

.Net Scalability problem

Source:

<http://www.tech-archive.net/Archive/SQL-Server/microsoft.public.sqlserver.connect/2004-08/0037.html>

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Hi

Actually I need Technical Support

I finished a Great project using .Net and SQL Server and .Net Mobile Control

My Business case is to implement this Program to accept about 1 Million concurrent users

So I designed the project as master Node that has all administration project and about 10 client Nodes

Those subscribers will login and I configured the replication at Server that can publish any change to the Nodes

And I tried this technique and every thing is perfect.

NOW I am at final test

I want to proof that my project at every Node is scalable up to 100 000 concurrent users

My problem is

1- I have not Any Test tool to generate this Huge connections

2- I do not Know How to configure the tool to let me got reasonable Result

3- I do not know if My Environment is suitable for real test or not

4- Finally I do not know where is the hole at my program that made a bottle neck in this project

The Problem in detail

I tried to Download ANTS program and tried it but unfortunately it gave me only 5 client to test I do not know if it possible to increase this value at another test program or not?

I tried to using Microsoft Test Center but I do not know How to configure the parameter

for Example the Only parameter that gave me is No of client and No of Titrations?

No of client is very limited to 2000 and you can specify huge no of titration

but I still do not understand is it possible that 100 000 concurrent users login at same time ?

is the network latency and bandwidth is it a huge bottle neck that will permit the concurrent user to login in different time

I think that the average no of request depend on the bandwidth of channel that established between client and server

So I think that the MTC generate concurrent connection and per connection try to do it several time

Real Test

I tried with 2000 concurrent user and 1000 Iteration

at NT2003 Server with MS SQL Server 1 G.B RAM and 3GHz

and the result was very very strange

the program at first connection establish a pool with minimum 20 and max is 100 {I do not know is it suitable for my project or not}

I see the performance monitor and I found that the connection begin with 20 connections and increase linearly up to 1000 connections

and the result of the test is fail and the error was different and I could not understand the result

after that I tied manually to run the application at I could not I found the curser is busy and no reply

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in the program it was configured that after the db connection time out it reply with error it never happen

I wait more than 2 minutes and still busy

So I assumed that problem happen in db I restart SQL Server and I found that still problem exist the site too busy and nothing happen

after that I restart the IIS and nothing Happen

this result very strange because it means the Server feel a very high traffic contention at his resource but this resource is not DB or IIS sessions

So what type of this resource??

Suggestions

Is this problem because .Net with every hit Create many object and leave it to Garbage collection to release and the connection was very fast so it makes a problem before triggering the garbage collection??

is this problem because I did not use the COM+ for pooling ?{but I read an article at .NET help called that no need to use COM+ at pooling because

.NET with SQLClient is automatically use the pooling and He advises to do not complicate program with using this technique use it only with .net with OLEDB like oracle or any db Actually I tried this manually and it was work but with few no of connections and observing NT Performance monitor with SQL server connections}

Actually I have no clue How to pin the COM+ to OS and dose I need to special tool or I can do it using .NET?

Is this problem is due to limitation of SQL Server and Windows 2003 Server as Development tool limitation Actually this server was completely installed with toolkit that shipped with .NET enterprise this toolkit have SQL Server2000 and windows 2003 windows 2000 and exchange server and ecommerce,...

So is it for Development purpose did not support a huge connection??

Note: I tried to limit the IIS for only 1000 concurrent connections and I found the MTC still send connection and it was more than 1000 connection and still work without error ? SO I have doubt of the program.

is the problem that I load a lot of information from web.config with each connection to program like get the db connection?

I NEED IF IT Possible

1–Good test program with the minimum configuration to reach my target
100 000 concurrent users

2–Article about the bottle neck at any project with .NET and SQL
Server and .Net Mobile Controls that may be cause a problem?

3–If is Microsoft Test Center is good How Can I configure this test to
reach my target 100 000 concurrent user

And how can I test it?

3– Finally I will write the source code of the main 3 Part

the Source Code

```
        connection to database

public Message Connect()
{
    UTIL util=new UTIL(session);

    if(myConnection!=null)if(myConnection.State==System.Data.ConnectionState.Open)
        {
            return new
Message(true,"Is Already opened",0);
        }

    try
    {

        myConnection = new SqlConnection();

        if(util.ConnectionString.Trim()==String.Empty)util.ConnectionString=UTIL.UserApp.GetFromUserPart("

        if(util.ContentDataConnectionString.Trim()==String.Empty)util.ContentDataConnectionString=UTIL.UserApp.GetFromUserPart("ContentData");
    }
}
```

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```
myConnection.ConnectionString =
util.ConnectionString;

    if( myConnection.State.ToString().ToUpper()
!="OPEN" ) myConnection.Open();

    return new Message(true,"",0);

} //try

catch(Exception ex)

{

    return new Message(false,ex.Message,-1);

}

}
```

Retrieve data From db

```
public Message Retrieve(string sql,DataSet dataResult)

{

    long val;

    try

    {

        Connect();

        SqlDataAdapter myDataAdapt=new
SqlDataAdapter(sql,myConnection);

        if(dataResult!=null)dataResult.Clear();

        myDataAdapt.Fill(dataResult,"myData");

        /*result.l_No*/

        val=(long)dataResult.Tables["myData"].Rows.Count;

    }

}
```

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```
Disconnect();  
  
return new Message(true,"",val);  
  
}  
  
catch(Exception e)  
  
{  
  
    Disconnect();  
  
    return new Message(false,e.Message,-1);  
  
}  
  
}
```