



# Data Base Development

At the core of any successful system is the effective management of data. MAR analysts understand in order to deploy efficient applications, we must first design and implement a database platform that supports the functional specifications for the system in all details and, when required, provide a data migration path from the existing system(s).

Our teams of database analysts constantly look to leverage recent improvements in the database platforms and utilize best practices that are standard in the development community. We design databases to provide a solid basis for planned development, and anticipate future growth as opportunities arise. Our database designs conform to and actively promote system standards including: System Constraints and Maintainability, Performance Requirements, Transaction Processing, Data Entry and Use, and Interface Requirements. We incorporate full referential integrity, with normalization generally targeting *third normal form*. However, there may exist good and valid reasons for de-normalizing certain portions of a database design, these are considered on a project by project basis.

Recent project work has been centered in Microsoft SQL Server, Oracle, and Microsoft Access. Our analysts are also experienced in other database platforms that include: DB2, Sybase, and MySQL.

## **Maryland Motor Vehicle Administration (MVA), Database Redesign**



MAR is currently in the development phase of redesigning MVA's out-of-date Access 97 database systems. MVA has several complex data systems that provide critical capabilities to all aspects of their business operations, and these must be migrated to a new scalable database with a web-based front end.

The work to be accomplished under this task includes detailed design, testing, and implementation of the new database system in order to convert and migrate the existing Access 97 applications to the SQL Server/.Net platform. Additionally, knowledgeable MAR personnel are mentoring MVA IT staff members on the applied technologies so they can take over maintenance of the applications in the future. Migration of these databases to web-based .Net applications will result in systems that will not only be easier to maintain, but will also benefit from the availability, scalability, and manageability that .Net applications provide. The use of SQL Server will also eliminate Access 97 data corruption issues, provide better performance and reliability, and greatly improve data security.



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## U.S. Office of Personnel Management; Oracle DBA



From 2003 to 2008, as a subcontractor for List Incorporated, MAR provided the Office of Personnel Management (OPM) Oracle Database Administration (DBA) support across a number of mission critical systems. For the Center for Information Services & Chief Information Officer (CIS/CIO), Application Systems Group (ASG), and the Office of the Chief Financial Officer (OCFO) MAR provided lead DBA support for over a dozen production and development applications. The services included: initial database analysis and design; patch management and version control; performance monitoring and tuning; migration between development, test and production environments; and support for application development teams.