INCREASINGLY GLOBAL? YOU NEED A BETTER SQL SERVER WAN REPLICATION STRATEGY

As organizations grow geographically and expectations for real- time data increase, the challenge of supporting business in a networked environment requires innovative, simple-to-use solutions.

Because wide area networked (WAN) sites or servers are often connected by network connections that vary in speed and reliability, database administrators must identify a WAN replication solution that guarantees secure and timely data delivery without increasing bandwidth costs.

This technical brief provides a view into the options available for SQL Server to address distributing data across WAN boundaries and makes the case for using NitroAccelerator, a breakthrough compression solution that makes WAN replication fast and secure, even over the slowest connections.

METHOD	DESCRIPTION	SUITABLE FOR WAN?	SUITABLE FOR WAN W/ NITROACCELERATOR?
Snapshot Replication	All forms of replication start with a snapshot. If your data changes infrequently and it is acceptable that replicated instances are out of sync for long periods of time then simply doing a periodic snapshot can suffice.	No	Yes
Merge Replication	Tracks data and schema changes with triggers and the subscriber will synchronize whenever it is connected to the network. Best for when the subscribers will also receive updates.	Somewhat. It is designed to be mobile and disconnected but in practice it performs poorly.	Yes

METHOD	DESCRIPTION	SUITABLE FOR WAN?	SUITABLE FOR WAN W/ NITROACCELERATOR?
Transaction Replication	As the name implies, it replicates on a transaction-by-transaction basis. It is best for keeping instances in sync real- time.	No	Yes, real-time replication is possible even over extremely low bandwidth connections.
Log Shipping	Works by copying log backups to another instance and restoring them. Not appropriate for real-time replication.	Yes, but it's an awful solution to a simple problem. Watch our blog for more details.	No
SQL Server Integration Services (formerly DTS)	Used for moving large amounts of data where transformations may also be needed.	Yes, if the maintenance window is large enough.	Yes
Microsoft SQL Server Data Mirroring	Used to keep a mirror copy of a database on another server	No	No
Linked Servers	Useful for accessing data on another server from within the database including data from sources other than SQL Server.	No. Even locally, linked servers have a high performance cost	Yes, it can greatly improve latency even when used on a LAN.
Distributed Transactions	A programmatic solution to synchronizing data on two or more servers. This involves performing the same operations on different servers within a transaction.	No	Yes. NitroAccelerator can also make this approach more scalable on a LAN.

As you can see from the table, there is no native mechanism that performs well over lower bandwidth connections. However, using NitroAccelerator on the end-points, in a proper configuration, can enable real-time replication to remote instances of SQL Server.