Public Const SUBLANG_ARABIC_TUNISIA = &H7                       | ' Arabic (Tunisia) |
| Public Const SUBLANG_ARABIC_OMAN = &H8                          | ' Arabic (Oman)    |
| Public Const SUBLANG_ARABIC_YEMEN = &H9                         | ' Arabic (Yemen)   |
| Public Const SUBLANG_ARABIC_SYRIA = &HA                         | ' Arabic (Syria)   |
| Public Const SUBLANG_ARABIC_JORDAN = &HB                        | ' Arabic (Jordan)  |
| Public Const SUBLANG_ARABIC_LEBANON = &HC                       | ' Arabic           |
| (Lebanon)                                                       |                    |
| Public Const SUBLANG_ARABIC_KUWAIT = &HD                        | ' Arabic (Kuwait)  |
| Public Const SUBLANG_ARABIC_UAE = &HE                           | ' Arabic (U.A.E)   |
| Public Const SUBLANG_ARABIC_BAHRAIN = &HF                       | ' Arabic (Bahrain) |
| Public Const SUBLANG_ARABIC_QATAR = &H10                        | ' Arabic (Qatar)   |
| Public Const SUBLANG_ARMENIAN_ARMENIA = &H1                     | ' Armenian         |
| (Armenia) = &H042b hy-AM                                        |                    |
| Public Const SUBLANG_ASSAMESE_INDIA = &H1                       | ' Assamese         |
| (India) = &H044d                                                |                    |
| Public Const SUBLANG_AZERI_LATIN = &H1                          | ' Azeri (Latin)    |
| Public Const SUBLANG_AZERI_CYRILLIC = &H2                       | ' Azeri (Cyrillic) |
| Public Const SUBLANG_BASHKIR_RUSSIA = &H1                       | ' Bashkir (Russia) |
| = &H046d ba-RU                                                  |                    |
| Public Const SUBLANG_BASQUE_BASQUE = &H1                        | ' Basque           |
| (Basque) = &H042d eu-ES                                         |                    |
| Public Const SUBLANG_BELARUSIAN_BELARUS = &H1                   | ' Belarusian       |
| (Belarus) = &H0423 be-BY                                        |                    |
| Public Const SUBLANG_BENGALI_INDIA = &H1                        | ' Bengali (India)  |
| Public Const SUBLANG_BENGALI_BANGLADESH = &H2                   | ' Bengali          |
| (Bangladesh)                                                    |                    |
| Public Const SUBLANG_BOSNIAN_BOSNIA_HERZEGOVINA_LATIN = &H5     | '                  |
| Bosnian (Bosnia and Herzegovina - Latin) = &H141a bs-BA-Latn    |                    |
| Public Const SUBLANG_BOSNIAN_BOSNIA_HERZEGOVINA_CYRILLIC = &H8  | '                  |
| Bosnian (Bosnia and Herzegovina - Cyrillic) = &H201a bs-BA-Cyrl |                    |
| Public Const SUBLANG_BRETON_FRANCE = &H1                        | ' Breton (France)  |
| = &H047e                                                        |                    |
| Public Const SUBLANG_BULGARIAN_BULGARIA = &H1                   | ' Bulgarian        |
| (Bulgaria) = &H0402                                             |                    |
| Public Const SUBLANG_CATALAN_CATALAN = &H1                      | ' Catalan          |
| (Catalan) = &H0403                                              |                    |
| Public Const SUBLANG_CHINESE_TRADITIONAL = &H1                  | ' Chinese          |
| (Taiwan) = &H0404 zh-TW                                         |                    |
| Public Const SUBLANG_CHINESE_SIMPLIFIED = &H2                   | ' Chinese (PR      |
| China) = &H0804 zh-CN                                           |                    |
| Public Const SUBLANG_CHINESE_HONGKONG = &H3                     | ' Chinese          |
| (Hong Kong S.A.R., P.R.C.) = &H0c04 zh-HK                       |                    |
| Public Const SUBLANG_CHINESE_SINGAPORE = &H4                    | ' Chinese          |
| (Singapore) = &H1004 zh-SG                                      |                    |
| Public Const SUBLANG_CHINESE_MACAU = &H5                        | ' Chinese (Macau   |
| S.A.R.) = &H1404 zh-MO                                          |                    |

