

XPRESSENTRY

XPressEntry / Open Options DNA Fusion Integration

Revision 04/10/2024

For use with the
XPressEntry Mobile Access Control
System

By



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Purpose

This document is intended to instruct users on how to synchronize an XPressEntry system with an **Open Options** system. XPressEntry has the capability of providing access control management from a handheld device. For XPressEntry setup information, see the document, “XPressEntry Installation and Upgrade” found at <https://telaeris.com/documentation>.

Pre-requisites/Requirements

1. XPressEntry 3.5+
2. Open Options DNA Fusion 8.2.0.5
3. FLEX API
 - a. Obtained from Open Options provider
4. Certificate if planning to implement API over SSL
5. Windows 8.1+ or server type equivalent

Setting Up Open Options to Synchronize with XPressEntry

It is assumed that a version of Open Options and XPressEntry are installed on computers or virtual machines that can **talk to each other**, or the **same** computer or virtual machine.

To install XPressEntry, you should have Administrator privileges on its respective machine. You should additionally be an **Administrator** or super user in the **Open Options** System.

Order of Operations

1. Setup Open Options Data and Settings
2. Enable XPressEntry Synchronization
3. Set up XPressEntry Data

Setup Open Options Data and Settings

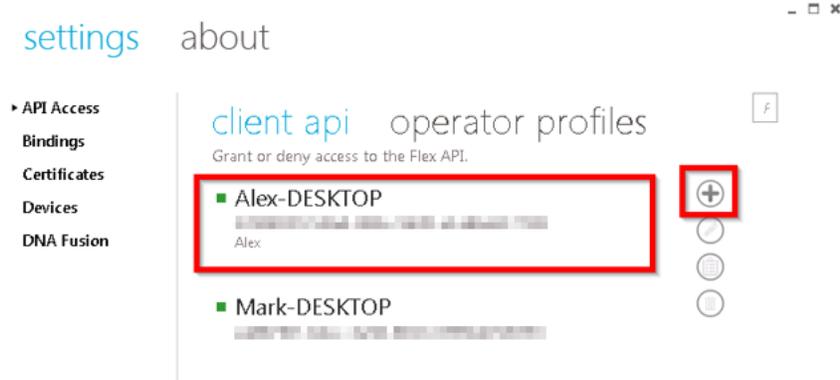
Flex API Setup

It is assumed that Flex API is installed and configured to access the DNA Fusion Database.

Create a Flex API Key

A Flex API Key must be created for use of the XPressEntry.

1. Select the + shown in the following image.
2. Provide a name and description for the entry
3. Copy the API Key to be used in the XPressEntry setup.



Lastly, check your bindings for http or https. The port set in bindings will be required by the XPressEntry setup. If the binding that you require does not exist, create one.

Configuring DNA Fusion

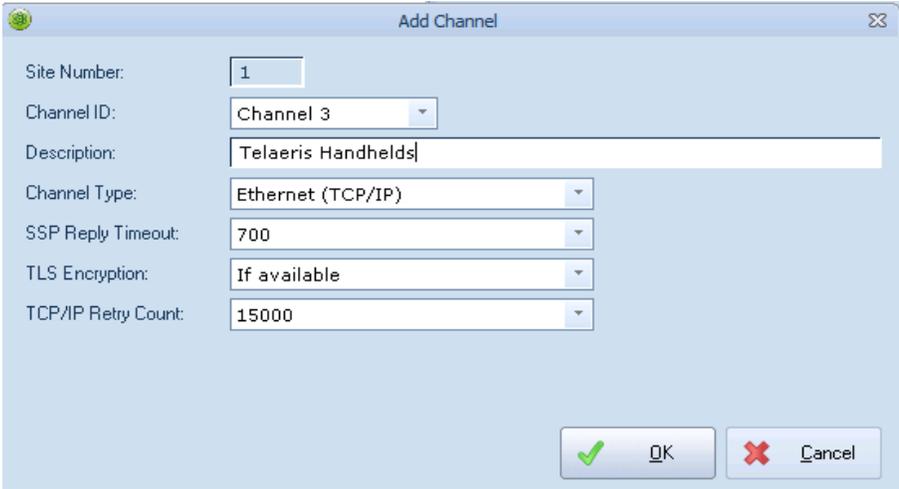
Handhelds

Create **placeholder reader records** in **DNA Fusion** to properly link XPressEntry handhelds to DNA Fusion. These placeholder records may be disabled and are only used to logically represent the work that the handhelds perform.

Telaeris handhelds can be added to existing Sites, Channels, and Controllers. The following walks through the process of adding a handheld, beginning with a new Channel.

Hardware Channel

1. Open the **Hardware Browser** in DNA Fusion and right -click on the **site** where your handhelds will be deployed.
2. Select **Add Channel**.
3. Give the channel a **description** that represents it is used for logical Telaeris Handhelds.



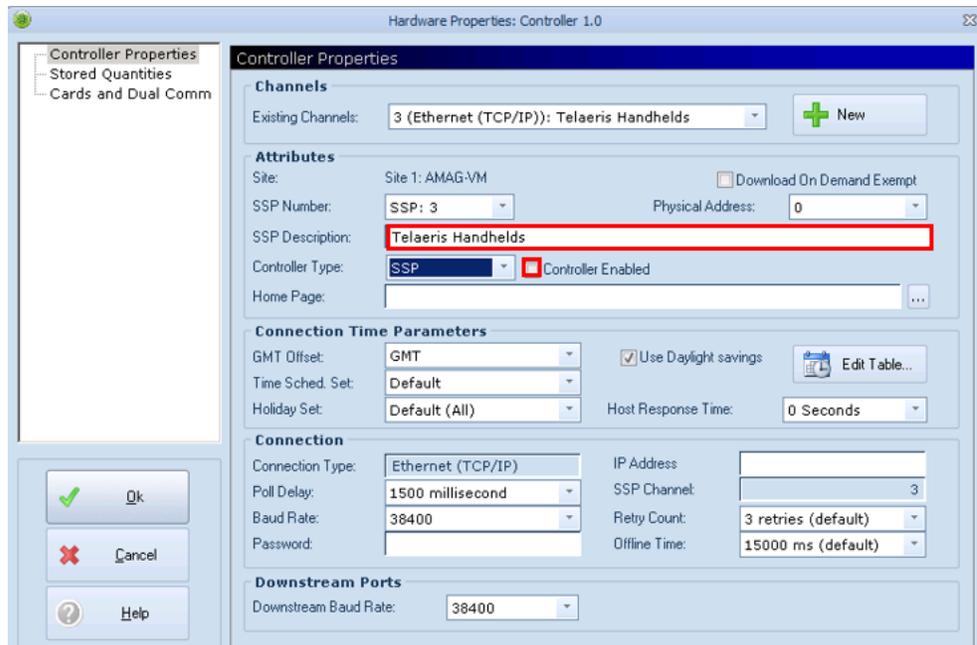
The screenshot shows a dialog box titled "Add Channel" with the following configuration:

