Feature Focus Guide:

Fingerprint Scanner

Core Product: Aloha Quick Service, Aloha Table Service
Last Updated: December 8, 2023

Contents

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Revision Record

Date	Version #	Description
Prior to 01/17/2023	v5.173+	Implemented support for Veridicom fingerprint scanners, Quick Service and Table Service. NCR no longer supports the use of Veridicom fingerprint scanners
	v5.3.26e+	Implemented support for Radiant fingerprint scanners, as integrated in P1220 terminals, Quick Service and Table Service.
	v5.3.26e, v6.0.0.9+	Enhanced support for Radiant fingerprint scanners, as integrated in P1220 terminals, Quick Service and Table Service, using AuthenTec SDK v7.5, including the Fingerprint Purge Utility. This version includes new drivers and software.
	v6.1.5+	Implemented support for slide-type fingerprint scanners, as integrated in newer P1220 terminals, for use with Quick Service and Table Service, making use of AuthenTec SDK v7.6, and drivers, v1.1.0. This upgrade includes the new FPSPurge utility. Anticipation is the new drivers will work properly down to v5.3.30e, as well, although testing at this level is not complete.
	v6.2.5+	Implemented support for using BIO-key v6.0.358.0 drivers with slide-type fingerprint scanners.
	v6.4.x+	Decreased program response time, implemented beep support, and changed clock-in and log-in process to display the link select pointer — the 'pointing hand.' Added support for UPEK slide scanners, as integrated into Radiant P1220 and P1520 terminals. Support for UPEK slide scanners also extended back as far as Aloha v5.3.26e and above. Also added support for external UPEK USB scanners, available from Radiant Systems, Inc.
		Renumbered version from v2.0 to v2.1, prior to market-ready designation.
		Replaced links for the Visual C++ Redistributable Package with updated URLs and nomenclature, reflecting a new product from Microsoft.

Date	Version #	Description
		Added support for Digital Persona scanners, as integrated into Radiant P1230 terminals and v4.0 FPS software. Renumbered version from 2.1 to 4.0.
	v15.1+	Implemented new Radiant RadBio supporting BioKey matching service for UPEK environments and Digital Persona matching service for all DP environments. Updated sensor drivers. Implemented a new database. If using FPS v15.1 or later and Aloha POS v14.1 or later, a separate license is not required.
	v15.1+	Effective with POS v15.1 and later, an update to your license key is required. Ensure your Aloha Software licensing is updated to include Biometric Terminals equal to the number of terminals with biometric devices.
01/17/2023		Converted document to use new templates. Updated front cover and back page to reflect new NCR branding.
12/08/2023		Updated document to reflect NCR Voyix branding.

About Fingerprint Scanner

Fingerprint Scanner at a Glance	
Core Product	Aloha® Quick Service or Aloha Table Service, per the approved product stack published on Aloha Update.
	Earlier versions of the Aloha POS require FPS version 4.0.
	POS v14.1 and later require FPS version 15 and later.
Separate License Required?	Effective with POS v15.1 and later, an update to your license key is required. Ensure your Aloha Software licensing is updated to include Biometric Terminals equal to the number of terminals with biometric devices.
Separate Installation Required?	Yes. If using FPS v15.1 and later, upgrade the RadBio version on each terminal with an FPS scanner connected. Refer to the Aloha Solution Requirements Guide - HKS1626 under "Hardware drivers and patches."
Other References	Aloha Quick Service Manager Guide; Aloha Quick Service Reference Guide; Aloha Table Service Manager Guide; Aloha Table Service Reference Guide; Radiant Knowledge System (RKS) document ID 8993; RKS document ID 6141; RKS document ID 9144. RKS document ID 10438.

As concerns grow over fraud and identity theft, companies are searching for methods by which they can provide more robust security for their networks, while not sacrificing ease of access. To this end, the use of biometrics technology is becoming more and more popular. Biometrics technology uses a mathematical algorithm to record the pattern of 'landmarks' in a fingerprint, then uses the stored models for identifying employees when they access the fingerprint scanner.

> **!** **Important:** The system does not store actual fingerprint patterns. The scanner uses non-optical scanning technology and advanced mathematical modeling to make these capabilities possible. If you require additional information regarding matching mechanisms and more, contact Digital Persona.

The Aloha® POS system supports the use of a fingerprint scanner in Aloha Quick Service and Table Service with several models of point-of-sale (POS) terminals. The majority of these scanners are manufactured by UPEK or Digital Persona and work quickly and with great accuracy. These scanners are also offered in USB form. The scanners are often capable of overcoming the presence of small amounts of grease or other foreign material that may be on the finger, or damage to the skin caused by past or current injuries.

This document, and the software it discusses, applies to 'slide' and 'scan' fingerprint scanners. Square 'area' type fingerprint scanners have been retired and are no longer supported.