|                                                                                                                          |                     |
|--------------------------------------------------------------------------------------------------------------------------|---------------------|
| Public Const SUBLANG_CORSICAN_FRANCE = &H1<br>(France) = &H0483                                                          | ' Corsican          |
| Public Const SUBLANG_CZECH_CZECH_REPUBLIC = &H1<br>(Czech Republic) = &H0405                                             | ' Czech             |
| Public Const SUBLANG_CROATIAN_CROATIA = &H1<br>(Croatia)                                                                 | ' Croatian          |
| Public Const SUBLANG_CROATIAN_BOSNIA_HERZEGOVINA_LATIN = &H4<br>Croatian (Bosnia and Herzegovina - Latin) = &H101a hr-BA | '                   |
| Public Const SUBLANG_DANISH_DENMARK = &H1<br>(Denmark) = &H0406                                                          | ' Danish            |
| Public Const SUBLANG_DARI_AFGHANISTAN = &H1<br>(Afghanistan)                                                             | ' Dari              |
| Public Const SUBLANG_DIVEHI_MALDIVES = &H1<br>(Maldives) = &H0465 div-MV                                                 | ' Divehi            |
| Public Const SUBLANG_DUTCH = &H1                                                                                         | ' Dutch             |
| Public Const SUBLANG_DUTCH_BELGIAN = &H2                                                                                 | ' Dutch (Belgian)   |
| Public Const SUBLANG_ENGLISH_US = &H1                                                                                    | ' English (USA)     |
| Public Const SUBLANG_ENGLISH_UK = &H2                                                                                    | ' English (UK)      |
| Public Const SUBLANG_ENGLISH_AUS = &H3<br>(Australian)                                                                   | ' English           |
| Public Const SUBLANG_ENGLISH_CAN = &H4<br>(Canadian)                                                                     | ' English           |
| Public Const SUBLANG_ENGLISH_NZ = &H5<br>Zealand)                                                                        | ' English (New      |
| Public Const SUBLANG_ENGLISH_EIRE = &H6                                                                                  | ' English (Irish)   |
| Public Const SUBLANG_ENGLISH_SOUTH_AFRICA = &H7<br>(South Africa)                                                        | ' English           |
| Public Const SUBLANG_ENGLISH_JAMAICA = &H8<br>(Jamaica)                                                                  | ' English           |
| Public Const SUBLANG_ENGLISH_CARIBBEAN = &H9<br>(Caribbean)                                                              | ' English           |
| Public Const SUBLANG_ENGLISH_BELIZE = &HA                                                                                | ' English (Belize)  |
| Public Const SUBLANG_ENGLISH_TRINIDAD = &HB<br>(Trinidad)                                                                | ' English           |
| Public Const SUBLANG_ENGLISH_ZIMBABWE = &HC<br>(Zimbabwe)                                                                | ' English           |
| Public Const SUBLANG_ENGLISH_PHILIPPINES = &HD<br>(Philippines)                                                          | ' English           |
| Public Const SUBLANG_ENGLISH_INDIA = &H10                                                                                | ' English (India)   |
| Public Const SUBLANG_ENGLISH_MALAYSIA = &H11<br>(Malaysia)                                                               | ' English           |
| Public Const SUBLANG_ENGLISH_SINGAPORE = &H12<br>(Singapore)                                                             | ' English           |
| Public Const SUBLANG_ESTONIAN_ESTONIA = &H1<br>(Estonia) = &H0425 et-EE                                                  | ' Estonian          |
| Public Const SUBLANG_FAEROESE_FAROE_ISLANDS = &H1<br>(Faroe Islands) = &H0438 fo-FO                                      | ' Faroese           |
| Public Const SUBLANG_FILIPINO_PHILIPPINES = &H1<br>(Philippines) = &H0464 fil-PH                                         | ' Filipino          |
| Public Const SUBLANG_FINNISH_FINLAND = &H1<br>= &H040b                                                                   | ' Finnish (Finland) |
| Public Const SUBLANG_FRENCH = &H1                                                                                        | ' French            |
| Public Const SUBLANG_FRENCH_BELGIAN = &H2                                                                                | ' French (Belgian)  |

