

SQL Data Provider Performance Issues

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I am trying to fill strongly typed datasets with data from a SQLServer DB. The data is used as a datasource for drop down lists. The data adapters are configured to perform only selects, no inserts, updates, or deletes. When I call the Fill method to load the dataset, CPU Usage goes to 100%. These simple queries take forever to complete. We are only dealing with a few hundred rows. My windows form takes minutes to load because of the poor performance. The select statements require 2 inner joins to aquire the required data columns. Similar fills using selects with a single inner join perform OK. I tried running the SQL Profiler to analyze the problem. When I run the query from SQL Query Analyzer, SQL Profiler shows a duration of 30. When run from within the C# .net application duration jumps to 9000 or 300 times slower. Reads stay the same. SQL execution plan is the same when using Query analyzer versus the application. It appears the SQL Data Provider is the source of the poor performance. Here is the SQL Select that performs poorly:

```
SELECT H.HLAHighResID, H.HighResName, H.HLALowResID, L.LowResName
FROM ValidValues_HLAHighRes H
INNER JOIN ValidValues_HLACategories C ON H.HLACategoryID =
C.HLACategoryID
INNER JOIN ValidValues_HLALowRes L ON H.HLALowResID = L.HLALowResID
WHERE (C.CategoryName = 'A')
```

Execution Tree

```
Nested Loops(Inner Join, OUTER REFERENCES:([H].[HLALowResID]))
|--Nested Loops(Inner Join, WHERE:([H].[HLACategoryID]=[C].
[HLACategoryID]))
| |--Index Seek(OBJECT:([test].[dbo].[ValidValues_HLACategories].
[IX_ValidValues_HLACategories_1] AS [C]), SEEK:([C].
[CategoryName]='A') ORDERED FORWARD)
| |--Clustered Index Scan(OBJECT:([test].[dbo].
[ValidValues_HLAHighRes].[PK_ValidValues_HLAHighRes] AS [H]))
|--Clustered Index Seek(OBJECT:([test].[dbo].[ValidValues_HLALowRes].
[PK_ValidValues_HLALowRes] AS [L]), SEEK:([L].[HLALowResID]=[H].
[HLALowResID]) ORDERED FORWARD)
```

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Here is the SQL Select that performs OK even though duration doubles:

```
SELECT L.HLALowResID, L.LowResName
FROM ValidValues_HLALowRes L
INNER JOIN ValidValues_HLACategories C ON L.HLACategoryID =
C.HLACategoryID
WHERE (C.CategoryName = 'A') ORDER BY L.LowResName
```

Execution Tree

```
-----
Sort(ORDER BY:([L].[LowResName] ASC))
|--Nested Loops(Inner Join, WHERE:([C].[HLACategoryID]=[L].
[HLACategoryID]))
|--Index Seek(OBJECT:([test].[dbo].[ValidValues_HLACategories].
[IX_ValidValues_HLACategories_1] AS [C]), SEEK:([C].
[CategoryName]='A') ORDERED FORWARD)
|--Clustered Index Scan(OBJECT:([test].[dbo].
[ValidValues_HLALowRes].[PK_ValidValues_HLALowRes] AS [L]))
```

These are quite similar except for an extra INNER JOIN. What can the source of this poor performance be? Why does CPU get pegged at 100% when I run these selects from the application? I thought the SQL Data Provider was the preferred choice when accessing a SQL Server DB. Should I try an OLE Data Adapter?