Dialogic® Diva® Component API

Developer's Reference Guide

Part of the Dialogic® Diva® Software Development Kit

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CHAPTER 1

About this Online Guide

How to use this online guide

- To view a section, click the corresponding bookmark located on the left.
- To view a topic that contains further information, click the corresponding blue underlined phrase.
- You may wish to print out the pages required for developing your communication application.

Structure of this guide

This guide presents details and functional descriptions of all Dialogic® Diva® ActiveX Components. Examples, data structures, and return codes are provided.

This guide is structured as follows:

Section	Contents
Dialogic® Diva® SDK Overview	Introduction to the Dialogic® Diva® software development kit and its application programming interfaces: the Dialogic® Diva® API, the Dialogic® Diva® Component API, and the Dialogic® Diva® API for .NET.
Dialogic® Diva® Component API Overview	Introduction to and overview of the Diva ActiveX Components and their functionality
Operation Modes	Description of the operation modes provided with the Diva ActiveX Components
DivaCall Overview	Introduction to the component DivaCall. Description of methods, events, and properties of DivaCall
DivaCall References	Description of DivaCall references
DivaSystem References	Description of DivaSystem references
DivaInstance References	Description of DivaInstance references
DivaDevice References	Description of DivaDevice references
DivaConference References	Description of DivaConference references
DivaToneResult References	Description of DivaToneResult references

CHAPTER 2

Dialogic® Diva® SDK Overview

The Dialogic Diva SDK can be used in combination with Dialogic® Diva® Media Boards and Dialogic® Host Media Processing (HMP) software. On these communication platforms, the Diva SDK provides the following application programming interfaces (APIs): the Dialogic® Diva® API, the Dialogic® Diva® Components API, and the Dialogic® Diva® API for .NET. For the Diva Media Boards, two additional APIs are available: the Dialogic® Diva® Management API and the Extended CAPI 2.0.

It is planned that new versions of the Diva SDK will be released periodically, and it is intended that such new versions will be backwards compatible so as to allow applications developed on the basis of earlier versions of the Diva SDK to be used with the new versions.

The Diva SDK includes the following components:

- Libraries providing functions to access the Dialogic® Diva® communication platforms
- DLLs containing the interfaces and component services
- Programming samples in source code
- Documentation explaining the functions of the Diva SDK

The components can be found as follows:

Component	Path
Libraries of the Diva SDK	\SDK\BASIC\LIB\
DLLs of the Diva SDK and compiled samples applications	\SDK\BASIC\BIN
Samples for the Diva SDK	\SDK\BASIC\SAMPLES\
Libraries of the Diva Management API	\SDK\MANAGEMENT\LIB
Samples for the Management API	\SDK\MANAGEMENT\SAMPLES
Documentation	\SDK\DOC\

The Diva SDK is available on the Dialogic® Diva® Software Suite CD-ROM. You can also download it from the Dialogic web site under http://www.dialogic.com/products/tdm_boards/development_tools/default.htm. If you download the software from the Dialogic web site, extract the files to your hard disk and do not change the directory structure of the extracted files.

The Diva SDK is freely distributed with Dialogic® communication platforms. You do not have to purchase licences for developing applications based on the software development kit.

Dialogic® Diva® SDK application programming interfaces

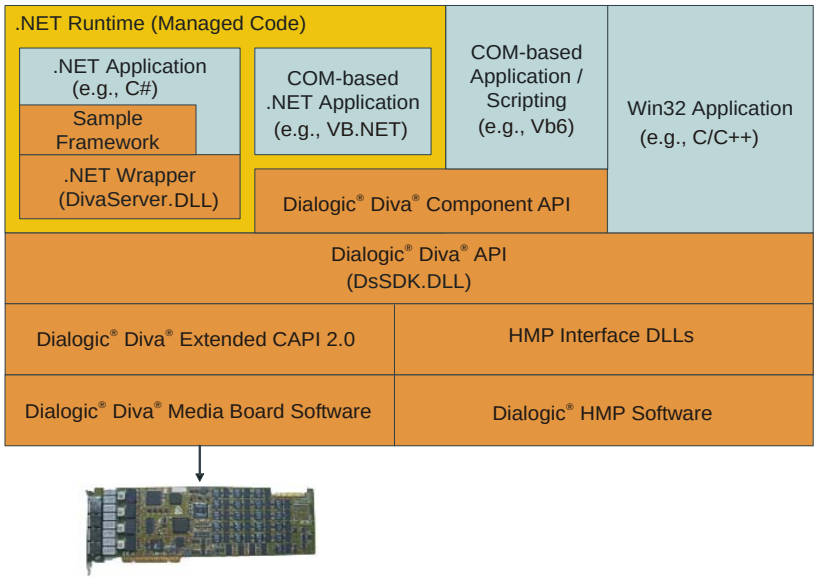
The five application programming interfaces (APIs) of the Dialogic® Diva® SDK represent different layers for the management and development of applications for Dialogic® Diva® communication platforms.

- Dialogic® Diva® API: It provides a high-level interface into the communication platforms that allows developers to implement communication applications. It also provides an additional library for data conversion like TIFF to SFF for fax applications.
- Dialogic® Diva® Component API: It provides a set of ActiveX components that allows developers to create new applications or to add telephony and communication features to existing applications. The Component API can be used from scripts and VB.NET and eliminates the need to write directly to a C / C++ API.
- Dialogic® Diva® API for .NET: It is based on the Dialogic® Diva® API and provides access to the Diva API from .NET based applications.
- Extended CAPI 2.0 (only for Dialogic® Diva® Media Boards): It provides Dialogic-specific CAPI extensions that are fully CAPI 2.0 compliant.

- Dialogic® Diva® Management API: It provides direct hardware access for monitoring, security, and statistics. This API should only be used by applications using CAPI 2.0.

Dialogic® communication platforms provide call control, media streaming, and management functionality that are available on the Diva API, the Diva Component API, and the Diva API for .NET.

The following figure shows the architecture of the programming interfaces and the applications that may access them:



Dialogic® Diva® API

The Diva API is a high-level interface into the Diva communication platforms via a library of "C" function calls. This interface can allow developers to implement various communication applications faster and easier than in the traditional CAPI 2.0 application development.

The Diva API contains modules that can be used as basis for communication applications, such as fax and voice transfer or call control, and thus can facilitate the development of applications for these areas. The modules are intended to be updated so as to offer development bases for an ever increasing range of communication applications.

Even if the Diva API abstracts functions and provides a high level interface, access to low level functions is optionally available. Applications that require access to low level operations, e.g., control over signaling messages, can be performed on the Diva API. This allows existing applications to be extended using the same API, even if the requirements change. All CAPI 2.0 extensions are also available on the Diva API.

The Diva API also allows for access to the management interface of the Dialogic® Diva® Media Board for status and statistic information.

Dialogic® Diva® Component API

The Diva® SDK includes the Diva Component API. This interface provides a set of ActiveX components that allow for creating new applications or for adding telephony and communication features to existing applications. The components can be used in Windows®-based development environments that support ActiveX components. The Diva Component API provides functionalities including: extended call control, voice streaming and recording, change of media on existing calls, conferencing, call transfer, retrieve status information of the hardware, flexible tone detection, and answering machine detection.

Dialogic® Diva® API for .NET

The Diva API for .NET is based on the Dialogic® Diva® API. The functionality is exactly the same and where possible a one to one mapping is done. The Diva API for .NET documentation describes the architecture, the mapping of data types, and the modifications that have been done due to the .NET and especially the C# requirements.

Applications written for .NET may be based on two APIs provided by the Diva SDK: the Dialogic® Diva® Component API and the Dialogic® Diva® API for .NET. Both APIs use the feature rich Diva API to access the underlying communication platform. The Diva Component API allows for synchronous processing and is therefore often used by script-oriented applications. The decision as to which Dialogic® Diva® API can be used depends on the application requirements.

Extended CAPI 2.0

The Extended CAPI 2.0 is only available for Dialogic® Diva® Media Boards and provides Dialogic-specific extensions for CAPI 2.0. The extensions are fully CAPI 2.0 compatible, and thus can be used with CAPI 2.0 applications. The following Dialogic-specific CAPI extensions are available:

- Echo canceller support for voice applications: This extension allows the voice application to place an echo canceller unit in the front end of a connection to suppress acoustical echo and signal return. The Dialogic extension and the new CAPI standard for echo canceller are supported.
- Extension for fax paper formats and resolutions: This extension enables fax transmission and reception with an extended range of paper formats and resolutions.
- Tone detection and generation extension for DTMF facility: This extension enables fax and voice applications to detect in-band signals such as busy tone, to report events like modem CNG or fax flag detection, to detect human speech, to report the unidentified tones, and to report that no signal is present on the line.
- Extensions for modem configuration: This extension enables to specify certain modulation and protocol-related parameters. Modulations can be removed from the auto moding list or specific modulations can be selected. The results of the modulation and the protocol negotiation are signaled to the application.
- Generic tone generator and detector support for voice applications: This extension provides built-in generic tone detector and generator facilities.The generic tone services include sine generators with programmable frequency and amplitude modulation, function generators with programmable signal shape, frequency, and amplitude modulation, noise generators with programmable crest factor and amplitude modulation, single tone detection, and dual tone detection.

Descriptions of the Dialogic-specific CAPI 2.0 extensions are available under `SDK/DOC`. The complete CAPI 2.0 specification can be downloaded from the web site www.capi.org.

Note: If you are developing CAPI 2.0 applications based on Dialogic® Diva® for Windows® software, the CAPI 2.0 is part of the Diva API in the Dialogic® Diva® Configuration Manager.

Dialogic® Diva® Management API

The Diva Management API is only available for Dialogic® Diva® Media Boards and only applications based on the CAPI 2.0 may use this interface. Applications using the Dialogic® Diva® API, the Dialogic® Diva® Component API, or Dialogic® Diva® API for .NET should not use this API.

The Diva Management API offers a range of functions to retrieve status and statistics information:

- Retrieve status of lowest level ISDN access
- Retrieve active calls
- Generating statistic information for number of calls, etc.
- Notification of status changes

Applications using the Dialogic® Diva® API do not need to access the Diva Management API, because the Diva API already has built-in support for the Diva Management API.

The Diva Management API only registers information and executes functions within your system. You cannot use it for data transfer. For data transfer, you should use the Diva API or CAPI interface.

The status information provided by the Diva Management API is structured as a sort of "virtual" file space. It contains nodes (similar to directories) and values (similar to files), where each node and value is defined by its path and name. The information can be read out using Diva Management API functions. The DLL providing these functions is part of the Dialogic® Diva® for Windows® software.

The functions provided by the Diva Management API are extended periodically; however, the Diva Management API will remain backwards compatible such that applications based on an earlier Diva Management API can continue to be used with new versions.

Dialogic communication platform-related information

The Dialogic® Diva® SDK uses the Dialogic® Diva® System Release software or the Dialogic® HMP System Release software to communicate to the TDM or IP-based communication resources. The Diva-based software is automatically started at system start and configured via the Dialogic® Diva® Configuration Manager.

The Dialogic HMP software is started either automatically when the system starts or manually depending on the configuration in the Dialogic® HMP Configuration Manager (DCM). With the initialization of the Dialogic® Diva® API by the application, the Dialogic HMP is initialized and configured. The configuration parameters are read from the file "dssdk.xml". Refer to the "Dialogic® HMP Software and Dialogic® Diva® SDK Installation and Configuration Guide" for details on those configuration parameters.

The Dialogic HMP features are based on licenses, and there are various options that can be combined. Based on the available licenses, Dialogic® Diva® API interface functions may return *DivaErrorNotSupported* if a requested function is not licensed or no more licenses are available. The following section provides detailed information.

The Diva API supports voice, conferencing, and fax on the Dialogic HMP software. In addition, mixed conferences between Dialogic® Diva® Media Boards and the Dialogic HMP software are supported. Tromboning, called Line Interconnect on the Diva API, is also supported between Diva Media Boards and the Dialogic HMP software.

The following license options are validated during startup of the Diva API:

- IP call control / RTP G.711
- voice
- speech integration
- conferencing
- fax

The Diva SDK allocates resources for the duration of a call. If a call is initiated as a voice call, a voice resource is allocated and assigned to this call. This resource remains allocated even if the application switches to fax mode later.

IP call control / RTP G.711 resources

The amount of IP call control / RTP G.711 resources specifies the maximum number of channels. When started, the Dialogic® Diva® API creates the virtual line devices based on the configuration information that is specified in the configuration file. By default, only one line device is created for SIP-based communication using the available channels.

If line devices are configured and the amount of configured channels exceeds the licensed channels, the amount of channels for a line device or the amount of line devices may be limited. The application detects it in the information returned by *DivaGetNumLineDevices* and *DivaGetLineDeviceInfo*.

Voice and speech integration resources

The Dialogic® HMP software provides voice resources for supporting features such as streaming audio, detecting DTMF tones, and generating DTMF tones. The capabilities of a voice resource depend on the license. If only "voice" is licensed, this resource can either play or record, but not both at the same time. A "speech integration" resource can play and record in parallel, and it supports an echo canceller. Based on the available voice resources, the Dialogic® Diva® API supports three different modes and the interface functions *DivaRecordVoiceFile* and *DivaSendVoiceFile* may behave differently. During system start, the Dialogic® Diva® SDK enumerates the Dialogic HMP software resources and selects one of the following three modes:

- Two voice resources per channel
- One speech integration voice resource per channel
- One voice resource per channel

Two voice resources per channel

This mode allows to play and record in parallel and it is entered if two voice resources are available for each licensed IP-channel. The behavior of the functions *DivaRecordVoiceFile* and *DivaSendVoiceFile* is the same as on Dialogic® Diva® Media Boards.

When a call is established, the received audio is signaled to the application via the event *DivaEventDataAvailable* and can be retrieved by the application via *DivaReceiveAudio*.

One speech integration voice resource per channel

This mode is entered if one speech integration license per IP-channel is available and it allows to play and to record in parallel. The functions *DivaRecordVoiceFile* and *DivaSendVoiceFile* behave like on Diva Media Boards. For received audio, the echo canceller can be enabled.

When a call is established, the received audio is signaled to the application via the event *DivaEventDataAvailable* and can be retrieved by the application via *DivaReceiveAudio*.

This mode allows for retrieving audio in small buffer sizes and is the base for bridging between TDM and IP-based calls.

One voice resource per channel

This mode is entered if voice resources are licensed but none of the previously described modes can be selected. This mode allows to play or to record but not at the same time. If a recording is active, any *DivaSendVoice* function will fail.

When a call is established, the received audio is not automatically signaled to the application via the event *DivaEventDataAvailable*. If the application requires this event, it must enable this via the function *DivaEnableRxData* and ensure that no play is active.

Conference resources

The Dialogic® Diva® SDK uses the HMP conference resources when an IP-based call is added to a conference. Note that creating a conference via *DivaCreateConference* will always succeed, even if no conference resource is licensed. The conference resource is allocated when an IP-based call is added to a conference using *DivaAddToConference*.

For each IP-based call that is added to a conference, one conference party resource is allocated and released when the call is disconnected or removed from the conference. An additional conference party resource is required if TDM and IP calls are bridged or if a play or record operation on the conference object is initiated. Note that once this additional resource is allocated, it remains at the conference object until the last IP-based call is removed from the conference or the conference object is released using *DivaDestroyConference*.

Applications may record from any conference member. Playing to an IP-based call that is part of a conference is not possible. In this case, the function *DivaSendVoiceFile* and the other sent voice-related functions will return *DivaErrorInvalidState*. The same is valid for a call that is line interconnected (tromboned) to another call.

Fax resources

The fax resources licensed for the Dialogic® HMP software support T.38 and clear channel fax, and the maximum supported speed is 14.400 bps. Fax resources are allocated when the application initiates a fax call or when the remote peer indicates a call as a fax call. For Dialogic HMP-based IP calls, the supported fax data format is TIFF. The following fax formats are supported:

- DivaFaxFormatTIFF_G3
- DivaFaxFormatTIFF_G4
- DivaFaxFormatColorJPEG

CHAPTER 3

Dialogic® Diva® Component API Overview

The Dialogic® Diva® SDK provides a set of ActiveX components that allows for creating new applications or for adding telephony and communication features to existing applications. Using the Dialogic® Diva® Component API eliminates the need to write directly to a C / C++ API. It also abstracts the communication resources, so that users of the components do not need detailed understanding of communication architectures.

The Diva Component API can be used in any Windows®-based development environment that supports ActiveX components. The most common environment for the usage of ActiveX controls is Visual Basic®. The components of the Diva SDK are also designed to support scripting languages like Visual Basic Script and Java Script.

The Diva Component API provides a flexible interface to create applications easily, and to set and retrieve applications that specify communication details. Moreover, it provides well defined functionalities that include methods, properties, and events for call control, voice streaming, fax communication, data communication, and supplementary services. The Diva SDK abstracts the underlying ISDN specifications and ensures that the applications run in different environments without modification.

The communication channels of the installed Dialogic® Diva® Media Boards can be handled by the components, so that there is no need for the application to handle channel resources and call collisions.

Functionality

The Dialogic® Diva® Component API provides the following functionalities:

- Simple Call Control
- Extended Call Control
- Voice Streaming and Recording
- Fax Communication including Fax Polling
- Change of Media of existing calls
- Detection and Generation of DTMF Digits
- Supplementary Services, Call Transfer, Hold / Retrieve, Conference
- Line Interconnect
- Retrieve information on installed hardware
- Retrieve status information of devices

Components overview

The Dialogic® Diva® Component API provides the following components:

DivaCall

DivaCall handles exactly one call. It is used for call setup as well as media-specific communication and also supplementary services. It enables you to write scripts or programs easily.

DivaSystem

DivaSystem provides information on the number of installed Dialogic® Diva® communication resources and provides access to DivaDevice components for information on a specific board. In addition, instances are created that use DivaSystem.

DivaInstance

DivaInstance combines several DivaCall objects in one instance and is used for applications that process multiple calls at the same time. Call objects that are created based on DivaInstance get preset properties and the incoming call handling is optimized. The usage of DivaInstance is optional but recommended. DivaCall objects can also be created directly.

DivaDevice

DivaDevice represents a specific line with a well defined amount of channels and properties.

DivaConference

DivaConference allows for managing a conference with unlimited members. The conference, including mixing and automatic gain control, is handled by the underlying Dialogic® Diva® communication platform. Members of the conference are of the type DivaCall. The calls need to be connected before they can be added to the conference. The conference object is created based on DivaInstance. The method CreateConference returns an object of type DivaConference.

Component install

The Dialogic® Diva® SDK contains a set of binaries, libraries, and sample applications. In general, the installation of the Diva SDK is done by copying the directory tree to the hard disk or network. Developers are free to copy the directory tree manually to any location.

The components need to be registered on the target computer. The Diva SDK does not automatically register the components. Developers may register the components using the configuration utility CONFIG.EXE available in the bin directory of the SDK, or they may register the components manually using the regsrv32 utility of the operating system. In the bin directory of the SDK exists a batch file for registration and deregistration.

CHAPTER 4

Operation Modes

The methods of a component can handle requests synchronously or asynchronously. Synchronous means that the call for accessing a method or property returns when the method has been executed. Asynchronous means that the result of the access is delivered later by an event or a different method.

All properties are handled synchronously and return the information directly. For those methods that originally work asynchronously, the operation mode can be either synchronous or asynchronous. The default is synchronous mode.

Synchronous mode

If the synchronous mode is enabled, originally asynchronous methods are handled synchronously. In other words, they block the execution of the call until the requested operation is completed. This mode is also called blocking mode. It is selected by default if a component is created.

Asynchronous mode

If the asynchronous mode is enabled, asynchronous methods initiate the requested method and return right away. The progress or result is either reported by events, if enabled, or by methods that wait until the called method is completed. This mode is also called non-blocking mode.

Events

Events are optional and may be enabled by the application setting the *SignalEvents* property on the object. The ActiveX control exports an event interface that is conform to IDispatch. Applications may register to this interface and receive an event notification. Some scripting languages support the registration directly, e.g., in Visual Basic®, sub routines do the registration implicitly by writing to naming convention <object name>_<Event name>.

A separate thread signals the events. The Dialogic® Diva® SDK ensures that thread blocking of the main application thread and the event signaling context is avoided.

Switching operation mode

Once the object is created, the default operation mode is synchronous. The application may change the operation mode at any time.

Note: Operation mode and events are independent. An application may enable event reporting for incoming calls and run the call synchronously from the event function like a call script.

CHAPTER 5

DivaCall Overview

This chapter explains the creating, programming, and deleting of DivaCall objects.

Creating DivaCall Objects

DivaCall can be created directly. The default is a voice call. All parameters are initialized to it. Applications that run one call per thread or process, e.g., a script, use a *DivaCall* object. A process may create several threads, each running one call.

A *DivaCall* object can also be created based on the component *DivaInstance*. *DivaCall* objects created on *DivaInstance* share common resources and have the same default properties, and they have to run in the same process space. Objects created on *DivaInstance* may use user-specific buffer sizes for communication. For applications serving several calls, it is recommended to create the *DivaCall* objects via *DivaInstance*.

Deleting DivaCall Objects

Deleting objects in languages like Visual Basic® using the command "Object=Nothing" does not immediately delete the object itself. This is done later by the garbage collector. The application should remove the listen before deleting the object, to ensure that objects, which are no longer used by the application, do not take any calls. In general, it is recommended to create the objects once and use them over the runtime of the application.

DivaCall programming

On the one hand, the methods and properties of *DivaCall* have been designed to ensure easy call control and media streaming. On the other hand, they provide extended information and capabilities to applications that require this information.

A *DivaCall* object handles one call and the media-specific streaming. The communication resources and the channel can be selected automatically or by setting a specific line device. The used media, e.g., voice or fax, may be changed during the call. The different media modes are named call types. The following call types are supported:

- Voice (default)
- Fax
- Analog Modem
- Digital Data
- X.75, reliable digital data
- V.120, reliable digital data
- GSM, V.110 for mobile connections

The following tables provide an overview of the methods, properties, and events of *DivaCall*. The tables separate them by call orientation, media-specific and supplementary service-specific.

Methods of DivaCall

Name	Comment
Connect	Establishes a connection using the call properties set previously to this call.
Disconnect	Disconnects a connection.
Listen	Only available if events are enabled. For non-event mode, use WaitForCall.
Alert	Sends an alert for an incoming call.
Answer	Answers an incoming call. Only available if events are enabled. For non-event mode, use WaitForCall.
Reject	Rejects an incoming call with a specific reason.
WaitForCall	Timed wait for incoming calls of the selected properties.

Methods of DivaCall	
Name	**Comment**
SetCallType	Changes the type of the call, e.g., from voice to fax.
WaitAsyncComplete	Waits for the last initiated asynchronous action to complete.
SendVoiceFile	Sends a single file. Asynchronous or synchronous depending on property AsyncMode.
SendVoiceFiles	Sends multiple files, e.g., announcement of time. Asynchronous or synchronous depending on the property AsyncMode.
SendVoiceFilesEx	Sends single or multiple files with the ability to return on certain digits.
StopSending	Terminates any pending streaming.
RecordVoiceFile	Records a voice file, options to limit time and silence.
StopRecording	Stops recording.
GetDigits	Waits for specific digits.
ClearDetectedDigits	Clears the internal digit buffer.
SendDigits	Sends single or multiple DTMF digits.
SendTone	Sends a single tone, optional continuous tone.
StopTone	Stops the sending of a continuous tone.
ClearDetectedTones	Clears internal tone buffer.
EnableSingleToneDetector	Enables the generic detector for a single tone.
EnableDualToneDetector	Enables the generic detector for dual tones.
DisableToneDetector	Disables the generic tone detector.
GetToneDetectorResult	Retrieves the results for a detected tone.
EnableAMD	Enables the answering machine detector.
DisableAMD	Disables the answering machine detector.
SendFax	Sends a single fax file.
SendFaxes	Sends multiple fax files to one receiver.
ReceiveFax	Receives a fax document to a file.
SendData	Sends plain data, depends on the call type.
ReceiveData	Receives plain data.
Hold	Puts a call on hold.
Retrieve	Retrieves a call.
BlindCallTransfer	Transfers a call to the given destination.
SetupSupervisedCallTransfer	Creates a consultation call for a supervised call transfer.
CompleteSupervisedCallTransfer	Completes a supervised call transfer.
InterConnect	Trombones two calls with optional transaction recording.
InterDisconnect	Removes a previously set tromboning.
ConnectAudioProvider	Switches the audio stream for the call to an audio provider.
DisconnectAudioProvider	Disconnects the audio stream from the audio provider.

Properties of DivaCall			
Name	**Get**	**Put**	**Comment**
SignalEvents	x	x	If set, events are signaled. Please note that events and synchronous/ asynchronous mode are independent.
AsyncMode	x	x	Selects if following calls to methods are synchronous or asynchronous.
Device	x	x	Sets the line device to be used for an outgoing call. Reads the used line device.
LocalNumber		x	Specifies the local number to be signaled with an outgoing call.
LocalSubAdress		x	Specifies the local subaddress to be signaled with an outgoing call.
CallingNumber	x		Calling number of an incoming call.
CalledNumber	x		Called number of an incoming call.
Channel	x		Used channel for the call.
RxSpeed	x		Speed in receive direction.
TxSpeed	x		Speed in send direction.
Compression	x		Negotiates compression. Only if call type allows it.
DisconnectReason	x		States the reason for the disconnection of the call.
DetectedDigits	x		Returns the detected digits from the internal buffer.
EnableDTMFToneSplitting		x	If true, store DTMF and tones in separate buffers.
DetectedTones	x		Returns the detected tones.
SingleToneDetectorMinFrequency		x	Sets the lower range to report detected tones.
SingleToneDetectorMaxFrequency		x	Sets the upper range to report detected tones.
FaxLocalId		x	Sets the local fax ID.
FaxHeadLine		x	Sets the headline to be used for outgoing faxes.
FaxMaxSpeed		x	Sets the maximum speed allowed.
FaxEnablePolling		x	Enables the active or passive polling.
FaxDisableHighResolution		x	Forces the fax to standard mode.
FaxDisableMR		x	Disables Modified Read (MR) fax compression.
FaxDisableMMR		x	Disables Modified Modified Read (MMR) fax compression.
FaxDisableECM		x	Disables Error Correction Mode (ECM).
FaxMultipleDocument		x	Specifies that the fax session will send multiple documents.
FaxReverseSession		x	Fax session will change direction during a call.
FaxRemoteId	x		ID of the remote fax.
FaxHighResolution	x		Negotiated resolution, if true then high resolution.
FaxMRActive	x		If true, the current call uses MR compression.
FaxMMRActive	x		If true, the current call uses MMR compression.
FaxECMActive	x		If true, the current call uses ECM.
FaxPollingActive	x		If true, the fax session uses polling mode.
FaxPages	x		Contains the amount of sent fax pages.
FaxEnableColor		x	Enables the negotiation of the color fax mode.
FaxColorSelected	x		Reads the result of the color fax negotiation.
FaxStoreMode		x	Sets how received pages are stored.