|                                                                                         |                    |
|-----------------------------------------------------------------------------------------|--------------------|
| Public Const SUBLANG_FRENCH_CANADIAN = &H3<br>(Canadian)                                | ' French           |
| Public Const SUBLANG_FRENCH_SWISS = &H4                                                 | ' French (Swiss)   |
| Public Const SUBLANG_FRENCH_LUXEMBOURG = &H5<br>(Luxembourg)                            | ' French           |
| Public Const SUBLANG_FRENCH_MONACO = &H6<br>(Monaco)                                    | ' French           |
| Public Const SUBLANG_FRISIAN_NETHERLANDS = &H1<br>(Netherlands) = &H0462 fy-NL          | ' Frisian          |
| Public Const SUBLANG_GALICIAN_GALICIAN = &H1<br>(Galician) = &H0456 gl-ES               | ' Galician         |
| Public Const SUBLANG_GEORGIAN_GEORGIA = &H1<br>(Georgia) = &H0437 ka-GE                 | ' Georgian         |
| Public Const SUBLANG_GERMAN = &H1                                                       | ' German           |
| Public Const SUBLANG_GERMAN_SWISS = &H2                                                 | ' German (Swiss)   |
| Public Const SUBLANG_GERMAN_AUSTRIAN = &H3<br>(Austrian)                                | ' German           |
| Public Const SUBLANG_GERMAN_LUXEMBOURG = &H4<br>(Luxembourg)                            | ' German           |
| Public Const SUBLANG_GERMAN_LIECHTENSTEIN = &H5<br>(Liechtenstein)                      | ' German           |
| Public Const SUBLANG_GREEK_GREECE = &H1                                                 | ' Greek (Greece)   |
| Public Const SUBLANG_GREENLANDIC_GREENLAND = &H1<br>(Greenland) = &H046f kl-GL          | ' Greenlandic      |
| Public Const SUBLANG_GUJARATI_INDIA = &H1<br>(Gujarati Script)) = &H0447 gu-IN          | ' Gujarati (India  |
| Public Const SUBLANG_HAUSA_NIGERIA_LATIN = &H1<br>Nigeria) = &H0468 ha-NG-Latn          | ' Hausa (Latin,    |
| Public Const SUBLANG_HEBREW_ISRAEL = &H1<br>= &H040d                                    | ' Hebrew (Israel)  |
| Public Const SUBLANG_HINDI_INDIA = &H1<br>&H0439 hi-IN                                  | ' Hindi (India) =  |
| Public Const SUBLANG_HUNGARIAN_HUNGARY = &H1<br>(Hungary) = &H040e                      | ' Hungarian        |
| Public Const SUBLANG_ICELANDIC_ICELAND = &H1<br>(Iceland) = &H040f                      | ' Icelandic        |
| Public Const SUBLANG_IGBO_NIGERIA = &H1<br>&H0470 ig-NG                                 | ' Igbo (Nigeria) = |
| Public Const SUBLANG_INDONESIAN_INDONESIA = &H1<br>(Indonesia) = &H0421 id-ID           | ' Indonesian       |
| Public Const SUBLANG_INUKTITUT_CANADA = &H1<br>(Syllabics) (Canada) = &H045d iu-CA-Cans | ' Inuktitut        |
| Public Const SUBLANG_INUKTITUT_CANADA_LATIN = &H2<br>(Canada - Latin)                   | ' Inuktitut        |
| Public Const SUBLANG_IRISH_IRELAND = &H2                                                | ' Irish (Ireland)  |
| Public Const SUBLANG_ITALIAN = &H1                                                      | ' Italian          |
| Public Const SUBLANG_ITALIAN_SWISS = &H2                                                | ' Italian (Swiss)  |
| Public Const SUBLANG_JAPANESE_JAPAN = &H1<br>= &H0411                                   | ' Japanese (Japan) |
| Public Const SUBLANG_KANNADA_INDIA = &H1<br>(Kannada Script)) = &H044b kn-IN            | ' Kannada (India   |
| Public Const SUBLANG_KASHMIRI_SASIA = &H2<br>Asia)                                      | ' Kashmiri (South  |

