

Re: socket communication: send & receive doesn't work right

Source:

<http://www.tech-archive.net/Archive/Development/microsoft.public.win32.programmer.networks/2007-04/msg00289>

- *From:* Ananya <Ananya@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sat, 28 Apr 2007 11:20:01 -0700
-

Well, I tried not to reverse bytes by saying:

```
for (i = 0; i < j; i++)  
{  
ptr[i] = result[i];  
}
```

instead of:

```
for (i = 0; i < num; i++)  
{  
for (j=0; j<sizeof(double); j++)  
{  
ptr[i*sizeof(double)+j] = (char)result[(i+1)*sizeof(double)-j-1];  
}  
}
```

in my C++ receiving method.

But now the doubles:

1.23 & 4.5

which I send from my Java program always become:

1.8584604523406555e+038 & 5.910042899492e-318#DEN

in my C++ program.

Please help! By the way, how can I test if my server needs reversing bytes or not?

"Scherbina Vladimir" wrote:

I am saying that if your server is big endian, then you do not need to reverse bytes.

—

—Vladimir, Windows SDK MVP

"Ananya" <Ananya@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message

<news:8B29C2D6-060A-41BA-8180-F4AA146F49A6@xxxxxxxxxxxxxxxxxxxx>

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Thanks! Are you saying that in my C++ receiving method the code for reversing the byte order is incorrect? Where can I find the correct code?

"Scherbina Vladimir" wrote:

The problem with this approach is that Java stores the binary data as big endians only (no matter what CPU architecture is), if your C++ client is little endian then unpredictable results may be obtained. Check this issue.

--

--Vladimir, Windows SDK MVP

"Ananya" <Ananya@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message

news:2951DED5-4DDF-40BF-A581-1A13A95EA631@xxxxxxxxxxxxxxxxxxxx

I am trying to establish socket communication between my Java and C++ program.

I called my Java program from my C++ program with ShellExecuteEx. I created a C++ Server and a Java Client, which is accepted by the Server.

I did a test of sending two doubles:
1.23 & 4.5
from my Java program to my C++ program, however I always received the following 2 different doubles:
1.1648250968930678e-302 &
-6.4627233651951511e-086.

Here is my Java sending method:
public void send_doubles(double vals[], int len) throws IOException
{
// convert our array of doubles into an array of bytes
ByteArrayOutputStream bytestream;
bytestream = new
ByteArrayOutputStream(len*8);

DataOutputStream out;
out = new DataOutputStream(bytestream);

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```
for (int i=0; i<len; i++)
{
out.writeDouble(vals[i]);
}

output.write(bytestream.toByteArray(), 0,
bytestream.size());
output.flush();

recv_ack();
send_ack();
}
```

and my Java acknowledgement methods:

```
// send a short acknowledgement to the
server
private void send_ack() throws IOException
{
int ack;

ack = 0;

output.write(ack);
output.flush();
}

// recv a short acknowledgment from the
server
private void recv_ack() throws IOException
{
int ack;

ack = (int)input.read();
}
```

And here is my C++ receiving method:

```
int Server::recv_doubles(double *val, int
maxlen) throw (string)
{
int i, j;
int numbytes = 0;
int end = 0;
int total_bytes = 0;
char *temp;
char *result;

temp = (char *)buffer;
result = (char *)buffer2;

j = 0;
```

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```
// we are receiving the incoming doubles one
byte at a time
while (!end)
{
if ((numbytes=recv(new_fd, temp,
BUFSIZE, 0))!=-1)
{
throw string("help!");
}

for (i=0; i<numbytes; i++)
{
result[j] = temp[i];
j++;
}

total_bytes = total_bytes + numbytes;
if (total_bytes==maxlen*sizeof(double) + 1)
{
end = 1;
}
}

// now we need to put the array of bytes into
the array of doubles
char *ptr;
int num = (j - 1)/sizeof(double);

ptr = (char *)val;

// going from Java to C++, we need to
reverse the order of each set of
bytes
for (i = 0; i < num; i++)
{
for (j=0; j<sizeof(double); j++)
{
ptr[i*sizeof(double)+j] =
(char)result[(i+1)*sizeof(double)-j-1];
}
}

send_ack();
recv_ack();

return num;
}

and my C++ acknowledgement methods:
// receive a short acknowledgement from the
```

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```
client
void Server::recv_ack()
{
char temp[1];
int total = 0;

while (total<1)
{
total += recv(new_fd, temp, 1, 0);
}
}

// send a short acknowledgement to the client
void Server::send_ack()
{
char temp[1];
temp[0] = 42;

send(new_fd, temp, 1, 0);
}
```

Why does my C++ program receive incorrect doubles?

Thanks for looking at my code!