Properties of DivaCall			
Name	**Get**	**Put**	**Comment**
VoiceEnableEchoCanceller		x	If set, the echo canceller will be enabled for the connection.
VoiceEchoCancellerActive	x		Specifies if the echo canceller is active.
EnableExtendedToneDetection			Enables or disables extended tone detection.
EnableDigitDetection			Enables the detection of DTMF and fax calling tones.
CallState	x		Retrieves the call state. Valid states are defined in DivaCallState.
SignaledService	x		Retrieves the service signaled for an incoming call.
Signal Service		x	Set the service to be signaled for an outgoing call.
RemoveDigitsFromStream		x	Remove a received DTMF from a recorded audio signal.
X25CalledAddress	x	x	Sets the called address for an outgoing call. Read the called address for an incoming call.
X25CallingAddress	x	x	Sets the calling address for an outgoing call. Read the calling address for an incoming call.
X25NCPI	x	x	Sets or reads the plain NCPI for X.25.
TransferUseSameChannel		x	Sets that the same channel is used for a consultation call created by BlindCallTransfer.
TranserfNoHold		x	Sets that the main call is not placed on hold by BlindCallTransfer and SetupSupervisedCallTransfer.
TransferCompleteOnAlerting		x	Sets that the transfer initiated by BlindCallTransfer is completed on alerting.
TransferCompleteOnProceeding		x	Set that the transfer initiated by BlindCallTransfer is completed on proceeding.
InputVolume		x	Sets the input volume.
OutputVolume		x	Sets the output volume.
RedirectNumber	x		Reads the redirected number.
RedirectReason	x		Reads the redirect reason.
CalledNumberType	x	x	Sets or reads the type of the called number.
CalledNumberId	x	x	Sets or reads the identifier of the called number.
CallingNumberType	x	x	Sets or reads the type of the calling number.
CallingNumberId	x	x	Sets or reads the identifier of the calling number.
CallingNumberPresentation	x	x	Sets or reads the calling number presentation.
CallingNumberScreening	x	x	Sets or reads the calling number screening.

Events of DivaCall	
Name	**Comment**
OnIncomingCall	Called if an incoming call is detected. Requires that SignalEvent is set to true and a listen has been placed.
OnCallProgress	Called when the call reaches the proceeding or alerting state.
OnConnected	Called if the call is connected. Requires that SignalEvent is set to true.
OnDisconnected	Called if the call is disconnected. Requires that SignalEvent is set to true.
OnToneReceived	Called if a tone, DTMF, or specific tone is received. The tone is provided with the call and remains also in the DigitBuffer.
OnVoiceStreamed	Called when the streaming of audio is finished.
OnRecordEnded	Called when the recording is finished.
OnFaxPageProcessed	Called when a fax page has been sent or received.

Events of DivaCall	
Name	**Comment**
OnFaxProcessed	Called when a fax is successfully sent or received.
OnSuppServeCompleted	Called when a supplementary service operation is completed.
OnDataAvailable	Called when data for a data oriented call (not fax or voice) is available.
OnSingleToneDetected	Called when a single tone is detected.
OnDualToneDetected	Called when a dual tone is detected.
OnAMDFinished	Called when the answering machine detector has finished the analysis.

Outbound calls

Outbound calls are made by calling the *Connect* method on the *DivaCall* object. The application may set certain properties like call type and local number before calling *Connect*. With calling the *Connect* method the call type and the destination is selected.

Inbound calls

An application may receive incoming calls on two ways. Either the application places a listen and is notified via event when the call comes in, or the application calls *WaitForCall*. The application can select the kind of services and an optional number filter for both options.

Streaming and Recording Voice

Streaming and recording of audio can be handled by various methods using different audio formats. Audio streaming and recording is file-based, either as a wave file or as a so called raw file. Raw files contain only the audio data without any header information. The supported audio formats are defined by *DivaAudioFmt*. The following codecs are available:

- a-law, 8 KHz, 8 Bit Mono
- µ-law, 8 KHz, 8 Bit Mono
- PCM, 8 KHz, 8 Bit Mono
- PCM, 8 KHz, 16 Bit Mono

Streaming and recording can be done synchronously or asynchronously depending on the settings of the property *AsyncMode*. In synchronous mode, the method returns when the streaming or recording is finished. In asynchronous mode, the method returns when the streaming or recording is in process and the end is either signaled by event or the application uses *WaitAsyncComplete* to detect the end.

Audio can be streamed from a single file using *SendVoiceFile*. Multiple files can be streamed using *SendMultipleVoiceFiles*. For continuous streaming with or without automatic return upon receive of digits, *SendVoiceFilesEx* is available. Continuous streaming can be limited by a maximum duration.

When the end of a streaming is indicated, either by return of the method or an event, the audio is sent to the line.

For recording of audio the method, *RecordVoiceFile* is available. The method provides various options to limit the recording. All options are optional. The maximum record time can be specified as well as the maximum silence. Recording can be interrupted when receiving certain digits.

Sending and Receiving Faxes

Sending and receiving fax documents is supported by high level functions. Faxes are sent from or received to files. Supported formats are TIFF, class F RLE and G3 compression, and the SFF format.

In synchronous mode, the methods return when the fax has been sent or received. This may take several minutes depending on the amount of pages.

In asynchronous mode, events are signaled, if enabled, for each page and for the completion of the document.

Note: The page event is not signaled for the last page of a document.

Multiple fax documents may be sent using one connection via the method *SendFaxFiles*. Using this function requires that the property *FaxMultipleDocument* is enabled before the connection is established.

Switching Media Modes

Depending on the application it may be necessary to change the media mode of the data channel, while the physical call remains connected. The method *SetCallType* provides this function.

The application may set any data channel-related properties, e.g., fax properties before calling *SetCallType*.

Detecting Digits and Tones

The Dialogic® Diva® Media Board supports the detection of DTMF digits and extended tones. Handling of DTMF digits and extended tones can be selected separately. The way of retrieving and processing detected digits or extended tones is done via the same set of methods and properties. By default, no detection is enabled. Two properties exist to enable and disable digit detection and extended tone detection:

- EnableDigitDetection
- EnableExtendedToneDetection

If one or both are enabled, the detected digits or tones are written to the internal buffer. They can be retrieved using the *DetectedDigits* property (read only).

Note: The detected digits or tones remain in the buffer until they are reset with the method *ClearDetectedDigits*.

The function *GetDigits* is used to set certain parameters and waits in synchronous mode for the settings. *GetDigits* implicitly enables the DTMF digit detection. If extended tone detection is enabled, these tones are also handled.

If the asynchronous mode is set, the application either uses *WaitAsyncComplete* to get the result from *GetDigits* or establishes an event method.

Applications may want to receive detected digits and tones in separate buffers. This can be enabled via the property *EnableDTMFToneSplitting*. If the property is set to true, the detected tones are placed in a separate buffer. This buffer can be retrieved by the property *DetectedTones*.

Generating Digits and Tones

Digits and various tones can be generated. The method *SendDigits* sends one or more digits. The method is always synchronous and returns when the digits have been sent.

Tones can be generated as a single tone or as continuous tone. The method *SendTone* initiates sending of a tone. If the duration is set to non-zero, the tone is automatically stopped after the specified time. By setting the duration to zero, the application can control the length of the tone manually. In this case, the application has to call *StopTone* to stop the tone.

CHAPTER 6

DivaCall References

DivaCall Methods, DivaCall Properties, DivaCall Events, and DivaCall Result Codes are part of DivaCall References. This chapter describes these references in detail. For a description of DivaCall Methods, see below. You can find a detailed description of DivaCall Properties in the section DivaCall Properties on page 56. DivaCall Events are described in DivaCall Events on page 81. DivaCall Result Codes are described in DivaCall Result Codes on page 118.

DivaCall Methods

This section contains various DivaCall Methods.

Connect

Connects to a remote party.

retVal = object.Connect (Destination, CallType)

Parameter

Destination

String value containing the number to dial.

CallType (optional)

Long value indicating the type of call. The parameter is optional. The default is voice.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

This is an asynchronous method. If the asynchronous mode is disabled (default), the method blocks until the call is completed or failed. The return code *DivaResultSuccess* indicates that the call has been established.

Note that call properties, e.g., Fax local Id and headline in case of call type Fax, must be set prior to the call to Connect.

If asynchronous mode is enabled, the method initiates the call and returns. The return code *DivaResultSuccess* indicates that the call is in progress. The state of the call is either signaled as event *OnConnected* or the application may wait for asynchronous completion by *WaitAsyncComplete*.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711" )
If ( retVal= DivaResultSuccess ) Then
  CallObj.Disconnect ( )
End If
```

See also

WaitAsyncComplete, OnConnected, OnCallProgress, OnAMDFinished

Listen

Listens for a call on one or all devices.

retVal = object.Listen (ServiceType, NumberFilter)

Parameter

ServiceType (optional)

Long value indicating the service to listen for. The parameter is optional, the default is *DivaListenServiceAll*.

NumberFilter (optional)

String value containing the filter for incoming calls. This can be a single number, or a list of numbers separated by semicolons. The numbers may contain wildcards for a single digit or a sequence. Ranges can be defined by two numbers separated by a "-" sign. The parameter is optional, by default no filter is active.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

This is an asynchronous method and works only if event reporting is enabled. Applications that disable event reporting mode need to use *WaitForCall*.

Incoming calls are checked against the service and the number filter. The event *OnIncomingCall* indicates if the call matches. When implementing *OnIncomingCall,* the allocation may process the call via synchronous functions.

The property *Device* sets the devices that should be used. By default, listen is enabled on all devices.

Example

The following Visual Basic® (VB) sample shows how incoming calls are signaled via event.

```
Dim WithEvents CallObj As DivaCall

Private Sub Form_Load ()
    Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
    retVal = CallObj.Listen ( DivaListenServiceAll )
End Sub

Sub CallObj_OnIncomingCall ( )
    'This will be called when the call is signaled.
    retVal = CallObj.Answer ( DivaCallTypeVoice )
    if ( retVal = DivaSuccess ) Then
      'Stream audio, then record and this is an answering machine.
   End If
EndSub
```

See also

WaitAsyncComplete, OnConnected

WaitForCall

Waits for an incoming call for a maximum amount of time.

retVal = object.WaitForCall (CallType, NumberFilter, MaxSecondsToWait)

Parameter

CallType (optional)

A long value that indicates the type of calls to answer. The parameter is optional. The default is *DivaCallType_Voice*.

NumberFilter (optional)

String value containing the filter for incoming calls. This can be a single number, or a list of numbers separated by semicolons. The numbers may contain wildcards for a single digit or a sequence. Ranges can be defined by two numbers separated by a "-" sign.

The parameter is optional, by default no filter is active.

MaxSecondsToWait (optional)

A long value indicating the maximum amount of seconds to wait for an incoming call. If it is set to zero, no timeout is set.

Returns

DivaResultSuccess (0) if a call is successfully connected. *DivaResultTimeout* if the waiting time is reached. If the call setup failed, an error code returns.

Remarks

This is a purely synchronous method that is only available if asynchronous mode is disabled.

Incoming calls are checked against the service and the number filter. If the call matches, the call is automatically accepted using the given call type, and the method returns *DivaResultSuccess*. Depending on the call type, the application can start streaming or data transfer right away.

The *ListenDeviceMask* property sets the devices that should be used. By default, waiting for calls on all devices is enabled.

Example

The following VB sample shows how incoming calls are signaled via event.

```
Dim CallObj As DivaCall

Private Sub Form_Load ()
    Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
    retVal = CallObj.WaitForCall ( DivaCallType_Voice, "", 30 )
    If ( retVal = DivaResultSuccess ) Then
      CallObj.Disconnect ( )
    End If
End Sub
```

See also

Disconnect, Listen, OnIncomingCall

Alert

Sends alert for an incoming call.

retVal = object.Alert ( )

Parameter

None

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

An application may need some time to decide if the call should be answered. In order to keep the remote side ringing, an alert may be sent to the remote party.

Alert is a synchronous method. However, *Alert* can only be used if the application listens for calls using the *Listen* method. Applications using *WaitForCall* cannot use this method.

Example

The following VB sample shows how incoming calls are alerted.

```
Dim WithEvents CallObj As DivaCall

Private Sub Form_Load ()
    Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
    retVal = CallObj.Listen ( 0, "", 0 )
End Sub

Sub CallObj_OnIncomingCall ( )
    'This will be called when the call is signaled.
    Call CallObj.Alert ( )
EndSub
```

See also

Listen, Answer, Reject

Answer

Answers the call using the given call type.

retVal = object.Answer (CallType)

Parameter

CallType (optional)

Long value containing the call type to be used. The parameter is optional, the default value is *DivaCallType_Voice*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

This is an asynchronous method and works only if asynchronous mode is enabled. Applications that disable asynchronous mode need to use *WaitForCall*.

The application needs to set the type of the call, e.g., voice or fax.

Example

The following VB sample shows how incoming calls are signaled via event.

```
Dim WithEvents CallObj As DivaCall

Private Sub Form_Load ()
   Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
   retVal = CallObj.Listen ( )
End Sub

Sub CallObj_OnIncomingCall ( )
    'This will be called when the call is signaled.
    retVal = CallObj.Answer ( )
EndSub
```

See also

Listen, OnConnected, OnIncomingCall, Disconnect

Reject

Rejects the call being signaled.

retVal = object.Reject (Reason)

Parameter

Reason (optional)

The parameter specifies the reason for the call rejection. The default value is *DivaRejectNormalCallClearing*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

Reject is a synchronous method. It can only be used if the application listens for calls using the *Listen* method. Applications using *WaitForCall* cannot use this method.

The reason is sent to the network to inform the calling party why the call could not be answered. If the reason is set to *DivaAllowOthers*, the call is ignored. In certain environments, this allows other devices or applications to answer the call.

Example

The following VB sample shows how incoming calls are signaled via event.

```
Dim WithEvents CallObj As DivaCall

Private Sub Form_Load ()
    Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
    retVal = CallObj.Listen ( 0, "", 0 )
End Sub

Sub CallObj_OnIncomingCall ( )
    'This will be called when the call is signaled.
   retVal = CallObj.Reject ( DivaRejectDestinationOutOfOrder )
EndSub
```

See also

Listen, OnConnected, OnIncomingCall, Disconnect, Alert, Answer

Disconnect

Disconnects the call.

retVal = object.Disconnect ( )

Parameter

None

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

Disconnect is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the call is completed or failed. The return code *DivaResultSuccess* indicates that the call has been disconnected.

If asynchronous mode is enabled, the method initiates the disconnection and returns. The change of the call's state is either signaled with the event *OnDisconnected* or the application may wait for asynchronous completion by *WaitAsyncComplete*.

Example

The following VB sample shows how incoming calls are signaled via event.

```
Dim WithEvents CallObj As DivaCall

Private Sub Form_Load ()
    Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
    retVal = CallObj.Listen ( 0, "", 0 )
End Sub

Sub CallObj_OnIncomingCall ( )
   'This will be called when the call is signaled.
   'Do processing then disconnect
   retVal = CallObj.Disconnect ( )
EndSub
```

See also

Listen, OnConnected, OnDisconnected, Connect, Answer

SetCallType

Sets the call type for a connected call. This changes the media type of the call.

retVal = object.SetCallType (NewCallType)

Parameter

NewCallType

Long value indicating the new type of the call.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SetCallType is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the call is completed or failed. The return code *DivaResultSuccess* indicates that the call type has been changed and the data channel is connected for the selected call type.

If asynchronous mode is enabled, the method initiates the change of the call type and returns. A return code of *DivaResultSuccess* indicates that the type change is in progress. The event *OnConnected* signals the state of the call, or the application may wait for asynchronous completion by *WaitAsyncComplete*.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711", DivaCallTypeVoice )
If ( retVal= DivaResultSuccess ) Then
    'Call connected do some processing
    Call SendVoiceFile ( "GreetingMessage.wav" )
    retVal = SetCallType ( DivaCallTypeFax )
    If ( retVal = DivaResultSuccess )
      Call DivaSendFax ( "MyImage.tif" )
    End If
    CallObj.Disconnect ( )
End If
```

See also

WaitAsyncComplete, OnConnected

WaitAsyncComplete

Waits for an asynchronous operation to complete.

retVal = object.WaitAsyncComplete (MaxSeconds)

Parameter

MaxSeconds

Long value indicating the maximum time in seconds to wait.

Returns

The return value depends on the asynchronous operation that is currently in progress.

Remarks

WaitAsyncComplete is only available if asynchronous mode is enabled. It waits for the completion of one or more pending actions.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711", DivaCallTypeVoice )
If ( retVal= DivaResultSuccess ) Then
    CallObj.AsyncMode = True
    Call SendVoiceFile ( "GreetingMessage.wav" )
    Call RecordVoiceFile ( "MyRecord.wav")
    WaitAsyncComplete ( 0 )
    CallObj.AsyncMode = False
    CallObj.Disconnect ( )
End If
```

See also

Connect, SendVoiceFile, RecordVoiceFile

SendVoiceFile

Streams audio information from a file.

retVal = object.SendVoiceFile (Filename, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the file to be streamed. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioAutodetect*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendVoiceFile opens the given file and streams the data. If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file header.

The file name may include drive / network share and path information. If only the file name is given, only the current directory is searched.

SendVoiceFile is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the streaming is completed or the call is disconnected. A return code of *DivaSuccess* indicates that the streaming has finished.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ("08154711")
If ( retVal= DivaResultSuccess ) Then
   retVal = SendVoiceFile ( "GreetingMessage.wav" )
   CallObj.Disconnect ( )
End If
```

See also

SendVoiceFiles, SendVoiceFilesEx, StopSending, RecordVoiceFile

SendVoiceFiles

Streams audio information from several audio files.

retVal = object.SendVoiceFiles (Filenames, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the files to be streamed. The single files to be streamed are separated by commas. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioAutodetect*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendVoiceFiles streams the audio information from the files. No gap will occur between the different files. The parameter *Filename* contains the files to be streamed. The files are separated by commas.

If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file header. If the format is not set to *DivaAudioAutodetect*, the files need to have the same audio format.

The file names may include drive / network share and path information. If only the file name is given, only the current directory is searched.

SendVoiceFiles is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the streaming is completed or the call is disconnected. A return code of *DivaSuccess* indicates that the streaming has finished.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ("08154711")
If ( retVal= DivaResultSuccess ) Then
   retVal = SendVoiceFiles ( "GreetingMessage.wav","Beep.wav" )
   CallObj.Disconnect ( )
End If
```

See also

SendVoiceFile, SendVoiceFilesEx, StopSending, RecordVoiceFile

SendVoiceFilesEx

Streams audio information from one or several audio files and optionally detects and returns on digits.

retVal = object.SendVoiceFilesEx (Filename, TonesToReturn, DetectedTone, Format, Continuous, MaxSeconds)

Parameter

Filename

The parameter *Filename* is a string value that specifies the files to be streamed. The single files to be streamed are separated by commas. See Remarks.

TonesToReturn

The parameter *TonesToReturn* is a string value that specifies a list of tones that complete an asynchronous operation.

DetectedTone (optional)

The parameter *DetectedTone* specifies the location to which the detected tone is written. The parameter is optional. The default value is zero.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional, the default value is *DivaAudioAutodetect*.

Continuous (optional)

The parameter *Continuous* is a Boolean value. If set, the audio streaming is repeated until the maximum time is reached or the call is disconnected. The parameter is optional. The default is false.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value that specifies the maximum time the audio should be streamed. A value of zero specifies no limitation. The parameter is optional. The default is no timeout.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendVoiceFilesEx streams the audio information from the files. Between the different files no gap will occur. The parameter *Filename* contains the files to be streamed. They are separated by commas.

If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file header. If the format is not set to *DivaAudioAutodetect*, the files need to have the same audio format.

The file names may include drive / network share and path information. If only the file name is given, only the current directory is searched.

SendVoiceFilesEx is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the streaming is completed, one of the *TonesToReturn* is detected, or the call is disconnected. A return code of *DivaSuccess* indicates that the streaming is finished. If the return code is *DivaResultToneDetected*, the tone is reported via the parameter *DetectedTone*.

Example

```
Dim CallObj
Dim Detected as long
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ("08154711")
If ( retVal= DivaResultSuccess ) Then
    retVal = SendVoiceFilesEx ( "GreetingMessage.wav", "12", Detected )
    If ( retVal = DivaResultToneDetected ) Then
      If ( Detected = 49 ) Then
        'Action for tone '1'
      Else
        'Action for tone '2'
      End If
    End If
    CallObj.Disconnect ( )
End If
```

See also

SendVoiceFile, SendVoiceFiles, StopSending, RecordVoiceFile

StopSending

Terminates the streaming of the data.

object.StopSending ( )

Parameter

None

Returns

None

Remarks

This is a synchronous method.

The method terminates any pending data streaming. If audio streaming is active, the pending audio buffers are discarded, and the streaming stops right away.

Example

```
CallObj.StopSending ()
```

See also

SendVoiceFile, SendVoiceFiles, SendVoiceFilesEx

RecordVoiceFile

Records audio to a file. Optionally, it stops recording on certain criteria.

retVal = object.RecordVoiceFile (Filename, Format, MaxSeconds, MaxSilence, TonesToReturn)

Parameter

Filename

The parameter *Filename* is a string value that specifies the files to be streamed. The individual files to be streamed are separated by commas. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioDefault*.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value and specifies the maximum recording length in seconds. A value of zero indicates no timeout. The parameter is optional. The default is no timeout.

MaxSilence (optional)

The parameter *MaxSilence* is a long value that specifies the maximum silence in seconds. If this timeout is reached, recording is finished. A value of zero specifies no silence detection. The parameter is optional. The default is no detection.

TonesToReturn

The parameter *TonesToReturn* is a string value that specifies a list of tones that complete a synchronous operation. See Remarks.

Returns

In asynchronous mode, the return value is *DivaResultSuccess* (0) if successful. In case of an error, the method returns an error code. If the function is called with disabled asynchronous mode, the return value depends on the operation mode and the parameter. See Remarks.

Remarks

The method records the audio information to the specified file. The file name may include drive / network share and path information.

If only the file name is given, the file is placed in the current directory. If the parameter *Format* is set to *DivaAudioDefault*, the format is set to PCM 8 KHz Mono.

RecordVoiceFile is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until one of the following occurs:

- The call is disconnected. The return value is *DivaResultDisconnected.*
- *MaxSeconds* is set to non-zero and the timeout has been reached. The return value is *DivaResultTimeReached*.
- *MaxSilence* is set and the silence has been detected. The return value is *DivaResultSilenceDetected.*
- The tones to return are specified and one of those is detected. The return value is *DivaResultToneDetected.* The digit buffer contains the tones detected during recording.

In asynchronous mode, the method returns and the progress is signaled by events. In this mode, the TonesToReturn are not evaluated. Any received DTMF digit is signaled to the *OnToneReceived* function and the recording needs to be stopped from this function using *StopRecording*.

Example

```
'Simple answering machine

Dim CallObj
Dim Detected as long
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.WaitForCall ( )
If ( retVal= DivaResultSuccess ) Then
   retVal = SendVoiceFile( "GreetingMessage.wav" )
   If ( retVal = DivaResultSuccess ) Then
     Call RecordVoiceFile ( "MyMessage.wav" )
   End If
   CallObj.Disconnect ( )
End If
```

See also

SendVoiceFile, SendVoiceFiles, StopSending, StopRecording

StopRecording

Terminates the recording of the data.

object.StopRecording ( )

Parameter

None

Returns

None

Remarks

The method terminates any pending audio recording.

StopRecording is a purely synchronous method. When the function returns, the audio recording has been finished and the audio file is closed.

Example

```
CallObj.StopRecording ()
```

See also

RecordVoiceFile

GetDigits

Detects and waits for certain digits.

retVal = object.GetDigits (MaxDigits, MaxTime, MaxSilence, Digits, DigitsToReturn)

Parameter

MaxDigits

The parameter *MaxDigits* is a long value that specifies the amount of digits to wait for.

MaxTime (optional)

The parameter *MaxTime* is a long value and specifies the maximum time to wait for digits in seconds. A value of zero indicates no timeout. The parameter is optional. The default is no timeout.

MaxSilence (optional)

The parameter *MaxSilence* is a long value that specifies the maximum time in seconds between two received digits. If the time is reached, the detection is finished. A value of zero specifies no timeout. The parameter is optional. The default is no detection.

Digits (optional)

The parameter *Digits* specifies the location where to place the detected digits. The parameter is optional. The default value is no buffer. The detected tones are also added to the digit buffer.

DigitsToReturn (optional)

The parameter *DigitsToReturn* is a string value that specifies a list of digits which completes an asynchronous operation.

Returns

In asynchronous mode, the return value is *DivaResultSuccess* (0) if successful. In case of an error, the method returns an error code.

If the function is called with disabled asynchronous mode, the return value depends on the operation mode and the parameter. See Remarks.

Remarks

The method initiates the detection of digits. The detected digits are placed in the digit buffer and can be retrieved by *GetDetectedDigits*.

Note: The digits remain in the buffer and need to be cleared using the *ClearDetectedDigits* method.

GetDigits is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until one of the following occurs:

- The call is disconnected. The return value is *DivaResultDisconnected.*
- The specified amount of digits has been detected or one of the *DigitsToReturn* has been detected. The return value is *DivaResultToneDetected*.
- MaxSeconds is set to non-zero and the timeout has been reached. The return value is *DivaResultTimeReached*.
- MaxSilence is set and the timeout has been detected. The return value is *DivaResultSilenceDetected.*

Example

```
'Wait 10 seconds for a 3 digit extension.
  retVal = CallObj.GetDigits ( 3, 10 )
```

See also

ClearDetectedDigits, SendDigits, SendTone, StopTone

ClearDetectedDigits

Removes any digits from the internal buffer.

object.ClearDetectedDigits ( )

Parameter

None

Returns

None

Remarks

ClearDetectedDigits deletes any detected tones or digits from the internal buffer.

It is a purely synchronous method.

Example

```
CallObj.ClearDetectedDigits ()
```

See also

GetDigits, SendDigits, SendTone, StopTone

SendDigits

Sends the given digits.

retVal = object.SendDigits (Digits)

Parameter

Digits

The parameter *Digits* is a string value that contains the digits to be sent.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendDigits sends the given digits. It is a purely synchronous method.

Example

```
retVal = SendDigits ( "998877" )
```

See also

GetDigits, ClearDetectedDigits, SendTone, StopTone

SendTone

Sends the given tone.

retVal = object.SendTone (Tone, Duration)

Parameter

Tone

The parameter *Tone* contains the tone to be sent and is a value of the type DivaTones.

Duration (optional)

The parameter *Duration* specifies the duration of the tone in milliseconds. A value of zero is the default duration. The parameter is optional.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendTone sends the given tone for the specified duration. It is a purely synchronous method.

Example

```
retVal = SendTone ( Diva_ToneFaxCalling )
```

See also

GetDigits, ClearDetectedDigits, SendDigits, StopTone

StopTone

Stops the currently active continuous tone.

object.StopTone ( )

Parameter

None

Returns

None

Remarks

StopTone stops the sending of a continuous tone previously initiated by *SendTone* with asynchronous mode enabled.

It is a purely synchronous method.

Example

```
CallObj.StopTone ()
```

See also

GetDigits, SendDigits, SendTone

SendFax

Sends the given fax using the current call.

retVal = object.SendFax (Filename, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the fax documents to be sent. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaFaxFmtAutodetect*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendFax opens the given file, converts the data if necessary, and sends the fax. If the parameter *Format* is set to *DivaFaxFmtAutodetect*, the format is automatically detected from the file extension and the header.

The file name may include drive / network share and path information. If only the file name is given, only the current directory is searched.

SendFax is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the sending is completed or the call is disconnected. This may take several minutes depending on the document. A return code of *DivaSuccess* indicates that the streaming has finished. If asynchronous mode is enabled, the method returns right away and the application may process the call by events or by using *WaitAsyncComplete*. The events that are signaled are *OnFaxPageProcessed* and *OnFaxProcessed*.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ("08154711", DivaCallType_Fax )
If ( retVal= DivaResultSuccess ) Then
    retVal = SendFax ( "MyFax.tif" )
    CallObj.Disconnect ( )
End If
```

See also

SendFaxes, ReceiveFax

SendFaxes

Sends the given multiple fax using the current call.

retVal = object.SendFaxes (Filename, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the fax documents to be sent. The single document names are separated by commas. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaFaxFmtAutodetect*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendFaxes sends the fax documents from the files. Between the different documents the receiver is notified that a new document has started. The parameter *Filename* contains the files to be streamed separated by commas.

