

Re: Select Statement: Join vs Inner Select

Source:

<http://www.tech-archive.net/Archive/SQL-Server/microsoft.public.sqlserver.programming/2004-04/0317.html>

From: SriSamp (*ssampath_at_sct.co.in*)

Date: 04/01/04

Date: Thu, 1 Apr 2004 10:19:42 +0530

Anith, yes, there is no guarantee about consistent performance with JOINS vs sub-queries, but if I create a structure similar to what Jason has done and execute it, the JOIN definitely outperforms the other model, which is why I gave that suggestion. Also, the only time that I've seen auto-parameterization happen consistently is with SP_EXECUTESQL. From a personal experience, EXEC has been a killer for us in terms of performance. The cache counters that you mention never show a CacheHit if we try for a simple query using EXEC, whereas SP_EXECUTESQL reuses the plans.

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--
HTH,
SriSamp
Please reply to the whole group only!
http://www32.brinkster.com/srisamp
"Anith Sen" <anith@bizdatasolutions.com> wrote in message
news:%234rhBuzFEHA.1156@TK2MSFTNGP12.phx.gbl...
> Srinivas,
>
> >> The JOIN will definitely perform much better. In (2), the SELECT
> statement will be executed for each row, which is huge overhead. <<
>
> In general, there is no guarantee that the query with JOIN will perform
> better. Also, it is not correct that correlated subqueries are executed
for
> each row. One major component of query optimization involves query
analysis
> & if SQL Server cannot find an efficient plan in the first stage (trivial
> optimization), it may perform further simplifications like syntactical
> transformations, rearrangement of operations etc. This could result in
> better plans for subqueries over joins (and vice versa).
>
> Here is a quick example where subquery beats a join :
> --#1
> SELECT a1.au_lname, a1.au_fname, SUM( a2.royaltyper)
>   FROM Authors a1
>  LEFT OUTER JOIN TitleAuthor a2
>    ON a1.au_id = a2.au_id
> WHERE a1.State = 'CA'
> GROUP BY a1.au_lname, a1.au_fname ;
>
> --#2
> SELECT a1.au_lname, a1.au_fname,
>        (SELECT SUM(a2.royaltyper)
>         FROM TitleAuthor a2
```

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>         WHERE a1.au_id = a2.au_id )
>     FROM Authors a1
>     WHERE a1.State = 'CA';
>
> One cannot assure that the execution plans will be simpler and optimal
when
> using a join relative to a subquery. The query optimizer estimates a cost
> for each combination of join/subquery strategy, join order, and indexes
and
> that is why in some cases, changing the order of table references in a
join,
> especially outer joins, changes the plan & cost
>
> Since efficiency depends on physical models, the only way Jason can find
out
> if one construct performs better than the other is by testing both of them
> against his tables and comparing the results.
>
> >> Also, if you are executing this query from your VB app each time, SQL
> Server will have to prepare an execution plan for each call. <<
>
> While this may happen, in certain cases auto-parameterization can occur
with
> ad hoc statements where the statements are parameterized and plan is
cached.
> Turn on a Profiler trace with "SP:CacheHit" event, send an EXEC or an
ad-hoc
> SQL statements from client and you may see the cache usage. In such cases
> there is no need for plan preparation & the efficiency may be comparable
to
> a stored procedure. However in general, I do agree that stored procedures
> are definitely a better option than ad hoc queries.
>
> --
> Anith
>
>
```