Perhaps the most important new feature added to the .NET Framework by version 4.0

is the *Task Parallel Library (TPL).* This library enhances multithreaded programming

in two important ways.

First, it simplifies the creation and use of multiple threads.

Second, it automatically makes use of multiple processors

. In other words, by using the TPL

you enable your applications to automatically scale to make use of the number of available

processors.

These two features make the TPL the recommended approach to multithreading

in most cases.

Another parallel programming feature added by .NET 4.0 is PLINQ, which stands for

*Parallel Language Integrated Query.* PLINQ enables you to write queries that automatically

make use of multiple processors and parallelism when appropriate. As you will see, it is

trivially easy to request parallel execution of a query. Thus, through the use of PLINQ, it

is possible to add parallelism to a query with little effort.