If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file extension and the file header. If the format is not set to *DivaFaxFmtAutodetect*, the files need to have the same fax format.

The file name may include drive / network share and path information. If only the file name is given, only the current directory is searched.

Note: The way files are interpreted depends on the property *FaxMultipleDocument*. If this property is set, each file is sent as a separate document. If the property is not set, the files are combined to one document.

SendFaxes is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the sending is completed or the call is disconnected. This may take several minutes depending on the document. A return code of *DivaSuccess* indicates that the streaming has finished. If asynchronous mode is enabled, the method returns right away and the application may process the call by events or by using *WaitAsyncComplete*. The signaled events are *OnFaxPageProcessed* and *OnFaxProcessed*.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
CallObj.FaxMultipleDocument = True
retVal = CallObj.Connect ("08154711", DivaCallType_Fax )
If ( retVal= DivaResultSuccess ) Then
    retVal = SendFaxs ( "MyFax.tif,Order.tif,Greeting.Tif" )
    CallObj.Disconnect ( )
End If
```

See also

SendFax, ReceiveFax

ReceiveFax

Receives the fax and stores it as the given document.

retVal = object.ReceiveFax (Filename, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the name of the received fax documents. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaFaxFmtDefault*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

ReceiveFax receives the fax document and stores the data in the file specified by the file name. If the parameter *Format* is set to *DivaFaxFmtDefault*, the format is set to *DivaFaxFmtTiffClassF*.

The file name may include drive / network share and path information. If only the file name is given, only the current directory is searched.

ReceiveFax is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the receiving is completed or the call is disconnected. It may take several minutes depending on the document. A return code of *DivaSuccess* indicates that the streaming has finished. If asynchronous mode is enabled, the method returns right away and the application may process the call by event processing or by using *WaitAsyncComplete*. The signaled events are *OnFaxPageProcessed* and *OnFaxProcessed*.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.WaitForCall ( DivaCallType_Fax )
If ( retVal= DivaResultSuccess ) Then
    retVal = CallObj.SendFax ( "MyFax.tif" )
    CallObj.Disconnect ( )
End If
```

See also

SendFaxes, SendFax

SendData

Sends plain data.

retVal = object.SendData (DataLength, pData, Handle)

Parameter

DataLength

The parameter *DataLength* is an integer value that specifies the amount of data to be sent.

pData

The parameter *pData* specifies the location of the data to be sent. The application passes the data as array of bytes.

Handle (optional)

The parameter *Handle* is a long value given to identify the buffer by the caller. This parameter is optional and currently not used.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method sends the given data to the remote side. The data is not interpreted.

This is a synchronous method. The method blocks until the data is sent on the line. A return code of *DivaSuccess* indicates that the data has been sent. Depending on the underlying protocol, the data may not yet be on the line.

Example

```
Dim CallObj
Dim Mydata(10) As Byte
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.WaitForCall ( DivaCallType_Modem )
If ( retVal= DivaResultSuccess ) Then
   retVal = CallObj.SendData ( 10, Mydata )
   CallObj.Disconnect ( )
End If
```

See also

ReceiveData

ReceiveData

Receives plain data.

retVal = object.ReceiveData (DataLength, pData, pLengthReceived, MinReceived, MaxSeconds)

Parameter

DataLength

The parameter *DataLength* is an integer value that specifies the maximum amount of data to be stored in the receive buffer.

pData

The parameter *pData* specifies the location where to place the data. The application passes an array of bytes to be filled with the received data.

pLengthReceived

The parameter *pLengthReceived* is the location of a long value where the amount of bytes copied to the buffer is inserted.

MinReceived (optional)

The parameter *MinReceive* is a long value that specifies the minimum amount of data to wait for. The parameter is optional.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value that specifies the maximum amount of time to wait for the received data. The parameter is optional. By default, there is no timeout.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method retrieves received data to the given buffer. The data is not interpreted.

The availability of data is signaled by the event *OnDataAvailable*, the amount of available data is given with the event. The event needs to be enabled using the *SignalEvent* property.

This is a synchronous method. The application may control the amount of data and the time to wait using the parameter *MinReceived* and *MaxSeconds*. By default, the method waits without any timeout and returns with the first received data. The application may specify a minimum amount of data to be received before return and / or a maximum time to wait.

Example

```
Dim CallObj
Dim Mydata(10) As Bytes
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.WaitForCall ( DivaCallType_Modem )
If ( retVal= DivaResultSuccess ) Then
    retVal = CallObj.ReceiveData ( 10, Mydata, DataReceived )
    CallObj.Disconnect ( )
End If
```

See also

SendData, OnDataAvailable

Hold

Moves a connected call to the hold state.

retVal = object.Hold ( )

Parameter

None

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

If the call is connected, the transition to the hold state is initiated.

This is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the transition to the hold state is completed or the transition failed. The return code and the call state upon return show the result.

If asynchronous mode is enabled, the method returns right away and the application may process the transition by events or by using *WaitAsyncComplete*. The signaled event is *OnSuppServeCompleted*.

If the call is not in the connected state, the method returns *DivaResultInvalidState*. If the call is already in the hold state, *DivaResultSuccess* is returned for both modes. If the event *OnSuppServeCompleted is* enabled, it is triggered as well. The event may occur before the hold method returns.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711" )
If ( retVal= DivaResultSuccess ) Then
    retVal = CallObj.Hold ( )
End If
```

See also

Retrieve, BlindCallTransfer, OnSuppServeCompleted, OnDisconnected

Retrieve

Retrieves a call that is in the hold state.

retVal = object.Retrieve ( )

Parameter

None

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method retrieves a call, which is on hold, back to the connected state.

This is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the transition to the connected state is completed or the transition failed. The return code and the call state upon return show the result.

If asynchronous mode is enabled, the method returns right away and the application may process the transition by events or by using *WaitAsyncComplete*. The signaled event is *OnSuppServeCompleted*.

If the call is not in the hold state, the method returns *DivaResultInvalidState*. If the call is already in the connected state, *DivaResultSuccess* is returned for both modes. If the event *OnSuppServeCompleted is* enabled, it is also triggered. The event may occur before the hold method returns.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711" )
If ( retVal= DivaResultSuccess ) Then
    retVal = CallObj.Hold ( )
    ' Do Something else, e. g. other call
    retVal = CallObj.Retrieve ( )
End If
```

See also

Hold, BlindCallTransfer, OnSuppServeCompleted, OnDisconnected

BlindCallTransfer

Transfers the active call to the given number.

retVal = object.BlindCallTransfer (Destination, MaxSecondsToWait)

Parameter

Destination

The parameter *Destination* specifies the number to dial for the second call. See Remarks.

MaxSecondsToWait (optional)

The parameter *MaxSecondsToWait* is a long value that specifies the maximum amount of time the transfer should take.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method transfers the active call to the given destination. The original call defined by the call object needs to be in the connected or hold state. If the call is not in the hold state, the call is placed on hold before dialing to the given destination is initiated. Once the call is connected, the transfer is complete.

The application may limit the time for the transfer, especially for the establishment of the second call. If the optional parameter *MaxSecondsToWait* is set to non-zero, the transfer will be aborted when the timeout is reached.

This is an asynchronous method. If asynchronous mode is disabled (default), the method blocks until the transfer is completed or the transfer failed. If the transfer is finished, the call is already connected when the function returns.

If asynchronous mode is enabled, the method returns right away and the application may process the transfer by events or by using *WaitAsyncComplete*. On successful completion of the transfer, the event *OnSuppServeCompleted* with the parameter *bSuccess* is signaled. The original call is already disconnected at this time and no mode events are signaled. *OnDisconnected* is signaled in case the original call is disconnected with an unsuccessful transfer.

Example

```
Dim CallObj
Set CallObj = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711" )
If ( retVal= DivaResultSuccess ) Then
      retVal = CallObj.Hold ( )
    ' Do Something else, e. g. other call
   retVal = CallObj.BlindCallTransfer ( "01234567")
End If
```

See also

Hold, Retrieve, OnSuppServeCompleted, OnDisconnected

InterConnect

Interconnects two connected calls and routes the audio signal between them.

retVal = object1.InterConnect (object2)

Parameter

object2

DivaCall object of the call that should be interconnected with the call specified by object1.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

Both calls identified by object1 and object2 need to have an assigned data channel. This requires that the calls are at least on the proceeding state. The calls are interconnected and the audio signal from object1 is routed to object2 and vice versa.

This is a synchronous method. When the method returns with the result code *DivaResultSuccess*, the calls are interconnected. In case one of the objects is in an invalid state or the interconnect fails due to hardware limitation, an error code is returned.

Example

```
Dim CallObj1
Dim CallObj2

Set CallObj1 = CreateObject ( "DivaSDK.DivaCall" )
Set CallObj1 = CreateObject ( "DivaSDK.DivaCall" )
retVal = CallObj.Connect ( "08154711" )
If ( retVal= DivaResultSuccess ) Then
   retVal = CallObj2.Connect ( "08154722 )
   If ( retVal= DivaResultSuccess ) Then
     retVal = CallObj1.InterConnect ( CallObj2 )
   End If
End If
```

See also

InterDisconnect

InterDisconnect

Removes the interconnect between two calls.

retVal = object1.InterDisconnect (*bDisconnect*)

Parameter

bDisconnect

BOOL value indicating if the calls should be disconnected.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The call identified by the DivaCall object needs to be interconnected to another call. The interconnect in condition is removed. If the parameter *bDisconnect* is not set, the calls remain connected to the remote peer. Otherwise both calls are also disconnected.

This is a synchronous method. When the method returns with the result code *DivaResultSuccess*, the interconnect condition is cleared. In case the object is in an invalid state, an error code is returned.

See also

InterConnect

SetupSupervisedCallTransfer

SetupSupervisedCallTransfer initializes a supervised call transfer.

CallObject.SetupSupervisedCallTransfer (ConsultationCallObject)

Parameter

ConsultationCallObject

This parameter specifies the call object of type *DivaCall* that will be used for the consultation call.

Returns

If the supervised transfer is initialized successful, the method returns *DivaResultSuccess* (0).

Remarks

For a supervised call transfer, the consultation call needs to be established in a way that allows the switching equipment to complete the transfer. In general, the application is free to initialize a call object manually and establish the call. The method *SetupSupervisedCallTransfer* provides a more convenient way to handle this.

The method is called with a call object that has been created on the same DivaInstance. The new call object is filled with the necessary parameters to initiate the call when the method returns. The actions done by this method depend on the property *TransferNoHold*. By default, this property is set to false and the existing call is put on hold. Depending on the *TransferUseSameChannel* property, the channel information is set in the consultation call object.

In synchronous mode, the method returns when the consultation call has been initialized and the existing call is on hold.

In asynchronous mode, the method returns right away after the consultation call is initialized. If the existing call is put on hold, which is the default, the result is communicated via the event *OnSuppServeCompleted*

The application is responsible for start dialing on the consultation call.

See also

CompleteSupervisedCallTransfer, BlindCallTransfer, TransferNoHold, TransferUseSameChannel

CompleteSupervisedCallTransfer

CompleteSupervisedCallTransfer completes a supervised call transfer.

CallObject.CompleteSupervisedCallTransfer (ConsultationCallObject, Timeout)

Parameter

ConsultationCallObject

This parameter specifies the call object of type *DivaCall*. The object has a connection to the destination of the call transfer.

Returns

If the supervised transfer is completed, successful the method returns *DivaResultSuccess* (0).

Remarks

The call transfer of the call, which is identified by the call object, to the destination, which is identified by the consultation call object, is initiated. The consultation call needs to be in a state that allows the switching equipment to complete a call transfer.

In synchronous mode, the method returns when the transfer is either completed of failed. In asynchronous mode, the method returns right away and the result is reported by the event *OnSuppServeCompleted*.

See also

SetupSupervisedCallTransfer, BlindCallTransfer, TransferNoHold, TransferUseSameChannel

SetCallProperties

Sets a call property for either signaling or media.

retVal = object.SetCallProperty (Type, Value)

Parameter

Type

The parameter *Type* specifies the property. For valid types and the data formats, refer to DivaCPT.

Value

The parameter *Value* contains the information to be set. The type of the parameter depends on the property. See Remarks.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The most common properties for a call are passed as object properties to a DivaCall object. However, the Dialogic® Diva® communication platform supports a wide range of properties for call setup and media handling. These extended properties are covered via the extensible properties handled by *SetCallProperties* and *GetCallProperties*. The type *DivaCPT* lists the extended call properties and the corresponding types. The type is checked for the given VARANT type. If a mismatch is detected, the method returns an error.

The function is always synchronous and returns right away.

Note: The modification of an extended call property does only store the value. The real action behind is handled when the corresponding method that uses the property is called.

Example

```
Dim bFlag As Boolean
Dim Result As DIVASDKLib.DivaResultCodes
bFlag = True
Result = MyCall.SetCallProperty( DIVASDKLib.DivaCPT. CPT_EchoCancellerEnableNLP,bFlag )
```

See also

GetCallProperties

GetCallProperties

Retrieves a call property for either signaling or media.

retVal = object.GetCallProperty (Type, Value)

Parameter

Type

The parameter *Type* specifies the property. For valid types and the data formats, refer to DivaCPT.

Value

The parameter *Value* specifies where to place the requested information. The type of the parameter depends on the property.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The most common properties for a call are passed as object properties to a DivaCall object. However, the Dialogic® Diva® communication platform supports a wide range of properties for call setup and media handling. These extended properties are covered via the extensible properties handled by *SetCallProperties* and *GetCallProperties*. The type *DivaCPT* lists the extended call properties and the corresponding types.

Example

```
Dim Name As String
Dim Result As DIVASDKLib.DivaResultCodes
Result = MyCall.GetCallProperty( DIVASDKLib.DivaCPT.CPT_CalledName, Name)
```

See also

SetCallProperties

ConnectAudioProvider

Attaches an audio provider to the data channels of an existing call.

CalObject.ConnectAudioProvider (ProviderName, ProviderChannelID, Mode)

Parameter

ProviderName

ProviderName is a string parameter containing the name of the audio provider. This needs to be the same name the audio provider used to register with the Dialogic® Diva® API.

ProviderChannelID

If the audio provider supports multiple channels, this parameter defines the logical channel instance to be used. The format of this is depending on the audio provider.

Mode

The parameter *Mode* defines in which directions the streaming should be done. For valid options, see DivaAudioProviderMode.

Returns

If the audio provider exists and the instances could be connected, the method returns *DivaResultSuccess*. If the audio provider name is not recognized, the method returns *DivaResultInvalidHandle*. A failure to attach the instance is reported as *DivaResultNoChannel*.

Remarks

Audio providers are used to process the audio signal in a separate instance, e.g., in a TTS processing instance. For more information on the architecture of audio providers, refer to the Dialogic® Diva® API documentation.

See also

DisconnectAudioProvider

DisconnectAudioProvider

Removes an audio provider from the data channels of an existing call.

CalObject.ConnectAudioProvider (ProviderName, Mode)

Parameter

ProviderName

ProviderName is a string parameter containing the name of the audio provider. This needs to be the same name the audio provider used to register with the Dialogic® Diva® API.

Mode

The parameter mode defines for which directions the streaming should be removed. For valid options, see DivaAudioProviderMode.

Returns

If the audio provider exists and the instances could be connected, the method returns *DivaResultSuccess*. If the audio provider name is not recognized, the method returns *DivaResultInvalidHandle*.

Remarks

Audio providers are used to process the audio signal in a separate instance, e.g., in a TTS processing instance. For more information on the architecture of audio providers, refer to the Dialogic® Diva® API documentation.

See also

ConnectAudioProvider

ReceiveAudio

Receives audio data in the given format.

retVal = object.ReceiveAudio (Format, DataLength, pData, pLengthReceived,
MaxSeconds)

Parameter

Format

The parameter *Format* specifies the audio format to be used. The raw formats of DivaAudioFmt except the ADPCM formats are supported.

DataLength

The parameter *DataLength* is an integer value that specifies the maximum amount of data to be stored in the receive buffer.

pData

The parameter *pData* specifies the location where to place the audio data. The application passes an array of bytes to be filled with the received data.

pLengthReceived

The parameter *pLengthReceived* is the location of a long value where the amount of bytes copied to the buffer is inserted.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value that specifies the maximum amount of time to wait for the received data. The parameter is optional. By default, there is no timeout.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method converts the received audio into the given format and copies it into the given data buffer.

The availability of data is signaled by the event *OnDataAvailable*, the amount of available data is given with the event. The event needs to be enabled using the *SignalEvent* property.

In asynchronous mode, the method returns right away, if no data is available the received length is set to zero. In synchronous mode, the application may control the time to wait using the parameter *MaxSeconds*. By default, the method waits without any timeout.

Note: This method is not available for Visual Basic® 6 applications.

See also

SendAudio, ReceiveData

SendAudio

Sends audio signal in the given format.

retVal = object.SendAudio (Format, DataLength, pData)

Parameter

Format

The parameter *Format* specifies the audio format to be used. The raw formats of DivaAudioFmt except the ADPCM formats are supported.

DataLength

The parameter *DataLength* is an integer value that specifies the amount of data to be sent.

pData

The parameter *pData* specifies the location of the audio data to be sent. The application passes the data as array of bytes.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method converts the given data according to the specified format and sends it to the remote side.

In asynchronous mode, the method returns right away. The data buffer will be locked until the data is sent. If events are enabled every time a data buffer is sent, the event *OnVoiceStreamed* is called.

In synchronous mode, the method blocks until the data has been sent. Note that calling *SendAudio* in synchronous mode may create small gaps on the line when the system can not ensure that the next audio is available before the preceding buffer has been sent.

Note: This method is not available for Visual Basic® 6 applications.

See also

ReceiveAudio, SendData

ClearDetectedTones

Removes any detected tones from the internal buffer.

object.ClearDetectedTones ( )

Parameter

None

Returns

None

Remarks

ClearDetectedTones deletes any detected tones from the internal buffer. Note that the property *EnableDTMFToneSplitting* needs to be set to separate processing of digits and tones. By default, tones and digits are stored in the digit buffer. This is a purely synchronous method.

Example

```
CallObj.ClearDetectedTones ()
```

See also

DetectedTones, EnableDTMFToneSplitting, ClearDetectedDigits, DetectedDigits

EnableSingleToneDetector

Enables the tone detector for single tones.

VoiceCall.EnableSingleToneDetector (MinDuration, MinSNR, MinLevel, MaxAM, MaxFM)

Parameter

MinDuration

The *MinDuration* parameter specifies the minimum duration of a tone before the detection is reported. The time is given in milliseconds.

MinSNR

The *MinSNR* parameter specifies the minimum signal to noise ratio. The value is specified in dB in the range 128 dB to -128 dB. The parameter is optional, the default is 20 dB.

MinLevel

The *MinLevel* parameter specifies the minimum level of the detected signal. The value is specified in dB in the range of 128 dB to -128 dB. The parameter is optional, the default is -30 dB.

MaxAM

The *MaxAM* parameter specifies the maximum allowed variation of the signal level. This corresponds to the maximum amplitude modulation. The value is given in dB in the range 0 dB 255 dB. The parameter is optional, the default is 1.

MaxFM

The *MaxFM* parameter specifies the maximum allowed variation of the signal frequency. This corresponds to the maximum frequency modulation. The value is given in the range of 0 to 4000 Hz. The parameter is optional, the default is 1.

Returns

If the function succeeds, the return value is *DivaResultSuccess* (0). Otherwise a corresponding *DivaResultCode* is returned.

Remarks

The method validates that the requested tone can be detected. If successful, the tone detection is started. Any previously enabled and still pending generic tone detection is implicitly stopped.

When a tone within the specified range is detected, the event handler *OnSingleToneDetected* is signaled. The frequency of the detected tone is passed to the event handler.

If the application is running in synchronous mode, the current operation is terminated with the return code *DivaResultToneDetected*. The information about the detected tone can be retrieved via the method *GetToneDetectorResults*.

See also

EnableDualToneDetector, DisableToneDetector, OnSingleToneDetected, OnDualToneDetected, GetToneDetectorResult

EnableDualToneDetector

Enables the tone detector for dual tones.

VoiceCall.EnableDualToneDetector (MinDuration, MinSNR, MinLevel, MaxDiffHighToLow, MaxDiffLowToHigh)

Parameters

MinDuration

[in] The *MinDuration* parameter specifies the minimum duration of a tone before the detection is reported. The time is given in milliseconds.

MinSNR

[in] The *MinSNR* parameter specifies the minimum signal to noise ratio. The value is specified in dB in the range of 128 to -128. The parameter is optional, the default is 20 dB.

MinLevel

[in] The *MinLevel* parameter specifies the minimum level of the detected signal. The value is specified in dB in the range of 128 to -128. The parameter is optional, the default is -30 dB.

MaxDiffHighToLow

[in] The *MaxDiffHighToLow* parameter specifies the maximum allowed difference in levels between the higher and the lower frequency tone. The value is specified in dB in the range of 127 to -127. The parameter is optional, the default is 10 dB.

MaxDiffLowToHigh

[in] The *MaxDiffLowToHigh* parameter specifies the maximum allowed difference in levels between the lower and higher frequency tone. The value is specified in dB in the range of 127 to -127. The parameter is optional, the default is 10 dB.

Returns

If the function succeeds, the return value is *DivaResultSuccess* (0). Otherwise a corresponding *DivaResultCode* is returned.

Remarks

The method validates that the requested tone can be detected. If successful, the tone detection is started. Any pending previously enabled generic tone detection is implicitly stopped.

When a matching dual tone is detected the event handler *OnDualToneDetected* is signaled. The frequencies of the detected tones are passed to the signal handler.

If the application is running in synchronous mode, the current operation is terminated with the return code *DivaResultToneDetected*. The information about the detected tone can be retrieved via the method *GetToneDetectorResults*.

See also

EnableSingleToneDetector, DisableToneDetector, OnSingleToneDetected, OnDualToneDetected, GetToneDetectorResult

DisableToneDetector

Disables the tone detector for single or dual tones.

VoiceCall.DisableToneDetector ( )

Parameters

none

Returns

The return value is always *DivaResultSuccess* (0).

Remarks

The method stops any pending detector and clears the internal resources related to tone detection.