Site Number:	1
Channel ID:	Channel 3
Description:	Telaeris Handhelds
Channel Type:	Ethernet (TCP/IP)
SSP Reply Timeout:	700
TLS Encryption:	If available
TCP/IP Retry Count:	15000

Buttons: OK, Cancel

Hardware Controller

1. Add a controller to the logical channel by right-clicking on the channel and selecting **Add SSP**.
2. Give the controller an **SSP Description** and set the controller to **disabled** because there is no physical controller.
 - a. This controller will be used to add logical handhelds in the system only.

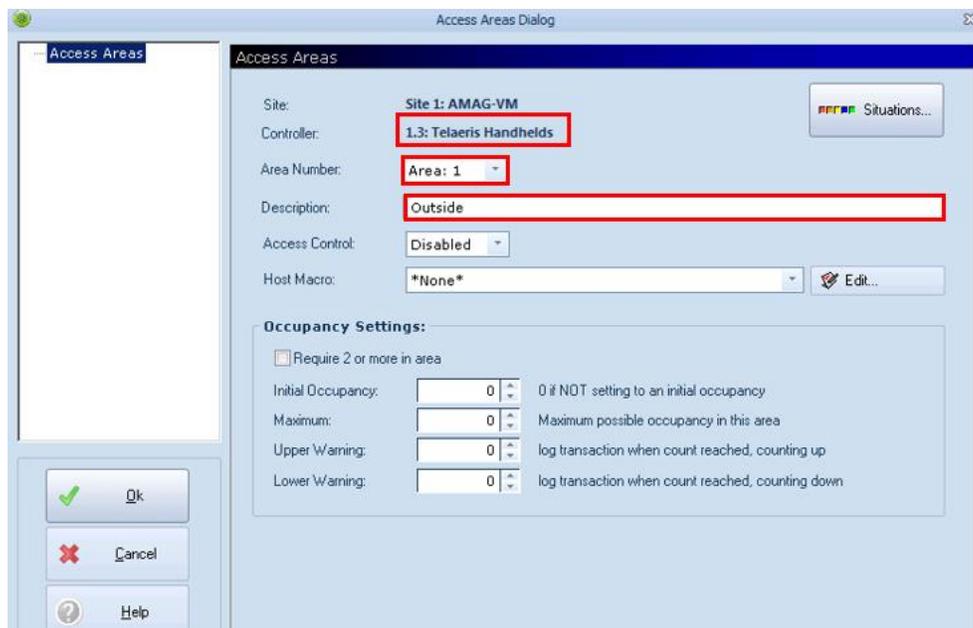


Once the controller has been added, add Access Areas and Readers to the system.

Access Areas

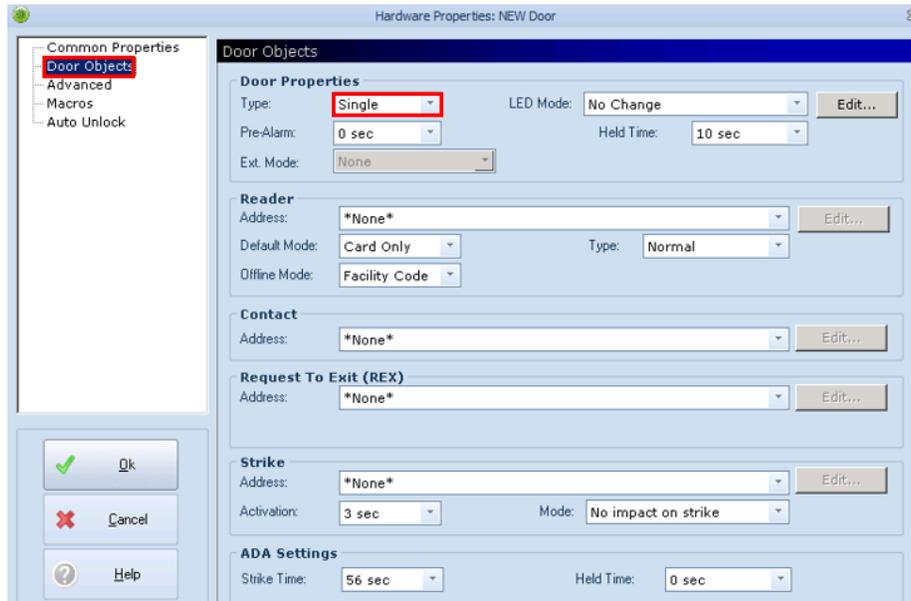
Areas should be configured for each door before configuring readers. To do this:

1. Right-click on the **Access Areas** option under the controller.
 - a. If access areas are not present in the hardware tree, it can be enabled via **DNA > Administrative > Properties > Hardware Tree Behavior** and check the box for **Access Control Areas**.
2. Add zones for each logical area the handhelds will move people between. This is denoted by the **description**.