|                                                                                                  |                      |
|--------------------------------------------------------------------------------------------------|----------------------|
| Public Const SUBLANG_KASHMIRI_INDIA = &H2<br>compatibility only                                  | ' For app            |
| Public Const SUBLANG_KAZAK_KAZAKHSTAN = &H1<br>(Kazakhstan) = &H043f kk-KZ                       | ' Kazakh             |
| Public Const SUBLANG_KHMER_CAMBODIA = &H1<br>(Cambodia) = &H0453 kh-KH                           | ' Khmer              |
| Public Const SUBLANG_KICHE_GUATEMALA = &H1<br>(Guatemala)                                        | ' K'iche             |
| Public Const SUBLANG_KINYARWANDA_RWANDA = &H1<br>Kinyarwanda (Rwanda) = &H0487 rw-RW             | '                    |
| Public Const SUBLANG_KONKANI_INDIA = &H1<br>= &H0457 kok-IN                                      | ' Konkani (India)    |
| Public Const SUBLANG_KOREAN = &H1<br>Wansung)                                                    | ' Korean (Extended   |
| Public Const SUBLANG_KYRGYZ_KYRGYZSTAN = &H1<br>(Kyrgyzstan) = &H0440 ky-KG                      | ' Kyrgyz             |
| Public Const SUBLANG_LAO_LAO = &H1<br>&H0454 lo-LA                                               | ' Lao (Lao PDR) =    |
| Public Const SUBLANG_LATVIAN_LATVIA = &H1<br>&H0426 lv-LV                                        | ' Latvian (Latvia) = |
| Public Const SUBLANG_LITHUANIAN = &H1                                                            | ' Lithuanian         |
| Public Const SUBLANG_LOWER_SORBIAN_GERMANY = &H2<br>Sorbian (Germany) = &H082e wee-DE            | ' Lower              |
| Public Const SUBLANG_LUXEMBOURGISH_LUXEMBOURG = &H1<br>Luxembourgish (Luxembourg) = &H046e lb-LU | '                    |
| Public Const SUBLANG_MACEDONIAN_MACEDONIA = &H1<br>(Macedonia (FYROM)) = &H042f mk-MK            | ' Macedonian         |
| Public Const SUBLANG_MALAY_MALAYSIA = &H1                                                        | ' Malay (Malaysia)   |
| Public Const SUBLANG_MALAY_BRUNEI_DARUSSALAM = &H2<br>(Brunei Darussalam)                        | ' Malay              |
| Public Const SUBLANG_MALAYALAM_INDIA = &H1<br>(India (Malayalam Script) ) = &H044c ml-IN         | ' Malayalam          |
| Public Const SUBLANG_MALTESE_MALTA = &H1<br>= &H043a mt-MT                                       | ' Maltese (Malta)    |
| Public Const SUBLANG_MAORI_NEW_ZEALAND = &H1<br>Zealand) = &H0481 mi-NZ                          | ' Maori (New         |
| Public Const SUBLANG_MAPUDUNGUN_CHILE = &H1<br>(Chile) = &H047a arn-CL                           | ' Mapudungun         |
| Public Const SUBLANG_MARATHI_INDIA = &H1<br>&H044e mr-IN                                         | ' Marathi (India) =  |
| Public Const SUBLANG_MOHAWK_MOHAWK = &H1<br>(Mohawk) = &H047c moh-CA                             | ' Mohawk             |
| Public Const SUBLANG_MONGOLIAN_CYRILLIC_MONGOLIA = &H1<br>Mongolian (Cyrillic, Mongolia)         | '                    |
| Public Const SUBLANG_MONGOLIAN_PRC = &H2                                                         | ' Mongolian (PRC)    |
| Public Const SUBLANG_NEPALI_INDIA = &H2                                                          | ' Nepali (India)     |
| Public Const SUBLANG_NEPALI_NEPAL = &H1<br>&H0461 ne-NP                                          | ' Nepali (Nepal) =   |
| Public Const SUBLANG_NORWEGIAN_BOKMAL = &H1<br>(Bokmal)                                          | ' Norwegian          |
| Public Const SUBLANG_NORWEGIAN_NYNORSK = &H2<br>(Nynorsk)                                        | ' Norwegian          |

