



UDPPort Control (TM) Version 1.01

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Description

The UDPPort control is used to facilitate UDP (datagram) communications. It can act both as a client and a server and communicate with any number of hosts simultaneously, as well as generate broadcast packets.

File Name

UDPPORT.VBX

Object Type

UDPPort

Remarks

UDPPort needs a Winsock 1.1 compliant TCP/IP subsystem. WINSOCK.DLL must be available in the system path before the control can be used. The Winsock version supported must be at least 1.1.

The interface of the control is similar to the interface of IPPort, only much simpler. The control is activated/deactivated by using the [Active](#) property. This property enables/disables sends/receives. The data can be sent in the same way as IPPort, using the [DataToSend](#) property. The destination is specified using the [RemoteHost](#) and [RemotePort](#) properties. Inbound data is received through the [DataIn](#) event.

Different from IPPort, UDPPort has no equivalent of a connection. The control can receive datagrams (packets) from any host, and send datagrams to any host. Packets can be broadcasted on the local net by setting the destination to 255.255.255.255.

The operation of the control is completely asynchronous. All the calls except the ones that deal with host name and address resolution, operate through Windows messages (no blocking calls). The gain in performance is considerable when compared to using blocking calls. The only drawback is what some people perceive as "unnatural" programming, but if you were brave enough to come to this sentence, you will be doing fine.

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AcceptDataPREF_AcceptData
ActivePREF_Active
BytesSentPREF_BytesSent
ConnectedPREF_Connected
DataInPREF_DataIn
DataToSendPREF_DataToSend
EOLPREF_EOL
HostPREF_Host
HostAddressPREF_HostAddress
HostNamePREF_HostName
InBufferSizePREF_InBufferSize
LingerPREF_Linger
ListeningPREF_Listening
LocalHostPREF_LocalHost
LocalHostNamePREF_LocalHostName
LocalPortPREF_LocalPort
NullsToSendPREF_NullsToSend
OutBufferSizePREF_OutBufferSize
PortPREF_Port
RemoteHostPREF_RemoteHost
RemotePortPREF_RemotePort
WinsockInfoPREF_WinsockInfo
ActionPREF_Action
EncodedDataPREF_EncodedData
DecodedDataPREF_DecodedData
FileNamePREF_FileName
FileCntPREF_FileCnt
FileCntPREF_FileCnt
FormatPREF_Format
IntellicodePREF_Intellicode
MaxFileSizePREF_MaxFileSize
OverwritePREF_Overwrite
ProgressStepPREF_ProgressStep

DecodingUREF_ENCODING
EncodingUREF_ENCODING
UUDecodingUREF_UU_ENCODING
UUEncodingUREF_UU_ENCODING
Base64 DecodingUREF_BASE64_ENCODING
Base64 EncodingUREF_BASE64_ENCODING
Quoted Printable DecodingUREF_QP_ENCODING
Quoted Printable EncodingUREF_QP_ENCODING

ConnectedEREF_Connected
ConnectionRequestEREF_ConnectionRequest
DataInEREF_DataIn
DisconnectedEREF_Disconnected
ReadyToSendEREF_ReadyToSend
ProgressEREF_Progress

EncodeFREF_Encode
DecodeFREF_Decode

True

False
Boolean (Integer)
Integer
Long
String
"" (*empty string*)

".uue", ".b16", or ".q_p"

Error CodesERROR_CODES
Exported FunctionsEXPORTED_FUNCTIONS

UDPPort

UDPPORT.VBX

udpportcontrol

1.0

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\$25

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5286

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Comments:

Properties

* <u>Active</u>	Name
* <u>DataToSend</u>	* <u>OutBufferSize</u>
* <u>InBufferSize</u>	* <u>RemoteHost</u>
Index	* <u>RemotePort</u>
Left	Top
* <u>LocalHostName</u>	* <u>WinsockInfo</u>
* <u>LocalPort</u>	

Active Property

Description

This property enables/disables data communications for the control.

Usage

`[form.][udpportcontrol.]Active[= value]`

Default Value

False

Remarks

Setting the **Active** property to **True** makes UDPPort create a communication endpoint (socket) which can be used for sending and receiving UDP datagrams. Setting it to **False** destroys the socket and disables data communications.

Data Type

Boolean (Integer)

DataToSend Property

Description

DataToSend is an action property. Assigning a Visual Basic string to this property makes the control send the string to the remote host (note that a Visual Basic string can contain control as well as NULL characters).

