

## Re: How do I stop a Winsock from buffering characters?

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*Source:*

<http://www.tech-archive.net/Archive/WindowsCE/microsoft.public.windowsce.embedded/2007-07/msg00039.html>

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- *From:* "Paul G. Tobey [eMVP]" <p space tobey no spam AT no instrument no spam DOT com>
  - *Date:* Thu, 5 Jul 2007 09:17:10 -0700
- 

Sure, I can send whatever I want. How the receiver does something with it might not look like it was received that way, but that's going to depend on the timing and form of the receives, not just how the bytes go out over the network. I can verify that the Nagle algorithm is disabled by simply looking at the packets (you *\*do\** have a network analyzer or a PC program that does it, right?!) When I call send twice in a row, the setting of the Delay property determines whether one or two packets goes.

The client is just doing this to send:

```
// Send the data, twice, and see if the Nagle
// setting does anything.
if ( client != null )
{
    NetworkStream ns = client.GetStream();
    BinaryWriter bw = new BinaryWriter( ns, System.Text.Encoding.ASCII );
    // Get the data to be written.
    string data = SendDataEdit.Text;
    bw.Write( data );
    bw.Write( data );
}
```

Since you seem to be using the Microsoft Web client, I can't really send everything; attachments won't be visible, unless they've changed something recently...

Paul T.

Re: How do I stop a Winsock from buffering characters?

"Don" <Don@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message  
news:08299AFB-5057-4008-90BB-4A9787BC4B4A@xxxxxxxxxxxxxxxxxxxx

Hi Paul,

Thanks for your help. So you have been able to send one character at a time? I have set the property NoDelay on both my client and server app and I am not seeing this? Would I be able to have a copy of your test code? Maybe I can figure it out like that?

Thanks in advance

--

Don

"Paul G. Tobey [eMVP]" wrote:

In case you're wondering, the NoDelay property *does* control the Nagle algorithm (as I just verified). I have no problems with losing characters.

I'm using a BinaryReader on one end and a BinaryWriter on the other end...

Paul T.

"Paul G. Tobey [eMVP]" <p space tobey no spam AT no instrument no spam DOT com> wrote in message  
news:uvYCOVbYHHA.4796@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

And? I'm unconvinced that that property controls the Nagle algorithm

as

it's applied at the OS level to the socket. To be sure, you might try

doing client.Client.SetSocketOption(SocketOptionLevel.Tcp,

SocketOptionName.NoDelay, 1 ), just to be sure. If that doesn't seem

to

be doing anything (not as far as what characters actually get through,

but

as far as the delay), I don't know what to tell you; it should work.

Paul T.

Re: How do I stop a Winsock from buffering characters?

"Don" <Don@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message  
[news:9656221D-D40F-408A-8F76-FF4BD8C2C615@xxxxxxxxxxxxxxxxxxxx](mailto:news:9656221D-D40F-408A-8F76-FF4BD8C2C615@xxxxxxxxxxxxxxxxxxxx)

Hi Paul

I changed my code to the following:

```
try
{
client.NoDelay = true;
Stream s = client.GetStream();
StreamReader sr = new StreamReader(s);
StreamWriter sw = new StreamWriter(s);
sw.AutoFlush = true;
//Console.WriteLine(sr.ReadLine());
Int32 var1 = 0x01;
Int32 var2 = 0x02;
string myString =
"abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOPQRSTUVWXYZzyxwvutsrq
int iCounter = 1;
while (true)
{
/*
Console.Write("Name: ");
name = Console.ReadLine();
sw.WriteLine(name);
if (name == "") break;
Console.WriteLine(sr.ReadLine());
*/
if (iCounter != 0)
{
iCounter--;
sw.Write(myString);
sw.Flush();
}
// sw.Write(var2);
// sw.WriteLine("test string");
// Console.WriteLine(sr.ReadLine());
}
s.Close();
}
finally
{
// code in finally block is guranteed
// to execute irrespective of
// whether any exception occurs or does
// not occur in the try block
client.Close();
}
```

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Notice I set  
client.NoDelay = true;  
This has no effect.

--  
Don

"Paul G. Tobey [eMVP]" wrote:

"Right away" isn't going to happen easily. That's a function of TCP/IP. There's a lot of data wrapped around any packet that's sent over the network and wrapping a single byte is a serious waste of bandwidth. The TCP stack will automatically stick bytes together into larger groups, if they are sent close to one another in time, attempting to avoid exactly what you're trying to do. You can turn that off, but, if this is part of your real design, it's a bad design.

If you feel like this has to be done for testing, you want to set a socket option to turn off the Nagle algorithm. That should be documented in whatever the socket option setting call for managed code is. It might be

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something like  
TCP\_NODELAY, which is  
what it is in native  
code/WinSock.

Paul T.

