



SYSPRO Point of Sale: Architecture



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Overview

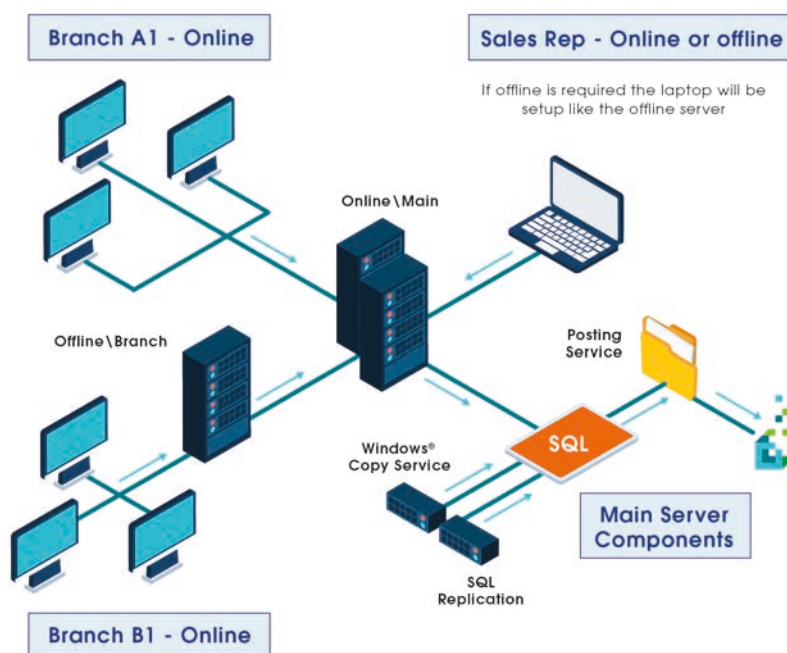
The SYSPRO Point of Sale architecture has been designed to provide fast access at cashier terminals, and ensure that critical customer facing activities at store locations are available at all times, regardless of connection to head office.

The architecture has been designed to ensure that your store can trade and access critical customer facing functionality in the exceptional event that the lines to head office have gone down. It is not designed to cater for bad lines to head office as there are still functions that require connection to head office. The architecture also transmits data from head office automatically and this requires decent connection speeds.

The architecture also allows for transactions to be processed offline at trade shows. As soon as the laptop is connected to the network again, it will automatically sync and post transactions.

There is a direct relationship between line speed and volume of transactions so it is important to consider all aspects of the architecture and connection when implementing Point of Sale. It is good practice to ensure that stores have back-ups or failover lines in place. Connection to head office should still be given high priority to ensure you have close to real-time processing from Point of Sale to SYSPRO.

The architecture allows a hybrid mode, with some branches running online, and others running offline.





Typically, the offline architecture will always be deployed regardless of line speeds and line failovers, to ensure that if they lines do drop for whatever reason the store can still trade.