Usage

[*form.*][*udpportcontrol.*]**DataToSend**[= *value*]

Default Value

"" (*empty string*)

Remarks

If you are sending data to the remote host faster than it can process it, or faster than the network bandwidth allows, the outgoing queue might fill up. When this happens, **DataToSend** fails with error 25036: "[10035] Operation would block" (WSAEWOULDBLOCK). Then you can wait for the ReadyToSend event before attempting to send data again.

Different from IPPort and IPDaemon, if **DataToSend** fails, no data is sent (i.e. the packet is not broken). Also, if the assigned value is larger than the maximum datagram size that the underlying TCP/IP subsystem supports, an error is fired, and no data is sent. A good rule of thumb is to keep datagrams between 1-2KB in size (or smaller, of course).

This property is write-only and not available in design mode.

Data Type

String

InBufferSize Property

Description

Specifies the size (in bytes) of the receiving queue in the underlying TCP/IP provider.

Usage

[form.][*udpportcontrol.*]**InBufferSize**[= *value*]

Default Value

2048

Remarks

This is the size of an internal queue in the TCP/IP provider. You can increase or decrease its size depending on the amount of data that you will be receiving. Increasing **InBufferSize** can provide drastic improvements in performance in some cases.

Some TCP/IP implementations do not support variable buffer sizes. If that is the case, when a new connection is accepted, **InBufferSize** reverts back to its allowable size. The same happens if you attempt to make it too large or too small.

Data Type

Integer

LocalHostName Property

Description

Specifies the domain name of the local host.

Usage

`[form.][udpportcontrol.]LocalHostName`

Default Value

"" (*empty string*)

Remarks

This property is read-only.

Data Type

String

LocalPort Property

Description

Specifies the IP port of the local host.

Usage

[*form.*][*udpportcontrol.*]**LocalPort**[= *value*]

Default Value

0

Remarks

The **LocalPort** property must be set before when the **Active** property is set to **True**. It instructs the control to *bind* to a specific port (or communication endpoint) in the local machine.

Setting it to **0** (default) enables Winsock to choose a port at random. The chosen port will be shown by the **LocalPort** property when the **Active** property is set to **True**.

LocalPort cannot be changed once the control is active. Any attempt to set the **LocalPort** property when the control is active will generate an error.

Data Type

Integer

OutBufferSize Property

Description

Specifies the size (in bytes) of the outgoing queue in the underlying TCP/IP provider.

Usage

```
[form.][udpportcontrol.]OutBufferSize[ = value]
```

Default Value

2048

Remarks

This is the size of an internal queue in the TCP/IP provider. You can increase or decrease its size depending on the amount of data that you will be receiving. Increasing **OutBufferSize** can provide drastic improvements in performance in some cases.

Some TCP/IP implementations do not support variable buffer sizes. If that is the case, when a new connection is accepted, **OutBufferSize** reverts back to its allowable size. The same happens if you attempt to make it too large or too small.

Data Type

Integer

RemoteHost Property

Description

Specifies the IP number of the remote host in Internet dotted format.

Usage

[form.][udpportcontrol.]RemoteHost[= value]

Default Value

0.0.0.0

Remarks

The **RemoteHost** property specifies the destination of UDP datagrams sent through UDPPort. The value of this property can be changed at any time, sending data to another destination.

Setting **RemoteHost** to 255.255.255.255 enables broadcasts on the local net.

Data Type

String

RemotePort Property

Description

Specifies the IP port of the remote host.

Usage

[form.][*udpportcontrol.*]**RemotePort**[= *value*]

Default Value

0

Remarks

The **RemotePort** can be changed at any time, thus changing the destination of the datagrams sent through UDPPort.

Data Type

Integer

WinsockInfo Property

Description

Provides information about the underlying TCP/IP (Winsock) provider.

Usage

`[form.][udpportcontrol.]WinsockInfo`

Default Value

"" (*empty string*)

Remarks

WinsockInfo returns a string up to 256 bytes long provided by the underlying Winsock subsystem.

If Winsock fails to initialize successfully, **WinsockInfo** contains the string "Not Initialized." followed by a description of the error condition.

The property is read-only.

Data Type

String

Events

*DataIn

*ReadyToSend

DataIn Event

Description

Occurs when data arrives from the remote host.

Syntax

Sub *udpportcontrol_ConnectionRequest*(*Datagram As String*, *SourceAddress As String*, *SourcePort As Integer*)

Remarks

The **DataIn** event is fired every time a new datagram is received.

Datagram contains the packet as sent by the remote host.

SourceAddress contains the IP number (Internet address) of the remote host, and *SourcePort* contains the port from which the packet originated.

ReadyToSend Event

Description

Indicates that the underlying TCP/IP subsystem is ready to accept data and send them to the remote host.

