

Understanding the differences between a local database engine and a database server.

We provide a free local database engine with all of our programs. This local engine is perfect for storing and retrieving records when only one computer is trying to access the records. However, as more computers try to access the same records, the possibility of conflicts also rises. Some examples of local database engines you might be use to seeing are Microsoft Access and the Advantage Local Database engine.

How does a local database engine operate?

The first thing to remember is that with a local database engine, you are not dealing with just one record of the database, you are dealing with all the records in the database.

In order for a local database engine to operate on your records, it must copy all of the records from your database to the computer it is operating on. This is fine if the database and your program reside on the same computer. However, if you are accessing the database from a network you can see that as your database grows, the amount of time it takes to copy all these records from the database over the network will also grow. There are also now 2 copies of the database in existence, one on your local computer, and one still in the database itself.

Now imagine that the person sitting next to you is also accessing the database using a local engine. He has also copied the entire database to his machine, and now there are 3 copies of the database in existence. (1 in the database, 1 on your machine, and 1 on his.) And so it goes for every computer accessing the database.

Even if you are merely browsing through the records, your computer network may have slowed down just by all the copying of the database that has been done.

Now imagine what happens if you are making changes to a record. You make a change to the record and then post it. Your local database engine now copies its local copy of the database back to the original database and overwrites what is there. If your partner makes a change to the database on his local machine and then posts it, his copy will overwrite the original database and all of your changes will vanish because his copy is the latest.

You can see the potential for conflicts and lost data.

How does a database server program operate?

When you are using a database server to access your database, all the processing on the database is done by one program.

If you request to look at a record, the database server sends you just a copy of that one record, not all the records in the database. This immediately improves your network access speed because a very limited amount of data is transmitted.

If you make a change to a record, the database server only makes a change to that record, and more importantly, only to the actual fields that you changed. Your partner cannot overwrite your work because of changes he makes to the database.

Another advantage that you have with a database server program handling your database is that it can refresh your local data to reflect any changes made to the database by others, so you have a current view of the database.

The database server program can also speed your access to the database. Say for instance that you have 10 somewhat older machines and one more powerful machine in the department. If you install the database and the database server on the most powerful machine, that machine will perform all of your requests much faster than if you had to do them on one of the less powerful machines.

A database server program can also give you other benefits such as transactional processing, and a secure, encrypted internet port to allow safe access to the database across a wide ranging intranet or the internet.

When should I use the local engine?

You should stick with using the local engine when both the program and the database are installed on the same machine. Since there is no network traffic or possible data conflicts, you won't see any gains in using the database server program. If cost is a main issue, you might be able to stretch using the local engine to allow connection of 2 or even 3 computers to a database. Still, beyond 1 computer you are running the risk of the possible data conflicts we described above.

If you are running more than 1 or 2 computers at the most, you want to be running a database server program. This will protect your data from data corruption, speed up your network access speed, and give other benefits such as the possibility of remote connection from an intranet or the internet.

Why do you specify that we use the Advantage Database Server?

Over the years we have written our programs to work with many different database server programs. What we have found is that the Advantage Database Server from SyBase is the most powerful and cost effective solution for our end users. Their database server is the easiest one to set up and get running, and is totally maintenance free. There is no need to hire or train a database administrator to run the system. This is not the case for most of the database server programs available today. With the Advantage Database Server, our end users don't need to learn all about ODBC and DNS,

and all the other database jargon that is part of learning to operate other database server programs.

We have also found the cost of the Advantage Database Server to be much less than the competition. Other things we like about them are:

- They charge per computer, not per user. You can reduce the amount of licenses required in most instances.
- They have licensing plans that don't require you to purchase more licenses than you need. Many other companies require you to purchase a minimum of 5 or 10 licenses even if you only have 3 users. Advantage has licenses for 1,2,3,5,10 ... to unlimited computers so you don't have to overspend.
- They are the only zero maintenance database we have found. (Of course, you always need to backup your database on a regular basis in case of hardware failure. That is required for any database.)
- They allow us to give our end users a trial period to try the database server program out with our programs.

What Next?

Send us an email at support@kodiaksoftware.com and we will send you a link to try out the Advantage Database Server with our programs. We will also have Advantage send you a trial license so you can try the database server out for free for 30 days. We can also give you information on the cost of purchasing the necessary licenses to continue using the Advantage Database Server with our programs.

You can visit our website at www.kodiaksoftware.com to find out more about our available programs.

To read more about the Advantage Database Server, visit their website at <http://www.sybase.com/products/databasemanagement/advantagedatabaseserver>