|                                                                                |                       |
|--------------------------------------------------------------------------------|-----------------------|
| Public Const SUBLANG_OCCITAN_FRANCE = &H1<br>= &H0482 oc-FR                    | ' Occitan (France)    |
| Public Const SUBLANG_ORIYA_INDIA = &H1<br>Script)) = &H0448 or-IN              | ' Oriya (India (Oriya |
| Public Const SUBLANG_PASHTO_AFGHANISTAN = &H1<br>(Afghanistan)                 | ' Pashto              |
| Public Const SUBLANG_PERSIAN_IRAN = &H1<br>&H0429 fa-IR                        | ' Persian (Iran) =    |
| Public Const SUBLANG_POLISH_POLAND = &H1<br>&H0415                             | ' Polish (Poland) =   |
| Public Const SUBLANG_PORTUGUESE = &H2                                          | ' Portuguese          |
| Public Const SUBLANG_PORTUGUESE_BRAZILIAN = &H1<br>(Brazilian)                 | ' Portuguese          |
| Public Const SUBLANG_PUNJABI_INDIA = &H1<br>(Gurmukhi Script)) = &H0446 pa-IN  | ' Punjabi (India      |
| Public Const SUBLANG_QUECHUA_BOLIVIA = &H1<br>(Bolivia)                        | ' Quechua             |
| Public Const SUBLANG_QUECHUA_ECUADOR = &H2<br>(Ecuador)                        | ' Quechua             |
| Public Const SUBLANG_QUECHUA_PERU = &H3                                        | ' Quechua (Peru)      |
| Public Const SUBLANG_ROMANIAN_ROMANIA = &H1<br>(Romania) = &H0418              | ' Romanian            |
| Public Const SUBLANG_ROMANSH_SWITZERLAND = &H1<br>(Switzerland) = &H0417 rm-CH | ' Romansh             |
| Public Const SUBLANG_RUSSIAN_RUSSIA = &H1<br>= &H0419                          | ' Russian (Russia)    |
| Public Const SUBLANG_SAMI_NORTHERN_NORWAY = &H1<br>Sami (Norway)               | ' Northern            |
| Public Const SUBLANG_SAMI_NORTHERN_SWEDEN = &H2<br>Sami (Sweden)               | ' Northern            |
| Public Const SUBLANG_SAMI_NORTHERN_FINLAND = &H3<br>Sami (Finland)             | ' Northern            |
| Public Const SUBLANG_SAMI_LULE_NORWAY = &H4<br>(Norway)                        | ' Lule Sami           |
| Public Const SUBLANG_SAMI_LULE_SWEDEN = &H5<br>(Sweden)                        | ' Lule Sami           |
| Public Const SUBLANG_SAMI_SOUTHERN_NORWAY = &H6<br>Sami (Norway)               | ' Southern            |
| Public Const SUBLANG_SAMI_SOUTHERN_SWEDEN = &H7<br>Sami (Sweden)               | ' Southern            |
| Public Const SUBLANG_SAMI_SKOLT_FINLAND = &H8<br>(Finland)                     | ' Skolt Sami          |
| Public Const SUBLANG_SAMI_INARI_FINLAND = &H9<br>(Finland)                     | ' Inari Sami          |
| Public Const SUBLANG_SANSKRIT_INDIA = &H1<br>= &H044f sa-IN                    | ' Sanskrit (India)    |
| Public Const SUBLANG_SERBIAN_BOSNIA_HERZEGOVINA_LATIN = &H6                    | '                     |
| Serbian (Bosnia and Herzegovina - Latin)                                       |                       |
| Public Const SUBLANG_SERBIAN_BOSNIA_HERZEGOVINA_CYRILLIC = &H7                 | '                     |
| Serbian (Bosnia and Herzegovina - Cyrillic)                                    |                       |
| Public Const SUBLANG_SERBIAN_CROATIA = &H1<br>(Croatia) = &H041a hr-HR         | ' Croatian            |
| Public Const SUBLANG_SERBIAN_LATIN = &H2                                       | ' Serbian (Latin)     |

