A linked server configuration enables SQL Server to execute commands against OLE DB data sources on remote servers. Linked servers offer the following advantages:

- Remote server access.
- The ability to issue distributed queries, updates, commands, and transactions on heterogeneous data sources across the enterprise.
- The ability to address diverse data sources similarly.

Linked Server Components

A linked server definition specifies the following objects:

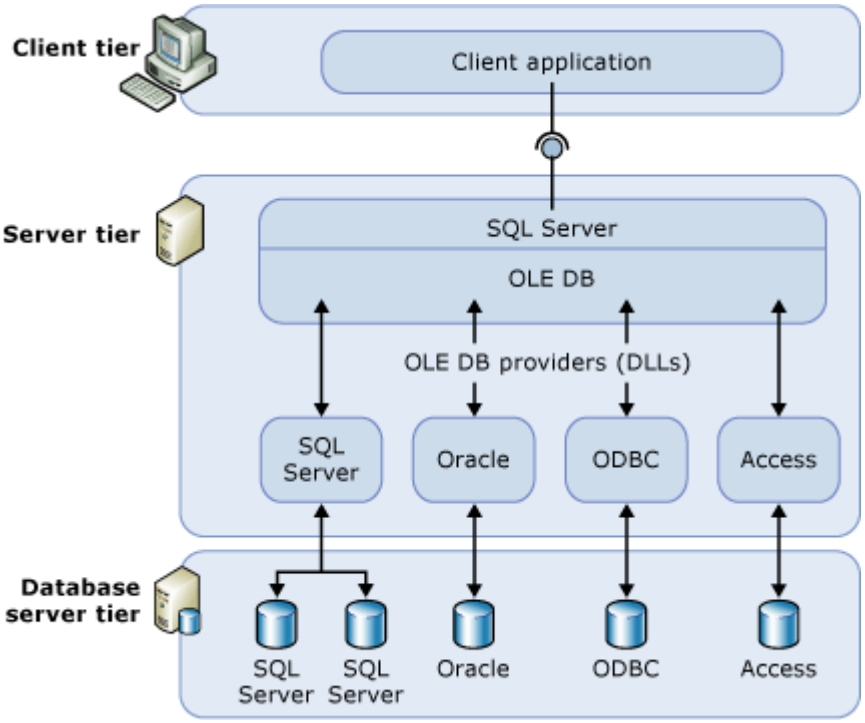
- An OLE DB provider
- An OLE DB data source

An *OLE DB provider* is a DLL that manages and interacts with a specific data source. An *OLE DB data source* identifies the specific database that can be accessed through OLE DB. Although data sources queried through linked server definitions are ordinarily databases, OLE DB providers exist for a variety of files and file formats. These include text files, spreadsheet data, and the results of full-text content searches.

The Microsoft SQL Native Client OLE DB Provider (PROGID: SQLNCLI) is the official OLE DB provider for SQL Server.

Linked Server Details

The following illustration shows the basics of a linked server configuration.



Typically, linked servers are used to handle distributed queries. When a client application executes a distributed query through a linked server, SQL Server parses the command and sends requests to OLE DB. The rowset request may be in the form of executing a query against the provider or opening a base table from the provider.

For a data source to return data through a linked server, the OLE DB provider (DLL) for that data source must be present on the same server as the instance of SQL Server.

When a third-party OLE DB provider is used, the account under which the SQL Server service runs must have read and execute permissions for the directory, and all subdirectories, in which the provider is installed.

Managing Providers

There is a set of options that control how SQL Server loads and uses OLE DB providers that are specified in the registry. For more information, see Configuring OLE DB Providers for Distributed Queries.

Managing Linked Server Definitions

When you are setting up a linked server, register the connection information and data source information with SQL Server. After registered, that data source can be referred to with a single logical name.

You can use stored procedures and catalog views to manage linked server definitions:

- Create a linked server definition by running **sp_addlinkedserver**.
- View information about the linked servers defined in a specific instance of SQL Server by running a query against the **sys.servers** system catalog views.
- Delete a linked server definition by running **sp_dropserver**. You can also use this stored procedure to remove a remote server.

You can also define linked servers by using SQL Server Management Studio. In the Object Explorer, right-click **Server Objects**, select **New**, and select **Linked Server**. You can delete a linked server definition by right-clicking the linked server name and selecting **Delete**.

When you execute a distributed query against a linked server, include a fully qualified, four-part table name for each data source to query. This four-part name should be in the form *linked_server_name.catalog.schema.object_name*.