Data Replication Buying Guide
IT professionals are increasingly turning to heterogenous data replication to modernize data while avoiding the costs and risks of migration projects. Data replication has many benefits, including making data available to the latest and greatest applications while leaving mission-critical data flows in place, moving queries off of legacy systems where they are most costly, and reducing stress on IT resources (read: you).
So, how do you choose the right replication solution for your needs?

StarQuest put this guide together to help you do exactly that. This document will help you develop a short list quickly, ask probing questions to test suitability, and to ultimately decide if a data replication solution will meet your needs both now and in the future. Before delving into the specifics, here are few truisms about sourcing software as they relate to data replication:
1 Ask The Right Questions
Just read on. We have done the hard work for you in this document.

2 Know Your Buying Criteria
When it comes to data replication, most IT pros value reliability above all with total cost of ownership, performance, and deployment speed not too far behind. It is important to determine and weight your buying criteria before you source a solution.

3 Speak With Current Customers
Current customers are a great source of information even if you know vendors will connect with only their happiest clients.

4 Try To Break The Software During Your Trial
When doing a trial, put the software through every potentiality for your use-case. These stress tests can help you ensure that there are no surprises post-purchase and help you better understand the ins and outs of the software. If you break it, don’t buy it!
This document will help you efficiently separate the contenders from the pretenders and find a robust and reliable data replication solution that meets your needs. As you go through this process, we hope that StarQuest’s SQDR software will make your short list as we believe we offer the best solution on the market. In the meantime, happy replication hunting...
Product Features & Performance
Do you support my replication pairing?
This is the most fundamental question and a quick way to develop your short list. Almost all data replication solutions support Oracle, IBM, and Microsoft, but less popular RDBMS such as Informix or modern data stores such as Hadoop may or may not be supported by a specific vendor.

Uni-directional or bi-directional replication?
Uni-directional replication means that the software copies data from the source database to the target database, whereas more sophisticated bi-directional replication flows between two databases to keep both synchronized. If you require bi-directional replication, make sure to ask each vendor if they support it for your specific pairing.
Snapshot or incremental replication?

Snapshot replication pulls a copy of the source database to the target database and can only be used for uni-directional replication. Incremental replication utilizes cutting-edge change data capture techniques to report only the changes to the opposite side of the pairing, ensuring that both databases are kept up to date. Change data capture is essential for bi-directional replication.

What is your latency/how real-time is real-time?

The best real-time solutions maintain latency of under one second. Anything more than that and currency problems are likely to arise.
Where does the processing happen?

Replication requires substantial processing power and should be offloaded to an intermediate server. This minimizes load on your source and target systems and has the added benefit of maintaining a unified copy of your data in case of a database failure. Replication solutions that do not utilize an intermediate server should be avoided as they are inherently less stable and will cost you far more time, money, and grey hairs over the long term.

What happens if connectivity is lost?

Some replication solutions require a full rebuild of the pairing, which is the kind of nightmare that keeps IT professionals up at night. The best solutions treat the unified copy on the intermediate server as the master and automatically resume replication when the source and/or target databases come back on line. These solutions can become a key component of your disaster recovery strategy as well.
What kind of interface do you offer?
You want a user-friendly, browser-based GUI as is standard with software these days. Command-line interfaces are a pain and you would do well to avoid them (See: Oracle GoldenGate).

Can I customize what I replicate?
Make sure to ask if you can choose which rows, columns, or tables are replicated. Choosing what you want to replicate reduces load and ensures that data is shared appropriately. The very best solutions let you not only choose what data to replicate but let you transform it as well. This ETL functionality can solve all sorts of data integrity problems and resolve format differences easily. Avoid solutions that simply replicate everything in bulk as this creates security challenges, increases processing requirements, and leads to additional data management costs.
How does your replication solution react to schema changes?

Some replication solutions are responsive to schema changes, others are not. You want software that detects changes in real-time and prompts its user to merge or reject each schema change. If your solution does not react to schema changes, you can expect a lot of wasted time due to avoidable rebuilds.

How long does it take to deploy?

This is a key area where you can separate the wheat from the chaff. The best replication solutions deploy in under 24 hours. The worst require a week or more of configuration. Deployment time is also a good way to assess reliability. If the initial configuration is complex and time-consuming, you can expect stability and performance problems to arise in the future. Benchmark copies of data should not require more than 24 hours to create unless you are replicating an unusually large amount of data. If initial customizations take a lot of time upfront, you can expect similar lags when customizing in the future as well. High performance software does not require much tweaking and you should be worried about the reliability and accuracy of solutions that do.
How good is your support?

No vendor will say that their support is anything less than stellar so it can be tricky to assess the quality of support before purchase. To start, ask for key performance indicators such as average support ticket resolution time and average years of experience on the support team. If the vast majority of support tickets (>90%) are not resolved in under a business day, take a moment to imagine a multiple-day interruption to your mission-critical data flows and move that vendor to the reject pile.

How proactive is your support?

You want an expert that will take ownership of your challenge or obstacle, not simply give you information so that you can hopefully handle the problem on your own. You want a support team that is easily reachable via email, phone, or web and utilizes a modern support portal such as Zendesk or Freshdesk so that you can track progress and review your support history as needed. The best support teams will utilize remote desktop sharing so that they can walk you through or even execute the fixes that you need. This kind of responsive, expert, and efficient support can turn a potential catastrophe into a minor bump in the road. Too much depends on your data to expect anything less.
Is your support end-to-end?

Heterogenous data replication is inherently multi-platform and that runs counter to the vendor lock-in strategy of Oracle, IBM, and Microsoft. They want your organization to work 100% within their ecosystem and, if you do not, you are likely to end up half-supported when it comes to data replication. For example, IBM Infosphere supports replication from IBM DB2 to MS SQL Server but their support team will offer only limited SQL Server expertise at best, leaving you to troubleshoot the SQL Server side of your replication pairing on your own. Working with data from multiple source formats can be challenging so make sure that your replication vendor offers the expertise to support you end-to-end.
Cost of Ownership
What is your total cost of ownership over five years?
This question will help identify any other hidden costs and to accurately project the cost of a solution. You should mention any foreseeable changes in your needs to accurately project how costs may change over time.

Do you price by load or by core?
A key difference is that some solutions charge by load and others charge by core. Avoid pricing by core! The primary reason why software vendors price by core is that it can increase prices exponentially with minimal additional costs for the vendor. In other words, good for them, bad for you. Depending on your data architecture, software priced according to load could save you tens or even hundreds of thousands of dollars versus pricing per core. Yes, hundreds of thousands.
Does your software require a dedicated engineer?

Some data replication solutions require that you pay for a dedicated engineer, which increases cost substantially and suggests that the software may be buggy. Good replication software does not require a babysitter.

Is installation of updates included or does it cost it extra?

Most, if not all, replication solutions charge annual maintenance for updates, but a key difference is that some will do the updates for you and others will charge you extra for that service. This is a hidden cost that you should be aware of before purchase.
Conclusion

If you ask all these questions, you should find a solution that meets your buying criteria. Again, be sure to speak with current customers and to stress-test the software during your trial. We hope that this buying guide has been helpful.

The StarQuest team believes that our product, StarQuest Data Replication (SQDR), is the best data replication software on the market and we humbly request the opportunity to prove it to you. If you would like more information about SQDR, please contact us at www.starquest.com/interest/sqdr or call us at 415.669.9619, option 1.