October 20, 2003

Technology Announcement - SQL Server Database Transition

DATAIR currently uses the Microsoft JET (Access) MDB database for its Windows-based products. Due to Microsoft’s announcement that this technology is no longer under active development, DATAIR has decided to transition its products to the Microsoft SQL Server client/server database platform tentatively scheduled to begin late in the first quarter of 2004.

Moving to SQL Server will allow us to attain even greater levels of application performance, reliability, and scalability.

We have prepared the following summary in Q&A format to help you understand what this change will mean to you, and the steps you may need to take to prepare for this transition.

What does this mean to you?

First and foremost, SQL Server is a client/server database technology unlike JET. When configured properly, client/server databases can offer higher levels of performance and stability than file based databases.

Will my data transfer from my JET database?

Yes, we will include a utility to transfer your data from current database to your new one.

Do I need to buy SQL Server?

Not necessarily. DATAIR will be including a limited version of SQL Server called the Microsoft SQL Desktop Engine (MSDE) that Microsoft allows us to distribute free of charge. Depending on the number of simultaneous users, and the type of work they will be doing, MSDE may be all you need.

How many users can MSDE support?

MSDE is designed to support a maximum of 5 simultaneous operations. That’s not to be confused with 5 users.
Systems such as the Document System and Pension Reporter place very little load on the database because the only data access occurs when a plan is opened, saved, or printed. And, each of those accesses are for split-seconds, meaning the system could support far more than 5 users (probably 50 or more) since the chances of more than 5 users doing a database operation at the same split-second is very small.

With systems such as the Pension System and FlexPlus that have calculation and processing cycles, the chances of multiple users all doing calculations and other database access at the same time is much greater, and we’d recommend that that you wouldn’t exceed five or six simultaneous users.

Of course, much more typical, is that you have a mix of people using different systems all at the same time so there is a need to ‘weight’ each of the typical combinations of simultaneous uses that you will encounter. Each situation is different, so it is impossible to provide exact guidance.

What happens if I have too many users on a MSDE database?

Again, the number of users isn’t as important as what they are doing. When the database server receives in excess of five simultaneous operations it begins to ‘throttle’ all operations. In other words, if 10 database operations occurred simultaneously, each of the 10 would be processed; they would each run at roughly half-speed. The more simultaneous operations, the slower each operation will be. This may be tolerable in some situations, and intolerable in others.

Is there a limit to the number of simultaneous users with SQL Server?

There is no practical limit beyond hardware limitations of the server.

Can I start with MSDE and upgrade to SQL Server later on?

Yes, absolutely. MSDE and SQL Server databases are interchangeable. The database files are simply moved from one machine to another, or the computer hosting the MSDE database can be upgraded to SQL Server.

Can I have SQL Server on my network and MSDE on my home computer or laptop?

Yes. Plans can be moved back and forth between SQL Server and MSDE, just as they can be moved between two Access databases currently. The same limitations and caveats that apply now will continue to apply.
Are there hardware requirements?

Both MSDE and SQL Server need to run on a Windows-based computer.

In the case of SQL Server, a Windows NT 4, 2000, or 2003 Server is required. See Microsoft’s SQL Server web site for information on specific hardware and software recommendations for various editions of SQL Server.

In the case of MSDE, the software will run on most flavors of Windows except Windows 95 and NT 3.51. This makes it possible to have a stand-alone machine or a notebook to be both the database server and run the application simultaneously. However, if you have multiple users connected to the database, our strong recommendation is for you to dedicate a machine to being the database server. This is the same advice we have given for years when it comes to file-based databases.

When reviewing Microsoft’s hardware specifications, keep in mind these are MINIMUM requirements, not recommended values. Unlike file servers, performance is much more directly related to CPU speed and available memory.

Will MSDE and SQL Server run on a Novell Network?

Both MSDE and SQL Server must be installed on a Windows-based machine, so you cannot run the database server software on your Novell Server since it does not run the Windows operating system. However, Windows and Novell servers can peacefully coexist on the same network. So, even though you have a Novell Network, you can still access a Windows Server or Workstation running MSDE or SQL Server on that network.

Are there any special network requirements?

If you are using any Windows 98 or ME machines, your network must support one of the Microsoft-supported networking protocols such as TCP/IP. If you are using Windows 2000, XP, and 2003 machines only then the network is essentially protocol agnostic.

