

FEATURE BRIEF: Microsoft SQL Software Accelerator Module

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Riverbed Addresses Microsoft-SQL's Latency/Chattiness Issues to Deliver Significant End-User Performance Improvements

Many enterprise applications host their data on Microsoft SQL Server databases. These applications are designed for expansive client-server environments with ever-larger numbers of clients accessing servers powered by Microsoft SQL Server. On a local area network (LAN), these applications work well with little or no network-related performance issues. However, when end-users at a remote sites attempt to access centralized data on a Microsoft SQL database, the resulting performance problems can be so significant that the applications become unusable over the WAN.

Why is Microsoft SQL so Slow over the WAN?

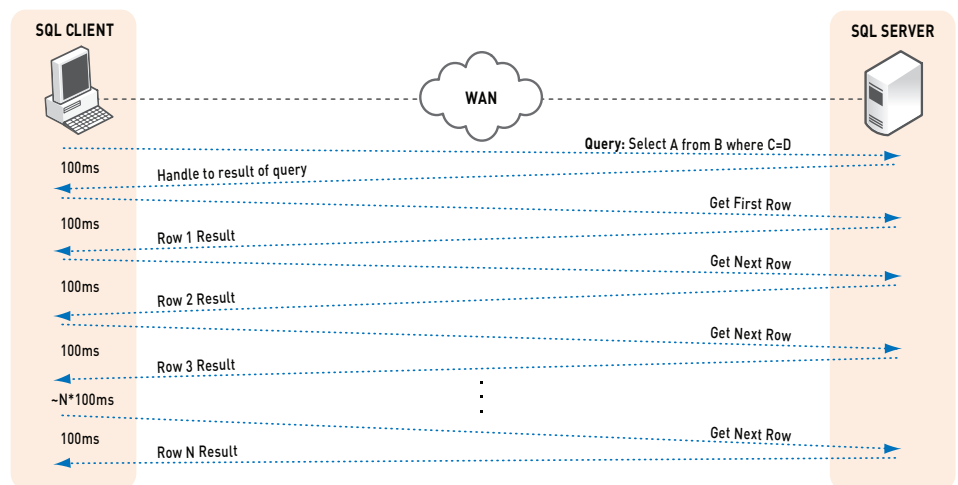
Although many would attribute MS-SQL performance problems over WANs to bandwidth limitations, the real culprit in many cases inhibiting performance is latency. Latency cannot be addressed by adding bandwidth, and the latency introduced by the speed of light is the one factor that cannot be removed as a result of distance. In general, MS-SQL is a very chatty protocol, requiring numerous acknowledgements and handshaking between the client and the server, often to deliver limited amounts of application data.

Until now latency issues affecting remote clients accessing MS-SQL-based applications over WANs have gone unaddressed. Riverbed's solution addresses the latency-related performance issues for applications based on Microsoft SQL-Server, facilitating accelerated performance over WAN infrastructures.

Microsoft SQL Server (MS-SQL Server) uses a client-server approach where the client submits a request and must wait for the server's response before resuming processing for that application. Often due to the application client's manner of parsing and handling its data, the amount of data exchanged with each interaction between client and server is minimal. As a result, relatively large numbers of requests and responses are used to transfer small amounts of data. In a LAN environment with negligible latency, the consequences of such chatty protocol behavior are minimal. However, when the application is used in a WAN environment such behavior is not optimal, and will result in very slow performance.



Riverbed Steelhead: Best WAN Accelerator
InfoWorld Technology of the Year



■ Diagram of a typical query operation resulting in large numbers of round-trip interactions between the SQL client and server.

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Applications that use SQL, including MS-SQL, are essential and ubiquitous in today's information technology environment, and latency-related performance problems have created unfortunate barriers to use these valuable tools over WANs.

Fortunately, Riverbed is the first and only vendor to truly address these latency problems, allowing you to accelerate access to MS-SQL-based data and speed applications using MS-SQL over the WAN.

The Riverbed Solution to MS-SQL's Chattiness Issues

Riverbed's Steelhead appliances address these latency issues that slow the delivery of data from between the client and the server. Riverbed's technology incorporates knowledge of the application and the manner in which the data is retrieved from the MS-SQL database in order to reduce the chattiness of the client-server interactions across the WAN.

Some latency optimizations can be generically applied to all MS-SQL applications. Furthermore, Riverbed can deliver excellent results with no additional configuration for some common MS-SQL applications, such as Microsoft Project. In other cases application-specific rules need to be created and configured in order to gain maximum effectiveness. Application-specific latency optimizations are configured through a series of rules templates that provide directions to the Steelhead appliance on how to effectively accelerate specific applications that utilize MS-SQL to access their data.

Riverbed Professional Services can be engaged to analyze MS-SQL applications and create appropriate templates to maximize the effectiveness of the Steelhead for speeding each specific application. In some cases application-specific templates may already exist, and will simply need to be verified in the new environment.

Conclusion

Applications that use SQL, including MS-SQL, are essential and ubiquitous in today's information technology environment, and latency-related performance problems have created unfortunate barriers to use these valuable tools over WANs. Fortunately, Riverbed is the first and only vendor to truly address these latency problems, allowing you to accelerate access to MS-SQL-based data and speed applications using MS-SQL over the WAN.

About Riverbed

Riverbed Technology is the pioneer in wide area data services (WDS), a fast-growing product category that solves the problems of high latency and limited bandwidth that plague a wide variety of applications over distributed networks. Riverbed's Steelhead appliances provide the highest level of performance across the broadest range of applications over WANs, accelerating applications by up to 100 times, and reducing WAN traffic by up to 95%.

By providing optimizations that are orders of magnitude greater than what users experience today, Riverbed is changing the way people work—and enabling, for the first time, a distributed workforce that connects as if they were local. InfoWorld named Steelhead a "Product of the Year" for 2005 as the "Best WAN Accelerator." Steelhead appliances are available worldwide directly from Riverbed and through global partners, including HP.

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