|                                                        |                         |
|--------------------------------------------------------|-------------------------|
| Public Const SUBLANG_SERBIAN_CYRILLIC = &H3            | ' Serbian (Cyrillic)    |
| Public Const SUBLANG_SINDHI_INDIA = &H1                | ' Sindhi (India)        |
| reserved = &H0459                                      |                         |
| Public Const SUBLANG_SINDHI_PAKISTAN = &H2             | ' Sindhi (Pakistan)     |
| reserved = &H0859                                      |                         |
| Public Const SUBLANG_SINDHI_AFGHANISTAN = &H2          | ' For app               |
| compatibility only                                     |                         |
| Public Const SUBLANG_SINHALESE_SRI_LANKA = &H1         | ' Sinhalese (Sri Lanka) |
| Public Const SUBLANG_SOTHO_NORTHERN_SOUTH_AFRICA = &H1 | '                       |
| Northern Sotho (South Africa)                          |                         |
| Public Const SUBLANG_SLOVAK_SLOVAKIA = &H1             | ' Slovak                |
| (Slovakia) = &H041b sk-SK                              |                         |
| Public Const SUBLANG_SLOVENIAN_SLOVENIA = &H1          | ' Slovenian             |
| (Slovenia) = &H0424 sl-SI                              |                         |
| Public Const SUBLANG_SPANISH = &H1                     | ' Spanish (Castilian)   |
| Public Const SUBLANG_SPANISH_MEXICAN = &H2             | ' Spanish               |
| (Mexican)                                              |                         |
| Public Const SUBLANG_SPANISH_MODERN = &H3              | ' Spanish               |
| (Modern)                                               |                         |
| Public Const SUBLANG_SPANISH_GUATEMALA = &H4           | ' Spanish               |
| (Guatemala)                                            |                         |
| Public Const SUBLANG_SPANISH_COSTA_RICA = &H5          | ' Spanish               |
| (Costa Rica)                                           |                         |
| Public Const SUBLANG_SPANISH_PANAMA = &H6              | ' Spanish               |
| (Panama)                                               |                         |
| Public Const SUBLANG_SPANISH_DOMINICAN_REPUBLIC = &H7  | ' Spanish               |
| (Dominican Republic)                                   |                         |
| Public Const SUBLANG_SPANISH_VENEZUELA = &H8           | ' Spanish               |
| (Venezuela)                                            |                         |
| Public Const SUBLANG_SPANISH_COLOMBIA = &H9            | ' Spanish               |
| (Colombia)                                             |                         |
| Public Const SUBLANG_SPANISH_PERU = &HA                | ' Spanish (Peru)        |
| Public Const SUBLANG_SPANISH_ARGENTINA = &HB           | ' Spanish               |
| (Argentina)                                            |                         |
| Public Const SUBLANG_SPANISH_ECUADOR = &HC             | ' Spanish               |
| (Ecuador)                                              |                         |
| Public Const SUBLANG_SPANISH_CHILE = &HD               | ' Spanish (Chile)       |
| Public Const SUBLANG_SPANISH_URUGUAY = &HE             | ' Spanish               |
| (Uruguay)                                              |                         |
| Public Const SUBLANG_SPANISH_PARAGUAY = &HF            | ' Spanish               |
| (Paraguay)                                             |                         |
| Public Const SUBLANG_SPANISH_BOLIVIA = &H10            | ' Spanish               |
| (Bolivia)                                              |                         |
| Public Const SUBLANG_SPANISH_EL_SALVADOR = &H11        | ' Spanish (El Salvador) |
| Public Const SUBLANG_SPANISH_HONDURAS = &H12           | ' Spanish               |
| (Honduras)                                             |                         |
| Public Const SUBLANG_SPANISH_NICARAGUA = &H13          | ' Spanish               |
| (Nicaragua)                                            |                         |
| Public Const SUBLANG_SPANISH_PUERTO_RICO = &H14        | ' Spanish               |
| (Puerto Rico)                                          |                         |