Syntax

Sub *udpportcontrol_ReadyToSend()*

Remarks

The **ReadyToSend** event is fired when UDPPort is ready to accept data again after a failed DataToSend. (This can happen when the send buffers get full because the remote host(s) cannot accept data as fast as they are generated).

Error Codes

The following is a list of the trappable errors fired by UDPPort:

UDPPort Internal Errors

- 20106 Winsock error code outside normal range.
- 20107 You cannot change the LocalPort while UDPPort is Active.
- 20110 UDPPort must be active for this operation.

Winsock Errors

The error message descriptions show the corresponding Winsock error number. The corresponding Visual Basic error code can be obtained by adding 15001 to the number displayed in the message and vice-versa.

25005	(WSAEINTR)	[10004]	Interrupted system call.
25010	(WSAEBADF)	[10009]	Bad file number.
25014	(WSAEACCES)	[10013]	Permission denied.
25015	(WSAEFAULT)	[10014]	Bad address.
25023	(WSAEINVAL)	[10022]	Invalid argument.
25025	(WSAEMFILE)	[10024]	Too many open files.
25036	(WSAEWOULDBLOCK)	[10035]	Operation would block.
25037	(WSAEINPROGRESS)	[10036]	Operation now in progress.
25038	(WSAEALREADY)	[10037]	Operation already in progress.
25039	(WSAENOTSOCK)	[10038]	Socket operation on non-socket.
25040	(WSAEDESTADDRREQ)	[10039]	Destination address required.
25041	(WSAEMSGSIZE)	[10040]	Message too long.
25042	(WSAEPROTOTYPE)	[10041]	Protocol wrong type for socket.
25043	(WSAENOPROTOOPT)	[10042]	Bad protocol option.
25044	(WSAEPROTONOSUPPORT)	[10043]	Protocol not supported.
25045	(WSAESOCKTNOSUPPORT)	[10044]	Socket type not supported.
25046	(WSAEOPNOTSUPP)	[10045]	Operation not supported on socket.
25047	(WSAEPFNOSUPPORT)	[10046]	Protocol family not supported.
25048	(WSAEAFNOSUPPORT)	[10047]	Address family not supported by protocol family.
25049	(WSAEADDRINUSE)	[10048]	Address already in use.
25050	(WSAEADDRNOTAVAIL)	[10049]	Can't assign requested address.
25051	(WSAENETDOWN)	[10050]	Network is down.
25052	(WSAENETUNREACH)	[10051]	Network is unreachable.
25053	(WSAENETRESET)	[10052]	Net dropped connection or reset.
25054	(WSAECONNABORTED)	[10053]	Software caused connection abort.
25055	(WSAECONNRESET)	[10054]	Connection reset by peer.
25056	(WSAENOBUFS)	[10055]	No buffer space available.
25057	(WSAEISCONN)	[10056]	Socket is already connected.
25058	(WSAENOTCONN)	[10057]	Socket is not connected.
25059	(WSAESHUTDOWN)	[10058]	Can't send after socket shutdown.
25060	(WSAETOOMANYREFS)	[10059]	Too many references, can't splice.
25061	(WSAETIMEDOUT)	[10060]	Connection timed out.
25062	(WSAECONNREFUSED)	[10061]	Connection refused.
25063	(WSAELOOP)	[10062]	Too many levels of symbolic links.
25064	(WSAENAMETOOLONG)	[10063]	File name too long.
25065	(WSAEHOSTDOWN)	[10064]	Host is down.

25066	(WSAEHOSTUNREACH)	[10065]	No Route to Host.
25067	(WSAENOTEMPTY)	[10066]	Directory not empty.
25068	(WSAEPROCLIM)	[10067]	Too many processes.
25069	(WSAEUSERS)	[10068]	Too many users.
25070	(WSAEDQUOT)	[10069]	Disc Quota Exceeded.
25071	(WSAESTALE)	[10070]	Stale NFS file handle.
25072	(WSAEREMOTE)	[10071]	Too many levels of remote in path.
25092	(WSASYSNOTREADY)	[10091]	Network SubSystem is unavailable.
25093	(WSAVERNOTSUPPORTED)	[10092]	WINSOCK DLL Version out of range.
25094	(WSANOTINITIALISED)	[10093]	Successful WSASTARTUP not yet performed.
25102	(WSAHOST_NOT_FOUND)	[11001]	Host not found.
25103	(WSATRY_AGAIN)	[11002]	Non-Authoritative Host not found (try again).
25104	(WSANO_RECOVERY)	[11003]	Non-Recoverable error.
25105	(WSANO_DATA)	[11004]	Valid name, no data record for requested name.

