

# Database Replication



Protect your  
database and  
distribute  
data

A few years ago, database replication was a high-end capability that few companies considered. Now, more organizations are interested in database replication for two main reasons: Businesses are becoming more geographically dispersed, yet employees still need access to a single set of coherent data; and many companies are working with massive data sets that they can't quickly or easily restore in the event of a system failure.

Database replication is different from file replication, which essentially copies files. Database-replication products log selected database transactions to a set of internal replication-management tables. The software then periodically checks these tables for updated data and moves the data from the source to the target systems while guaranteeing data coherency and consistency.

Database replication helps handle many of the problems you can encounter with distributed systems. Replicating databases to systems in branch offices lets branch-office users access a local copy of the data instead of accessing a central server over WAN links. Database-replication products also let you transfer selected data sets to a reporting server so that you can move your processor-intensive-reporting processes off of your main transactional database.

In addition, database replication can supplement your disaster-recovery plans by duplicating the data from a local database server to a remote database server. If the primary server fails, your applications can switch to the replicated copy of the data and continue operations. Many database-replication products even have built-in tools to let you update the primary database with any changes that users made to the backup database while the primary database was offline.

SQL Server includes three methods of database replication that you can use with other SQL Server systems: snapshot, transactional, and merge. As its name implies, snapshot replication is a point-in-time copy of the data. Transactional replication provides a near-realtime copy of individual database transactions. Merge replication lets you replicate updates from one or more systems to target systems at a later time. Although SQL Server's built-in replication methods work well between SQL Server systems, they're limited when the source or target database system is, say, Oracle8i or IBM DB2. For example, SQL Server's built-in replication supports only snapshot and one-way transactional replication to Oracle systems—it won't perform merge replication to an Oracle system. To


replicate to DB2 systems, you must use Host Integration Server (HIS).

Third-party database-replication products specialize in heterogeneous replication and offer homogeneous replication capabilities that are similar to SQL Server's internal replication capabilities. Some products even offer additional features. When comparing database-replication products, you need to ask many questions. Which database platforms does the product support? What types of

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replication does the product provide (e.g., snapshot, near realtime, bidirectional)? Does the product support scheduling replications? What mechanisms trigger replication? Is the replication process program controlled? What database object types can you replicate? Does the product support data transformations? And does the product support computing new fields in replicated tables?

In addition to having the basic product features that you need, the database-replication product you choose must be compatible with your application environment. Some database-replication products might require system changes that might make your database incompatible with your applications. For example, some products might require changes to the database schema that could result in application errors.

Database-replication products can provide a powerful mechanism to distribute your data and to maintain backups that you can use if a disaster occurs. However, you must test and evaluate database-replication products inside your environment because each environment is different and might react in ways that you don't expect. To get you started in your search, here's a summary of third-party database-replication products that support SQL Server. Note that this list doesn't contain every available product. We've included the product information that vendors submitted to us by our deadline. 

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Contact Information	Product Name	Price	Description
<b>Casahl Technology</b> 925-328-2828 800-324-4284 <a href="http://www.casahl.com">http://www.casahl.com</a>	ecKnowledge	\$10,000 to \$50,000	Enterprise data-integration platform; supports enterprise resource planning (ERP), messaging systems, databases, groupware systems, and XML
<b>Data Junction</b> 512-452-6105 800-580-4411 <a href="http://www.datajunction.com">http://www.datajunction.com</a>	Data Junction Integration Suite 7.51	\$5000	Automates all aspects of data migration, transformation, and integration between databases, directories, and applications; supports XML, EDI, legacy COBOL data, and SQL Server databases
<b>DataMirror</b> 905-415-0310 800-362-5955 <a href="http://www.datamirror.com">http://www.datamirror.com</a>	DataMirror DB/XML Transform 2.1	Contact vendor for pricing	Provides a Java-based, XML-driven engine for bidirectional data transformation between XML, database, and text formats
	DataMirror Constellar Hub 3.5	Contact vendor for pricing	Enterprise application-integration tool that enables the movement, transformation, and integration of data between heterogeneous environments from a central point of control
	DataMirror Transformation Server 4.0	Contact vendor for pricing	Captures, transforms, and flows data in realtime between DB2 Universal Database (UDB), SQL Server, Oracle, and Sybase across Windows 2000, Windows NT, UNIX, Linux, OS/400, and OS390 systems
<b>Insession Technologies</b> 402-333-3322 800-755-1596 <a href="http://www.insession.com">http://www.insession.com</a>	Extractor/Replicator	Contact vendor for pricing	Provides realtime, bidirectional data sharing between SQL Server, Enscribe, NS-SQL, Oracle, Sybase, Informix, DB2, and other ODBC-compliant databases; scalable to ensure data integrity and good performance
<b>ITI</b> 610-647-6250 866-852-4567 <a href="http://www.itisc.com">http://www.itisc.com</a>	Shadowbase3	Contact vendor for pricing	Low-latency, enterprise-class database-replication engine that provides selective or comprehensive replication between many different relational database management systems (RDBMSs)—including SQL Server—on Windows and UNIX platforms; supports bidirectional replication between two live databases
<b>Lakeview Technology</b> 630-573-0440 800-962-4081 <a href="http://www.lakeviewtech.com">http://www.lakeviewtech.com</a>	OmniEnterprise	Contact vendor for pricing	Facilitates seamless data sharing across heterogeneous or homogeneous platforms; offers a flexible array of data distribution, conversion, and enhancement methodologies; provides change-based data replication and transformation between SQL Server, Oracle, DB2, and Sybase databases
<b>Opalis Software</b> 416-253-9383 888-672-5471 <a href="http://www.opalis.com">http://www.opalis.com</a>	OpalisRendezVous	Starts at \$495 per license	File- and data-distribution solution that provides a graphical environment to automate transfers and replication of files and database rows; you can initiate data distribution based on date, time, file size, and file modifications
<b>Open Universal Software</b> 800-451-6040 <a href="http://www.universal.com">http://www.universal.com</a>	Data Distributor	\$495 per seat; \$2995 for Enterprise Edition	Provides centralized visual management of PC users' predictable host data needs for queries and reports; replicates between DB2 physical and logical files and SQL Server and Oracle tables and views; also replicates to spreadsheets and importable flat files
<b>PeerDirect</b> 416-805-9088 888-805-9088 <a href="http://www.peerdirect.com">http://www.peerdirect.com</a>	PeerDirect Replication Engine (PDRE)	Contact vendor for pricing	Lets you deploy relational information on virtually any combination of device and database; provides bidirectional replication in heterogeneous environments to let you select the best device and database engine for every application
<b>Vision Solutions</b> 949-253-6500 800-683-4667 <a href="http://www.visionsolutions.com">http://www.visionsolutions.com</a>	SYMBIATOR 3.0	Starts at \$10,000	Provides realtime, cross-platform sharing of mission-critical database information; enables bidirectional data sharing between most e-commerce servers, data warehouses and data marts, and application servers across disparate or nondisparate databases