See also

EnableSingleToneDetector, OnSingleToneDetected, OnDualToneDetected, GetToneDetectorResult

GetToneDetectorResult

The method retrieves an object containing the detailed tone detector results.

Dim DetectedTone as DivaSDKLib.DivaToneResult

DetectedTone = VoiceCall.GetToneDetectorResult ( )

Parameters

none

Returns

The method returns a reference to an object containing the properties of the detected tone. If no information are available, zero is returned.

Remarks

If information about a detected tone is available, an object of type *DivaSDKLib.DivaToneResult* is created and returned to the caller. The object contains the information about the tone, e.g., energy and signal to noise ratio. The caller is responsible to clean the object if no longer needed.

See also

EnableSingleToneDetector, DisableToneDetector, OnSingleToneDetected, OnDualToneDetected, GetToneDetectorResult

EnableAMD

The method enables the answering machine detector.

Result = VoiceCall.EnableAMD (MaxInitialSilence, MaxHumanTalkerTime, MaxInterSpeakerTimeout)

Parameters

MaxInitialSilence

[in] The *MaxInitialSilence* parameter specifies the maximum time in seconds until the remote side is expected to start speaking. When this timeout is reached without detecting a speaker, the answering machine detector terminates.

MaxHumanTalkerTime

[in] The *MaxHumanTalkerTime* parameter specifies the time in seconds that is seen as the maximum time a human speaker would speak when answering the phone. If the announcement from the called party is longer, it will be interpreted as an answering machine message.

MaxInterSpeakerTimeout

[in] The *MaxInitialSilence* parameter specifies the maximum time the human speech is interrupted after it has started to be interpreted as continuous speech.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

With a call to *EnabelAMD* the application enables the analysis of the inbound audio stream for answering machine detection based on the length of the speech. The method is only valid for outgoing calls. This method is a purely synchronous method and stores the values for the answering machine detection, the processing starts when the call is connected.

The Diva Dialogic® Diva® SDK compares the length of the received speech with the given parameter. If the length of the announcements is below *MaxHumanSpeakerTime*, a human has answered the phone. If the length is above *MaxHumanSpeakerTime*, an automated system has answered. If no signal is received, the detector terminates when the *MaxInitialSilence* is reached.

In asynchronous mode, the result of the answering machine detector is reported via the event *OnAMDFinished*. The result is passed as a parameter to the event handler, for possible results refer to DivaAMDResult. This requires that the event reporting is enabled.

In synchronous mode, the currently blocked method will continue if a result of the answering machine detector is available. The result is signaled by the return code of the method. Typically this is the *Connect* method. However, applications may also enable the answering machine detector after the *Connect* method reports a connection and starts recording. In this case the record method will return the result of the answering machine detector. For possible detector results signaled as return code, see the DivaResultAMD... codes of *DivaResultcodes*.

See also

DisableAMD, OnAMDFinished

DisableAMD

The method disables the answering machine detector.

Result = VoiceCall.EnableAMD (MaxInitialSilence, MaxHumanTalkerTime, MaxInterSpeakerTimeout)

Parameters

none

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method disables the answering machine detector and clears the command for the answering machine detector. In asynchronous mode, the event *OnAMDFinished* is called. In synchronous mode, no blocked method is influenced by this call.

See also

EnableAMD, OnAMDFinished

DivaCall Properties

The DivaCall component provides several properties to set certain parameters for a call or retrieve properties of a call. All properties need to be set to the *Connect* or *Answer* methods prior to the call in order to ensure that they are valid for the call. Parameters set for an existing call are only used by the method *SetCallType*.

Properties of a call can be read at any time. For incoming calls, the first time the properties may be read is from the *OnIncomingCall* event.

SignalEvents

Enables or disables the signaling of events.

CallObj.SignalEvents = True

Type

Boolean

Default value

False

Availability

Read and write

Remarks

The *SignalEvents* property is available for reading and writing. On write, it enables or disables the signaling of events. On read, it returns the current state of the event signaling.

Note: This property does not change between synchronous and asynchronous operation mode.

See also

AsyncMode, Operation Modes

AsyncMode

Sets the operation mode to synchronous or asynchronous.

CallObj.AsyncMode = True

Type

Boolean

Default value

False

Availability

Read and write

Remarks

The *AsyncMode* property is available for reading and writing. On write, it enables or disables the asynchronous mode. On read, it returns the current state of the operation mode. A value of false for the *AsyncMode* sets the operation mode to synchronous, which is the default. See the description of the Operation Modes for more information on these modes.

Note: This property does not change the signaling of events. This is selected by the *SignalEvents* property.

See also

SignalEvents, Operation Modes

Device

Sets the line device that needs to be used for communication.

CallObj.Device = DivaListenDevicesAll

Type

Integer

Default value

DivaListenDevicesAll

Availability

Read and write

Remarks

The *Device* property is available for reading and writing. On write it selects the device to be used for an outgoing call. The devices available in the system are numbered by an index starting with 1. A value of zero means usage of any device.

On read the property provides the device selected for this call object.

See also

DivaDevice

SignaledService

Retrieves the information about the service that is signaled for an incoming call.

Service = CallObj.SignaledService

Type

Integer

Availability

Read only

Remarks

The *SignaledService* property provides the service signaled for an incoming call. Possible options are:

- DivaSignaledServiceUnknown
- DivaSignaledServiceAnalog
- DivaSignaledServiceDigital
- DivaSignaledServiceGSM

See also

SignalService

SignalService

The *SignalService* property sets the service to signal for an outgoing call.

CallObj.SignalService=DivaServiceSpeech

Type

Integer

Default value

Depending on the call type given by CallObj.Connect (…)

Availability

Write only

Remarks

The *SignalService* property sets the service to signal to the remote side. Options are:

- DivaSigServiceDigital
- DivaSigServiceGSM
- DivaSigServiceAnalog
- DivaSigServiceAudio3
- DivaSigServiceAudio7
- DivaSigServiceSpeech
- DivaSigServiceTelephony
- DivaSigServiceFaxG3

See also

SignaledService

LocalNumber

The *LocalNumber* property sets the local number to be signaled for outgoing calls.

CallObj.LocalNumber = "08154711"

Type

String

Default value

""

Availability

Write only

See also

LocalSubAdress, CallingNumber, CalledNumber

LocalSubAdress

The *LocalSubAddress* property sets the local sub address to be signaled for outgoing calls.

CallObj.LocalSubAdress = "1111"

Type

String

Default value

""

Availability

Write only

See also

LocalNumber, CallingNumber, CalledNumber

CalledNumber

The *CalledNumber* property provides the dialed number for an incoming call.

Number = CallObj.CalledNumber

Type

String

Default value

“”

Availability

Read only

Remarks

The availability of the called number depends on the underlying telecommunication network.

See also

CallingNumber

CallingNumber

The *CallingNumber* property provides the originator’s number of an incoming call.

Number = CallObj.CallingNumber

Type

String

Default value

""

Availability

Read only

Remarks

The availability of the calling number depends on the underlying telecommunication network.

See also

CalledNumber

Channel

The *Channel* property provides the used physical channel number for the call.

CurrentChannel = CallObj.Channel

Type

Integer

Availability

Read only

See also

No references

RxSpeed, TxSpeed

RxSpeed and *TxSpeed* provide the negotiated speed information.

Speed = CallObj.RxSpeed

Type

Integer

Availability

Read only

Remarks

The speed value may be different in transmit and receive direction. *TxSpeed* and *RxSpeed* are identical for protocols with symmetric speed values.

See also

No references

DisconnectReason

Retrieves the information about the disconnect reason.

Reason = CallObj.DisconnectReason

Type

DivaDiscReason

Availability

Read only

Remarks

The *DisconnectReason* property provides information why a call is disconnected or could not be connected. Available reasons are:

- DivaDiscReasonUnspecified
- DivaDiscReasonUserInitiated
- DivaDiscReasonBusy
- DivaDiscReasonReject

- DivaDiscReasonNoAnswer
- DivaDiscReasonCableError
- DivaDiscReasonUnknownNumber
- DivaDiscReasonInvalidNumber
- DivaDiscReasonNoResource
- DivaDiscReasonNoDataChannel
- DivaDiscReasonNoFaxDevice
- DivaDiscReasonFaxTrainingFailed
- DivaDiscReasonFaxLocalAbort
- DivaDiscReasonFaxRemoteAbort

See also

No references

DetectedDigits

The *DetectedDigits* property provides the detected DTMF digits.

Digits = CallObj.DetectedDigits

Type

String

Default value

""

Availability

Read only

Remarks

The property retrieves the detected digits from the internal buffer. The digits remain in the internal buffer until the application clears the buffer using the *ClearDetectedDigits* method. Digit and tone detection must be enabled.

See also

ClearDetectedDigits, EnableExtendedToneDetection, EnableDigitDetection

FaxLocalId

The *FaxLocalId* property is used to set the local fax identification that is used for incoming and outgoing fax transfers.

CallObj.FaxLocalId = "+49 MyId"

Type

String

Default value

""

Availability

Write only

See also

FaxRemoteId

FaxHeadLine

The *FaxHeadLine* property is used to set the head line printed on every page of an outgoing fax document.

CallObj.FaxHeadLine = "Sent by Diva SDK"

Type

String

Default value

""

Availability

Write only

Remarks

The fax headline printed on each page depends on the given information. If enough space is available, the date and time information as well as the current page is added automatically.

See also

No references

FaxMaxSpeed

The *FaxMaxSpeed* property sets the maximum speed for a fax transfer.

CallObj.FaxMaxSpeed = DivaFaxSpeed14400

Type

DivaFaxSpeed

Default value

DivaFaxSpeedAutomatic

Availability

Write only

Remarks

The property limits the maximum speed for negotiating a fax transmission or reception. By default, the speed negotiation is automatic and will negotiate the highest possible value depending on the line quality. Applications may limit this for various reasons.

See also

FaxDisableHighResolution, FaxDisableECM, FaxDisableMR, FaxDisableMMR

FaxEnablePolling

The *FaxEnablePolling* property enables the active or passive polling.

CallObj.FaxEnablePolling = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property enables active or passive polling.

See also

SendFaxes

FaxDisableHighResolution

The *FaxDisableHighResolution* property disables high resolution.

CallObj.FaxDisableHighResolution = False

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property disables the high resolution format. Fax documents can be sent in various resolutions, by default the resolution is negotiated automatically. Applications may reduce the resolution to get shorter transmission times.

Note: If the document contains high resolution pages, they will be converted automatically to the negotiated resolution.

See also

FaxMaxSpeed, FaxDisableECM, FaxDisableMR, FaxDisableMMR

FaxDisableECM

The *FaxDisableECM* property disables the error correction mode.

CallObj.FaxDisableECM = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property disables the error correction mode. In general, the usage is negotiated automatically. Applications may restrict the use of the error correction mode.

See also

FaxMaxSpeed, FaxDisableHighResolution, FaxDisableMR, FaxDisableMMR

FaxDisableMR

The *FaxDisableMR* property disables the fax compression.

CallObj.FaxDisableMR = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property disables the modified read compression. If the property is enabled, only the standard fax compression is used. Any higher compression is disabled, even MMR. In general, the usage of the compression is negotiated automatically. Applications may restrict the usage. The data format of the received or transmitted files does not depend on this option.

See also

FaxMaxSpeed, FaxDisableHighResolution, FaxDisableECM, FaxDisableMMR

FaxDisableMMR

The *FaxDisableMMR* property disables the error high level fax compression.

CallObj.FaxDisableMMR = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property disables the Modified Modified Read compression (MMR). If this is disabled, only the standard fax or Modified Read (MR) compression is used. In general, the usage of the compression is automatically negotiated. Applications may restrict the use. The data format of the received or transmitted files does not depend on this option.

See also

FaxMaxSpeed, FaxDisableHighResolution, FaxDisableECM, FaxDisableMR

FaxMultipleDocument

The *FaxMultipleDocument* property enables sending of multiple documents.

CallObj.FaxMultipleDocuments = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property enables the sending of multiple fax documents over one single connection. If the application uses the method *SendFaxes*, this option needs to be set to the *Connect* method prior to the call.

See also

SendFaxes

FaxReverseSession

The *FaxReverseSession* property changes the direction.

CallObj.FaxReverseSession = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The property changes the direction of the call. Fax connections are direction oriented, the initiator of a call sends the fax and the answerer of the call receives the fax. This property is used to change the direction. If a connection initiated as voice call, is changed to fax, the call direction has to change as well. A sample for this is a system where users dial in to receive a fax. When switching to fax mode, the direction changes as well.

See also

SendFax

FaxRemoteId

FaxRemoteId provides the fax station identification of the remote fax.

RemoteId = CallObj.FaxRemoteId

Type

String

Default value

""

Availability

Read only

Remarks

The remote station is negotiated during the call progress and available when the connection is established. The information is not yet available with the event *OnIncomingCall*.

See also

FaxHighResolution, FaxMRActive, FaxMMRActive, FaxECMActive, FaxPollingActive, FaxPages

FaxHighResolution

FaxHighResolution provides the information if high resolution is negotiated.

Resolution = CallObj.FaxHighResolution

Type

Boolean

Default value

False

Availability

Read only

Remarks

The vertical resolution is negotiated during the call progress and available when the connection is established. The information is not yet available with the event *OnIncomingCall*.

See also

FaxMRActive, FaxMMRActive, FaxECMActive, FaxPollingActive, FaxPages

FaxMRActive

The *FaxMRActive* property provides the information if the Modified Read compression is used.

Compression = CallObj.FaxMRActive

Type

Boolean

Default value

False

Availability

Read only

Remarks

The compression is negotiated during the call progress and available when the connection is established. The information is not yet available with the event *OnIncomingCall*.

If *FaxMRActive* is false and also *FaxMMRActive* is false, the standard compression is used.

See also

FaxHighResolution, FaxMMRActive, FaxECMActive, FaxPollingActive, FaxPages

FaxMMRActive

The *FaxMMRActive* property provides the information if Modified Modified Read compression is used.

Resolution = CallObj.FaxMMRActive

Type

Boolean

Default value

False

Availability

Read only

Remarks

The compression is negotiated during the call progress and available when the connection is established. The information is not yet available with the event *OnIncomingCall*.

If *FaxMMRActive* is false and also *FaxMRActive* is false, the standard compression is used, see following example.

```
Dim UsedCompression As String
If ( CallObject.FaxMMRActive = True ) Then
   UsedCompression = "Highest Compression"
Else If ( CallObject.FaxMRCompression = True ) Then
   UsedCompression = "Medium Compression"
Else
   UsedCompression = "Standard Compression"
End If
```

See also

FaxHighResolution, FaxMRActive, FaxECMActive, FaxPollingActive, FaxPages

FaxECMActive

The *FaxECMActive* property provides the information if the error correction mode is active.

ECM = CallObj.FaxECMActive

Type

Boolean

Default value

False

Availability

Read only

Remarks

The error correction mode is negotiated during the call progress and available when the connection is established. The information is not yet available with the event *OnIncomingCall*.

See also

FaxHighResolution, FaxMRActive, FaxMMRActive, FaxPollingActive, FaxPages

FaxPollingActive

The *FaxPollingActive* property provides the information if polling was negotiated.

Active = CallObj.FaxPollingActive

Type

Boolean

Default value

False

Availability

Read only

Remarks

Polling has to be enabled by the application using the *FaxEnablePolling* property. The polling mode is negotiated during the call progress and available when the connection is established. Based on the result, the application may send or receive a document.

See also

FaxHighResolution, FaxMRActive, FaxMMRActive, FaxEnablePolling, FaxPages

FaxPages

FaxPages provides the information about the currently processed pages.

Pages = CallObj.FaxPages

Type

Integer

Default value

0

Availability

Read only

Remarks

The property provides the information about the currently sent or received amount of pages. After disconnection, the total number of pages processed is returned.

See also

FaxHighResolution, FaxMRActive, FaxMMRActive, FaxEnablePolling

FaxEnableColor

The *FaxEnableColor* property enables the negotiation of the JPEG color fax option.

CallObj.FaxEnableColor = true

Type

Boolean

Default value

False

Availability

Write only

Remarks

The result of the negotiation needs to be checked when the call is connected. The property *FaxColorSelected* is true if the color fax option has been selected.

See also

FaxColorSelected

FaxColorSelected

The *FaxColorSelected* property is true if the color option has been selected.

bColor = CallObj.FaxColorSelected

Type

Boolean

Default value

False

Availability

Read only

Remarks

If the color fax option is enabled by *FaxEnableColor*, this property provides the result of the negotiation. If this property returns true, the application needs to pass a color (JPEG) document to *SendFax*.

See also

FaxEnableColor

FaxStoreMode

The property *FaxStoreMode* specifies how received fax pages are stored in files.

CallObj.FaxStoreMode = DivaFaxRxStorePerSession

Type

DivaFaxRxStoreModes

Default

DivaFaxRxStorePerSession

Remarks

By default, the received fax pages are stored in a single file. Via the property *FaxStoreMode*, JPEG color fax pages can be stored in separate files. For more information, refer to DivaFaxRxStoreModes.

See also

DivaFaxRxStoreModes, FaxEnableColor

VoiceEnableEchoCanceller

The *VoiceEnableEchoCanceller* property enables the echo cancellation for a voice call.

CallObj.VoiceEnableEchoCanceller = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

This property enables the echo cancellation for a voice call.

Note: Echo cancellation needs DSP resources and may not run on the boards.

See also

VoiceEchoCancellerActive

VoiceEchoCancellerActive

The *VoiceEchoCancellerActive* property shows if the echo canceller is active.

EchoActive = CallObj.VoiceEchoCancellerActive

Type

Boolean

Default value

False

Availability

Write only

Remarks

The echo cancellation needs to be enabled via *VoiceEnableEchoCanceller* before calling *Connect* or *Answer*.

See also

VoiceEnableEchoCanceller

EnableExtendedToneDetection

Enables or disables the detection of extended tones.

CallObj.EnableExtendedToneDetection = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The *EnableExtendedToneDetection* property enables or disables the detection of extended tones. If enabled, detected tones are written to the internal digit buffer. If the application wants to receive events for detected tones, the *SignalEvents* property must be set as well.

For available Extended Tones, see DivaTones. Note that only some of the tones can be generated.

See also

SignalEvents

EnableDigitDetection

Enables or disables the detection of DTMF digits.

CallObj.EnableDigitDetection = True

Type

Boolean

Default value

False

Availability

Write only

Remarks

The *EnableDigitDetection* property enables or disables the detection of DTMF digits and fax caller and calling tones. If enabled, detected digits are written to the internal digit buffer. If the application wants to receive events for detected tones, the *SignalEvents* property must be set as well.

See also

SignalEvents

X25CalledAddress

Gets or sets the X.25 called address.

CallObj.X25CalledAddress = "1234"

Type

String

Default value

""

Availability

Read and write

Remarks

The property is only valid if the call type is set to *DivaCallType_X25*. When set, the information is used for the data channel connect of an outgoing X.25 call. When read, it returns the called address of an inbound X.25 call. The length of the X.25 called address is limited to 16 digits.

See also

X25CallingAddress, X25NCPI, X25NCPIAsText

X25CallingAddress

Gets or sets the X.25 calling address.

CallObj.X25CallingAddress = "998"

Type

String

Default value

""

Availability

Read and write

Remarks

The property is only valid if the call type is set to *DivaCallType_X25*. When set, the information is used for the data channel connect of an outgoing X.25 call. When read, it returns the calling address of an inbound X.25 call. The length of the X.25 calling address is limited to 16 digits.

See also

X25CalledAddress, X25NCPI, X25NCPIAsText

X25NCPI

Gets or sets the X.25 NCPI.

Dim MyNCPI as Byte(255)

MyNCPI = CallObj.X25NCPI

Type

Binary data, first byte length

Default value

Empty, length byte set to zero.

Availability

Read and write

Remarks

The property is only valid if the call type is set to *DivaCallType_X25*. The NCPI contains called and calling address, facilities, and user-user information.

When set, the information is used to specify the X.25 parameter for the data channel connect of an outgoing X.25 call. When read, it returns the plain NCPI containing the information from the remote peer.

Note that the exchange of binary data arrays is not supported by all platforms. If the platform does not support the binary exchange, the property *X25NCPIAsText* can be used.

See also

X25CalledAddress, X25CallingAddress, X25NCPIAsText

X25NCPIAsText

Gets or sets the X.25 NCPI using a string to exchange the data.

CallObj.X25NCPIAsText = “”

Type

String

Default Value

“”

Availability

Read and write

Remarks

The property is only valid if the call type is set to *DivaCallType_X25*. The NCPI contains called and calling address, facilities, and user-user information.

The data is coded as hexadecimal using an ASCII string. The length of the data is given by the length of the string. When set, the information is used to specify the X.25 parameter for the data channel connect of an outgoing X.25 call. When read, it returns the plain NCPI containing the information from the remote peer.

See also

X25CalledAddress, X25CallingAddress, X25NCPI

TransferUseSameChannel

The *TransferUseSameChannel* property specifies if the implicit consultation call of a blind call transfer is done on the same channel.

CallObj.TransferUseSameChannel = true

Type

Boolean

Default value

False

Availability

Write only

Remarks

Depending on the used communication platform and the network behind, the call transfer properties are different. The application can overwrite the default for the parameter of a blind call transfer.

See also

TransferNoHold, TransferCompleteOnAlerting, TransferCompleteOnProceeding, BlindCallTransfer

TransferNoHold

The *TransferNoHold* property specifies if the primary call is not put on hold before the consultation call is initiated.

CallObj.TransferNoHold = true

Type

Boolean

Default value

False

Availability

Write only

Remarks

Depending on the used communication platform and the network behind the call transfer properties are different. The application can overwrite the default for the parameter for a blind call transfer.

See also

TransferUseSameChannel, TransferCompleteOnAlerting, TransferCompleteOnProceeding, BlindCallTransfer

TransferCompleteOnAlerting

The *TransferCompleteOnAlerting* property specifies the condition for a completion of a call transfer initiated by the blind call transfer method.

CallObj.TransferCompleteOnAlerting = true

Type

Boolean

Default value

False

Availability

Write only

Remarks

By default, the blind call transfer is completed when the implicit consultation call is connected. This condition can be changed to alerting or proceeding.

See also

TransferUseSameChannel, TransferCompleteOnProceeding, TransferCompleteOnProceeding, BlindCallTransfer

TransferCompleteOnProceeding

The *TransferCompleteOnProceeding* property specifies the condition for a completion of a call transfer initiated by the blind call transfer method.

CallObj.TransferCompleteOnProceeding = true

Type

Boolean

Default value

False

Availability

Write only

Remarks

By default, the blind call transfer is completed when the implicit consultation call is connected. This condition can be changed to alerting or proceeding.

See also

TransferUseSameChannel, TransferCompleteOnProceeding, TransferCompleteOnAlerting, BlindCallTransfer

InputVolume

The *InputVolume* property specifies the volume for an outbound streaming.

CallObj.InputVolume = 10

CallObj.InputVolume = -4

Type

int

Default value

0

Availability

Write only

Remarks

The volume for streaming can be controlled by the application in the range from -18 to +18 db to reduce or increase the amplitude of the audio signal. A value of zero leaves the amplitude unchanged.

See also

OutputVolume

OutputVolume

The *OutputVolume* property specifies the volume for an outbound streaming.

CallObj.OutputVolume = 10

CallObj.OutputVolume = -4

Type

int

Default value

0

Availability

Write only

Remarks

The volume for streaming can be controlled by the application in the range from -18 to +18 db to reduce or increase the amplitude of the audio signal. A value of zero leaves the amplitude unchanged.

See also

InputVolume

RedirectNumber

The *RedirectNumber* property provides redirecting or redirected number.

Number = CallObj.RedirectNumber

Type

String

Default value

""

Availability

Read only

Remarks

The availability of the calling number depends on the underlying telecommunication network. Outgoing calls that are redirected, are redirected to this number. Incoming calls that are redirected contain the number of the redirecting extension. Note that this is not always the originally called extension.

See also

RedirectReason

RedirectReason

The *RedirectReason* property provides reason for the redirection.

Reason = CallObj.RedirectReason

Type

DivaRedirectReasons

Default value

DivaRedirectUnknown

Availability

Read only

Remarks

The availability of the redirect reason depends on the underlying telecommunication network. For valid redirect reasons, refer to DivaRedirectReasons.

See also

RedirectNumber

CalledNumberType

The *CalledNumberType* property sets or gets the called number type.

CallObj.CalledNumberType = DivaSDKLib.DivaNumberTypes.NumberTypeInternational

Type

DivaNumberTypes

Default value

DivaSDKLib.DivaNumberTypes.NumberTypeUnknown

Availability

Read and write

Remarks

The number type and identification is handled differently in certain networks. The SS7 network especially requires setting of this parameter. For valid number types, see DivaNumberTypes.

See also

CalledNumberId, CallingNumberType, CallingNumberId, CallingNumberPresentation, CallingNumberScreening

CalledNumberId

The *CalledNumberId* property sets or gets the called number identification.

CallObj.CalledNumberId = DivaSDKLib.DivaNumberIdentifications.NumberIdISDNTelephony

Type

DivaNumberIdentification

Default value

DivaSDKLib.DivaNumberIdentification.NumberIsUnknown

Availability

Read and write

Remarks

The number type and identification is handled differently in certain networks. The SS7 network especially requires setting of this parameter. For valid number types, see DivaNumberIdentifications.

See also

CalledNumberType, CallingNumberType, CallingNumberId, CallingNumberPresentation, CallingNumberScreening

CallingNumberType

The *CallingNumberType* property sets or gets the calling number type.

CallObj.CallingNumberType = DivaSDKLib.DivaNumberTypes.NumberTypeInternational

Type

DivaNumberTypes

Default value

DivaSDKLib.DivaNumberTypes.NumberTypeUnknown

Availability

Read and write

Remarks

The number type and identification is handled differently in certain networks. The SS7 network especially requires setting of this parameter. For valid number types, see DivaNumberTypes.

