PixelPoint®

High Availability Functionality

Publication Details

Patents
The following patents apply to some areas of functionality within the PixelPoint software suite: Pat. 6,384,850; 6,871,325; 6,982,733; 8,146,077; 8,287,340

Revision History

02/28/2017 – Initial Release
03/13/2018 – Revision 1
Added note in ToC regarding rolling back to v12 after installation.

HA Functionality Table of Contents

****Note****: Back up ALL data before updating to PixelPoint 17 with High Availability. As the Sybase database is updated as part of the install, users cannot roll back to v12 after the update is complete. The same is true for users that may wish to switch to PixelPoint 17 Classic after installing PixelPoint 17 with High Availability. Save a full v12 database backup before beginning the update process if you think you may not stick with v17 with HA.

Overview

This document explains the intended use and functionality of the High Availability feature for PixelPoint 17. This solution will be made available in 3 phases:

1. Station Failover (Current phase) – If a station cannot connect to the POS Server, an option will be available to run basic functionality in Standalone Mode where all transactions are stored in a local database until a connection with the server is re-established. Intended for use in a quick-service environment, though will also be useful in table-service environments.
2. POS Server Mirroring – The database engine will mirror the PixelPoint database to a second terminal in real-time. This mirrored terminal can then be configured to act as the POS server to resume normal operations should the connection to the original POS server become inactive. When in Standalone Mode, the mirrored server will allow users to access any open tables that were open at the time of the switch-over.
3. Cloud Backup – Incremental backups are sent to an offsite location for backup in case of fire, natural disaster, or theft of computer hardware.

This document will be appended with updated information as each phase is released

Before reading this document, users should have already installed both the station and server components in their environment. Instructions on the installation of this feature can be found in the document High Availability Installation.

Requirements

- PixelPoint 17.2.x or higher
  - Requires High Availability license module. Contact your sales rep. for information on how to obtain this module.

Note: The High Availability feature cannot be configured manually. The required installers must be run. For details, see the document High Availability Installation.

High Availability Modes

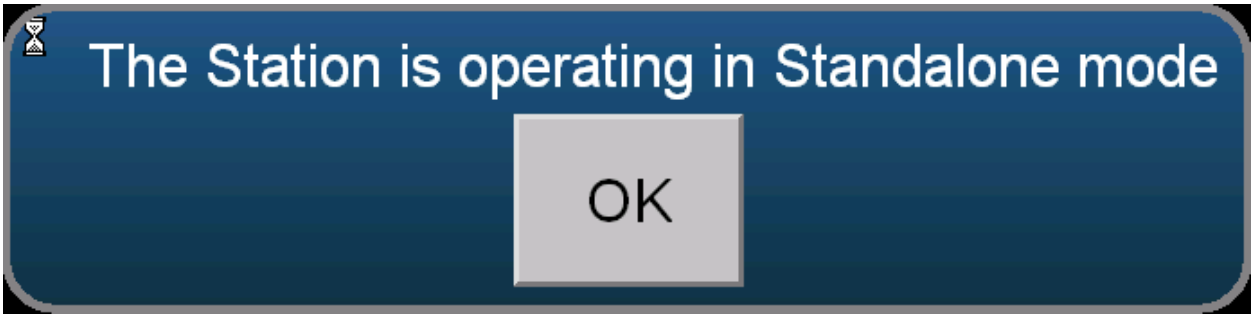
Server Mode

Server mode is the normal state of operation of the POS, with information being shared between the server and all stations. When the POS is running in Server Mode, all normal functionality is available. The POS should be run in Server Mode whenever possible.

When the system is switched to from Standalone to Server Mode, tables that were previously open are merged with tables that were opened in Standalone Mode. Employees will have two punch records, and therefore two cash outs.

If the connection to the Server is suddenly lost, any affected stations running PixelPoint will show the following message:

Selecting Failover to Local DB will cause the POS to restart in Standalone Mode. Each time the POS is started in Standalone Mode, the following message will be displayed. This serves as a reminder to users to reconnect to the Server database as soon as possible.



Standalone Mode

When a station is switched to Standalone Mode, a new session is started with no open tables, no clocked in employees and no connection to the Server Database. Stations will continue to function independently using a local database until the user switches back to Server Mode and a connection with the server is re-established.

Users must manually switch between Server and Standalone Mode by using the method shown above (to switch to Standalone Mode), or by using the buttons placed on the Manager Functions menu (shown below). When operating in Standalone Mode, this button in the Manager Functions menu will read Switch to Server Mode.

Note: The process of switching between Standalone and Server Mode cannot be performed automatically.

Functionality available in Standalone Mode includes:

- Floorplan & table seating
- Menus, ordering and local payment functions
    - Credit cards that require contact with a third party payment processor may not function, depending on the requirements of the specific integration.

Changes and limitations while operating in Standalone Mode include:

- All print jobs are routed to the local printer, if available.
    - Guest receipts and kitchen tickets will print locally. Kitchen tickets should be walked to the kitchen for preparation.
- Credit card payments will continue to function if a network connection is available to the Standalone station.
    - Only available if the credit card processor requires their software to be installed on each individual station and a connection with the Pixel server is not required to process.
    - Enquire with your credit card processor if "Store and Forward" functionality is available.
- 3rd Party software and peripherals such as kitchen video (KDS), liquor dispensing systems, and custom interfaces will not function in Standalone Mode.

