

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

Source:

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

- *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

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

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

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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

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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

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();  
}
```