See also

CalledNumberType, CalledNumberId, CallingNumberId, CallingNumberPresentation, CallingNumberScreening

CallingNumberId

The *CallingNumberId* property sets or gets the calling number type.

CallObj.CallingNumberId = DivaSDKLib.DivaNumberIdentifications.NumberIdISDNTelephony

Type

DivaNumberIdentifications

Default value

DivaSDKLib.DivaNumberIdentifications.NumberIsUnknown

Availability

Read and write

Remarks

The number type and identification is handled differently in certain networks. The SS7 network especially requires setting of this parameter. For valid number types, see DivaNumberIdentifications.

See also

CalledNumberType, CalledNumberId, CallingNumberType, CallingNumberPresentation, CallingNumberScreening

CallingNumberPresentation

The *CallingNumberPresentation* property sets or gets the calling number presentation information.

CallObj.CallingNumberPresentation= DivaSDKLib.DivaNumberPresentations.NumberPresentationAllowed

Type

DivaNumberPresentations

Default value

DivaSDKLib.DivaNumberPresentations.NumberPresentationAllowed

Availability

Read and write

Remarks

The underlying media or network must support presentation settings. It is not guaranteed that a restricted presentation will avoid that the calling number is signaled to the remote end.

See also

CalledNumberType, CalledNumberId, CallingNumberId, CallingNumberId, CallingNumberScreening

CallingNumberScreening

The *CallingNumberScreening* property sets or gets the calling number screening information.

CallObj.CallingNumberScreening= DivaSDKLib.DivaNumberScreenings.NumberScreeningUser

Type

DivaNumberScreenings

Default value

DivaSDKLib.DivaNumberScreenings.NumberScreeningUser

Availability

Read and write

Remarks

None.

See also

CalledNumberType, CalledNumberId, CallingNumberType, CallingNumberId, CallingNumberPresentation

EnableDTMFToneSplitting

The *EnableDTMFToneSplitting* property enables the separate processing of DTMF digits and detected tones

CallObj. EnableDTMFToneSplitting = true

Type

Bool

Availability

Write only

Remarks

By default, detected DTMF digits and detected tones are processed within the same buffer. If an application requires an independent processing, the property *EnableDTMFToneSplitting* can be set. In this case, the DTMF digits are available via the property *DetectedDigits* and the tones via *DetectedTones*.

See also

DetectedTones, ClearDetectedTones, EnableExtendedToneDetection

DetectedTones

The *DetectedTones* property provides the detected tones.

Tones = CallObj.DetectedTones

Type

String

Default

""

Availability

Read only

Remarks

The property retrieves the detected tones from the internal buffer. The tones remain in the internal buffer until the application clears the buffer using the *ClearDetectedTones* method. Tone detection must be enabled via *EnableExtendedToneDetection*.

By default, detected DTMF digits and detected tones are processed within the same buffer. The property *EnableDTMFToneSplitting* must be set to retrieve tones via this property.

See also

EnableDTMFToneSplitting, ClearDetectedTones, EnableExtendedToneDetection

SingleToneDetectorMinFrequency

The *SingleToneDetectorMinFrequency* property specifies the minimum frequency a single tone needs to be signaled to the application.

CallObj. SingleToneDetectorMinFrequency = 1000

Type

long

Default

0 (no limitation)

Remarks

By default, the detected tones are signaled to the application. Via *SingleToneDetectorMinFrequency* the lower range of tones to be signaled can be specified.

See also

SingleToneDetectorMaxFrequency, EnableSingleToneDetector, OnSingleToneDetected

SingleToneDetectorMaxFrequency

The *SingleToneDetectorMaxFrequency* property specifies the maximum frequency a single is allowed to have in order to be signaled to the application.

CallObj. SingleToneDetectorMaxFrequency = 1600

Type

long

Default

0 (no limitation)

Remarks

By default, the detected tones are signaled to the application. Via *SingleToneDetectorMaxFrequency* the upper range of tones to be signaled can be specified.

See also

SingleToneDetectorMinFrequency, EnableSingleToneDetector, OnSingleToneDetected

DivaCall Events

This section contains various DivaCall Events.

OnIncomingCall

The event *OnIncomingCall* is triggered when an incoming call is ringing.

CallObject_OnIncomingCall ( )

Parameter

None

Remarks

The signaling of events must be enabled using the property *SignalEvents*.

See also

SignalEvents

OnCallProgress

The event *OnCallProgress* is signaled when the call state proceeding or alerting is reached.

CallObject_ OnCallProgress (State As Integer)

Parameter

State

Remarks

The parameter contains the new call state. Note that only the call states *DivaCallState_Ringing* and *DivaCallState_Proceeding* are signaled. All other call states, e.g., connected, are signaled via different events.

See also

SignalEvents, DivaCallState

OnConnected

The event *OnConnected* is triggered when the call is established and data could be transferred.

CallObject_OnConnected ( )

Parameter

None

Remarks

The signaling of events must be enabled using the property *SignalEvents*.

See also

SignalEvents

OnDisconnected

The event *OnDisconnected* is triggered when the call is disconnected or cannot be connected.

CallObject_OnDisconnected ( )

Parameter

None

Remarks

The signaling of events must be enabled using the property *SignalEvents*.

See also

SignalEvents

OnToneReceived

The event *OnToneReceived* is triggered when a tone or digit is detected.

CallObject_OnToneReceived (cTone as Char)

Parameter

cTone

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The tone detection must be enabled using the property *EnableExtendedToneDetection*. The DTMF detection must be enabled using the property *EnableDigitDetection*.

The received tone is signaled with this event. The tone also remains in the internal digit buffer. The ASCII chars '0' to '9',‘A’ to ‘D’, '*' and '#' are available for digits.

See also

SignalEvents, EnableDigitDetection, EnableExtendedToneDetection

OnVoiceStreamed

The event *OnVoiceStreamed* is triggered when the audio streaming has finished.

CallObject_OnVoiceStreamed (bWrapped as Boolean)

Parameter

bWrapped

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the streaming, initiated by one of the streaming functions, has finished.

Note: The event is triggered when the audio is sent to the line.

If the parameter *bWrapped* is true, continuous play has been selected and the sending will restart automatically.

See also

SignalEvents, SendVoiceFile, SendVoiceFiles, SendVoiceFilesEx

OnRecordEnded

The event *OnRecordEnded* is triggered when the audio recording has finished.

CallObject_OnRecordEnded (Reason as DivaRecordEndReason)

Parameter

Reason

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the recording, initiated by *RecordVoiceFile*, has finished.

The parameter *Reason* specifies the reason of the end, either the maximum duration has been reached or the maximum silence has been detected.

See also

SignalEvents, RecordVoiceFile

OnFaxPageProcessed

The event *OnFaxPageProcessed* is triggered when the fax page has been sent or received.

CallObject_OnFaxPageProcessed (Pages as Integer)

Parameter

Pages

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when a page has been sent or received.

The parameter *Pages* specifies the amount of pages actually sent or received.

Note: No page event is triggered for the last page. The last page and therefore the completion of the document is signaled by *OnFaxProcessed*.

See also

SignalEvents, OnFaxProcessed

OnFaxProcessed

The event *OnPageProcessed* is triggered when the fax is successfully completed.

CallObject_OnFaxProcessed ( )

Parameter

None

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when a fax is successfully received or sent. If this event is not received before *OnDisconnected* is triggered, the fax transmission or reception failed.

See also

SignalEvents, OnFaxProcessed

OnSuppServeCompleted

The event *OnSuppServeCompleted* is triggered when a supplementary service request is completed.

CallObject_OnSuppServeCompleted (bSuccess As Boolean)

Parameter

bSuccess

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the supplementary service request, e.g., call transfer is finished. The parameter *bSuccess* contains the result.

See also

SignalEvents, BlindCallTransfer, Hold, Retrieve

OnDataAvailable

The event *OnDataAvailable* is triggered when the received data is ready for processing.

CallObject_OnDataAvailable (nCount As Integer)

Parameter

nCount

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the received data is available for a data connection.

See also

SignalEvents, ReceiveData

OnSingleToneDetected

The event *OnSingleToneDetected* is signaled when a single tone is detected that matches the detector parameter.

VoiceCall_OnSingleToneDetected (Frequency as Long)

Parameter

Frequency

Specifies the frequency of the detected tone.

Remarks

The signaling of events must be enabled using the property *SignalEvents* and the single tone detector must be enabled via *EnableSingleToneDetector*. The event is signaled when a single tone that matches the parameter specified with *EnableSingleToneDetector* is detected or ended. If the frequency is none zero, the tone has started. A frequency of zero signals that the tone ended.

The application may retrieve more information on the detect parameter via the object *DivaToneResult* that can be retrieved via the method *GetToneDetectorResult*. If events are enabled, the detector results are internally cleared when the next tone is received.

See also

EnableSingleToneDetector, EnableDualToneDetector, OnDualToneDetected, GetToneDetectorResult

OnDualToneDetected

The event *OnDualToneDetected* is signaled when a dual tone is detected that matches the detector parameter.

VoiceCall_OnDualToneDetected (FrequencyLow as Long, FrequencyHigh as Long)

Parameter

FrequencyLow
FrequencyHigh

Remarks

The signaling of events must be enabled using the property *SignalEvents* and the dual tone detector must be enabled via *EnableDualToneDetector*. The event is signaled when a dual tone that matches the parameter specified with *EnableDualToneDetector* is detected or ended. If the *FrequencyLow* and *FrequencyHigh* are none zero, the tone has started. A value of zero for both parameter signals that the tone ended.

The application may retrieve more information on the detected parameter via the object *DivaToneResult* that can be retrieved via the method *GetToneDetectorResult*. If events are enabled, the detector results are internally cleared when the next tone is received.

See also

EnableSingleToneDetector, EnableDualToneDetector, OnSingleToneDetected, GetToneDetectorResult

OnAMDFinished

The event *OnAMDFinished* is signaled when the answering machine detector has finished the processing and the result is available.

VoiceCall_OnAMDFinished (Result as DivaAMDResult)

Parameter

Result

Remarks

The signaling of events must be enabled using the property *SignalEvents* and the answering machine detector must be enabled via the method *EnableAMD*. The event is signaled when the answering machine detector has finished the processing and a result is available.

For more information and possible results for the answering machine detector, refer to *EnableAMD* and *DivaAMDResult*.

See also

EnableAMD, DivaAMDResult

DivaCall Defines

This section contains various DivaCall Defines.

DivaAudioFmt

The Dialogic® Diva® Components API supports several audio formats. The formats contain the codec and the storage format. The storage format can be the well known wave format and the raw format.

The raw formats do not contain any header. The data is coded in the given format (codec) without any preceding information.

Options	Value
DivaAudioDefault	0
DivaAudioAutoDetect	1
DivaAudioWav_aLaw8K8BitMono	10
DivaAudioWav_uLaw8K8BitMono	11
DivaAudioWav_PCM_8K8BitMono	12
DivaAudioWav_PCM_8K16BitMono	13
DivaAudioRaw_aLaw8K8BitMono	100
DivaAudioRaw_uLaw8K8BitMono	101
DivaAudioRaw_PCM_8K8BitMono	102
DivaAudioRaw_PCM_8K16BitMono	103
DivaAudioRaw_ADPCM_8K4BitMono	104
DivaAudioRaw_ADPCM_6K4BitMono	105

DivaAudioDefault

This options is only available for recording. The default format is DivaAudioWav_PCM_8K8BitMono.

DivaAudioAutoDetect

This option is only available for sending wave files. The format is detected from the header of the file.

DivaAudioWav_aLaw8K8BitMono

The data is coded as 8 Bit a-law with an 8 KHz sampling rate. The storage format contains a wave file header.

DivaAudioWav_uLaw8K8BitMono

The data is coded as 8 Bit µ-law with an 8 KHz sampling rate. The storage format contains a wave file header.

DivaAudioWav_PCM_8K8BitMono

The data is coded as 8 Bit PCM with an 8 KHz sampling rate. The storage format contains a wave file header. Please note that the 8 Bit PCM format may contain a higher noise than a-law or µ-law formats.

DivaAudioWav_PCM_8K16BitMono

The data is coded as 16 Bit PCM with an 8 KHz sampling rate. The storage format contains a wave file header.

DivaAudioRaw_aLaw8K8BitMono

The data is coded as 8 Bit a-law with an 8 KHz sampling rate. The storage format is raw and contains no header.

DivaAudioRaw_uLaw8K8BitMono

The data is coded as 8 Bit µ-law with an 8 KHz sampling rate. The storage format is raw and contains no header.

DivaAudioRaw_PCM_8K8BitMono

The data is coded as 8 Bit PCM with an 8 KHz sampling rate. The storage format is raw and contains no header. Please note that the 8 Bit PCM format may contain a higher noise than a-law or µ-law formats.

DivaAudioRaw_PCM_8K16BitMono

The data is coded as 16 Bit PCM with an 8 KHz sampling rate. The storage format is raw and contains no header.

DivaAudioRaw_ADPCM_8K4BitMono

The data is coded as 4 Bit Adaptive PCM. The sampling rate is 8 KHz. The storage format is raw and contains no header. This format is an adaptive format and can only be processed based on an audio file.

DivaAudioRaw_ADPCM_6K4BitMono

The data is coded as 4 Bit Adaptive PCM. The sampling rate is 6 KHz. The storage format is raw and contains no header. The sampling rate of 6 KHz requires an underlying Dialogic® Diva® communication platform that supports 'extended voice'. This format is an adaptive format and can only be processed based on an audio file.

DivaFaxFmt

The TIFF formats containing the Symmetric keyword are aligned to a symmetric resolution regardless with which horizontal resolution the document has been received.

```
typedef enum
{
        DivaFaxFmtAutodetect,
        DivaFaxFmtDefault,
        DivaFaxFmtTiffClassF,
        DivaFaxFmtTiffClassFSymetric,
        DivaFaxFmtSff,
        DivaFaxFmtTiffG3,
        DivaFaxFmtTiffG3Symetric,
        DivaFaxFmtTiffG4,
        DivaFaxFmtTiffG4Symetric,
        DivaFaxFmtColorJPEG,
} DivaFaxFmt;
```

DivaFaxFmtAutoDetect

The format is auto detected from the file. The format is only valid for outgoing faxes.

DivaFaxFmtDefault

The format is set to the default. The format is only for incoming faxes.

DivaFaxFmtSff

The data is coded according to the SFF format which is used as the internal format of the Dialogic® Diva® API and the CAPI interface.

DivaFaxFmtTiffClassF

The data is coded according to the TIFF Class F specification using RLE coding.

DivaFaxFmtTiffG3

The data is coded according to the TIFF Class F specification using G3 coding.

The TIFF formats containing the Symmetric keyword are aligned to a symmetric resolution regardless with which horizontal resolution the document has been received.

DivaFaxFmtTiffG4

The data is coded according to the TIFF Class F specification using G4 coding. This format takes less disk space.

DivaFaxFmtColorJPEG

The data is coded as JPEG according to the color fax specification.

DivaCallState

The *DivaCallState* constants define the current state of a call.

```
typedef enum
{
        DivaCallState_Idle = 0
        DivaCallState_Listening,
        DivaCallState_Connecting,
        DivaCallState_Ringing,
        DivaCallState_Offering,
        DivaCallState_Alerting,
        DivaCallState_Connected,
        DivaCallState_OnHold,
        DivaCallState_Disconnecting,
        DivaCallState_Disconnected,
        DivaCallState_Proceeding,
} DivaCallState;
```

DivaCallState_Idle

The call is idle. An outgoing connection may be established.

DivaCallState_Listening

The call is in the listen state. Incoming calls will be reported to the application. Outgoing calls can also be serviced.

DivaCallState_Connecting

The call has been initiated or accepted and the call establishment is on progress. This may take some time depending on the call type.

DivaCallState_Ringing

Dialing is finished and the confirmation has been received that ringing at the remote end has started. This call state is only available for outgoing calls.

DivaCallState_Offering

The call has been signaled to one or more applications and not yet been answered. This call state is only available for incoming calls.

DivaCallState_Alerting

The incoming call is in the alerting state.

DivaCallState_Connected

The data channel is connected and data can be streamed in both directions.

DivaCallState_OnHold

The call is in hold state and no data channel is currently available.

DivaCallState_Disconnecting

Disconnect of the call is in progress.

DivaCallState_Disconnected

The call is disconnected. The application may get the disconnect reasons and other parameter via the DivaCall properties.

DivaCallState_Proceeding

The call is proceeding.

DivaCallTypes

```
typedef enum
{
        DivaCallType_Voice,
        DivaCallType_FaxG3,
        DivaCallType_Modem,
        DivaCallType_DigitalData,
        DivaCallType_X75,
        DivaCallType_V120,
        DivaCallType_GSM,
        DivaCallType_X25,
        DivaCallType_AutoDetect,
} DivaCallType;
```

DivaCallType_Voice

The call is processed as a voice call. The data channel is set to plain audio streaming according to G.711. The Dialogic® Diva® API handles a-law and µ-law coding for voice streaming functions. Outgoing calls with this call type are signaled to the switch as speech.

DivaCallType_FaxG3

The call is processed as a fax G3 call. The data channel is set to support the fax G3 protocol including polling etc. Outgoing calls with this call type are signaled to the switch as 3.1 kHz audio.

DivaCallType_Modem

The call is processed as an analog modem call. The data channel is set to support a full analog modem including automatic speed negotiation. Outgoing calls with this call type are signaled to the switch as 3.1 kHz audio.

DivaCallType_DigitalData

The call is processed as a digital data call. The data channel is set to handle digital data. Plain HDLC is done. This ensures that received data are valid but it does not guarantee packet delivery. Outgoing calls with this call type are signaled to the switch as unrestricted digital information.

DivaCallType_X75

The call is processed as a reliable digital data call. The data channel is set to handle digital data using the X.75 protocol that guarantees packet delivery and flow control. Outgoing calls with this call type are signaled to the switch as unrestricted digital information.

DivaCallType_V120

The call is processed as a reliable digital data call. The data channel is set to handle digital data using the V.120 protocol that guarantees packet delivery and flow control. Outgoing calls with this call type are signaled to the switch as unrestricted digital information.

DivaCallType_GSM

The call is processed as a GSM data call. The data channel is set to handle the V.110 protocol. The default speed is 9600 bps which is the typical speed for GSM connections. Outgoing calls with this call type are signaled as V.110 with specific information set in the ISDN protocol elements.

DivaCallType_X25

The call is processed as a X.25 call. The data channel is set to handle digital data using the X.75 protocol in layer 2 and X.25 in layer 3. The X.25 parameter can be set by the properties *X25CalledAddress*, *X.25CallingAddress*, and *X25NCPI*. Outgoing calls with this call type are signaled to the switch as unrestricted digital information.

DivaCallType_AutoDetect

The call is processed as a digital call. The protocol is detected depending on the first received frame. Options to detect are V.120, plain digital data, and X.25.

DivaListenServices

```
typedef enum
{
        DivaListenServiceNone,
        DivaListenServiceDigital,
        DivaListenServiceAnalogAll,
        DivaListenServiceAll,
} DivaCallType;
```

DivaListenServiceNone,

The listen is disabled, no incoming calls are signaled.

DivaListenServiceDigital,

Only calls that are signaled as digital calls are forwarded to the application.

DivaListenServiceAnalogAll,

Only calls that are signaled as analog calls are forwarded to the application.

DivaListenServiceAll

All incoming calls of any service type are signaled to the application.

DivaRejectCode

```
typedef enum
{
        DivaAllowOthers = 1,
        DivaRejectNormalCallClearing = 2,
        DivaRejectUserBusy = 3,
        DivaRejectChannelNotAvailable,
        DivaRejectFacilityRejected,
        DivaRejectChannelNotAccepted,
        DivaRejectIncompatibleDestination,
        DivaRejectDestinationOutOfOrder,
        DivaRejectUserDefined = 0x3400,
} DivaRejectCode;
```

DivaAllowOthers

The call will be rejected by the application but other applications on the same line may accept this call.

DivaRejectNormalCallClearing

The call will be rejected. The reason signaled to the network is normal call clearing.

DivaRejectUserBusy

The call will be rejected. The reason signaled to the network is that the user is busy.

DivaRejectChannelNotAvailable

The call will be rejected. The reason signaled to the network is that the requested data channel is currently not available.

DivaRejectFacilityRejected

The call will be rejected. The reason signaled to the network is that one of the signal facilities could not be processed.

DivaRejectChannelNotAccepted

The call will be rejected. The reason signaled to the network is that the requested data channel is not accepted by the application.

DivaRejectIncompatibleDestination

The call will be rejected. The reason signaled to the network is that the destination is not compatible to the signaled call, e.g., a digital call to a phone that processes only analog and telephony services.

DivaRejectDestinationOutOfOrder

The call will be rejected. The reason signaled to the network is that the destination is currently out of order.

DivaRejectUserDefined

The call will be rejected. The reason signaled to the network is application-specific. The application sets the reason in the low byte, the upper byte must be 0x34. The coding of the reason must be according to the used network.

DivaDiscReason

```
typedef enum
{
        DivaDiscReasonUnspecified = 1,
        DivaDiscReasonNormalClearing,
        DivaDiscReasonUserInitiated,
        DivaDiscReasonBusy,
        DivaDiscReasonReject,
        DivaDiscReasonNoAnswer,
        DivaDiscReasonCableError,
        DivaDiscReasonUnknownNumber,
        DivaDiscReasonInvalidNumber,
        DivaDiscReasonNumberChanged,
        DivaDiscReasonIncompatibleDest,
        DivaDiscReasonNoResource,
        DivaDiscReasonNoDataChannel,
        DivaDiscReasonNoFaxDevice,
        DivaDiscReasonFaxTrainingFailed,
        DivaDiscReasonFaxLocalAbort,
        DivaDiscReasonFaxRemoteAbort,
        DivaDiscReasonModemNegFailed,
        DivaDiscReasonModemNoAnswer,
        DivaDiscReasonModemCarrierLost,
        DivaDiscReasonIllegalData,
        DivaDiscReasonFileAccess,
} DivaDiscReason;
```

DivaDiscReasonUnspecified

There is no specific information why the call failed.

DivaDiscReasonNormalCallClearing

The call ended with the default cause.

DivaDiscReasonUserInitiated

The application initiated the disconnect of the call.

DivaDiscReasonBusy

The remote end is busy and could not take the call. This disconnect reason is only signaled for outgoing calls.

DivaDiscReasonReject

The call was rejected by the remote peer.

DivaDiscReasonNoAnswer

The remote end did not answer the call and the call timed out. This disconnect reason is only signaled for outgoing calls.

DivaDiscReasonCableError

There is no layer 1 connection between the line device and the switch. This is typically a cable error or an un-plugged line device.

DivaDiscReasonNumberUnknown

The switch responds that the dialed number is not known.

DivaDiscReasonInvalidNumber

The switch responds that the dialed number is not in a valid format or not complete.

DivaDiscReasonNumberChanged

The switch responds that the dialed number is not known because it has changed.

DivaDiscReasonIncompatibleDest

The call is rejected because the destination is not compatible to the requested service (call type).

DivaDiscReasonNoResource

The system is out of resources and could not service the call. This is a locally generated reason.

DivaDiscReasonNoDataChannel

All channels on the line device are already in use. This reason is locally generated.

DivaDiscReasonNoFaxDevice

The call failed due to establishment of the data channel. The remote device is not responding as a fax device.

DivaDiscReasonFaxTrainingFailed

The call failed due to establishment of the data channel. The remote device is not responding as a fax device.

DivaDiscReasonFaxLocalAbort

The call failed due to establishment of the data channel. The fax protocol has been disconnected due to a local error.

DivaDiscReasonFaxRemoteAbort

The call failed due to establishment of the data channel. The fax protocol has been disconnected due to a remote error.

DivaDiscReasonModemNegFailed

The call failed due to establishment of the data channel. The modem negotiation failed. Reasons could be a bad line or different settings.

DivaDiscReasonModemNoAnswer

The call failed due to establishment of the data channel. The remote device does not respond like a modem.

DivaDiscReasonModemCarrierLost

The call is disconnected because the modem lost the carrier signal.

DivaDiscReasonIllegalData

The call failed due to data transmission reasons. The data to be transmitted has the wrong format.

DivaDiscReasonFileAccess

The file to be used for sending or receiving the data could not be accessed.

DivaSignaledService

```
typedef enum
{
        DivaSignaledServiceUnknown = 1,
        DivaSignaledServiceAnalog,
        DivaSignaledServiceDigital,
        DivaSignaledServiceGSM,
} DivaSignaledService;
```

Defines the service signaled by the network for an incoming call.

DivaSignaledServiceUnknown

The service for the incoming call could not be determined.

DivaSignaledServiceAnalog

The call is signaled as an analog call. It might be a voice, fax, or modem call.

DivaSignaledServiceDigital

The call is signaled as a digital call.

DivaSignaledServiceGSMl

The call is signaled as a digital call using GSM services.

DivaSignalService

```
typedef enum
{
        DivaSigServiceDigital = 1,
        DivaSigServiceGSM,
        DivaSigServiceAnalog,
        DivaSigServiceAudio3,
        DivaSigServiceAudio7,
        DivaSigServiceSpeech,
        DivaSigServiceTelephony,
        DivaSigServiceFaxG3,
} DivaSignalService;
```

The enum DivaSignalService defines the service to be signaled to the network for an outgoing call.

DivaSigServiceDigital

The call is signaled as a purely digital call.

DivaSigServiceGSM

The call is signaled as a digital call using GSM services.

DivaSigServiceAnalog

The call is signaled as an analog call.

DivaSigServiceAudio3

The call is signaled as an audio call with 3.14 KHz.

DivaSigServiceAudio7

The call is signaled as an audio call with 7 KHz.

DivaSigServiceSpeech

The call is signaled with the capabilities set to speech.

DivaSigServiceTelephony

The call is signaled as ISDN telephony call.

DivaSigServiceFaxG3

The call is signaled as analog call carrying fax G3 data.