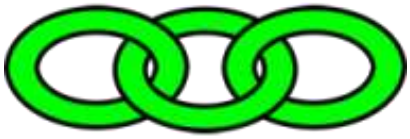
- No access to Report Viewer

Note: Terminals that are used both as the Server and Station will require both the Server and Station components of the High Availability feature be installed. Once installed, the terminal will run both the PixelSQLLocal (Station component) as well as the PixelSQLBase (Server component) engines.

High Availability Status Icons

The server connection status of each terminal can be determined by the icon located in the bottom left corner of the login, table, and order screens.

Green: Station is connected to the master POS database on the POS Server.



Red: Station is disconnected from the master database and the POS is operating from its local database.

Grey/Up Arrow: Station is connected to the master database and is uploading data from its local database.

Grey/Down: Station is connected to the master database and is downloading data to its local database.

Grey/Gears: Station is connected to the master database and is configuring data for synchronization.

When any of the three grey icons above are displayed, the POS will be unavailable until all synchronization tasks are complete.

After installing PixelPoint 17 and opening a POS station for the first time, an initial synchronization of data will be performed between each station and the server. This includes data such as forms, employee information and menus. The first sync may take some time, depending on the size of the database.

License Manager

A new version of the License Manager is included in the PixelPoint 2017 release (17.2.x.x).

The License Manager now handles all SQL updates for both the master database on the server as well as the local database on each station. SQL updates were previously handled by SystemSet. Data will be synchronized between server and stations by License Manager each time a station is switched from Standalone to Server Mode.

Master Files Folder

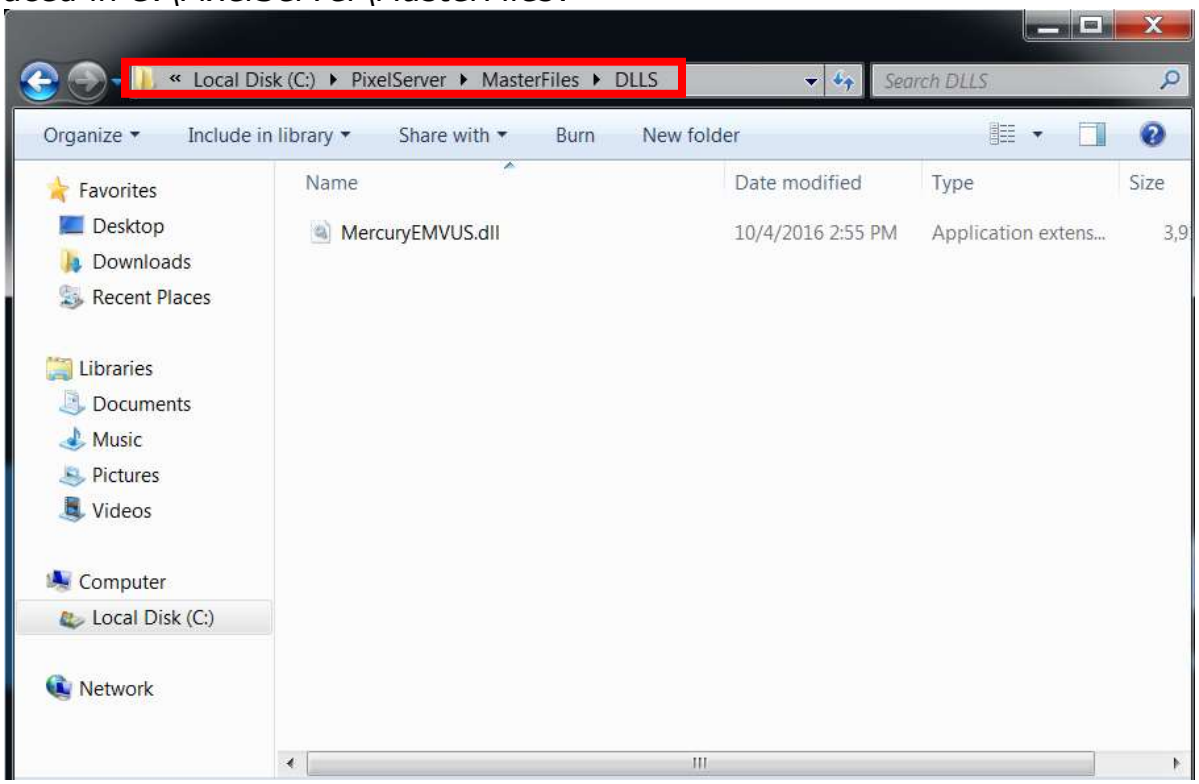
With the upgrade to PixelPoint 17, the formerly used PixelPOS folder has now been replaced with the folders PixelServer (on server terminals) and PixelStation (on station terminals). The PixelPOS folder can however can be used if the site would like to resume legacy operations without High Availability.

Servers operate from the root folder PixelServer. This directory contains all executables and files that are used globally while in Server Mode, including the License Manager, Clear All Sales and Authorization Manager.

Within the PixelServer folder is a sub-folder named MasterFiles (*C:\PixelServer\Masterfiles*). This folder is used to manually synchronize files and executables from the Server to all Stations in the environment. Folders and files placed in the MasterFiles folder on a Server terminal are copied to the PixelStation folder on all stations over the local network. Updates to existing files in the MasterFiles folder will be copied down to stations. Folders and sub-folders are also included in the synchronization process.

See below for screenshot examples:

Screenshot showing the DLLS folder containing the file MercuryEMVUS.dll placed in *C:\PixelServer\MasterFiles*:



Screenshot showing the file MercuryEMVUS.dll successfully copied into the DLLS folder in *C:\PixelStation*