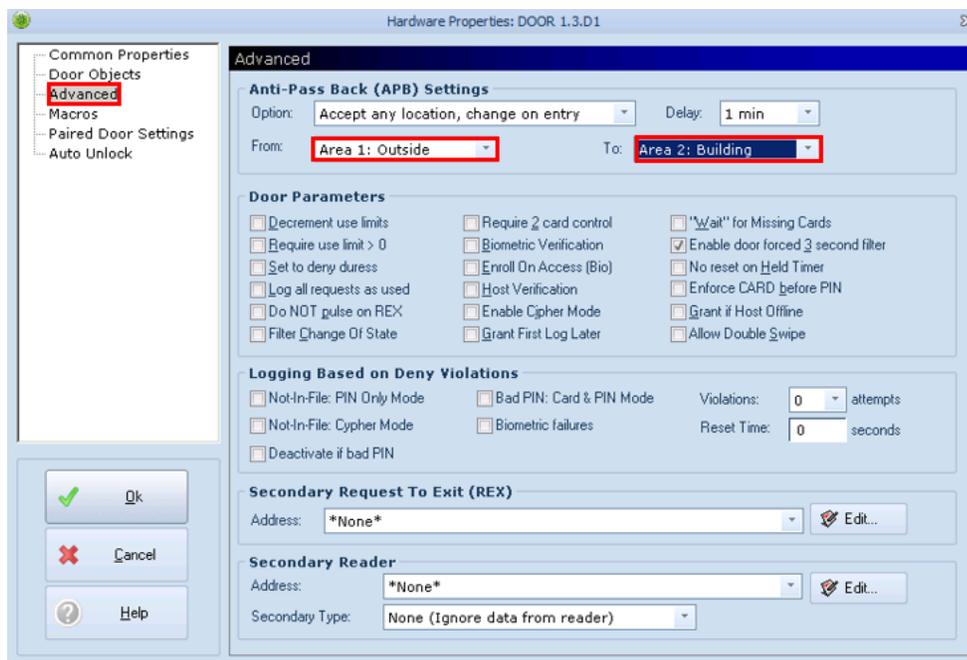


Readers

Readers are created through doors in DNA Fusion.



1. Select **Door Objects** and configure the type of door this will be.
 - a. If the handholds will be used to track personnel in **AND** out of an area, change the **Type** dropdown to **In and Out**.
 - b. If the handholds will be used solely for Entry **OR** Exit, select **Single**.
 1. If a reader is used as an **Exit** reader, it must contain **OUT** in the **name** for it to map to an exit reader in XPressEntry.
2. If you have configured Access Areas, navigate to the **Advanced** tab under the door and select Access Areas in the **From** and **To** dropdown menus.



Additional Fields

In addition to Areas and Readers, the following fields are pulled by XPressEntry.

- Cardholders
- Badges
- Pictures
- Groups
- Access Levels (Legacy)
- Access Groups (Global)
- Readers > Groups and Levels
- Users > Groups and Levels

XPressEntry pushes access events (activities) back to DNA Fusion.

Enable XPressEntry Synchronization

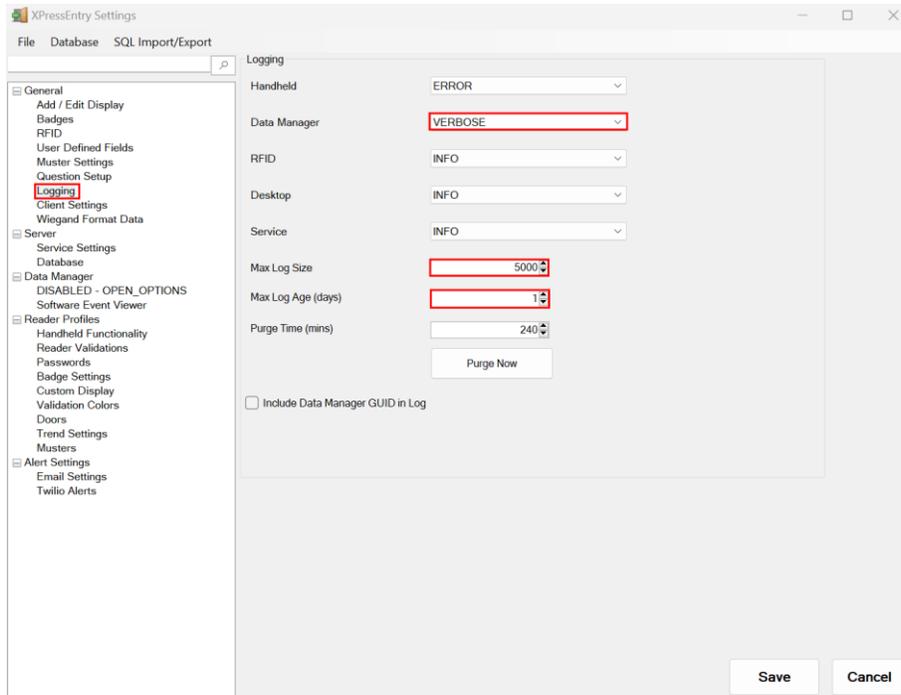
XPressEntry uses a module called Data Manager to synchronize all data with Open Options. From the main page of XPressEntry, go to XPressEntry > Settings (ALT+S or **Tools > Settings**).

The screenshot shows the XPressEntry Administrator interface. The 'Settings' menu is open, highlighting the 'Settings' option (ALT+S). The main window displays 'All Zones (Occupancy: 18)' with a grid of user activity. Below this is a table titled 'Activity Occurring in Last Day'.

User	User Image	Time Stamp	Start Zone	End Zone	Door	Reader	Entry Granted
Spears, Za...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Howell, Jo...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Villarreal, ...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
David, Leo...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True
Atkinson, ...		01/12 02:5...	Main Lobby	Building A	Door A	Handheld 2	True

General Tab

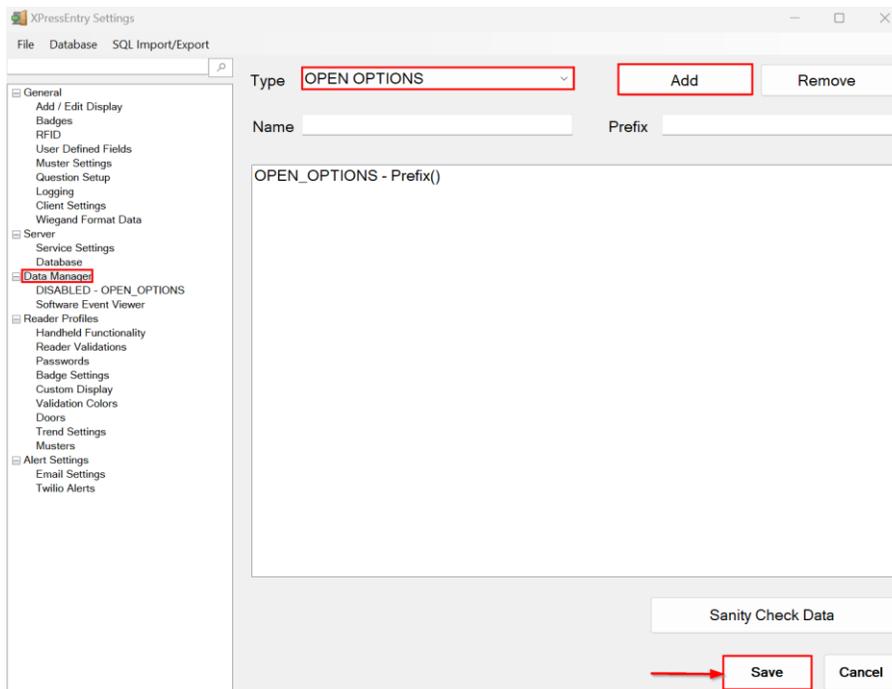
1. From the Settings page, select **General > Logging**.
2. Set the Data Manager Log level to **DEBUG** or **VERBOSE**
 - a. This will allow you to view log entries during the sync process.
3. Max Log Size – **5000** or higher
4. Max Log Age – **1 Day** or higher