DivaTones

```
typedef enum
{
        Diva_EndOfTone = 0x80,
        Diva_UnknownTone,
        Diva_DialTone,
        Diva_PBXInternalDialTone,
        Diva_SpecialDialTone,
        Diva_SecondDialTone,
        Diva_RingingTone,
        Diva_SpecialRingingTone,
        Diva_BusyTone,
        Diva_CongestionTone,
        Diva_SpecialInformationTone,
        Diva_ComfortNoise,
        Diva_HoldTone,
        Diva_RecordTone,
        Diva_CallerWaitingTone,
        Diva_CallWaitingTone,
        Diva_PayTone,
        Diva_PositiveIndicationTone,
        Diva_NegativeIndicationTone,
        Diva_WarningTone,
        Diva_IntrusionTone,
        Diva_CallingCardServiceTone,
        Diva_PayphoneRecognitionTone,
        Diva_CPEAlertingSignal,
        Diva_OffHookWarningTone,
        Diva_InterceptTone,
        Diva_ModemCallingTone,
        Diva_FaxCallingTone,
        Diva_AnswerTone,
        Diva_AnswerTonePhaseReversal,
        Diva_ANSam,
        Diva_ANSamPhaseReversal,
        Diva_Bell103AnswerTone,
        Diva_FaxFlags,
        Diva_FaxG2GroupId,
        Diva_HumanSpeech,
        Diva_ToneMF1 = 0xF1,
        Diva_ToneMF2,
        Diva_ToneMF3,
        Diva_ToneMF4,
        Diva_ToneMF5,
        Diva_ToneMF6,
        Diva_ToneMF7,
        Diva_ToneMF8,
        Diva_ToneMF9,
        Diva_ToneMF0,
        Diva_ToneMFStart = 0xFD,
        Diva_ToneMFStop = 0xFF,
} DivaTones;
```

DivaNumberTypes

Options	Value
NumberTypeUnkown	0
NumberTypeInternational	1
NumberTypeNational	2
NumberTypeNetwork	3
NumberTypeSubscriber	4
NumberTypeAbbreviated	6

NumberTypeUnkown

The number type is not known. This is the default.

NumberTypeInternational

The number is coded as an international format.

NumberTypeNational

The number is called as national format.

NumberTypeNetwork

The type of number "network-specific number" is used to indicate administration/service number specific to the serving network, e.g., used to access an operator.

NumberTypeSubscriber

Subscriber provided number. Prefix or escape digits shall not be included.

NumberTypeAbbreviated

The number is abbreviated.

DivaNumberIdentifications

Options	Value
NumberIdUnknown	0
NumberIdISDNTelephony	1
NumberIdData	3
NumberIdNational	8
NumberIdPrivate	9

NumberIdUnknown

The number identification is not known. This is the default.

NumberIdISDNTelephony

The number identification is ISDN telephony.

NumberIdData

The number identification is data.

NumberIdNational

The number is a national identification.

NumberIdPrivate

The number has a private identification.

DivaNumberPresentations

Options	Value
NumberPresentationAllowed	0
NumberPresentationRestricted	1
NumberPresentationNotAvailable	2

NumberPresentationAllowed

The number presentation of the calling number is allowed.

NumberPresentationRestricted

The number presentation of the calling number is restricted and will be suppressed if supported by the switch.

NumberPresentationNotAvailable

The number presentation information is not available.

DivaNumberScreenings

Options	Value
NumberScreeningUser	0
NumberScreeningUserPassed	1
NumberScreeningUserFailed	3
NumberScreeningNetwork	4

NumberScreeningUser

The calling party number has been provided by the caller and forwarded by the network without any validation.

NumberScreeningUserPassed

The calling party number has been provided by the caller and the verification by the network was successful.

NumberScreeningUserFailed

The calling party number has been provided by the caller but the verification by the network failed.

NumberScreeningNetwork

The calling party number has been provided by the network. Either the caller has not provided a number or the screening failed.

DivaAudioProviderMode

Options	Value
DivaAPModeReceive	1
DivaAPModeStream	2
DivaAPModeBoth	3

DivaAPModeReceive

The audio received from the Dialogic® Diva® communication platform is given to the audio provider.

DivaAPModeStream

Data provided from the audio provider is streamed by the Diva communication platform.

DivaAPModeBoth

Audio signals are exchanged in both directions.

DivaRedirectReasons

Options	Value
DivaRedirectUnknown	0
DivaRedirectBusy	1
DivaRedirectNoReply	2
DivaRedirectCallDeflection	4
DivaRedirectDTEOutOfOrder	9
DivaRedirectByCalledDTE	10
DivaRedirectUnconditional	15

DivaRedirectUnknown

The reason for the redirection is unknown.

DivaRedirectBusy

The call is redirected because the extension was busy.

DivaRedirectNoReply

The call is redirected because the original called destination did not reply.

DivaRedirectCallDeflection

The call is redirected by a call deflection.

DivaRedirectDTEOutOfOrder

The call is redirected due to an out of service condition of the called destination.

DivaRedirectByCalledDTE

The call is redirected by the called endpoint.

DivaRedirectUnconditional

The call is redirected unconditionally.

DivaRecordEndReason

Options	Value
DivaRecordEndReason_TimeReached	1
DivaRecordEndReason_Silence	2
DivaRecordEndReason_Unspecified	3
DivaRecordEndReason_ToneDetected	4

DivaRecordEndReason_TimeReached

The recording is terminated because the maximum time for recording to a file is reached.

DivaRecordEndReason_Silence

The recording is terminated because the maximum silence time during recording to a file is reached.

DivaRecordEndReason_Unspecified

There is no specific reason for the termination of the recording. The application has terminated the recording or the call is disconnected.

DivaRecordEndReason_ToneDetected

The recording is terminated due to a DTMF tone. The application has specified this DTMF tone as stop tone.

DivaSendVoiceEndReason

Options	Value
DivaSendVoiceEndReason_Undefined	0
DivaSendVoiceEndReason_Cancelled	1
DivaSendVoiceEndReason_Disconnected	2
DivaSendVoiceEndReason_Restarted	3

DivaSendVoiceEndReason_Undefined

The reason for stopping the streaming is unknown.

DivaSendVoiceEndReason_Cancelled

The sending has been terminated by the application via StopSending.

DivaSendVoiceEndReason_Disconnected

The call is disconnected and the sending has been stopped implicitly.

DivaSendVoiceEndReason_Restarted

The sending has been restarted. This is typically done due to a continuous sending condition.

DivaCPT

Property Name	Value	Mode	Type
CPT_BearerCapabilities	4	Set / Get	Byte array
CPT_SignaledLineDiscReason	14	Get	long
CPT_VoiceEarlyDataChannel	17	Set	bool
CPT_SecondCallingNumber	19	Get	long
CPT_CallingName	21	Set / Get	BSTR
CPT_ConnectedName	22	Get	BSTR
CPT_CallingSubAddress	23	Set / Get	BSTR
CPT_CalledSubAddress	24	Set / Get	BSTR
CPT_OriginalCalledNumber	25	Get	BSTR
CPT_ConnectedNumber	26	Get	BSTR
CPT_CalledName	27	Get	BSTR
CPT_DisconnectReason	29	Set	long
CPT_DisconnectCause	30	Set	long
CPT_RedirectionNumber	31	Get	BSTR
CPT_VoiceRecordStartTones	100	Set	Byte array
CPT_VoiceDTMF_SendDuration	101	Set	long
CPT_VoiceDTMF_SendPause	102	Set	long
CPT_VoiceDTMF_DetectDuration	103	Set	long
CPT_VoiceDTMF_DetectPause	104	Set	long
CPT_VoiceEarlyDataDiscOnInfo	106	Set	bool
CPT_EchoCancellerEnableNLP	107	Set	bool
CPT_EchoCancellerAutoDisable1	108	Set	bool
CPT_EchoCancellerAutoDisable2	109	Set	bool
CPT_EchoCancellerTailLength	110	Set	long
CPT_EchoCancellerPreDelay	111	Set	long
CPT_EnableDTMFTrailingEdge	112	Set	bool
CPT_FaxPageQuality	212	Get	long
CPT_FaxPageEndInfo	213	Get	long
CPT_FaxRemoteFeatures	214	Get	Byte array
CPT_FaxRemoteMaxHorzRes	215	Get	long
CPT_FaxRemoteMaxVertRes	216	Get	long
CPT_FaxRemoteMaxSpeed	217	Get	long
CPT_FaxRemoteNSF	218	Get	Byte array
CPT_FaxLocalNSF	219	Set	Byte array
CPT_EnableInterrupt	222	Set	bool
CPT_RequestInterrupt	223	Set	bool
CPT_FaxProcedureInterrupt	224	Get	bool
CPT_FaxEnableSecurity	225	Set	bool

Property Name	Value	Mode	Type
CPT_FaxRemoteSupportsSubaddr	226	Get	bool
CPT_FaxRemoteSupportsPassword	227	Get	bool
CPT_FaxSignalSubAddress	228	Set	BSTR
CPT_FaxSignalPassword	229	Set	BSTR
CPT_FaxRemoteSubAddress	230	Get	BSTR
CPT_FaxRemotePassword	231	Get	BSTR
CPT_FaxAllowDocumentStretching	234	Set	bool
CPT_FaxRemoteScanLineLength	235	Get	long
CPT_MaximumSpeed	400	Set	long
CPT_DataBits	401	Set / Get	long
CPT_StopBits	402	Set / Get	long
CPT_Parity	403	Set / Get	long
CPT_DisableCompression	800	Set	bool
CPT_DisableV42	801	Set	bool
CPT_DisableMNP	802	Set	bool
CPT_ForceReliable	803	Set	bool
CPT_DisableRetrain	804	Set	bool
CPT_ModulationClass	805	Set	long
CPT_NegotiatedV42V42bis	806	Get	bool
CPT_NegotiatedMNP4MNP5	807	Get	bool
CPT_NegotiatedTransparent	808	Get	bool
CPT_NegotiatedCompression	809	Get	bool
CPT_DCD	810	Get	bool
CPT_CTS	811	Get	bool
CPT_ConnectedNorm	812	Get	long
CPT_RoundTripDelay	813	Get	long
CPT_GuardTone	814	Set	bool
CPT_ModemLeasedLine	815	Set	bool
CPT_Modem4WireOption	816	Set	bool
CPT_DisableDiscOnBusyTone	817	Set	bool
CPT_DisableCallingTone	818	Set	bool
CPT_DisableAnswerTone	819	Set	bool
CPT_EnableDialToneDetect	820	Set	bool
CPT_DisableStepUp	821	Set	bool
CPT_DisableStepDown	822	Set	bool
CPT_DisableSplitSpeed	823	Set	bool
CPT_DisableTrellisCoding	824	Set	bool
CPT_DisableFlushTimer	825	Set	bool
CPT_EnableEmptyFrames	826	Set	bool
CPT_EnableMultimoding	827	Set	bool

Property Name	Value	Mode	Type
CPT_BypassControl	828	Set	bool
CPT_DisableModulationV21	829	Set	bool
CPT_DisableModulationV22	830	Set	bool
CPT_DisableModulationV22bis	831	Set	bool
CPT_DisableModulationV23	832	Set	bool
CPT_DisableModulationV32	833	Set	bool
CPT_DisableModulationV32bis	834	Set	bool
CPT_DisableModulationV34	835	Set	bool
CPT_DisableModulationV90DPCM	836	Set	bool
CPT_DisableModulationBell103	837	Set	bool
CPT_DisableModulationBell212A	838	Set	bool
CPT_DisableModulationAllFS	839	Set	bool
CPT_DisableModulationK56Flex	840	Set	bool
CPT_DisableModulationX2	841	Set	bool
CPT_DisableV42Detection	842	Set	bool
CPT_EnableModulationV29FDX	843	Set	bool
CPT_EnableModulationV33	844	Set	bool
CPT_EnableModulationV90APCM	845	Set	bool
CPT_EnableModulationV22FS	846	Set	bool
CPT_EnableModulationV29FS	847	Set	bool
CPT_EnableModulationV23_1	848	Set	bool
CPT_EnableModulationV23_2	849	Set	bool
CPT_MinimumTxSpeed	850	Set	long
CPT_MaximumTxSpeed	851	Set	long
CPT_MinimumRxSpeed	852	Set	long
CPT_MaximumRxSpeed	853	Set	long
CPT_TxLevelAdjust	854	Set	bool
CPT_DisableV34TxLevelReduction	855	Set	bool
CPT_DisableV34PreCoding	856	Set	bool
CPT_DisableV34PreEmphasis	857	Set	bool
CPT_DisableV34Shaping	858	Set	bool
CPT_DisableV34NonLinearEncoding	859	Set	bool
CPT_DisableV34ManualReduction	860	Set	bool
CPT_DisableV34Training16Point	861	Set	bool
CPT_DisableV34SymbolRate2400	862	Set	bool
CPT_DisableV34SymbolRate2743	863	Set	bool
CPT_DisableV34SymbolRate2800	864	Set	bool
CPT_DisableV34SymbolRate3000	865	Set	bool
CPT_DisableV34SymbolRate3200	866	Set	bool
CPT_DisableV34SymbolRate3429	867	Set	bool

Property Name	Value	Mode	Type
CPT_ForceReliableIfV34	868	Set	bool
CPT_DisableSDLC	869	Set	bool
CPT_DisableReliableIf1200	870	Set	bool
CPT_BufferDuringV42Detection	871	Set	bool
CPT_DisableV42SelectivReject	872	Set	bool
CPT_DisableMNP3	873	Set	bool
CPT_DisableMNP4	874	Set	bool
CPT_DisableMNP10	875	Set	bool
CPT_TransparentModeIfV22bis	876	Set	bool
CPT_TransparentModeIfV32bis	877	Set	bool
CPT_BreakMode	878	Set	bool
CPT_ModemEarlyConnect	879	Set	bool
CPT_ModemPassIndication	880	Set	bool
CPT_SDLCLinkAddress	881	Set	bool
CPT_SDLCModuloMode	882	Set	bool
CPT_SDLCWindowSize	883	Set	bool
CPT_SDLCXID	884	Set	bool
CPT_SDLCReverseEstablishment	885	Set	bool
CPT_V18Selected	886	Set	bool
CPT_V18ProbingSequence	887	Set	bool
CPT_V18CountryProbingSequence	888	Set	bool
CPT_V18ProbingMessage	889	Set	bool
CPT_V18ReinitializeOnSilence	890	Set	bool
CPT_V18RevertToAnswerMode	891	Set	bool
CPT_V18DisconnectOnBusy	892	Set	bool
CPT_V18AutomodingMonitorMode	893	Set	bool
CPT_V18TextProbingForCarrierMode	894	Set	bool
CPT_V18TXPSpaceParityInOrigMode	895	Set	bool
CPT_V18EnableV18OriginationMode	896	Set	bool
CPT_V18EnableV18AnswerMode	897	Set	bool
CPT_V18EnableV21OriginationMode	898	Set	bool
CPT_V18EnableV21AnswerMode	899	Set	bool
CPT_V18EnableBell103OrigMode	900	Set	bool
CPT_V18EnableBell103AnswerMode	901	Set	bool
CPT_V18EnableV23OriginationMode	902	Set	bool
CPT_V18EnableV23AnswerMode	903	Set	bool
CPT_V18EnableEDTMode	904	Set	bool
CPT_V18EnableBAUDOT45Mode	905	Set	bool
CPT_V18EnableBAUDOT47Mode	906	Set	bool
CPT_V18EnableBAUDOT50Mode	907	Set	bool

Property Name	Value	Mode	Type
CPT_V18EnableDTMFMode	908	Set	bool
CPT_V18TransmitLevel	909	Set	long
CPT_V18AsyncFormatV21	910	Set	long
CPT_V18AsyncFormatV23	911	Set	long
CPT_V18AsyncFormatBell103	912	Set	long
CPT_V18AsyncFormatEDT	913	Set	long
CPT_V18AsyncFormatBAUDOT	914	Set	long
CPT_V18TimerTcTimeout	915	Set	long
CPT_V18TimerTmTimeout	916	Set	long
CPT_V18CleanCarrierTime	917	Set	long
CPT_V18EchoSupressTime	918	Set	long
CPT_EnableModulationV22bisFS	919	Set	bool
CPT_B1Protocol	1200	Set	long
CPT_B2Protocol	1201	Set	long
CPT_B3Protocol	1202	Set	long
CPT_B1Configuration	1203	Set	Byte array
CPT_B2Configuration	1204	Set	Byte array
CPT_B3Configuration	1205	Set	Byte array
CPT_LLC	1206	Set / Get	Byte array
CPT_HLC	1207	Set / Get	Byte array
CPT_B_ChannelInfo	1208	Set	Byte array
CPT_KeypadFacility	1209	Set / Get	Byte array
CPT_UserUserInfo	1210	Set / Get	Byte array
CPT_FacilityDataArray	1211	Set / Get	Byte array
CPT_DisplayInfo	1212	Get	Byte array
CPT_TotalChargeUnits	1213	Get	long
CPT_SpecialInfoElement	1214	Set / Get	Byte array
CPT_ChannelInfoElement	1215	Get	Byte array
CPT_ProgressIndElement	1216	Get	Byte array
CPT_GlobalConfiguration	1217	Set	long
CPT_ReverseDataChannelConnect	1218	Set	bool
CPT_CauseInfoElement	1219	Get	Byte array
CPT_X25_ReverseRestart	2003	Set	bool
CPT_AutoDetectMode	2400	Set	long
CPT_AutoDetectX75ForceX25	2401	Set	bool
CPT_AutoDetectMaxFrames	2402	Set	long
CPT_AutoDetectMaxSeconds	2401	Set	long
CPT_NoAnswerTimeout	4000	Set	long
CPT_ConnectTimeout	4001	Set	long

CPT_BearerCapabilities

DivaCPT_BearerCapabilities provides the bearer capabilities signaled for an incoming call on reading and specifies the bearer capabilities to be used for an outgoing call.

CPT_SignaledLineDiscReason

The property is read only and returns the disconnect reason in the format signaled by the line.

CPT_VoiceEarlyDataChannel

The property is write only and enables the data channel before the connection in the signaling channel is established. The property is only valid for outgoing calls and must be set before the first call to *DivaDial*.

CPT_SecondCallingNumber

The properties are read only and provide the information about a second calling party number. A second calling party number may be signaled by SMS gateways.

CPT_CallingName

The parameter is read only. On read, it provides the calling name for an incoming call. On write, it allows to set the name for an outgoing call. The availability of the name depends on the underlying network.

CPT_ConnectedName

The parameter is read only. When the call is connected the property provides the name of the connected party. The availability of the name depends on the underlying network.

CPT_CallingSubAddress

The property provides the calling party address signaled on an incoming call or sets the calling party address for an outgoing call.

CPT_CalledSubAddress

The property provides the called party address signaled on an incoming call or sets the called party address for an outgoing call.

CPT_OriginalCalledNumber

CPT_OriginalCalledNumber is a read only property and specifies the number that the originator of the call has dialed. This number can be different from the calling party number and the redirecting number if the call has been redirected.

CPT_ConnectedNumber

CPT_ConnectedNumber is a read only property and specifies the number of the endpoint that answered the call. This can be different from the called number if the call is redirected.

CPT_CalledName

CPT_CalledName is a read only parameter and specifies the name of the endpoint that answered the call.

CPT_DisconnectReason

CPT_DisconnectReason is a write only property to set the disconnect reason. For valid disconnect reasons, see *DivaActiveDiscReasons* in the Dialogic® Diva® API documentation. Note that the disconnect reason is only used for calls that have already been answered. Calls that are in the offering state can be disconnected using the reject reasons.

CPT_DisconnectCause

CPT_DisconnectCause is a write only property to set the disconnect cause. This is the Q.931 cause value. Note that the disconnect cause is only used for calls that have already been answered. Calls that are in the offering state can be disconnected using the reject reasons.

CPT_RedirectionNumber

This is a read only parameter that provides the redirecting number for an incoming call.

CPT_VoiceRecordStartTones

The property defines a list of tones to trigger the recording. By default, recording initiated by *DivaRecordVoiceFile* starts right away. Setting a start tone delays the start until one of the tones is detected. The tones are coded as string containing the codes for the tones as 8 bit values. The string may contain any DTMF, continuous tone or MF tone. The application must enable DTMF and tone detection. The property is valid for the next call to *DivaRecordVoiceFile*.

CPT_VoiceDTMF_SendDuration

The property is write only and specifies the duration and pause of generated DTMF tones.

CPT_VoiceDTMF_SendPause

The property is write only and specifies the duration and pause of generated DTMF tones.

CPT_VoiceDTMF_DetectDuration

The property is write only and specifies the duration and pause for DTMF tone detection. The property must be set prior to the call to *DivaReportDTMF*.

CPT_VoiceDTMF_DetectPause

The properties are write only and specify the duration and pause for DTMF tone detection. The properties must be set prior to the call to *DivaReportDTMF.*

CPT_VoiceEarlyDataDiscOnInfo

CPT_VoiceEarlyDataDiscOnInfo is a write only property and specifies that a connection established with the early data channel option is disconnected when the network signals the disconnect via info message. By default, the connection is kept open to allow the application to record and process any announcement or tones.

CPT_EchoCancellerEnableNLP

The property is write only and enables the non-linear processing for the echo canceller.

CPT_EchoCancellerAutoDisable1

The property is write only and bypasses the echo canceller upon detection of phase reversed 2100 Hz (operation according to G.165)

CPT_EchoCancellerAutoDisable2

The property is write only. It bypasses the echo canceller upon detection of phase reversed or phase continuous 2100 Hz (operation according to G.164 and G.165).

CPT_EchoCancellerTailLength

The property is write only. Echo canceller time span in ms, default is implementation-specific.

CPT_EchoCancellerPreDelay

The property is write only. Echo canceller pre-delay before starting.

CPT_EnableDTMFTrailingEdge

The property is a write only and enables the reporting of the training edge of a DTMF tone. The default is disabled.

CPT_FaxPageQuality

PT_FaxPageQuality is a read parameter and only valid in fax mode. The parameter is updated every time a fax page is received or sent. For information on page quality, refer to *DivaFaxPageQuality* in the Dialogic® Diva® API documentation.

CPT_FaxPageEndInfo

CPT_FaxPageQuality is a read parameter and only valid in fax receive mode. The parameter is updated every time a fax page is received. The parameter provides information on coming pages or documents. For information on valid page ends, refer to *DivaFaxPageEnd* in the Dialogic® Diva® API documentation.

CPT_FaxRemoteFeatures

CPT_FaxRemoteFeatures is a read only property and provides the binary coded capabilities of the receiving fax station. The information is coded in accordance with T.30 DIS and DTC frame.

CPT_FaxRemoteMaxHorzRes

CPT_FaxRemoteMaxHorzRes is a read only property and provides the maximum horizontal resolution the receiving fax station can support. The value is given as pixel per line.

CPT_FaxRemoteMaxVertRes

CPT_FaxRemoteMaxVertRes is a read only property and provides the maximum horizontal resolution the receiving fax station can support. The value is given as pixel per line.

CPT_FaxRemoteMaxSpeed

DivaCPT_FaxRemoteMaxSpeed is a read only property and provides the maximum speed the receiving fax station can support. Note that this is not the finally negotiated speed because this depends on the line quality.

CPT_FaxRemoteNSF

CPT_FaxRemoteNSF is a read only property and provides the non standard facilities received from the remote fax station. The data is provided as binary data, first byte length field.

CPT_FaxLocalNSF

CPT_FaxLocalNSF is a write only property and specifies the non standard facilities to be sent to the remote fax station. The data is expected as binary data, first byte length field.

CPT_EnableInterrupt

The property is write only and enables the fax procedure interrupt. The usage is depending on the remote peer. The property *CPT_FaxProcedureInterrupt* returns the result.

CPT_RequestInterrupt

The property is write only and requests the fax procedure interrupt. The usage is depending on the remote peer. The property *CPT_FaxProcedureInterrupt* returns the result.

CPT_FaxProcedureInterrupt

The property is read only and returns the state of the procedure interrupt negotiation. The property can only be negotiated if the property *CPT_RequestInterrupt* or *CPT_FaxProcedureInterrupt* are enabled.

CPT_FaxEnableSecurity

The call property is write only and enables the negotiation of the secure fax options. The usage of the option depends on the remote peer.

CPT_FaxRemoteSupportsSubaddr

The properties are read only and provide the information if the remote party is able to handle secure fax protocols.

CPT_FaxRemoteSupportsPassword

The properties are read only and provide the information if the remote party is able to handle secure fax protocols.

CPT_FaxSignalSubAddress

The properties are write only and specify the sub-address and password to be sent to the remote side within the Fax T.30 negotiation.

CPT_FaxSignalPassword

The properties are write only and specify the sub address and password to be sent to the remote side within the Fax T.30 negotiation.

CPT_FaxRemoteSubAddress

The properties are read only and provide the sub address and password or the remote party negotiated during fax T.30 negotiation.

CPT_FaxRemotePassword

The properties are read only and provide the sub address and password or the remote party negotiated during fax T.30 negotiation.

CPT_FaxAllowDocumentStretching

If this option is selected, a TIFF document provided with a resolution that is half of the next matching fax format will be stretched. For example, a document with a resolution of 800 pixels per line will be stretched to 1600 pixel per line and centered on the next matching resolution of 1728 pixel per line.

CPT_FaxRemoteScanLineLength

DivaCPT_FaxRemoteScanLineLength is a read only property and provides the maximum scan line length the receiving fax station can support. The value is given as DivaScanLineMax.

CPT_MaximumSpeed

CPT_MaximumSpeed is a write only property and defines the maximum speed that is allowed for the connection. The parameter is only valid for analog modem and V.110 types. The real negotiated speed can be retrieved by the *CPT_TxSpeed* and *CPT_RxSpeed* properties.

CPT_DataBits

The properties are read and write and set / get the framing for an asynchronous connection.

CPT_StopBits

The properties are read and write and set / get the framing for an asynchronous connection.

CPT_Parity

The properties are read and write and set / get the framing for an asynchronous connection.