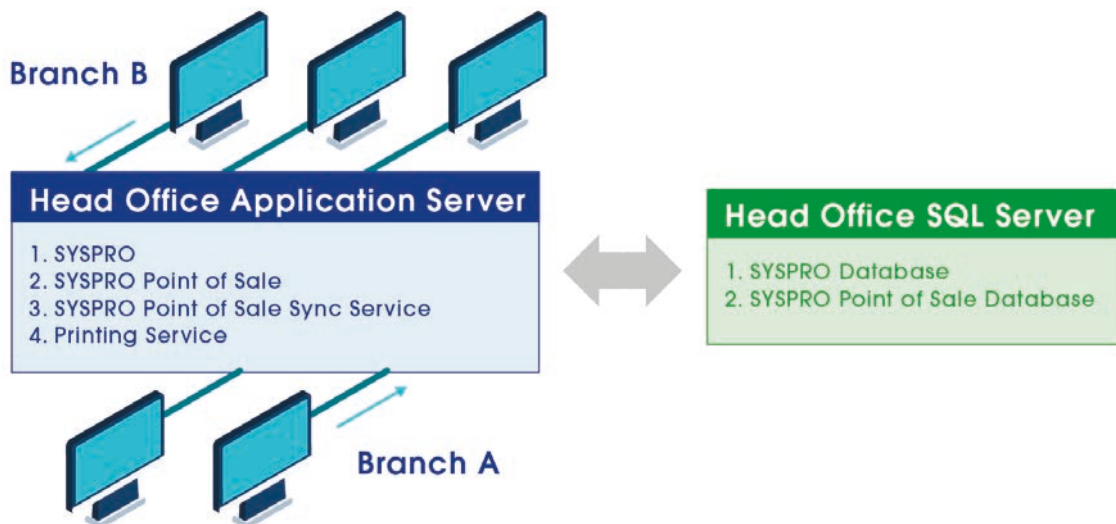
Online Architecture

In the online architecture, branches are logical groupings based on operator logins. A Point of Sale operator will be assigned to a specific branch so when they login they will automatically be trading under the branch that they have been assigned to.

The operators will be logging on to the main application server when they login to POS. This means that if the lines to head office go down, they will not be able to trade until the connection has been restored.

All users from all branches will connect through a browser and will point to the head office IP address directly for ALL functionality.

Online Components



Server Components

1. SYSPRO - The SYSPRO ERP software
2. SYSPRO Point of Sale - The SYSPRO Point of Sale software
3. SYSPRO Point of Sale Sync Service - This is a Windows service that will check for any Point of Sale software updates that may have been ported and will automatically update the software. This can be configured to run at a specific time in the day so that the required IIS restart can be done without affecting trading.



4. Printing Service - This service controls all the printing done from within SYSPRO Point of Sale
5. SYSPRO ERP database
6. SYSPRO Point of Sale database

Offline Architecture

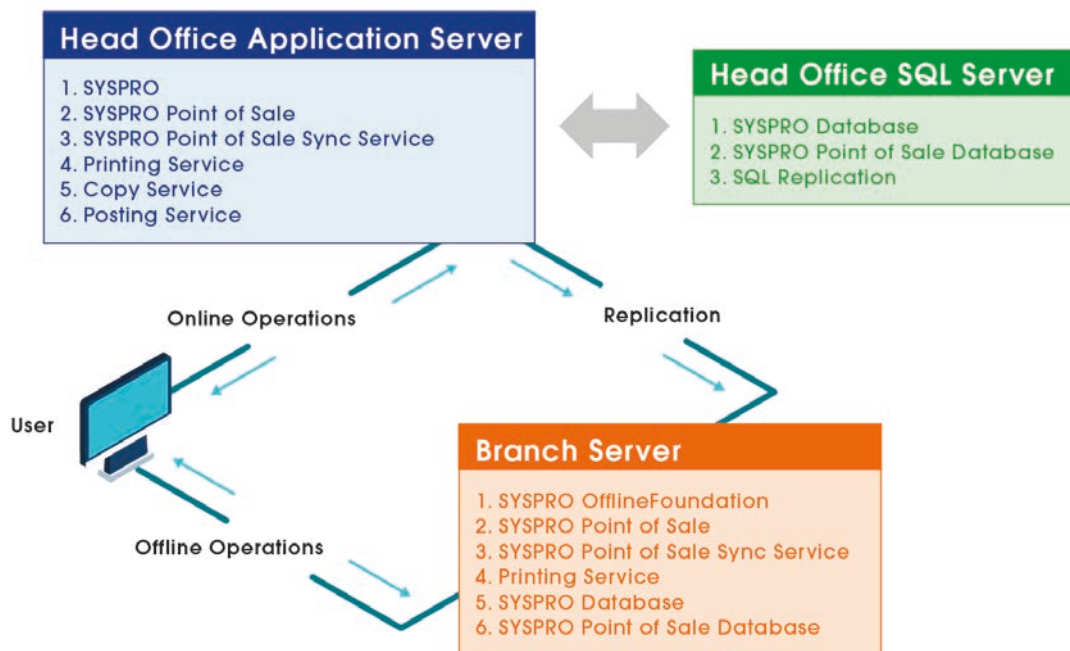
In the offline architecture, a branch server is required at the store location, which all users at the location will log on to. Data is 'pushed' from the main server to the branch server via standard SQL Server replication. Transactions are copied to head office and posted into SYSPRO automatically.