Once the integration is complete, set the log level to **ERROR** so only error messages will be tracked.

Data Manager Tab

From the Settings page select the Data Manager Tab.



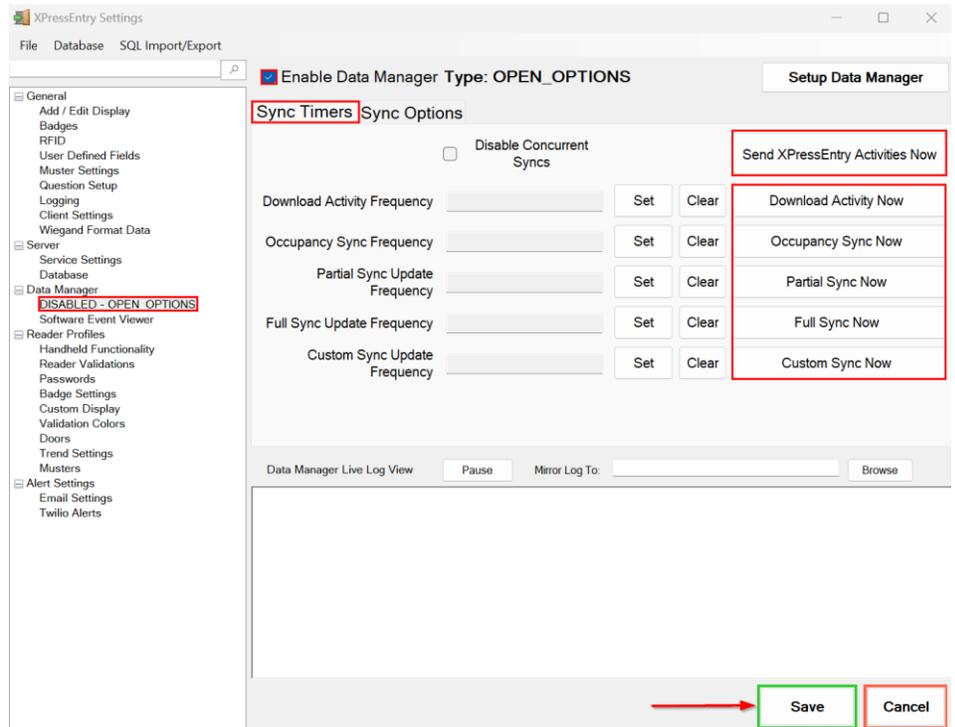
1. **Type** – This is the integration type. Select **OPEN OPTIONS** > **Add** > **Save**.
2. Go to **Data Manager** > **OPEN OPTIONS** in sidebar menu.
3. **Setup Data Manager** – This sends you to the setup form for the OPEN OPTIONS data

manager.

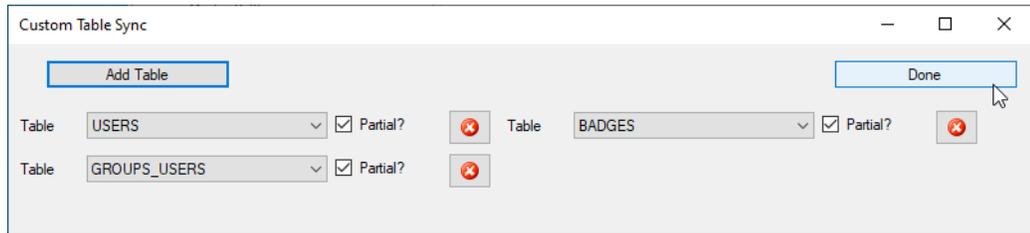
Sync Timers

XPressEntry uses Timers to pull Open Options data into XPressEntry.