CPT_DisableCompression

The property is write only and disables any compression for an analog modem connection.

CPT_DisableV42

The properties are write only and disable any V.42 or MNP negotiation for an analog modem connection.

CPT_DisableMNP

The properties are write only and disable any V.42 or MNP negotiation for an analog modem connection.

CPT_ForceReliable

The property is write only and valid for call type modem. If set, a reliable connection using V.42 or MNP is negotiated. If the remote peer is not able to handle one of these protocols, the connection will fail.

CPT_DisableRetrain

The property is write only and disables the retrain for an analog modem connection.

CPT_ModulationClass

The property is write only and valid for call type modem. It sets the modulation class between V.8 and V.110. The options are defined in *DivaModulationClass*.

CPT_NegotiatedV42V42bis

The properties are read only and valid only for analog modem connections. If the property is set, the negotiation succeeds in the specified reliable protocol. If *CPT_NegotiatedCompression* is also set, the corresponding compression, V.42bis or MNP5, is also negotiated.

CPT_NegotiatedMNP4MNP5

The properties are read only and valid only for analog modem connections. If the property is set, the negotiation succeeds in the specified reliable protocol. If *CPT_NegotiatedCompression* is also set, the corresponding compression, V.42bis or MNP5, is also negotiated.

CPT_NegotiatedTransparent

The property is read only and valid only for the call type modem. If the property is set, the modem connection is negotiated without using any reliable protocol.

CPT_NegotiatedCompression

The property is read only and valid only for the call type modem. If the property is set, the modem connection is negotiated using a compression protocol.

CPT_DCD

The properties are read only and valid only for the call type modem. *CPT_DCD* reflects the state of the DCD modem signal and *CPT_CTS* reflects the state of the CTS signal.

Note: The CTS signal is only provided if the call type is modem and any of the extended modem settings have been enabled.

CPT_CTS

The properties are read only and valid only for the call type modem. *CPT_DCD* reflects the state of the DCD modem signal and *CPT_CTS* reflects the state of the CTS signal.

Note: The CTS signal is only provided if the call type is modem and any of the extended modem settings have been enabled.

CPT_ConnectedNorm

The property is read only and valid only for the call type modem selected via the extended modem settings. The property holds the modulation result. For valid options, see DivaConnectedNorm.

CPT_RoundTripDelay

The property is read only and available for modem connections using V.34 modulation. The property is set when the DCD information is available and contains the time for receiving the echo of a signal set to the remote peer.

CPT_GuardTone

The property is write only. Specifies the modem guard tone. A value of zero selects no guard tone, one is for a 1800 Hz guard tone and two for a 550 Hz guard tone.

CPT_ModemLeasedLine

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_Modem4WireOption

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableDiscOnBusyTone

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableCallingTone

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableAnswerTone

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableDialToneDetect

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableStepUp

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableStepDown

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableSplitSpeed

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableTrellisCoding

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableFlushTimer

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableEmptyFrames

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableMultimoding

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_BypassControl

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV21

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV22

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV22bis

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV23

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV32

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV32bis

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV34

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationV90DPCM

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationBell103

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationBell212A

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationAllFS

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationK56Flex

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableModulationX2

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV42Detection

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV29FDX

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV33

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV90APCM

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV22FS

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV29FS

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV23_1

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_EnableModulationV23_2

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_MinimumTxSpeed

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_MaximumTxSpeed

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_MinimumRxSpeed

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_MaximumRxSpeed

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_TxLevelAdjust

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34TxLevelReduction

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34PreCoding

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34PreEmphasis

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34Shaping

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34NonLinearEncoding

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34ManualReduction

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34Training16Point

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate2400

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate2743

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate2800

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate3000

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate3200

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV34SymbolRate3429

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_ForceReliableIfV34

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableSDLC

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableReliableIf1200

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_BufferDuringV42Detection

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableV42SelectivReject

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableMNP3

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableMNP4

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_DisableMNP10

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_TransparentModeIfV22bis

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_TransparentModeIfV32bis

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_BreakMode

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_ModemEarlyConnect

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_ModemPassIndication

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_SDLCLinkAddress

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_SDLCModuloMode

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_SDLCWindowSize

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_SDLCXID

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_SDLCReverseEstablishment

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_V18Selected

The property is write only and enables the V.18 mode.

CPT_V18ProbingSequence

Text of the message string used for probing. The property is write only.

CPT_V18CountryProbingSequence

Pre-defined country probing sequences. For available countries, refer to DivaV18DefProbings. The property is write only.

CPT_V18ProbingMessage

Array of bytes containing the sequence of modulation norm identifiers that specifies the order used in answer mode probing. The property is write only.

CPT_V18ReinitializeOnSilence

The property is write only and enables or disables the reinitialization on silence.

CPT_V18RevertToAnswerMode

The property is write only and enables or disables the revert to answer mode on timeout.

CPT_V18DisconnectOnBusy

The property is write only and enables or disables disconnect on busy detection.

CPT_V18AutomodingMonitorMode

The property is write only and enables or disables automoding monitor.

CPT_V18TextProbingForCarrierMode

The property is write only and enables or disables continuous carrier probing with the message.

CPT_V18TXPSpaceParityInOrigMode

The property is write only and enables or disables the sending of TXP with space parity in origination mode.

CPT_V18EnableV18OriginationMode

The property is write only and enables the V.18 originate mode (CI/TXP procedure, V.21 data state, TX: 980/1180 Hz 300 bps, RX: 1650/1850 Hz 300 bps).

CPT_V18EnableV18AnswerMode

The property is write only and enables V.18 answer mode (CI/TXP procedure, V.21 data state, TX: 1650/1850 Hz 300 bps, RX: 980/1180 Hz 300 bps).

CPT_V18EnableV21OriginationMode

The property is write only and enables V.21 originate mode (TX: 980/1180 Hz 300 bps, RX: 1650/1850 Hz 300 bps).

CPT_V18EnableV21AnswerMode

The property is write only and enables V.21 answer mode (TX: 1650/1850 Hz 300 bps, RX: 980/1180 Hz 300 bps).

CPT_V18EnableBell103OrigMode

The property is write only and enables Bell 103 originate mode (TX: 1270/1070 Hz 300 bps, RX: 2225/2025 Hz 300 bps).

CPT_V18EnableBell103AnswerMode

The property is write only and enables Bell 103 answer mode (TX: 2225/2025 Hz 300 bps, RX: 1270/1070 Hz 300 bps).

CPT_V18EnableV23OriginationMode

The property is write only and enables V.23 originate mode (TX: 390/450 Hz 75 bps, RX: 1300/1700 Hz 1200 bps).

CPT_V18EnableV23AnswerMode

The property is write only and enables V.23 originate mode (TX: 390/450 Hz 75 bps, RX: 1300/1700 Hz 1200 bps).

CPT_V18EnableEDTMode

The property is write only and enables EDT mode (980/1180 Hz 110 bps).

CPT_V18EnableBAUDOT45Mode

The property is write only and enables BAUDOT 45 mode (1800/1400 Hz 22 ms/bit).

CPT_V18EnableBAUDOT47Mode

The property is write only and enables BAUDOT 47 mode (1800/1400 Hz 21 ms/bit).

CPT_V18EnableBAUDOT50Mode

The property is write only and enables BAUDOT 50 mode (1800/1400 Hz 20 ms/bit).

CPT_V18EnableDTMFMode

The property is write only and enables DTMF mode (DTMF 50ms on / 50ms off).

CPT_V18TransmitLevel

The property is write only. Transmits level in dBm, coded as 2-s complement signed integer. Valid range: -12..-31 dBm. Value 0 will set the default.

CPT_V18AsyncFormatV21

Asynchronous data format used in V.18 and V.21 mode. The coding is described in DivaV18Framing. Value 0 will set the default. The property is write only

CPT_V18AsyncFormatV23

Asynchronous data format used in V.23 mode. The coding is described in DivaV18Framing. Value 0 will set the default. The property is write only.

CPT_V18AsyncFormatBell103

Asynchronous data format used in Bell 103 mode. The coding is described in DivaV18Framing. Value 0 will set the default. The property is write only

CPT_V18AsyncFormatEDT

Asynchronous data format used in EDT mode. The coding is described in DivaV18Framing. Value 0 will set the default. The property is write only.

CPT_V18AsyncFormatBAUDOT

Asynchronous data format used in BAUDOT modes. The coding is described in DivaV18Framing. Value 0 will set the default. The property is write only.

CPT_V18TimerTcTimeout

Timeout time for ITU-T V.18 timer Tc in ms. (Tc specifies the maximum time waiting for response when sending a probing carrier in answer mode). Value 0 will set the default. The property is write only.

CPT_V18TimerTmTimeout

Timeout time for ITU-T V.18 timer Tm in ms. (Tm specifies the maximum time waiting for response after a probing message has been sent in answer mode). Value 0 will set the default. The property is write only.

CPT_V18CleanCarrierTime

Time span in ms for which the carrier is maintained in half duplex modes after the last pending character has been sent to the line. Value 0 will set the default. The property is write only.

CPT_V18EchoSupressTime

Time span in ms for which the receiver is disabled in half-duplex mode after the last send period in order to avoid interpretation of the echo signal. Value 0 will set the default. The property is write only.

CPT_EnableModulationV22bisFS

The property is write only. For more information, refer to the CAPI extensions in the document CxModem.pdf.

CPT_B1Protocol

The property is write only. The B1 protocol according to the CAPI 2.0 specification.

CPT_B2Protocol

The property is write only. The B2 protocol according to the CAPI 2.0 specification.

CPT_B3Protocol

The property is write only. The B3 protocol according to the CAPI 2.0 specification.

CPT_B1Configuration

The property is write only. The B1 configuration options according to the CAPI 2.0 specification.

CPT_B2Configuration

The property is write only. The B2 configuration options according to the CAPI 2.0 specification.

CPT_B3Configuration

The property is write only. The B3 configuration options according to the CAPI 2.0 specification.

CPT_LLC

Sets the Low Layer Compatibility Information for an outgoing call or retrieves them from an incoming call. The element is coded according to Q.931.

CPT_HLC

Sets the High Layer Compatibility Information for an outgoing call or retrieves them from an incoming call. The element is coded according to Q.931.

CPT_B_ChannelInfo

The property is write only and provides a flexible setting of the B-channel information. This can be used to select a specific channel for an outgoing call or to connect a special channel in leased line mode. The coding is done according to the CAPI specification.

CPT_KeypadFacility

The property is read and write and gets or sets the keypad facility information for a setup message. The element is coded according to Q.931.

CPT_UserUserInfo

The property is available for read and write and sets the user-user information for an outgoing call or retrieves them from an incoming call. The element is coded according to Q.931. If the user-user information is set before calling *DivaAlert*, the information is passed in the alert message.

CPT_FacilityDataArray

The property is available for read and write an sets the facility data information for an outgoing call or retrieves them from an incoming call. The element is coded according to Q.931.

CPT_DisplayInfo

The property is read only and reads the display information received from an incoming call.

CPT_TotalChargeUnits

The property is read only and provides the amount of charge units reported by the network.

CPT_SpecialInfoElement

The property is used for setting specific elements.

CPT_ChannelInfoElement

The property is read only and provides the channel information element as received from the line.

CPT_ProgressIndElement

The property is read only and provides the progress information element as received from the line.

CPT_GlobalConfiguration

The parameter is write only and allows to modify the "global configuration" option of the underlying CAPI interface. Currently the B channel operation mode can be switched to DCT or DTE by this parameter.

CPT_ReverseDataChannelConnect

The parameter is write only and specifies that the data channel connection is not initiated by the side that has initiated the physical connection.

CPT_CauseInfoElement

DivaCPT_CauseInfoElement is a read only property and provides the cause information element as signaled on the underlying network.

CPT_X25_ReverseRestart

DivaCPT_X25_ReverseRestart is a write only property and enables the X.25 restart sequence. The property must be set before the call is initiated or answered.

CPT_AutoDetectMode

The property is reserved for future use.

CPT_AutoDetectX75ForceX25

The property is write only. If specified, the autodetect mode for digital protocols interprets X.25 frames in layer 2 as X.25 connections.

CPT_AutoDetectMaxFrames

The property is write only and specifies the maximum amount of frames that should be used for autodetection of a digital protocol. The property is only valid if the call type is set to DivaCallTypeAutoDetect.

CPT_AutoDetectMaxSeconds

The property is write only and specifies the maximum amount of seconds for the autodetect process. The property is only valid if the call type is set to *DivaCallTypeAutoDetect*.

CPT_NoAnswerTimeout

The property is write only and specifies the amount of time in seconds to wait until the remote side picks up the call.

CPT_ConnectTimeout

The property is write only and specifies the amount of time in seconds to wait until an answered call reaches the connect state. This is typically the time to negotiate a modem or fax connection.

DivaFaxRxStoreModes

Options	Value
DivaFaxRxStorePerSession	0
DivaFaxRxStorePerDocument	1
DivaFaxRxStorePerPage	2

DivaFaxRxStorePerSession

All pages of the complete fax session are stored in one file. This is the default.

DivaFaxRxStorePerDocument

This option is reserved for future use.

DivaFaxRxStorePerPage

Each page of a fax reception is stored in separate file. This option is currently only available for color fax JPEG documents. The file names get the addition '_D1_Px' where x is the page index.

DivaScanLineMax

Options	Value
DivaScanLineUnknown	0
DivaScanLineMax215	1
DivaScanLineMax255	2
DivaScanLineMax303	3

DivaScanLineUnknown

The remote side did not provide the scan line capabilities.

DivaScanLineMax215

The remote fax is able to handle scan lines of 215 millimeters. This corresponds to the ISO A4 format.

DivaScanLineMax255

The remote fax is able to handle scan lines of 255 millimeters. This corresponds to the ISO B4 format.

DivaScanLineMax303

The remote fax is able to handle scan lines of 303 millimeters. This corresponds to the ISO A3 format.

DivaAMDResult

Options	Value
DivaAMDUserTerminated	0
DivaAMDHumanTalker	1
DivaAMDAnsweringMachine	2
DivaAMDAnsweringMachineTone	3
DivaAMDSilence	4
DivaAMDFaxOrModem	5

DivaAMDUserTerminated

The application has cancelled the answering machine detector.

DivaAMDHumanTalker

A human talker has been detected by the answering machine detector.

DivaAMDAnsweringMachine

An answering machine has answered the call.

DivaAMDAnsweringMachineTone

An answering machine has been detected by the special answering machine tone.

DivaAMDSilence

The detection timed out due to silence from the called side.

DivaAMDFaxORModem

A fax or modem has answered the call.

DivaCall Result Codes

The following table lists the result codes and their description.

Note: A result code other than *DivaSuccess* does not automatically point to a failure. Several functions return states and reasons with the result code, e.g., the voice recording returns the reason why recording ended.

DivaCall Result Codes	
Name	**Description**
DivaResultSuccess	The method succeeded.
DivaResultInvalidParameter	The parameters passed to the method are not valid.
DivaResultInvalidState	The call to this method is not valid in this state, e.g., call to a streaming function while not connected.
DivaResultInvalidFunction	The requested function is invalid. The reason may be a write operation on a read only property.
DivaResultOutOfMemory	The required memory could not be allocated from the system.
DivaResultSystemError	The underlying system environment is not ready for processing.
DivaResultDestBusy	The remote side is busy.
DivaResultNoAnswer	The remote side did not answer the call.
DivaResultUnspecific	An outgoing call failed for an unspecified reason.
DivaResultUnallocatedNumber	The number used for an outgoing call is no longer valid.
DivaResultAnotherAppGotThatCall	An incoming call could not be answered because another application was also listening and got the call.
DivaResultNoChannel	There is no channel available. All channels of the selected line device are in use.
DivaResultOpenFile	The file required for the operation could not be opened. This happens, when data is sent from a file and this file is not available. If receiving data to a file, the file could not be created.
DivaResultUnsupportedFormat	The requested format is not supported for the audio or fax processing.
DivaResultReadFile	The read operation for the file failed.
DivaResultTimeout	The reason for the termination was a timeout. Refer to the methods that use this result code for more information.
DivaResultNotSupported	The requested operation is not supported.
DivaResultTimeReached	The operation has finished because the maximum time limit has been reached.
DivaResultToneDetected	The operation has finished because a tone has been detected.
DivaResultSilenceDetected	The operation has finished because silence has been detected.
DivaResultDisconnected	The operation has finished because the call has been disconnected. The reason for disconnecting can be obtained with the property *DisconnectReason*.
DivaResultNoData	There is no data available to be retrieved by the application.
DivaResultAMDHumanTalker	A human talker has been detected by the answering machine detector.
DivaResultAMDAnsweringMachine	The answering machine detector has detected that an answering machine has answered the call.
DivaResultAMDAnsweringMachineTone	The special answering machine tone signaled the answering machine detector that an answering machine has been detected.
DivaResultAMDSilence	The answering machine detection timed out due to silence from the called side.
DivaResultAMDFaxOrModem	The answering machine detector has detected that a fax or modem has answered the call.

CHAPTER 7

DivaSystem References

DivaSystem provides information on the installed hardware and creates instances of Diva Instance. The usage of DivaSystem is optional. Applications that do not need system information for call processing may use *DivaCall* directly.

DivaSystem methods are described below. For DivaSystem properties, see DivaSystem Properties on page 122.

DivaSystem Methods

This section contains various DivaSystem methods.

GetDevice

Gets a DivaDevice object.

DeviceObject = SystemObject.GetDevice (nDevice)

Parameter

nDevice

The parameter *nDevice* specifies the device to get the object for.

Returns

The method returns a pointer to the requested object or zero if an error occurs.

Remarks

The method returns a pointer to an object of type *DivaDevice*. The device is defined by the parameter *nDevice*. The value must be in the range from 1 to the maximum amount of devices returned by the property *NumDevices*.

See also

DivaDevice, NumDevices

CreateInstance

Creates a *DivaInstance* object with specific parameter.

InstanceObject = SystemObject.CreateInstance (bBlocking, MaxConnections, BuffersPerConnect, MaxDataSize)

Parameter

bBlocking

The parameter *bBlocking* specifies the default value for the operation mode of call objects created on the instance.

MaxConnections

The parameter *MaxConnections* specifies maximum amount of calls to be created on this object.

BuffersPerConnect

The parameter *BuffersPerConnect* specifies the number of used buffers. The value should be between 2 and 10, both inclusive. The default is 4.

MaxDataSize

The parameter *MaxDataSize* specifies the maximum buffer size.

Returns

The method returns a pointer to the requested object or zero if an error occurs.

Remarks

The method returns a pointer to an object of type *DivaInstance*. Objects of *DivaInstance* and *DivaCall* could be created directly. If the application needs specific parameters for buffer and resource management, the *CreateInstance* method provides them.

The buffer size may be optimized for performance using a large buffer of up to 2Kbytes or for delay on audio calls using a smaller buffer size.

See also

DivaInstance

LoadAudioProvider

Loads an audio provider DLL.

Result = SystemObject.LoadAudioProvider (Filename)

Parameter

Filename

The parameter *Filename* specifies the audio provider DLL to be loaded.

Returns

The method returns *DivaResultSuccess* if the DLL is successfully loaded. If the DLL could not be found, the result *DivaResultOpenFile* is returned.

Remarks

The method loads the given DLL into the current process space. If the DLL requires initialization, it must export a function called 'InitializeAudioProvider'. If this function is available, it will be called once the DLL is loaded.

See also

FreeAudioProvider, ConnectAudioProvider, DisconnectAudioProvider

FreeAudioProvider

Unloads a previously loaded audio provider DLL.

Result = SystemObject.FreeAudioProvider (Filename)

Parameter

Filename

The parameter Filename specifies the audio provider DLL to be unloaded.

Returns

The method returns DivaResultSuccess if the DLL is successfully unloaded. If the DLL is not loaded the result DivaResultInvalidParameter is returned.

Remarks

The methods checks if the given DLL is loaded. If the DLL is loaded and a function named "TerminateAudioProvider" is exported, this function is called. Then, the DLL is released.

See also

LoadAudioProvider, ConnectAudioProvider, DisconnectAudioProvider

SetTraceFilename

Changes the trace file name for tracing.

SystemObject.SetTraceFilename (Filename, MaxSize)

Parameter

Filename

The parameter Filename specifies the new name of the trace file.

MaxSize (optional)

The parameter MaxSize specifies the maximum file size in Kbytes. A value of zero indicates no limitation. The default is zero.

Returns

none

Remarks

If a trace file exists the file is closed. The new file is opened, if the file exists the data is appended.

See also

TraceLevel

DivaSystem Properties

This section contains various DivaSystem properties.

NumDevices

The *NumDevices* property returns the number of installed devices.

nDevices = SystemObj.NumDevices

Type

Integer

Default value

None

Availability

Read only

Remarks

The property returns the number of installed devices. Please note that each line of a physical hardware represents one device.

See also

TotalChannels

TotalChannels

The *TotalChannels* property returns the number of data channels of all installed devices.

nChannels = SystemObj.TotalChannels

Type

Integer

Default value

None

Availability

Read only

Remarks

For information on channels per device refer to *DivaDevice*.

See also

NumDevices

TraceLevel

Sets the trace level of SDK tracing.

CallObj.TraceLevel = 6

Type

Long

Default Value

1

Availability

Write only

Remarks

The property is used to set the amount of trace information written to the trace file. A value of 0 disables the writing of trace information. A value of 1 writes error messages.

See also

SetTraceFilename

CHAPTER 8

DivaInstance References

DivaInstance can be used by applications to create call objects with preset properties. In addition call objects created on basis of DivaInstance are optimized for resource usage. The usage of DivaInstance is optional. Applications may directly use *DivaCall*. DivaInstance methods are described below. DivaInstance properties are described in DivaInstance Properties on page 127.

DivaInstance Methods

This section contains various DivaInstance methods.

CreateCall

Creates a *DivaCall* object with properties of the instance.

CallObject = InstanceObject.CreateCall ( )

Parameter

none

Returns

The method returns a pointer to the requested object or zero if an error occurs.

Remarks

The method returns a pointer to an object of type *DivaCall*. The new object has the properties set for *DivaInstance*. These are the properties, set when the instance was created. The properties can be modified on the call object.

See also

DivaCall

CreateConference

Creates a *DivaConference* object based on the instance properties.

ConferenceObject = object1.CreateConference ( )

Parameter

none

Returns

The method returns a pointer to the requested object or zero if an error occurs.

Remarks

The method creates an object of type *DivaConference* and returns a reference to the object. The object is based on the properties of the instance. The object can be used to manage conferences. The members of the conference are of type *DivaCall*.

See also

CreateCall

MWIActivate

Activates a message waiting indication.

Set bValue = object.MWIActivate (Device, Service, NumMessages, Status, Reference, Mode, ReceiveingUser, ControllingUserNumber, ControllingUserProvidedNumber, Time)

Parameter

Device

Specifies the line device on which the activation should be done. The device is an index starting from 1 to the maximum amount of devices. Refer to DivaSystem References and DivaDevice References for more information.

Service

Specifies the service that should be signaled to the switch. This identifies the media type of the message, e.g., voice or fax. For IVR systems that signal voice messages, this value must be set to 1.

NumMessages

The parameter specifies the amount of messages that should be signaled.

Status

Specifies the status, for options see DivaMWIMessageStatus.

Reference

The parameter is only valid if *Status* is not set to *DivaMWIMessageUnknown*.

Mode

The parameter specifies the invocation mode. For valid options see DivaMWIInvokeMode.

ReceivingUserNumber

The parameter specifies the extension of the user to whom the messages should be signaled.

ControllingUserNumber

This parameter depends on the used switch. Some switches use this number to authenticate the requester. This must be set in accordance with the switch configuration.

ControllingUserProvidedNumber

This parameter is switch dependent and should be set to an empty string by default.

Time

The parameter is optional. If the time is given, the format must be YYYY.MM.DD.HH.MM

Returns

If the method succeeds, the result code is *DivaResultSuccess*.

Remarks

The method activates the message waiting as defined by the given parameter. The method is synchronous and returns when the message waiting activation has been successfully initiated or an error occurred. The internal timeout for a successful operation is set to 2 seconds.

See also

MWIDeactivate

MWIDeactivate

Deactivates a message waiting indication.

Set bValue = object.MWDeactivate (Device, Service, Mode, ReceiveingUser, ControllingUserNumber)

Parameter

Device

Specifies the line device on which the deactivation should be done. The device is an index starting from 1 to the maximum amount of devices. Refer to *DivaSystem* and *DivaDevice* for more information.

Service

The parameter specifies the service that should be signaled to the switch. This identifies the media type of the message, e.g., voice or fax. For IVR systems that signal voice messages, this value must be set to 1.

Mode

The parameter specifies the invocation mode. For valid options see DivaMWIInvokeMode

ReceivingUserNumber

The parameter specifies the extension of the user to whom the messages should be signaled.

ControllingUserNumber

This parameter depends on the used switch. Some switches use this number to authenticate the requester. This must be set in accordance with the switch configuration.

Returns

If the method succeeds, the result code is *DivaResultSuccess*.

Remarks

The method deactivates the message waiting as defined by the given parameter. The method is synchronous and returns when the message waiting deactivation has been successfully initiated or an error occurred. The internal timeout for a successful operation is set to 2 seconds.

See also

MWIActivate

DivaInstance Properties

This section contains various DivaInstance properties.

LocalNumber

The *LocalNumber* property sets the default local number for call objects.

InstanceObj.LocalNumber = "012345678"

Type

String

Default value

""

Availability

Read and write

See also

LocalSubAddress

LocalSubAddress

The *LocalSubAddress* property sets the default local sub address for call objects.

InstanceObj.LocalSubAddress = "012345678"

Type

String

Default value

""

Availability

Read and write

See also

LocalNumber

VoiceEchoCanceller

The *VoiceEchoCanceller* property sets the default for enabled or disabled echo cancellation for voice calls on call objects created on this instance.

