



# Why SQL Server over Access Database?

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The actual question should be why SQL Server over Microsoft Jet/Access Database Engine (ACE)? Access is a Microsoft Office program for creating database applications that uses the Jet/ACE database engine. SQL Server is a database engine that runs as a service. Jet/ACE is a file based database engine. Standard SuiteFactory uses the Microsoft Jet/ACE Engine. Microsoft SQL Server 2005 and up is optional.

**The following are the main reasons for switching to SQL Server:**

## 1. Stability/Reliability

- Jet/ACE is a file based engine and each user connects directly to the file using a private copy of the database engine running on their local machine. Although Jet/ACE and SuiteFactory actually do a great job of managing multi-user access to the same file, this access method is prone to contention issues and is not very resilient to network problems because all data changes are made on local computers and sent across the network to be stored in the central file.
- SQL Server is a service based database engine that is designed for multi-user access. This is important because all users are connected to the same database engine service that mediates access to the data, thus helping to keep the database clean. Because all connections come to the server, and the server controls access to the data, there is less likely to be issues with access conflicts and corruption. SQL Server also has the ability to perform maintenance of the database automatically on a schedule because it runs as a Windows service. (Note! SQL Server Express does not have this maintenance feature, however, SQL Management Studio which is supplied with it, does have means to back up the databases without having to shut down applications using them.

## 2. Scale

- SQL Server can hold more data and will handle far more concurrent users that Jet/ACE can. Exactly how many will depend on the workload and edition of SQL Server you use. Jet/ACE databases (.mdb files) are limited to 2 GB and is recommended not to be used for more than 20 concurrent users. 5 to 10 users are really the practical limit. SQL server is only limited by Windows specifications and hard disk storage space. Early versions of the free SQL Server Express limited databases to 4 GB and did not include the management utilities. That has changed where SQL Server Express 2005 and up have no database size limitations compared to the non-Express version and includes Management Studio Express.



- SQL Express has limitations of course but it's 100% compatible with the larger editions of SQL Server, so you can start with the free product and later if you require a missing feature, you simply move your database to a larger edition and everything else stays exactly the same.

### 3. Security

- For multi-user database SQL Server offers a higher level of security than Jet/ACE. In addition to having layers of security that separate connection to the server from actual access to the data, SQL Server also offers the ability to integrate with the existing Windows security model so that your existing Windows user account can also be used to grant you access to the SQL Server. You cannot do this with Jet/ACE. SQL Server also gives you finer grain control over the security settings than Jet/ACE.

### 4. Conclusions

- Jet/ACE is a great database that has worked well with SuiteFactory from the beginning and still does. It used to have the huge advantage over SQL Server in that it was free for the end user and was packaged with the SuiteFactory installation set. With the advent of free SQL Server Express this is no longer an advantage.
- For medium and large companies the advantage of virtually unlimited database size and its scalability for multi-user applications like SuiteFactory, the advantages in security and manageability make it imperative to implement it.