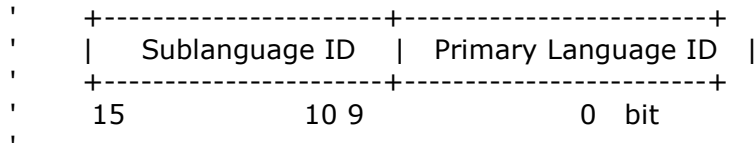
|                                                                                             |                      |
|---------------------------------------------------------------------------------------------|----------------------|
| Public Const SUBLANG_SPANISH_US = &H15<br>States)                                           | ' Spanish (United    |
| Public Const SUBLANG_SWAHILI_KENYA = &H1<br>= &H0441 sw-KE                                  | ' Swahili (Kenya)    |
| Public Const SUBLANG_SWEDISH = &H1                                                          | ' Swedish            |
| Public Const SUBLANG_SWEDISH_FINLAND = &H2<br>(Finland)                                     | ' Swedish            |
| Public Const SUBLANG_SYRIAC_SYRIA = &H1<br>&H045a syr-SY                                    | ' Syriac (Syria) =   |
| Public Const SUBLANG_TAJIK_TAJIKISTAN = &H1<br>= &H0428 tg-TJ-Cyrl                          | ' Tajik (Tajikistan) |
| Public Const SUBLANG_TAMAZIGHT_ALGERIA_LATIN = &H2<br>(Latin, Algeria) = &H085f tmz-DZ-Latn | ' Tamazight          |
| Public Const SUBLANG_TAMIL_INDIA = &H1                                                      | ' Tamil (India)      |
| Public Const SUBLANG_TATAR_RUSSIA = &H1<br>&H0444 tt-RU                                     | ' Tatar (Russia) =   |
| Public Const SUBLANG_TELUGU_INDIA = &H1<br>(Telugu Script)) = &H044a te-IN                  | ' Telugu (India      |
| Public Const SUBLANG_THAI_THAILAND = &H1<br>&H041e th-TH                                    | ' Thai (Thailand) =  |
| Public Const SUBLANG_TIBETAN_PRC = &H1                                                      | ' Tibetan (PRC)      |
| Public Const SUBLANG_TIGRIGNA_ERITREA = &H2<br>(Eritrea)                                    | ' Tigrigna           |
| Public Const SUBLANG_TSWANA_SOUTH_AFRICA = &H1<br>Tswana (South Africa) = &H0432 tn-ZA      | ' Setswana /         |
| Public Const SUBLANG_TURKISH_TURKEY = &H1<br>= &H041f tr-TR                                 | ' Turkish (Turkey)   |
| Public Const SUBLANG_TURKMEN_TURKMENISTAN = &H1<br>(Turkmenistan) = &H0442 tk-TM            | ' Turkmen            |
| Public Const SUBLANG_UIGHUR_PRC = &H1<br>&H0480 ug-CN                                       | ' Uighur (PRC) =     |
| Public Const SUBLANG_UKRAINIAN_UKRAINE = &H1<br>(Ukraine) = &H0422 uk-UA                    | ' Ukrainian          |
| Public Const SUBLANG_UPPER_SORBIAN_GERMANY = &H1<br>Sorbian (Germany) = &H042e wen-DE       | ' Upper              |
| Public Const SUBLANG_URDU_PAKISTAN = &H1                                                    | ' Urdu (Pakistan)    |
| Public Const SUBLANG_URDU_INDIA = &H2                                                       | ' Urdu (India)       |
| Public Const SUBLANG_UZBEK_LATIN = &H1                                                      | ' Uzbek (Latin)      |
| Public Const SUBLANG_UZBEK_CYRILLIC = &H2                                                   | ' Uzbek (Cyrillic)   |
| Public Const SUBLANG_VIETNAMESE_VIETNAM = &H1<br>(Vietnam) = &H042a vi-VN                   | ' Vietnamese         |
| Public Const SUBLANG_WELSH_UNITED_KINGDOM = &H1<br>(United Kingdom) = &H0452 cy-GB          | ' Welsh              |
| Public Const SUBLANG_WOLOF_SENEGAL = &H1                                                    | ' Wolof (Senegal)    |
| Public Const SUBLANG_XHOSA_SOUTH_AFRICA = &H1<br>Xhosa (South Africa) = &H0434 xh-ZA        | ' isiXhosa /         |
| Public Const SUBLANG_YAKUT_RUSSIA = &H1<br>&H0485 sah-RU                                    | ' Yakut (Russia) =   |
| Public Const SUBLANG_YI_PRC = &H1                                                           | ' Yi (PRC)) = &H0478 |
| Public Const SUBLANG_YORUBA_NIGERIA = &H1<br>046a yo-NG                                     | ' Yoruba (Nigeria)   |
| Public Const SUBLANG_ZULU_SOUTH_AFRICA = &H1<br>(South Africa) = &H0435 zu-ZA               | ' isiZulu / Zulu     |



```

'
' A language ID is a 16 bit value which is the combination of a
' primary language ID and a secondary language ID. The bits are
' allocated as follows:
'