InstanceObj.VoiceEchoCanceller = True

Type

Boolean

Default value

False

Availability

Read and write

See also

No references

FaxLocalId

The *FaxLocalId* property sets the default local ID for fax calls on call objects created on this instance.

InstanceObj.FaxLocalId = "+49 xxxxxxxx"

Type

String

Default value

""

Availability

Read and write

See also

FaxHeadLine

FaxHeadLine

The *FaxHeadLine* property sets the default head line for fax calls on call objects created on this instance.

InstanceObj.FaxHeadLine = "Sent by Diva SDK"

Type

String

Default value

""

Availability

Read and write

See also

FaxLocalId

DivaInstance Defines

This section contains various DivaInstance defines.

DivaMWIMessageStatus

Option	Value
DivaMWIMessageAdded	0
DivaMWIMessageRemoved	1
DivaMWIMessageUnknown	0xffff

DivaMWIMessageAdded

The message should be added

DivaMWIMessageRemoved

The message should be removed

DivaMWIMessageUnknown

The status of the message is unknown

DivaMWIInvokeMode

Option	Value
DivaMWIInvokeDeferred	0
DivaMWIInvokeImmediate	1
DivaMWIInvokeCombined	2
DivaMWIInvokeSuppress	3

DivaMWIInvokeDeferred

Deferred invocation mode

DivaMWIInvokeImmediate

Immediate invocation mode

DivaMWIInvokeCombined

Combined invocation mode

DivaMWIInvokeSuppress

Suppress the invocation mode

CHAPTER 9

DivaDevice References

DivaDevice provides information on the installed hardware. DivaDevice objects are created by DivaSystem.

DivaDevice Properties

This section contains various DivaDevice properties.

Channels

The *Channels* property returns the number of data channels of the devices.

nChannels = DeviceObj.Channels

Type

Integer

Availability

Read only

See also

No references

SerialNumber

The *SerialNumber* property returns the serial number of the device.

nSerialNumber = DeviceObj.SerialNumber

Type

Integer

Availability

Read only

See also

No references

FaxSupported

The *FaxSupported* property returns true if the device supports fax transmission and reception.

bFax = DeviceObj.FaxSupported

Type

Boolean

Availability

Read only

See also

No references

ModemSupported

The *ModemSupported* property returns true if the device supports modem protocols.

bModem = DeviceObj.ModemSupported

Type

Boolean

Availability

Read only

See also

No references

CodecALaw

The *CodecALaw* property returns true if the line is configured for a-law voice coding. If false is returned, the line uses µ-law coding.

bCodexAlaw= DeviceObj.CodecALaw

Type

Boolean

Availability

Read only

See also

No references

VoIPSupported

The *VoIPSupported* property returns true if the device supports RTP streaming. This property is only valid for devices that are PSTN-based. The information if a device is using IP-based communication the property *IPBased* must be used.

bFax = DeviceObj.VoIPSupported

Type

Boolean

Availability

Read only

See also

IPBased

ExtendedVoiceSupported

The *ExtendedVoiceSupported* property returns true if the device supports tone detection, automatic gain control, extended conference support and other extended voice functions. In general, this is supported by the Dialogic® Diva® Media Boards having DSP support.

bFax = DeviceObj.ExtendedVoiceSupported

Type

Boolean

Availability

Read only

See also

No references

HoldRetrieveSupported

The *HoldRetrieveSupported* property returns true if the device supports the supplementary services hold and retrieve.

bFax = DeviceObj.HoldRetrieveSupported

Type

Boolean

Availability

Read only

See also

No references

TransferSupported

The *TransferSupported* property returns true if the device supports the supplementary services call transfer.

bFax = DeviceObj.TransferSupported

Type

Boolean

Availability

Read only

See also

No references

ForwardSupported

The *ForwardSupported* property returns true if the device supports the supplementary services call forwarding.

bFax = DeviceObj.ForwardSupported

Type

Boolean

Availability

Read only

See also

No references

CallDeflectionSupported

The *CallDeflectionSupported* property returns true if the device supports the supplementary services call deflection.

bFax = DeviceObj.CallForwardingSupported

Type

Boolean

Availability

Read only

See also

No references

Line

The *Line* property returns for multi-line boards to which line the object corresponds. The returned value is an index starting with one. For boards that have only one line, the value one is returned.

Line = DeviceObj.Line

Type

long

Availability

Read only

See also

No references

IPBased

The *IPBased* property returns true if the device is based on IP signaling and media streaming, e.g., H.323 or SIP.

bMedia = DeviceObj.IPBased

Type

Boolean

Availability

Read only

See also

PSTNBased, AnalogBased

PSTNBased

The *PSTNBased* property returns true if the device is based on PSTN. This includes ISDN PRI, inband signaling protocols like RBS and E1 R2 as well as analog lines.

bMedia = DeviceObj.PSTNBased

Type

Boolean

Availability

Read only

See also

IPBased, AnalogBased

AnalogBased

The *AnalogBased* property returns true if the device is based on a POTS line using an Dialogic® Diva® Analog Media Board.

bAnalog = DeviceObj.AnalogBased

Type

Boolean

Availability

Read only

See also

IPBased, PSTNBased

Layer1Status

The *Layer1Status* property returns the status of the layer 1 if supported by the device type. This is only valid for devices that are PSTN-based and not analog-based. For valid layer 1 status values, refer to DivaDeviceLayer1Status.

bL1State = DeviceObj.Layer1Status

Type

DivaDeviceLayer1Status

Availability

Read only

See also

PSTNBased, AnalogBased, Layer2Status, RedAlarm, BlueAlarm, YellowAlarm, DivaDeviceLayer1Status, AnalogLineStatus

Layer2Status

The *Layer2Status* property returns the status of the layer 2 if supported by the device type. This is only valid for devices that are PSTN-based and not analog-based. For valid layer 2 status values, refer to DivaDeviceLayer2Status.

bL1State = DeviceObj.Layer2Status

Type

DivaDeviceLayer2Status

Availability

Read only

See also

PSTNBased, AnalogBased, Layer1Status, RedAlarm, BlueAlarm, YellowAlarm, DivaDeviceLayer2Status, AnalogLineStatus

AnalogLineStatus

The *AnalogLineStatus* property returns the status of the specified analog line if supported by the device type. This is only valid for devices that are analog-based. For valid analog line status values, refer to DivaDeviceAnalogStatus.

bL1State = DeviceObj.AnalogLineStatus (1)

Type

DivaDeviceAnalogStatus

Availability

Read only

See also

PSTNBased, AnalogBased, Layer2Status, RedAlarm, BlueAlarm, YellowAlarm, DivaDeviceLayer1Status, DivaDeviceAnalogStatus

RedAlarm

The *RedAlarm* property returns the state of the red alarm. This is only valid for T1/E1-based hardware. For valid alarm status values please refer to DivaAlarmStatus.

bL1State = DeviceObj.RedAlarm

Type

DivaAlarmStatus

Availability

Read only

See also

PSTNBased, AnalogBased, Layer1Status, Layer2Status, BlueAlarm, YellowAlarm, DivaAlarmStatus

BlueAlarm

The *BlueAlarm* property returns the state of the blue alarm. This is only valid for T1/E1-based hardware. For valid alarm status values, refer to DivaAlarmStatus.

bL1State = DeviceObj.BlueAlarm

Type

DivaAlarmStatus

Availability

Read only

See also

PSTNBased, AnalogBased, Layer1Status, Layer2Status, RedAlarm, YellowAlarm, DivaAlarmStatus

YellowAlarm

The *YellowAlarm* property returns the state of the yellow alarm. This is only valid for T1/E1-based hardware. For valid alarm status values, refer to DivaAlarmStatus.

bL1State = DeviceObj.YellowAlarm

Type

DivaAlarmStatus

Availability

Read only

See also

PSTNBased, AnalogBased, Layer1Status, Layer2Status, BlueAlarm, RedAlarm, DivaAlarmStatus

DivaDevice Defines

This section contains various DivaDevice defines.

DivaDeviceLayer1Status

Option	Value
L1NotSupported	0x80000000
L1Down	0
L1Up	1
L1SyncLost	2
L1Synchronized	3

L1NotSupported

The device does not support a layer 1 status reporting.

L1Down

The layer 1 is down, typically a cable disconnect.

L1Up

The layer 1 is up and ready to exchange data.

L1SyncLost

The layer 1 has lost synchronization.

L1Synchronized

The layer 1 is synchronized but not yet fully up.

DivaDeviceLayer2Status

Option	Value
L2NotSupported	0x80000000
L2Down	0
L2Up	1
L2Closing	2
L2Activating	3
L2Initializing	4

L2NotSupported

The device does not support a layer 2 status reporting.

L2Down

The layer 2 failed to negotiate.

L2Up

The layer 2 is up and signaling messages can be exchanged.

L2Closing

The layer 2 is shutting down.

L2Activating

The layer 2 is trying to establish a connection.

L2Initializing

The layer 2 is initializing to establish a link.

DivaDeviceAnalogStatus

Option	Value
AnalogNotSupported	0x80000000
AnalogLineDown	0
AnalogLineOffHook	1
AnalogLineIdle	2
AnalogLineRing	3
AnalogLinePolarityReverse	4

AnalogNotSupported

The device is not an analog-based device.

AnalogLineDown

The analog line is down, e.g., due to a cable disconnect.

AnalogLineOffHook

The analog line is off hook.

AnalogLineIdle

The analog line is idle. An active connection to the switch is available.

AnalogLineRing

The switch is signaling an incoming call by a ring.

AnalogLinePolarityReverse

The line has reverse polarity.

DivaAlarmStatus

Option	Value
AlarmNotSupported	0x80000000
AlarmInactive	0
AlarmActive	1

AlarmNotSupported

The device does not support alarm states. Only PRI-based devices support.

AlarmInactive

The alarm is inactive, which indicates a well running system.

AlarmActive

The alarm condition is active.

CHAPTER 10

DivaConference References

The Diva Component API handles conferences on a DivaConference object. The object allows for managing a conference with unlimited members. The conference - including mixing and automatic gain control - is handled by the underlying Diva communication platform. Members of the conference are of the type DivaCall.

The conference object is created based on a DivaInstance. The method CreateConference returns an object of type DivaConference. On this object, calls can be added to the conference and therefore become conference members. A call may be removed at any time. All calls to add or remove a call are synchronous calls.

Applications may want to stream a conference object or may want to record the conference. The conference object provides methods to stream and record audio that are similar to the streaming and recording on a DivaCall object. The streaming can be synchronous or asynchronous. The conference object provides an event interface for notifications when the streaming or recording ends.

The streaming is done on a so called "virtual master call". The conference object provides that the virtual master is automatically switched if needed, e.g., the master is removed from the conference or is disconnected. However, applications may want to control this in order to stream an announcement to a single member. The conference object provides methods to detect if a member is currently the virtual master and also to select a different member as master.

DivaConference Methods

All methods of DivaConference are synchronous methods. When the methods return, the operation has been done and the result code contains the success or failure reason.

Add

Adds a new member to the conference.

retVal = ConfObject.Add (CallObject, Rights)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the member to be added.

Rights

The parameter *Rights* specifies the rights of the new member.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method adds the DivaCall object identified as parameter *CallObject* to the conference. The new member gets the rights specified by the parameter *Rights*. For valid rights, see DivaConfMemberRights. By default, the rights speak and listen are granted.

See also

Remove, SetRights, Clear, MemberCount

Remove

Removes a member from the conference.

retVal = ConfObject.Remove (CallObject)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the member to be removed.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method removes the DivaCall object identified as parameter *CallObject* from the conference.

See also

Add, SetRights, Clear, MemberCount

SetRights

Modifies the rights of the conference member.

retVal = ConfObject.SetRights (CallObject, Rights)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the member.

Rights

The parameter *Rights* specifies the rights to be granted to the member.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method modifies the right of the conference member identified by the parameter CallObject. The member must have been added to the conference previously by the *Add* method. The member gets the rights specified by the parameter *Rights*. For valid rights see DivaConfMemberRights. By default, the rights speak and listen are granted.

See also

Add, Remove, Clear, MemberCount

Clear

Clears the conference and optionally disconnects the members.

retVal = object1.Clear (bDisconnect)

Parameter

bDisconnect

BOOL value indicating if the calls should be disconnected.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

The method removes the members from the conference and releases the conference. The conference is no longer available after a call to this method and must be deleted. If the parameter *bDisconnect* is set, the calls that were members of the conference are disconnected.

See also

Add, Remove, SetRights, MemberCount

IsMaster

Retrieves the information if the specified call object is the master call of the conference.

Set bValue = object.IsMaster (CallObject)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the call for which the information about virtual master is returned.

Returns

True if the call object is the virtual master. If the call object is not a member or the call is not the virtual master, the method returns false.

Remarks

The method verifies if the specified call object is part of the conference and if it is the current virtual master call. This is a synchronous method.

See also

IsMember, SetMaster

IsMember

Retrieves the information if the specified call object is the member of the conference.

Set bValue = object.IsMember (CallObject)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the call for which the information about membership is returned.

Returns

True if the call object is part of the conference. If the call object is not a member, the method returns false.

Remarks

The method verifies if the specified call object is part of the conference. This is a synchronous method.

See also

IsMaster, SetMaster

SetMaster

Changes the current virtual master call.

Set Result = ConfObject.SetMaster (CallObject)

Parameter

CallObject

The parameter *CallObject* is of type DivaCall and specifies the call that should be the new virtual master call.

Returns

If the function succeeds, the result code is *DivaResultSuccess* (0).

Remarks

The method verifies if the specified call object is part of the conference and if it is not the current master call. Before switching the master call, the streaming on this call is terminated. Any pending streaming on the conference object is not interrupted by switching the master call.

Applications may switch the virtual master call because an announcement to a single conference member should be done. If this member is currently the virtual master call, the streaming would be heard by the members. This is a synchronous method.

See also

IsMember, IsMaster

SendVoiceFile

Streams audio information from a file.

retVal = object.SendVoiceFile (Filename, Format)

Parameter

Filename

The parameter *Filename* is a string value that specifies the file to be streamed. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioAutodetect*.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendVoiceFile opens the given file and streams the data. If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file header.

The file name may include drive / network share and path information. If only the file name is given, only the current directory is searched.

SendVoiceFile is an asynchronous method. If asynchronous mode is disabled, the method blocks the caller until the streaming is completed. A return code of *DivaSuccess* indicates that the streaming has finished successfully. If events are enabled, the termination of the streaming is signaled by a call to the event method *OnVoiceStreamed*.

See also

SendVoiceFiles, StopSending, RecordVoiceFile, StopRecording

SendVoiceFiles

Streams audio information from one or more files.

retVal = object.SendVoiceFiles (Filename, Format, Continuous, MaxSeconds)

Parameter

Filename

The parameter *Filename* is a string value that specifies the files to be streamed. The single files to be streamed are separated by commas. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioAutodetect*.

Continuous (optional)

The parameter *Continuous* is a Boolean value. If set, the audio streaming is repeated until the maximum time is reached or the call is disconnected. The parameter is optional and the default is false.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value that specifies the maximum time the audio should be streamed. A value of zero specifies no limitation. The parameter is optional and the default is no timeout.

Returns

If the method succeeds, the return value is *DivaResultSuccess* (0). In case of an error, the method returns an error code.

Remarks

SendVoiceFiles streams the audio information from the files. No gap will occur between the different files. The parameter *Filename* contains the files to be streamed. The files are separated by commas.

If the parameter *Format* is set to *DivaAudioAutodetect*, the format is automatically detected from the file header. If the format is not set to *DivaAudioAutodetect*, the files must have the same audio format.

SendVoiceFiles is an asynchronous method. If asynchronous mode is disabled, the method blocks the caller until the streaming is completed. A return code of *DivaSuccess* indicates that the streaming has finished successfully. If events are enabled, the termination of the streaming is signaled by a call to the event method *OnVoiceStreamed*.

See also

SendVoiceFile, StopSending, RecordVoiceFile, StopRecording

StopSending

Terminates the streaming of the voice data.

object.StopSending ( )

Parameter

None

Returns

None

Remarks

This is a synchronous method. If events are enabled, a confirmation via a call to the event method *OnVoiceStreamed* is signaled.

The method terminates pending data that is streaming. If audio streaming is active, pending audio buffers are discarded, and the streaming stops right away.

See also

SendVoiceFile, SendVoiceFiles, RecordVoiceFile, StopRecording

RecordVoiceFile

Records audio to a file. Optionally, it stops recording after a specified time.

retVal = object.RecordVoiceFile (Filename, Format, MaxSeconds)

Parameter

Filename

The parameter *Filename* is a string value that specifies the files to be streamed. The individual files to be streamed are separated by commas. See Remarks.

Format (optional)

The parameter *Format* is a long value that specifies the file format. The parameter is optional. The default value is *DivaAudioDefault*.

MaxSeconds (optional)

The parameter *MaxSeconds* is a long value and specifies the maximum recording length in seconds. A value of zero indicates no timeout. The parameter is optional and the default is no timeout.

Returns

In asynchronous mode, the return value is *DivaResultSuccess* (0) if successful. In case of an error, the method returns an error code. If the function is called with disabled asynchronous mode, the return value depends on the operation mode and the parameters. See Remarks.

Remarks

The method records the audio information to the specified file. The file name may include drive / network share and path information.

If only the file name is given, the file is placed in the current directory. If the parameter *Format* is set to *DivaAudioDefault*, the format is set to PCM 8 KHz Mono.

RecordVoiceFile is an asynchronous method. If asynchronous mode is disabled, the method blocks until one of the following occurs:

- The last member is removed from the conference. The return value is *DivaResultDisconnected*.
- *MaxSeconds* is set to non-zero and the timeout has been reached. The return value is *DivaResultTimeReached*.
- If events are enabled the termination of the streaming is signaled by a call to the event method *OnVoiceStreamed*.

See also

SendVoiceFile, SendVoiceFiles, StopSending, StopRecording

StopRecording

Terminates the recording of voice data.

object.StopRecording ( )

Parameter

None

Returns

None

Remarks

This is a synchronous method. If events are enabled a confirmation via a call to the event method *OnRecordEnded* is signaled. The recorded file is closed and can be accessed when the function returns.

See also

SendVoiceFile, SendVoiceFiles, StopSending, RecordVoiceFile

DivaConference Properties

This section contains various DivaConference Properties.

MemberCount

Gets the amount of calls in the conference.

Dim MemberCount as long

MemberCount = ConfObject.MemberCount

Type

long

Availability

Read only

Remarks

The property returns the amount of members in the conference.

See also

No references.

AsyncMode

Sets the operation mode to synchronous or asynchronous.

CallObj.AsyncMode = True

Type

Boolean

Default value

False

Availability

Read and write

Remarks

The *AsyncMode* property is available for reading and writing. On write it enables or disables the asynchronous mode. On read it returns the current state of the operation mode. A value of false for the *AsyncMode* sets the operation mode to synchronous, which is the default.

Note: The signaling of the events is not changed by this property but by *SignalEvents*.

See also

SignalEvents

SignalEvents

Enables or disables the signaling of events.

CallObj.SignalEvents = True

Type

Boolean

Default value

False

Availability

Read and write

Remarks

The *SignalEvents* property is available for reading and writing. On write it enables or disables the signaling of events. On read it returns the current state of the event signaling.

Note: This property does not change between synchronous and asynchronous operation mode.

See also

AsyncMode

DivaConference Defines

This section contains various DivaConference Defines.

DivaConfMemberRights

Conference members have by default the rights to speak and to listen. The rights can be modified at any time. The following rights are available:

```
typedef enum
{
        DivaConfMemberRightSpeak = 1,
        DivaConfMemberRightListen = 2,
        DivaConfMemberRightSpeakListen = 3
} DivaConfMemberRights;
```

DivaConfMemberRightSpeak

The member is allowed to speak to the members that have listen rights.

DivaConfMemberRightListen

The member is allowed to listen to the conference.

DivaConfMemberRightSpeakListen

The member is allowed to listen to the conference and also to speak to the other members that have listen rights.

DivaConference Events

This section contains various DivaConference Events.

OnVoiceStreamed

The event *OnVoiceStreamed* is triggered when the audio streaming on the conference object has finished.

ConferenceObject_OnVoiceStreamed (Reason As LONG)

Parameter

Reason

The parameter contains the reason for signaling the event. See Remarks.

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the streaming, initiated by one of the streaming functions, has finished.

The reason for signaling the event may be DivaSendVoiceEndReason_Cancelled, if the user terminates the streaming. If a continous streaming wraps around, the reason is DivaSendVoiceEndReason_Restarted.

See also

SignalEvents, SendVoiceFile, SendVoiceFiles

OnRecordEnded

The event *OnRecordEnded* is triggered when the audio recording has finished.

Conferencet_OnRecordEnded (Reason as LONG)

Parameter

Reason

The parameter contains the reason for signaling the event. See Remarks.

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the recording, initiated by *RecordVoiceFile*, has finished.

The parameter *Reason* specifies the reason of the end, either the maximum duration has been reached or the user terminated the recording.

See also

SignalEvents, RecordVoiceFile

OnMembersChanged

The event *OnMembersChanged* is triggered when the member information of the conference has changed.

Conference_OnMembersChanged ( )

Parameter

None

Remarks

The signaling of events must be enabled using the property *SignalEvents*. The event is signaled when the member information changes, e.g., because a call is disconnected and therefore implicitly removed from the conference.

See also

No references.

CHAPTER 11

DivaToneResult References

The object DivaToneResult is used to retrieve the detector result for a single or dual tone. The usage of the object is optional. Applications that use the DivaCall events *OnSingleToneDetected* or *OnDualToneDetected* and only need the detected frequencies, do not require this object.

Applications that work in synchronous mode or require additional information, e.g., energy of the detected tone must obtain a DivaToneResult object via GetToneDetectorResult. The method returns an object if available. Note that the application is responsible for cleanup of the object.

DivaToneResult Properties

The following table lists the properties, their types, availability and description.

Property Name	Type	Available for	Description
DualTone	Boolean	Single / Dual	If true, dual tone, else single tone.
SignalNoiseRatio	Long	Single / Dual	Signal to noise ratio in dB.
Frequency	Long	Single	Frequency in Hz.
Energy	Long	Single	Energy in dB.
AmplitudeVariation	Long	Single	Variation of the amplitude during detection in dB.
FrequencyVariation	Long	Single	Variation of the frequency during the detection in dB.
FrequencyToneLow	Long	Dual	Frequency of the lower tone in Hz.
FrequencyToneHigh	Long	Dual	Frequency of the higher tone in Hz.
EnergyToneLow	Long	Dual	Energy of the lower tone in Hz.
EnergyToneHigh	Long	Dual	Energy of the lower tone in Hz.

Using DivaToneResult

The following sample script shows the usage of the object DivaToneResult in asynchronous and synchronous environments.

Asynchronous processing

The following script extract contains the handler for the connect event (Call_OnConnected) and for the detection event of a single tone (Call_OnSingleToneDetected). The Call_OnConnect handler enables the single tone detector for tones with a minimum duration of 100 milliseconds. The Call_OnSingleToneDetector prints the frequency given with the event and retrieves the additional information like energy and prints them as well.

```
sub Call_OnConnected
   wscript.echo "Connected..."
   Result = CallObj.EnableSingleToneDetector(100)
   wscript.echo "Enable detector returned: " & Result
end sub



sub Call_OnSingleToneDetected ( Frequency )
   If (Frequency <> 0 ) Then
      wscript.echo "Single tone detected, Frequency: " & Frequency
      Set ToneObj = CallObj.GetToneDetectorResult ()
      If ( ToneObj Is Nothing ) Then
            wscript.echo "No Tone Information"
      Else
            wscript.echo "Signal to Noice Ratio " &
                          ToneObj.SignalNoiseRatio
            wscript.echo "Frequency " & ToneObj.Frequency & "
                          Energy " & ToneObj.Energy
            wscript.echo "Variation (A/F) " &
                          ToneObj.AmplitudeVariation & "/" & _
                          ToneObj.FrequencyVariation
      End If
   Else
      wscript.echo "Single tone ended”
   End If

end sub
```

Synchronous processing

The following sample script for synchronous processing initiates an outbound call. Once the call is connected it enables the single tone detector for tones in the range of 1000 to 1590 Hz. Then it streams an audio file in synchronous mode. Once a tone is detected the method SendVoiceFile terminates with the result code DivaResultToneDetected (21). The script retrieves the details for the tone via GetToneDetectorResult and prints the detection result retrieved via the properties of the returned DivaToneResult object.

```
Dim ToneObj

Set CallObj = CreateObject ( "DivaSDK.DivaCall" )

wscript.echo "Connecting to <11223344>"
retVal = CallObj.Connect ( "11223344" )
If ( retVal = DivaResultSuccess ) Then
     CallObj.EnableSingleToneDetector(100)
     CallObj.SingleToneDetectorMinFrequency = 1000
     CallObj.SingleToneDetectorMaxFrequency = 1590
     wscript.echo "Connected, stream message"
     retVal = CallObj.SendVoiceFile ("testlong.wav")
     If ( retVal = 0 ) Then
         wscript.echo "Voice file successfully streamed."
     Else
         If (retVal = 21 ) Then
              wscript.echo "Streaming stopped, Tone received."

              Set ToneObj = CallObj.GetToneDetectorResult ()
              If ( ToneObj Is Nothing ) Then
                  wscript.echo "No Tone Information"
              Else
                  wscript.echo "Frequency " & ToneObj.Frequency &
                                " Energy " & ToneObj.Energy
                  wscript.echo "Signal to Noice Ratio " &
                                ToneObj.SignalNoiseRatio
                  wscript.echo "Variation (A/F) " &
                                ToneObj.AmplitudeVariation & "/" &
                                _ ToneObj.FrequencyVariation
              End If

             wscript.Sleep(5000)
         Else
              wscript.echo "Voice sent failed with result: " &
                           retVal
         End If
     End If

    wscript.echo "Disconnecting"
    CallObj.Disconnect ( )
Else
    wscript.echo "Connect failed with result: " & retVal
End If
```