

The Health Check for IBM Informix is a carefully crafted program designed to review the efficiency as well as effectiveness of a IBM Informix-based database management system. The efficiency of the system is evaluated by determining the extent to which the IBM Informix products have been utilized; essentially, is the system “firing on all cylinders”?

The *efficiency* of a system takes into consideration issues such as:

- Is the database and operating system properly tuned?
- Are there sufficient hardware resources for the various applications?
- Have schemas been normalized or denormalized where appropriate?
- Have the proper indexes been created?
- Are critical administrative utilities run regularly?
- Does the staff have the requisite skills needed to maintain an efficient system?

In a complex computing environment, the extent to which these issues and others are addressed will affect the overall efficiency and effectiveness of the systems in place. The Health Check for IBM Informix addresses these issues of efficiency and effectiveness by having a skilled Informix engineer assess your Informix-based computing environment over a one-to-five day period.

Ideal System Performance

To achieve the optimal performance for a given system one must ensure the optimal performance of each component of the system. The components addressed in this performance analysis are:

- Hardware utilization including CPU, I/O, Memory
- Operating System Configuration
- Informix Database Server
- Client Communications
- Application Implementation
- Operations and Maintenance including backup, recovery, consistency checks and others.

Each of these components is critically important to the optimal performance of the overall system.

What We Do

Assess the performance, stability and availability of your IBM Informix-based systems

What You Get

Documented recommendations relating to performance, stability and availability of your database system and also, if desired, the Xtivia expertise to apply them

What You Save

Time, money and headaches

What You Achieve

Increased performance, maximized availability, boosted productivity, and peace of mind

XTIVIA

Xtivia's team of IBM Informix server Specialists have helped clients of all sizes that were faced with finding qualified resources in the areas of database administration, management, performance tuning, development and maintenance services. Xtivia has been successfully providing Database Consulting and it's Virtual-DBA Remote DBA Services to clients of all sizes for several years.

The following are some of the issues related to each system component.

Hardware Resources:

The server hosting your IBM Informix database relies primarily on three hardware subsystems for efficient performance – CPU, Memory, and I/O.

A well-architected system will show optimal CPU utilization without queues. A fully utilized CPU is ideal, but the additional check of the number of processes waiting for the CPU is required.

The I/O subsystem of the server hosting your Informix system is critical to the performance of the database and its applications. Ideally, the disks in the system will be responding to requests quickly and there will be no queues forming on those disks. Additionally, for large decision support queries, the controllers will be analyzed for bottlenecks and limitations. If RAID is being used, this will be analyzed for its effect on the database and applications. I/O configuration is the most flexible of the resources, since the database and system administrators can easily work together to balance the I/O load across all available resources.

A large server may contain several gigabytes of main memory. The use of that memory has to be carefully divided among the functions of the server: applications, database, and operating system. The goal is to have ample free-memory to meet the peak demands of the workload, while maintaining good cache hit rates in the database. Even within the database itself, there are memory trade-offs for buffer caches and large sort/join pools.

Operating System:

Informix provides a list of parameter recommendations for each platform. These will be analyzed and addressed. An important parameter is one that controls the size of virtual memory segments used extensively by the database. If the amount of memory allowed in a single segment is too small, the database may create many segments to get it's memory. The use of multiple segments is expensive relative to a few very large segments.

Informix Database Server:

There are an enormous number of items, that relate to database performance. However, key elements of this score will reflect the use of indexes, table fragmentation and I/O balance, optimizer statistics, parameter settings, transaction logging, database layout, session activity, cache utilizations, and others. These areas will be investigated extensively based on the overall behavior of the database. Each component of the analysis will be detailed in the report which is delivered at the completion of the service.

Client Communications:

There are several optimizations available for client PCs/Workstations connecting to your IBM Informix system. These will be evaluated for appropriateness in the environment. Additionally, if clients are connecting to Informix with older versions of software, there is tremendous opportunity for performance improvements through client library upgrades.

Application Implementation:

Database applications can often be enhanced through techniques, which may have been introduced after the application was originally designed. The use of prepared SQL statements, for example, is a common way to gain performance in applications. A discussion with the on site application developers will lead the engineer to make recommendations for improving the application, or simply stating, the application is well written.

While the above analysis strives to leverage hardware and software to its fullest potential, this area of the assessment strives to provide operational stability to the environment. Looking at batch jobs, backup and recovery strategies, logging strategies, upgrade strategies, and test platform capability will enable the engineer to provide recommendations for improving availability of the environment.

During the Performance Analysis, you will need to provide access to your systems and key personnel if this evaluation is to be thorough and meaningful. Key individuals in your environment will be the DBA, the System Administrator, the Application Team Leader, and others you identify as being able to provide insight to the design and workings of the current system.

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For more information on how Xtivia can help your organization better manage its IT services, please contact an office near you or visit our web site at www.Xtivia.com.

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