CONNX® Solutions™
Simplified Data Access™

White Paper

CONNX Scalability

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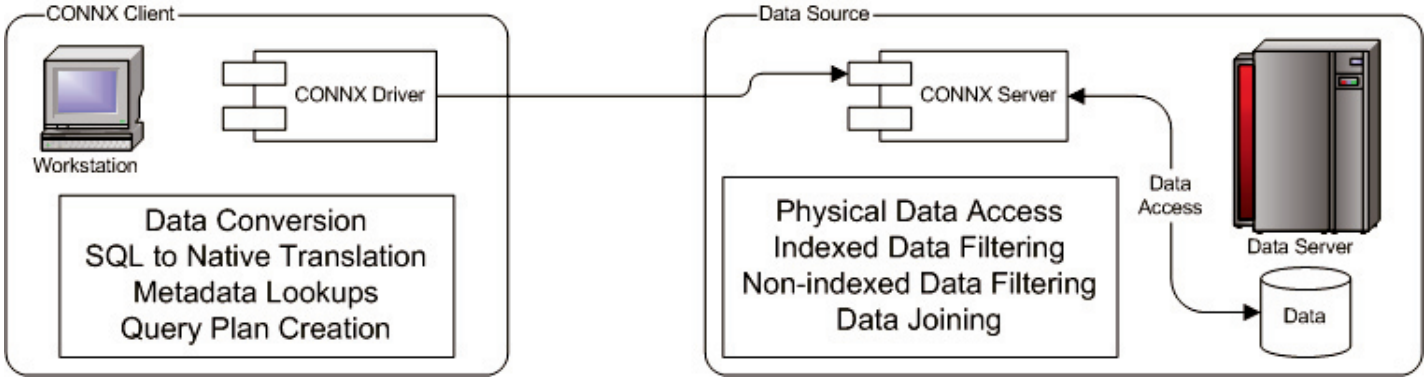
Scalability is an integral part of the CONNX design and architecture. At the heart of CONNX is a distributed SQL Engine. The CONNX SQL Engine takes advantage of the resources of both the client and the server, and is specifically designed to reduce the amount of data traveling across the network. With its distributed architecture, CONNX can take advantage of the CPU cycles available on the user's PC, thus freeing resources on the server to handle other tasks. Since most database servers have excellent data-bus bandwidth, and can move data quickly from the disk into memory, CONNX performs all required data access, data filtering, and smart data joining on the server. The collaborative design of CONNX, which unites the best features of both the client and the server, reduces network traffic and increases overall query performance.



CONNX performs work on the server best suited for the given task. Operations such as data conversion are done on the client. This distribution of workload enables CONNX to scale seamlessly with Web farms, and other enterprise applications. The end result is a high-performance, extremely scalable, data access solution for the enterprise.

Several scalability features are available when using CONNX with n-tier applications, such as Web applications:

Connection Sharing:
CONNX can automatically aggregate similar logical connections on a single physical connection. This feature is fully configurable. You can share 5 or 50 logical connections on a single physical connection: it all depends on what works best for your enterprise application. CONNX ensures that security is not compromised by this

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feature by ensuring that only logical connections with the same credentials are shared on one physical connection.

Connection Pooling:
Many enterprise applications are designed with “disconnected rowset” technology. This means that when data is needed by the application the following occurs:

1) A new connection is created.
2) The data is retrieved.
3) The connection is closed.

This technique reduces the resources used by the database server by keeping simultaneous connections to a minimum, although this technique can be costly in terms of performance as the constant connects and disconnects can slow an application. CONNX solves this problem with connection pooling, whereby a discarded connection is kept in a “pool” for a configurable period of time. If a new connection is needed by the application, CONNX first checks the pool, and then, if a connection is available, reuses a discarded connection. This eliminates the overhead of re-creating new connections. The convenience and increase in processing speed added to CONNX by this feature further increase its scalability when using it to create enterprise applications.

For enterprise Web applications, CONNX is designed to scale up with the size of the Web farm. CONNX takes advantage of the power of each Web server added to the farm, in addition to the power of the database server. This prevents the remote database server from becoming a bottleneck, a circumstance which could occur if all SQL processing were performed at that location.