

Robotics Service Bus - Enhancement #2770

Improve Participant creation

09/28/2018 01:09 PM - S. Barut

Status:	Resolved	Start date:	09/28/2018
Priority:	Normal	Due date:	
Assignee:		% Done:	100%
Category:	C#	Estimated time:	0.00 hour
Target version:			
Description			
<p>To create the only implemented connection type by sockets, the BusClientConnection class uses the TcpClient class provided by .Net. By creating an instance with string, a dns service will be invoked to resolve an ip adress. This one seems to be really slow (really really slow, like 1-2 seconds). Thus the creation of a TcpClient is changed to directly using a byte array of size 4. The caveat is, that only IPv4 addresses can be used now. The advantage is a fast participant creation.</p> <p>This one will be further improved later, but a faster connection establishment now is really helpful.</p>			

Associated revisions

Revision cc5776cd - 10/22/2018 04:16 PM - S. Barut

Improve tcp connection establishment

Force IPv4 connections.

Somehow the .Net class TcpClient tries IPv6 until timeout using the previous constructor initialization.

See also: <https://stackoverflow.com/questions/18390715/why-is-the-tcpclient-slower-to-connect-with-parameters-in-the-constructor>

fixes #2770

Signed-off-by: Johannes Wienke <wienke@techfak.uni-bielefeld.de>

History

#1 - 10/01/2018 11:21 AM - J. Wienke

Eh, but host names should be supported. We need DNS resolution. No idea why this is slow on windows.

#2 - 10/01/2018 11:46 AM - S. Barut

Sure, will be done. I see, I probably should only upload finished patches.. my bad. But I saw this one as really necessary, especially for RPCs...

#3 - 10/01/2018 02:13 PM - S. Barut

- File 0002-Improve-tcp-connection-establishment_531bea6.patch added

The Connection will be established through an IPEndPoint object, which can be created outside, thus the user can use the same dns resolution for all connection instances.

For easier use, the user can still just give the ip address as byte array.

#4 - 10/01/2018 02:20 PM - J. Wienke

But honestly, I don't see why resolving "localhost" is an issue. That should be close to instant. Once the external configuration system is added, that will also provide host names as strings.

#5 - 10/01/2018 02:26 PM - S. Barut

I don't know, why .Net takes so long for that...

Internally, the Factory can resolve the configuration to an IPEndPoint. This one has at least all information a TcpClient in .Net needs, to create a connection immediatly. At least I hope so.

#6 - 10/01/2018 02:27 PM - J. Wienke

Are you sure this is .net and not your system? Did you try resolving an IP in cmd?

#7 - 10/01/2018 02:55 PM - S. Barut

I checked, it is not the system.

But i finally found a reason:

<https://stackoverflow.com/questions/18390715/why-is-the-tcpclient-slower-to-connect-with-parameters-in-the-constructor>

Funny, so actually the fix was a bit easier :)

But still, wouldn't it make more sense, if the host is just resolved one time and not in every participant creation?

#8 - 10/01/2018 02:57 PM - J. Wienke

Who would be responsible for caching the results then?

#9 - 10/01/2018 02:59 PM - S. Barut

I would say the one, who creates them. Most cases the Factory.

#10 - 10/08/2018 01:44 PM - S. Barut

- File 0001-Improve-tcp-connection-establishment_d138e5f.patch added

Well, more or less reverted everything but outsourced the connection of the TcpClient from the constructor (see SO-hyperlink)

#11 - 10/23/2018 04:00 AM - S. Barut

- Status changed from New to Resolved

- % Done changed from 0 to 100

Applied in changeset commit:rsb-net|cc5776cd929a8c6f0dfae76721a123deb08b6a42.

Files

0003-Improve-tcp-connection-establishment_685072f.patch	2.2 KB	09/28/2018	S. Barut
0002-Improve-tcp-connection-establishment_531bea6.patch	2.74 KB	10/01/2018	S. Barut
0001-Improve-tcp-connection-establishment_d138e5f.patch	1.28 KB	10/08/2018	S. Barut