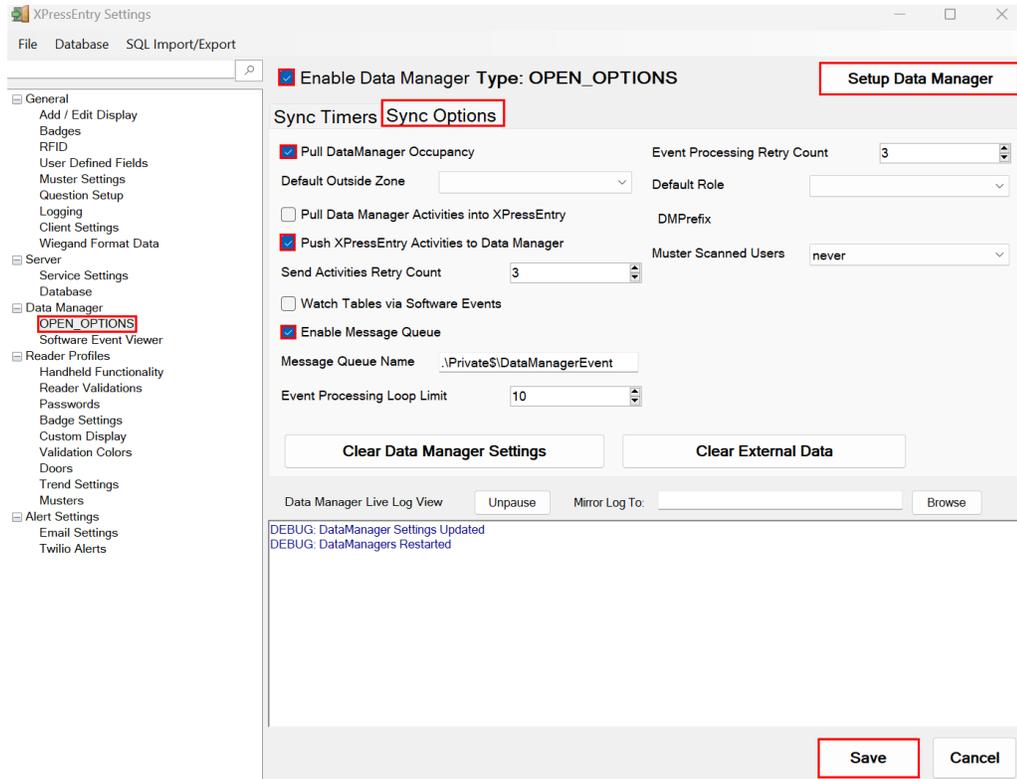
- 1. Download Activity Frequency** – Pulls reader scan records into XPressEntry and stores them in XPressEntry's activity table. This function also updates the zone occupancy.
- 2. Occupancy Sync Frequency** – Updates the zone occupancy without storing the activity records. *Not available with Open Options.*
- 3. Partial Sync Frequency** – Pulls all data excluding cardholder data, including readers, areas, access levels. It will only grab the last x number of users that were added to the system.
 - a. Do** use this sync to quickly update any table in XPressEntry.
 - Do** use this sync to quickly add a new user into XPressEntry from Open Options.
 - Do NOT** use this sync to delete a user from XPressEntry who was deleted in Open Options.
 - Do NOT** use this sync to update a user from XPressEntry who was changed in Open Options.
- 4. Full Sync Update Frequency** – Updates all tables by pulling all necessary records from Open Options. This function may take some time.
 - It is recommended to run a full sync **once per day** in the middle of the night when the system is not busy.
- 5. Custom Sync Frequency** – Updates a set of tables that the user configures.



- a. To configure, right click **Custom Sync Now** and select **Edit Custom Sync**.



Sync Options



1. **Pull Data Manager Occupancy** – Enables use of the Occupancy Sync.
2. **Pull Data Manager Activities into XPRESSentry** – Enables use of the Activity Sync. *Not available with Open Options.*
3. **Push XPRESSentry Activities to Data Manager** – Enables XPRESSentry to push Scan data to Open Options. *Not available with Open Options.*
4. **Send Activities Retry Count** – Number of times XPRESSentry will attempt to resend an activity if it fails.
5. **Default Role** – The default XPRESSentry Role that will be assigned to users if the integration does not otherwise assign a role. Entrants are recommended but not required.
6. **Muster Scanned Users** – Enables sync to convert scans from specific readers to be converted into Muster Scans which mark users as safe. Muster readers must be configured in the reader data. Please see *Mustering Documentation* for more details.
7. **Setup Data Manager Button** – Opens Open Options specific settings.
8. **Clear Data Manager Settings** – Resets all settings on the two above tabs, as well as the System Galaxy specific settings.

9. **Clear External Data** – Deletes all data synced from Open Options from the XPressEntry Database.

Open Options Data Manager Set Up Page

Press the **Setup Data Manager** button to get the Open Options specific setup screen.

The screenshot shows the 'Open Options Data Manager' window with the 'General' tab active. The 'API Address' field contains 'http://mytextoosystem.com:30009'. The 'API Key' field contains '157de4379f-u958-hf70-e759-900z3hffc7j'. The 'Records Per Thread' dropdown is set to '500' and 'Report Records Per' is set to '100'. There are three checkboxes: 'Use Credential' (checked), 'Send Credential' (checked), and 'Pull Active Field' (unchecked). Below these is a text input field for 'Groups to Use' and a 'Fill Groups' button. At the bottom of the window are three buttons: 'Test Connect', 'Clear Results', and 'Okay'.

1. **API Address** – This is the server address of the API. Make sure the URL prefix and bindings are specified.
2. **API Key** – This is the key that was created in the Flex API Setup.
3. **Records per Thread** – XPressEntry will create enough threads so that each thread is responsible for the appropriate number of pictures.
 - a. If DNA Fusion has **1000** users and Records per Thread is set to **100**, **10 threads** will be created. Be cautious not to create too many threads, as it may impact performance if 100s of threads are created.
4. **Report Records Per** – Determines how often the front end is notified about the progress of the picture, groups users, and groups readers downloads.
5. **Fill Groups** – Pulls groups into the designated list below. Prevents the system from pulling ALL users by specifying which groups XPressEntry should pull users from.

Press **Test Connect** to verify connection to the Flex API. If successful, select **Okay** to exit the setup form.

Select **Save** on the Data Manager. Next, select **Full Sync Now** to test your setting changes. The log view at the bottom will display the result of the sync, according to the log level set in the **General** tab.