"Don"

<Don@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>

wrote in message

[news:0B5F1EA6-459C-4EFE-B556-800FB22FA7F2@xxxxxxxxxxxxxxxxxxxx](mailto:news:0B5F1EA6-459C-4EFE-B556-800FB22FA7F2@xxxxxxxxxxxxxxxxxxxx)

Hi Paul,

Byte the  
way I am  
executing  
this code on  
the same  
PC. I did try  
changing  
the client to  
sent it like  
this:

```
try
{
Stream s =
client.GetStream();

StreamReader
sr = new
StreamReader(s);
StreamWriter
sw = new
StreamWriter(s);
sw.AutoFlush
= true;
//Console.WriteLine(sr.ReadLine());
Int32 var1 =
0x01;
Int32 var2 =
0x02;
string
myString =
"abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ
System.Text.ASCIIEncoding
encoding =
new
System.Text.ASCIIEncoding();
byte[]
```

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```
bCommand
=
encoding.GetBytes(myString);

int iCounter
= 1;
while (true)
{
/*
Console.Write("Name:
");
name =
Console.ReadLine();
sw.WriteLine(name);
if (name ==
"") break;
Console.WriteLine(sr.ReadLine());
*/
if (iCounter
!= 0)
{
iCounter--;
sw.Write(bCommand);
sw.Flush();
}
//
sw.Write(var2);
//
sw.WriteLine("test
string");
//
Console.WriteLine(sr.ReadLine());
}
s.Close();
}
finally
{
// code in
finally
block is
guranteed
// to execute
irrespective
of
// whether
any
exception
occurs or
does
// not occur
in the try
```

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```
block  
client.Close();  
}
```

Doing this  
causes the  
MessageService()  
to never get  
called no  
matter  
howmany  
characters I  
add to the  
string. I just  
wan to send  
one  
character  
at a  
time  
from the  
client code  
and have  
the server  
see it right  
away. How  
do  
I  
do  
it?  
Thanks in  
advance

The

--

Don

"Paul G.  
Tobey  
[eMVP]"  
wrote:

A  
little  
too  
much  
code  
to  
read

Re: How do I stop a Winsock from buffering characters?

in-line...

I  
don't  
see  
the  
server  
reads  
that  
you're  
talking  
about  
as  
having  
dropped  
the  
first  
character  
of  
the  
client  
send.  
You've  
sent  
a  
bunch  
of  
server-side  
code,  
(at  
least  
it  
\*looks\*  
like  
it  
might  
be  
server-side  
code),  
but  
not  
the  
code  
in  
question.  
At  
a  
guess,  
you're  
probably  
sending

Re: How do I stop a Winsock from buffering characters?

Unicode  
from  
the  
Windows  
CE  
side  
and  
receive  
ASCII  
on  
the  
server  
side.  
Since  
most  
of  
the  
Unicode  
characters  
will  
be  
0x00xy  
where  
xy  
makes  
up  
the  
ASCII  
character,  
that's  
probably  
the  
source  
of  
the  
problem.  
If  
you  
convert  
everything  
to  
bytes,  
and  
convert  
strings  
to  
ASCII  
before  
converting  
them  
to

Re: How do I stop a Winsock from buffering characters?

bytes,  
if  
ASCII  
is  
what  
you  
want  
to  
send,  
I  
think  
you'll  
find  
your  
problem.

Paul  
T.

"Don"  
<Don@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>  
wrote  
in  
message  
[news:865A7119-F69B-45F3-9C1D-045506172955@xxxx](mailto:news:865A7119-F69B-45F3-9C1D-045506172955@xxxx)

HI

I  
have  
two  
apps  
one  
is  
a  
Winsock  
Client  
as  
in  
the  
following:

```
using  
System;  
using  
System.Collections.Generic;  
using  
System.Text;  
using  
System.IO;  
using
```

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```
System.Net;
using
System.Net.Sockets;
using
System.Threading;

namespace
SocketTestClient
{

class
EmployeeTCPClient
{
public
static
void
Main(string[]
args)
{
//string
name
=
(args.Length
<
1)
?
Dns.GetHostName()
:
args[0];
string
name
=
Dns.GetHostName();
try
{
IPAddress[]
addrs
=
Dns.Resolve(name).AddressList;
foreach
(IPAddress
addr
in
addrs)
Console.WriteLine("{0}/{1}",
name,
addr);
}
catch
(Exception
```

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```
e)
{
Console.WriteLine(e.Message);
}

TcpClient
client
=
null;

do
{

try
{
//TcpClient
client
=
new
TcpClient(args[0],
2055);
client
=
new
TcpClient(name,
2055);
}
catch
(SocketException
e)
{
Console.WriteLine(e.Message);
Thread.Sleep(500);
//
Try
again
in
0.5s
}
}
while
(client
==
null);

try
{
Stream
s
=
client.GetStream();
```

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```
StreamReader
sr
=
new
StreamReader(s);
StreamWriter
sw
=
new
StreamWriter(s);

sw.AutoFlush
=
true;
//Console.WriteLine(sr.ReadLine());
Int32
var1
=
0x01;
Int32
var2
=
0x02;
string
myString
=
"abcdefghijklmnopqrstuvwxyZABCDEFGHIJKLMN
int
iCounter
=
1;
while
(true)
{
/*
Console.Write("Name:
");
name
=
Console.ReadLine();
sw.WriteLine(name);
if
(name
==
"")
break;
Console.WriteLine(sr.ReadLine());
*/
if
(iCounter
!=
```

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```
0)
{
iCounter--;
sw.Write(myString);
sw.Flush();
}
//
sw.Write(var2);
//
sw.WriteLine("test
string");
//
Console.WriteLine(sr.ReadLine());
}
s.Close();
}
finally
{
//
code
in
finally
block
is
guranteed
//
to
execute
irrespective
of
//
whether
any
exception
occurs
or
does
//
not
occur
in
the
try
block
client.Close();
}
}
}
```

and

Re: How do I stop a Winsock from buffering characters?

one  
is  
a  
Winsock  
Server  
as  
in  
the  
following

```
lType  
=  
sr.ReadInt32();  
lSize  
=  
sr.ReadInt32();  
}
```