When running the offline architecture, some functionality is configured to work in offline mode, and some that will only function in online mode. Any functionality that is not configured with the offline architecture will require a connection to head office to work. The software will detect if you are not connected to head office and notify you that you are offline and to try again later. This functionality is detailed in the Functionality sections below.

All users at the offline branch will connect to the branch server when accessing offline functionality, and to the main server when accessing online functionality. The menu functions will point to the relevant server. Note that the software that is installed on the main server and the branch server is identical, it is just where a menu function points to run that changes.



Offline Components



Server Components

1. SYSPRO ERP software
2. SYSPRO Point of Sale software
3. SYSPRO Point of Sale Sync Service
4. Printing Service
5. Copy Service - This is a Windows service installed on the main server and has a list of all branch servers that have been installed. The service will continually check each branch server for transactions that need to be copied up to head office. If it finds a transaction, it will copy it up to the main server and mark it as “copied” on the branch server.
6. Posting Service - This is a Windows service installed on the main server that will check for transactions that have been copied but not yet posted to the SYSPRO ERP; it will then post those transactions. This service can be configured to post at defined intervals.
7. SYSPRO ERP database
8. SYSPRO Point of Sale database
9. SQL Server Replication - When there is an offline branch installed, replication will be configured on the main SQL Server database. This will push all relevant SYSPRO and SYSPRO Point of Sale data down to the branch server. Replication is incremental, so every time a record changes in one of the tables being replicated, it will automatically be pushed to each branch (provided they are online). Only master data (e.g., customers, stock information, pricing) is replicated, not transaction data.

Branch Components

10. SYSPRO Offline foundation - The core SYSPRO components that are required by the offline server to run query operations.
11. The SYSPRO Point of Sale software



12. SYSPRO POS Sync Service - Same as in the online environment, but also in an offline environment this service checks for any software changes that need to be applied to the branch. If it detects any updates, it will copy down the relevant files needed by the SYSPRO Offline foundation. This service should only be configured to run once a day after hours or as required when SYSPRO settings have or updates have been made.
13. Printing Service
14. SYSPRO ERP database - This is a partial SYSPRO database that has been replicated to the branch. It contains all master data required (e.g., customers, stock, warehouse, pricing).
15. The SYSPRO Point of Sale database

Offline Functionality

The following functionality is still available to operators when there is no connection to head office, this is the critical customer facing sales functionality which will allow operators to take payments and service customers.

Store

- Point of Sale
- Account Payments
- Manage Quotes
- Credit Notes
- Exchanges

Query

- Customer Query
- Inventory Query

Finance

- Cash-up slip
- Supervisor cash-up
- End of day
- Sales Report
- Payments Report



Online functionality

All other functionality is available from the branch running on the offline architecture but only if there is a current connection to head office. This is viewed as setup or store management functionality that can be delayed if required. For example, if the lines are down and stock has arrived, you won't be able to receive it in until the lines come back up but the operators are still able to sell the stock.

Most of the store management functionality is transactional by nature and the source transaction may not have originated from the branch. This means that it cannot be edited or changed at a local branch as it may have been changed in SYSPRO or at another branch, which will lead to data integrity issues. For this reason, the functionality is only available when there is a head office connection and the transaction is actually created or maintained directly on the main server.

Manage Orders

Manage orders is more sophisticated order creation process that allows you to do more complex transactions (e.g., deposit orders, order maintenance, partial invoicing). This is only available when there is a connection to head office. Operators can use the Point of Sale screen to process sales if the lines are down, but none of the complex ordering functions will be available until the connection is restored.

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