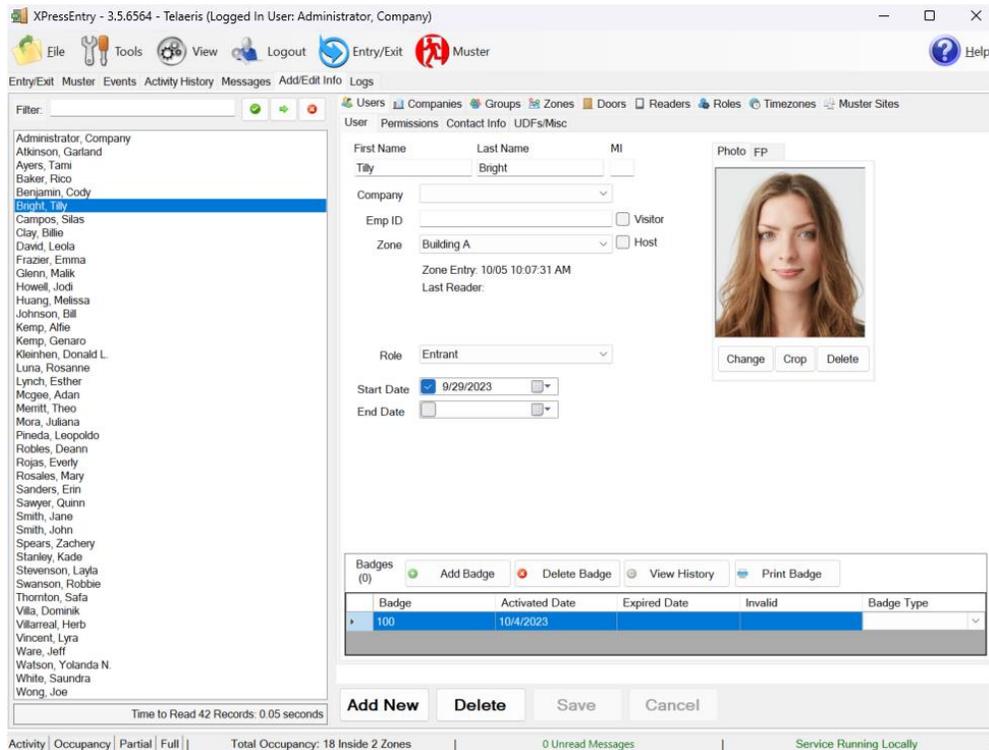
Set up XPressEntry Data

XPressEntry Data

After running the initial **Full Sync**, you will see the data from DNA Fusion represented in XPressEntry under the **Add/Edit Info** tab. Data which is imported from Fusion cannot be changed from within XPressEntry and is greyed out.

Users

Here is a sample of a properly synchronized user:



The screenshot shows the XPressEntry user management interface. The window title is 'XPressEntry - 3.5.6564 - Telaeris (Logged In User: Administrator, Company)'. The interface includes a menu bar with 'File', 'Tools', 'View', 'Logout', 'Entry/Exit', and 'Muster'. Below the menu bar is a navigation pane with 'Users', 'Companies', 'Groups', 'Zones', 'Doors', 'Readers', 'Roles', 'Timezones', and 'Muster Sites'. The main area is divided into two sections: a user list on the left and a user profile form on the right. The user list includes names like 'Administrator, Company', 'Atkinson, Garland', 'Ayers, Tami', 'Baker, Rico', 'Benjamin, Cody', 'Bright, Tily', 'Campos, Silas', 'Clay, Billie', 'David, Leola', 'Frazier, Emma', 'Glenn, Malik', 'Howell, Jodi', 'Huang, Melissa', 'Johnson, Bill', 'Kemp, Allie', 'Kemp, Genaro', 'Kleinhen, Donald L.', 'Luna, Rosanne', 'Lynch, Esther', 'Mcgee, Adan', 'Merritt, Theo', 'Mora, Juliana', 'Pineda, Leopoldo', 'Robles, Desann', 'Rojas, Evertly', 'Rosales, Mary', 'Sanders, Erin', 'Sawyer, Quinn', 'Smith, Jane', 'Smith, John', 'Spears, Zachery', 'Stanley, Kade', 'Stevenson, Layla', 'Swanson, Robbie', 'Thornton, Safa', 'Villa, Dominik', 'Villareal, Herb', 'Vincent, Lyra', 'Ware, Jeff', 'Watson, Yolanda N.', 'White, Sandra', and 'Wong, Joe'. The user profile form for 'Bright, Tily' shows fields for 'First Name', 'Last Name', 'MI', 'Photo', 'FP', 'Company', 'Emp ID', 'Zone', 'Zone Entry', 'Last Reader', 'Role', 'Start Date', and 'End Date'. The 'Role' is set to 'Entrant' and the 'Start Date' is '9/29/2023'. Below the form is a 'Badges' section with a table showing one badge with ID '100', activated on '10/4/2023', and an 'Invalid' status. The table has columns for 'Badge', 'Activated Date', 'Expired Date', 'Invalid', and 'Badge Type'. At the bottom of the form are buttons for 'Add New', 'Delete', 'Save', and 'Cancel'. The status bar at the bottom shows 'Activity | Occupancy | Partial | Full | | Total Occupancy: 18 Inside 2 Zones | 0 Unread Messages | Service Running Locally'.

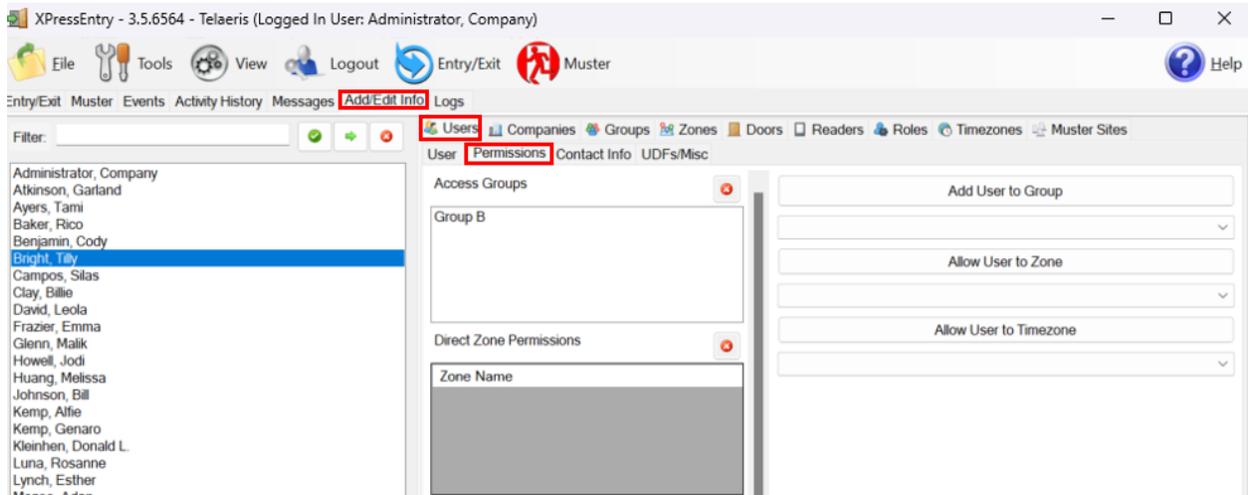
All External Records (From Open Options) will display in red as an **External Record** at the top of the form. This label will not display for any records that were created from within XPressEntry.

XPressEntry will pull the user's **image** and **badge number** from Open Options. The badge number can be seen at the bottom of the screen.