Is setting up a Client/Server Database Difficult?

Microsoft has made the setup of MSDE and SQL Server no more complicated that installing a typical piece of application software. If you have a particularly complex or non-standard network environment, there may be additional complexities to deal with that will require additional technical expertise. It is beyond the scope of this document, or DATAIR Support, to provide detailed guidance for specific technical environments.
Is SQL Server Expensive?

The cost will depend on a number of factors such as the number of processors on the server computer, the number of attached users, and the edition of SQL Server purchased. Contact a Microsoft-authorized distributor for pricing information on SQL Server.

Will I have to pay extra to get the SQL Server version of my DATAIR Windows-based applications?

No. This change is included in your normal monthly maintenance fees.

Will DATAIR install SQL Server for me?

No, we can not. If you feel you need assistance, we suggest you to consult an IT consultant to help you determine your database hardware and software needs. We will provide installation guidelines for typical networking environments which should be adequate for the vast majority of clients.

I already run SQL Server 2000 for another software product I use. Can I use the same machine and server software?

Yes, absolutely. You can operate multiple SQL databases on the same machine. However, consider that this may increase the number of users and load on the database which may necessitate additional hardware and SQL client licenses.

How big can my databases be?

For MSDE, you are limited to 2 GB maximum per database, which is the same that our current JET database is limited too. You may create multiple databases and split your plans up among them, however you will lose cross-plan search and processing features as a result.

For SQL Server, there is no practical limit to the size of the database.

I occasionally encounter corruption of my MDB database that requires a Compact/Repair operation, or a restore from a backup. Will this happen with SQL and MSDE?

Because MSDE/SQL Server is a client/server database, the opportunity for this to happen is reduced dramatically. It is a more robust technology that isolates the integrity of the database from outside influences such as workstations that hang, network problems, etc.
However, it is still subject to problems with the machine it is running on, and network and workstation problems can still cause problems in other ways.

**How can I backup a SQL/MSDE Database?**

While it’s possible to take a database off-line and copy it or back it up with standard backup software, we recommend backup software that’s designed to backup and restore SQL databases. In addition, SQL Server contains management tools that allow you to manually backup databases and schedule regular database backups to disk or tape. These tools are not included with the free MSDE included with our systems.

**Can I continue to use the Access MDB database?**

We intend to discontinue support for using the MDB database once the 6 month migration period is over.

**Why did DATAIR choose SQL Server instead of Oracle or IBM DB2?**

SQL Server has the highest market share of client/server databases for Windows-based servers, and is also the fastest growing. This is due to its exceptional performance, features, stability, and cost-performance ratio. We feel that reducing the number of vendors of products we employ reduces the likelihood of incompatibilities. Since we develop our software using Microsoft development tools to run on Microsoft operating systems, the choice was natural.

**I’ve heard that with a client/server database I can have multiple offices connecting to the same database. Is this true?**

While it may be technically feasible, our applications are not optimized for this type of environment. At this time, we neither recommend nor support this type of installation.

We recommend using Windows Terminal Server for multiple office or telecommuting situations where a single database is necessary. Keep in mind that multiple offices and/or telecommuters require additional DATAIR software licenses, regardless of how they access the software.

**Will the software operate differently after I switch to MSDE/SQL Server?**

You will likely notice an increase in performance in some operations; however the features and functionality of the applications will not change.
Will I have to switch to SQL Server immediately?

No. there will be an approximately 6 month transition period to allow you to do it at a time that suits your needs. The Pension Reporter, DATAIR Document System, FlexPlus, and Client & Task Manager systems will support SQL Server when the transition begins. As future Windows-based systems are released, they will only support the SQL database.

Will I have to switch all my systems to SQL Server at the same time?

Yes. Since all systems share a single database, it will be necessary to convert all systems to SQL Server/MSDE at the same time.

My IT department has created custom reports, data extracts, etc. from the current Access database. Will I need to have these rewritten?

Depending on how they were programmed, some alterations may be necessary. Keep in mind that DATAIR does not recommend, condone, or support database access by non-DATAIR applications.

I have more questions. Who can I ask?

Please address your questions to DATAIR’s Technical Support group at tech.support@datair.com