```



```

'Neutral language

```

```

Public Const LANG_SUBLANG_NEUTRAL = &H0

```

```

Public Enum NeoSpeechVoiceTextAudioFormat

```

```

    VT_FILE_API_FMT_S16PCM = 0
    VT_FILE_API_FMT_ALAW = 1
    VT_FILE_API_FMT_MULAW = 2
    VT_FILE_API_FMT_DADPCM = 3
    VT_FILE_API_FMT_S16PCM_WAVE = 4
    VT_FILE_API_FMT_U08PCM_WAVE = 5
    VT_FILE_API_FMT_IMA_WAVE = 6
    VT_FILE_API_FMT_ALAW_WAVE = 7
    VT_FILE_API_FMT_MULAW_WAVE = 8
    VT_FILE_API_FMT_MULAW_AU = 9

```

```

End Enum

```

```

'Export formats for Cepstral voices

```

```

'You need to set the following instead:

```

```

'szAudioEncoding [possible values: _
    * "riff": Microsoft RIFF (WAV) file _
    * "pcm16", "pcm8" PCM 16 bit/8 bit WAV _
    * "ulaw" - μ-Law (8-bit by definition), "alaw" - A-Law (8-bit by definition) _
    * "snd": Sun/NeXT .au (SND) format. _
    * "raw": unheadered audio data, native byte order _
    * "le": unheadered audio data, little-endian (LSB first) _
    * "be": unheadered audio data, big-endian (MSB first) _
    * NOTE: that not all encoding types may be supported by all formats. For
instance, SND doesn't support A-Law. ], _

    iAudioSamplingRate [possible values: 8000 (8 KHz), 16000 (16 KHz), 11025
(11.025 kHz), etc ], _

    iAudioChannels [possible values: 1 (mono), 2 (stereo)]

```

'Export formats for AT&T NV (INTERNAL USE ONLY) \_  
Currently only PCM WAV supported (all audio format arguments will be ignored)

Public Enum NeoSpeechVoiceID

NEOSPEECH\_KATE\_ENG = 0

NEOSPEECH\_PAUL\_ENG = 1

NEOSPEECH\_MIYU\_JPN = 0

NEOSPEECH\_SHOW\_JPN = 1

NEOSPEECH\_MISAKI\_JPN = 2

NEOSPEECH\_LILY\_CHI = 0

NEOSPEECH\_WANG\_CHI = 1

NEOSPEECH\_JUNWOO\_KOR = 3

NEOSPEECH\_SUJIN\_KOR = 8

NEOSPEECH\_YUMI\_KOR = 10

NEOSPEECH\_GYURI\_KOR = 11

NEOSPEECH\_DAYOUNG\_KOR = 12

End Enum

Public Const NEOSPEECH\_KATE\_ENG\_NAMESTR As String = "Kate"

Public Const NEOSPEECH\_PAUL\_ENG\_NAMESTR As String = "Paul"

Public Const NEOSPEECH\_MIYU\_JPN\_NAMESTR As String = "Miyu"

Public Const NEOSPEECH\_SHOW\_JPN\_NAMESTR As String = "Show"

Public Const NEOSPEECH\_MISAKI\_JPN\_NAMESTR As String = "Misaki"

Public Const NEOSPEECH\_LILY\_CHI\_NAMESTR As String = "Lily"

Public Const NEOSPEECH\_WANG\_CHI\_NAMESTR As String = "Wang"

Public Const NEOSPEECH\_JUNWOO\_KOR\_NAMESTR As String = "Junwoo"

Public Const NEOSPEECH\_SUJIN\_KOR\_NAMESTR As String = "Sujin"

Public Const NEOSPEECH\_YUMI\_KOR\_NAMESTR As String = "Yumi"

Public Const NEOSPEECH\_GYURI\_KOR\_NAMESTR As String = "Gyuri"

Public Const NEOSPEECH\_DAYOUNG\_KOR\_NAMESTR As String = "Dayoung"

## **Appendix 2**

### **Controlling Speech with a Standard XML Tag Set**

VTML for NeoSpeech VoiceText <sup>™</sup>

(See vtml.pdf or vtml.ps)

SSML

(See <http://www.w3.org/TR/speech-synthesis/>)

Note: Not all tags are supported by all engines.