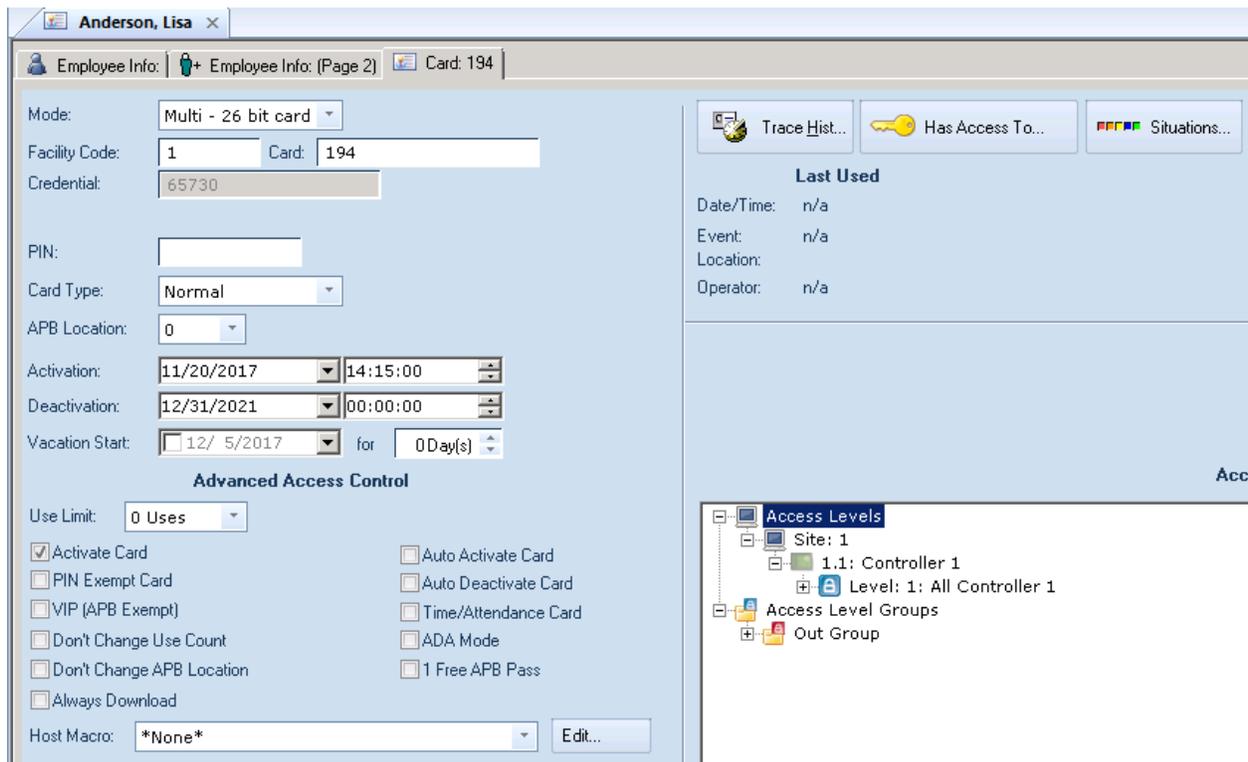
User Permissions

Users in XPressEntry have the same access to the Access Groups and Access Levels as they do in DNA Fusion.

XPressEntry User Permissions



Open Options DNA Fusion Permissions



Reader Groups

Each Access Level and Access group is pulled from Fusion to XPressEntry, as well as the readers associated with it. The example below shows the mapping.

XPressEntry Reader Groups

External Record

Filter: ✓ → ⚙

All Access
 All Readers Group
 Controller 1: All Controller 1
 Controller 1: Front Door and Out
 In Doors Only Group
 No Access
 Out Group

Name: Controller 1: All Controller 1
 Is Default Group

Readers: Controller 1: ACM 1, Controller 1: ACM 2, Controller 1: ACM 2-OUT, Controller 1: ACM 4, Controller 1: ACM 4-OUT
 Timezones: Always, early to late, Test

Selected: Controller 1: ACM 1, Controller 1: ACM 2, Controller 1: ACM 2-OUT, Controller 1: ACM 4, Controller 1: ACM 4-OUT, Controller 1: ACM 6, Controller 1: ACM 6-OUT

Activity | Partial | Full | Total Occupancy: 10 Inside 2 Zones | 0 Unread Messages | Service Running Locally

DNA Fusion Access Levels

Access Level Editor: (1.1.AL1: All Controller 1)

Access Level: 1 | Description: All Controller 1

Default Time Schedule: TS 001: Always All selected Doors
 Default Floor Group: All selected Elevators

Access Level Category: Access Level
 Escort Requirements: Not an Escort (default)

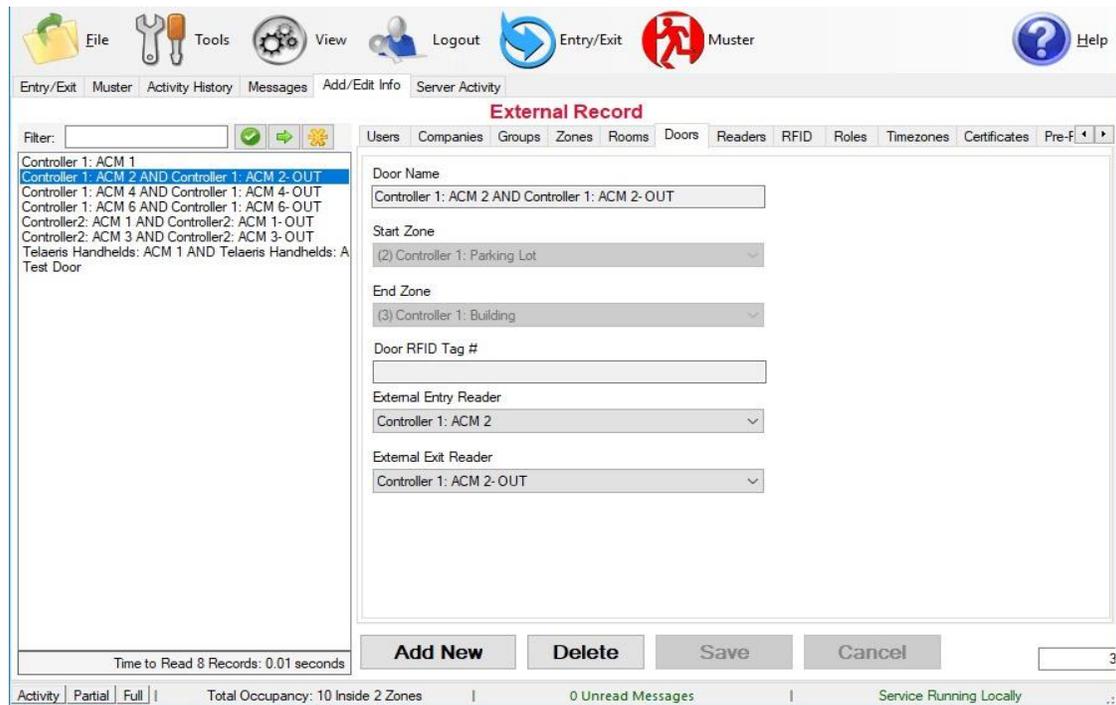
Activation Date:
 Deactivation Date:

Access Control Model	Time Schedule
<input checked="" type="checkbox"/> Doors	
<input checked="" type="checkbox"/> 1.1.D1: ACM 1	001: Always
<input checked="" type="checkbox"/> 1.1.D2: ACM 2	001: Always
<input checked="" type="checkbox"/> 1.1.D3: ACM 2-OUT	001: Always
<input checked="" type="checkbox"/> 1.1.D4: ACM 4	001: Always
<input checked="" type="checkbox"/> 1.1.D5: ACM 4-OUT	001: Always
<input checked="" type="checkbox"/> 1.1.D6: ACM 6	001: Always
<input checked="" type="checkbox"/> 1.1.D7: ACM 6-OUT	001: Always
<input type="checkbox"/> Elevators	

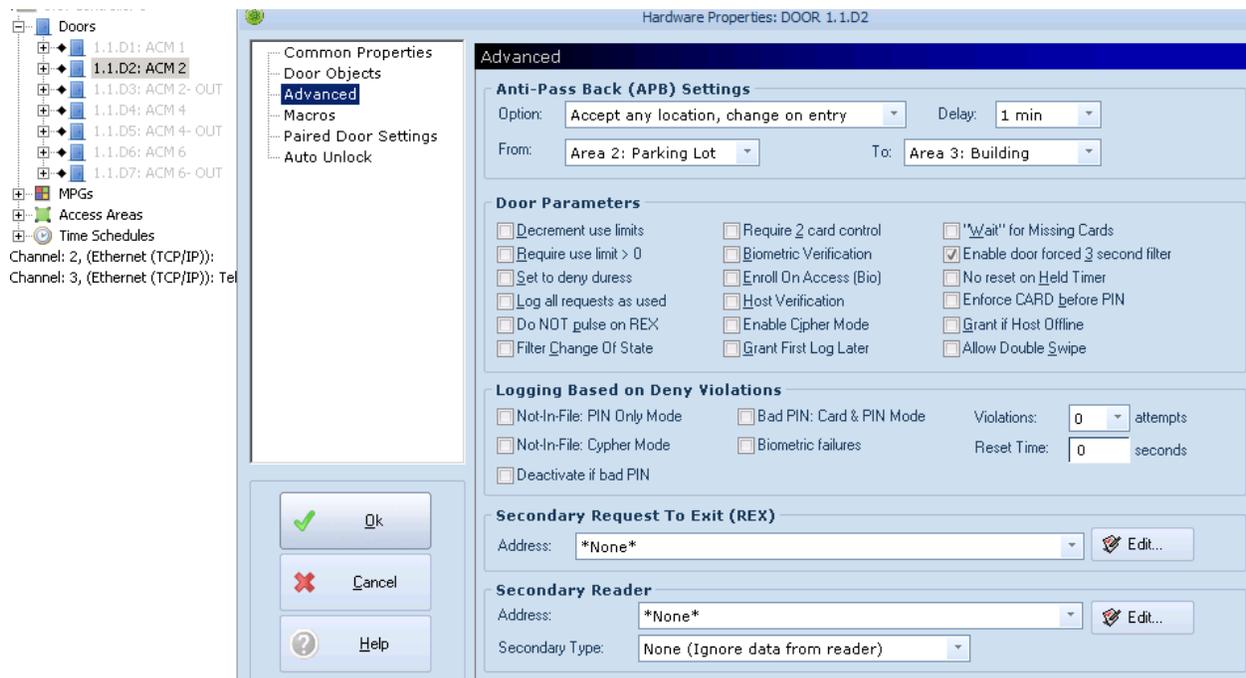
Doors

Entry/Exit permissions in XPressEntry are set by doors. A door contains one or two readers for exit and entry. If access areas are configured in Fusion, they should also be configured in XPressEntry. The example below shows a door that has been pulled from DNA Fusion.

XPressEntry Doors



DNA Fusion Doors



Readers

In XPressEntry's Open Options integration, it is not necessary to associate any reader in the system with a handheld. Instead, **handhelds** should be set to a **door**. It will then use the **external** exit and entry **readers** to verify **access** through the door.

A handheld unit can logically represent any reader in the building. For example, imagine that you have handheld A stationed at door A. Door A has two readers associated with it: Reader A-Entry and Reader A-Exit. The employee holding the handheld sets the handheld's door to Door A. When the employee sees a cardholder walking towards the building, he sets the handheld to Entry mode and scans the cardholder's badge. The handheld in entry mode identifies itself as reader A-Entry and sends an activity to the server.

Later, there is heavy volume exiting Door B. Door B has two readers associated with it: Reader B-Entry and Reader B-Exit. The employee from door A is called to help and brings handheld A. He sets the door on his handheld to Door B and the mode to Exit. When he begins scanning people walking out of the door, the handheld identifies itself as Reader B-Exit and sends each scan as an activity to the server.

Activities

XPressEntry will synchronize activities to DNA Fusion if that option has been set by Data Manager.

Entry/Exit activities will be sent to the Events Manager in DNA Fusion. The user's badge will be linked to the event record. There will also be information about the access event.

- Where the badge was scanned (ex. Back Door Entry Reader)
- Who was scanned
- Time the scan occurred
- Event Index of the scan
 - 72 for Access Granted
 - 73 for Access Denied (level)
 - 55 for Access Denied, Not in Card File