Understanding identification logic

It is important to remember, as you read this document, the Aloha POS system, in conjunction with the finger- print scanner (FPS) software, stores only mathematically generated models of fingerprint

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patterns. For simplicity, and to make it easier to read, this document may refer to stored fingerprints, or stored finger- print patterns, models, or enrollments, but the Aloha POS system does not store fingerprints as actual, visual fingerprint patterns or images, to maintain employee privacy. The fingerprint images that appear in this guide are fake images and not a real fingerprint. After creating the fingerprint model, the program immediately removes from memory all visual representations of fingerprint scans displayed on-screen, and does not store them in the system at any point.

Aloha fingerprint scanners use a very simple and straightforward logical process for identifying an employee requesting access to the system:

1. The program scans the finger on the scanner, and reduces the pattern to a mathematical value.

2. The program searches the database for a matching value.

3. If the program finds a match, it sends the employee data to the Aloha POS system, which allows the employee to clock in or log in, based on shift and break rules, displaying a 'manager password' request, if necessary.

4. If the program fails to find a match, a message to this effect appears, denying access to the terminal.

> ⚠ **Caution: Check your local laws regarding the capture, storage, and use of personal biometric information before implementing.**

Identification of applicable hardware

To meet market demand, and stay current with hardware features, NCR® Voyix has introduced several types of fingerprint scanners. Some scanners are visually different, while others are different only at the board level. Fingerprint scanners used by NCR Voyix are of the following types:

	UPEK slide scanner — The UPEK scanner is identifiable by the rectangular sensor window with a thin gold wire running through the center. Using the UPEK scanner is the same as with the AuthenTec slide scanner. The employee slides his or her finger across the sensor window until a match is registered. The UPEK scanner has also been released in an external USB form. This external scanner contains the same sensor as the internal unit and uses the same drivers and configuration in he Aloha POS system.
	UPEK2 slide scanner — The UPEK2 scanner is identifiable by two silver metal bars above and below the sensor window. This scanner is found on the P1220, P1520, and P1560 terminals. The UPEK2 is also available in an external USB format. This external scanner contains the same sensor as the internal unit and uses the same drivers and configuration in the Aloha POS system.
	Digital Persona scanner — The Digital Persona scanner is identifiable by its large oval sensor window and blue glow. This scanner is found on P1230 terminals, as well as an external USB format.

Reference: "Appendix A: Harmonizing a scanner with software" on page 45 contains images you can use to help identify the type of fingerprint scanner in your terminal.

A word about graphics in this document

Different elements are often available in a given function or tab in the Configuration Management Tool (Configuration Center or Aloha Manager), between Quick Service and Table Service. With regard to this one subject, fingerprint scanners, you will find all options and configuration elements to be identical between Quick Service and Table Service. For simplicity, this guide provides graphics depicting only one of these major applications, when the functions are identical.

Minor differences between the two applications exist at the FOH level. Primary among these is the Enroll Fingerprint function.

- In Quick Service, you must add a new button to a panel, and configure it with the 'Enroll Fingerprints' button function.
- In Table Service, when an employee with sufficient access level permission logs in to the FOH, the terminal has a fingerprint scanner attached to it, and the terminal is configured to use the scanner; the application places the Enroll Fingerprint button on the Functions > Employee screen.

Graphics in this document show these configuration requirements.

Installing Fingerprint Scanner

Fingerprint scanners are an integral part of many models of NCR Voyix terminals with the base drivers included as part of the image. Software installation typically occurs as part of terminal staging. For POS v15.1 and higher, because of unique new drivers, in all cases, you must upgrade to RadBio v1.9.0.0 on your terminals. To download RadBio v1.9.0.0, visit NCR > Support > Drivers and Patches.

Installing or updating FPS software on a NCR Voyix terminal

Installation and upgrade to FPS v15.1 may occur only where the Aloha POS version is 15.1 or later, RAL v16.2, or later, and the configuration management tool, either Aloha Configuration Center or Aloha Manager, is v15.6, or later. FPS v15.1 is not compatible with earlier versions of the Aloha POS system.

As with all upgrades, before beginning, in addition to making a backup copy of your BIN folder, backup the FPS and FPSSync folders in EXTDATA, which contain your current fingerprint database. While upgrading does not remove the contents of these folders, once backed up, you should delete all of the contents in FPS and FPSSync on your back-of-house (BOH) file server and terminals to keep your system clean. While upgrading to FPS v15.1 requires re-enrolling all employees, in the event a downgrade becomes necessary, these directories allow you to restore the previous enrollment database.

To obtain the FPS v15.1 software:

1. Access the Aloha Update site.
2. Select **Aloha Suite Installer** in the navigation menu.
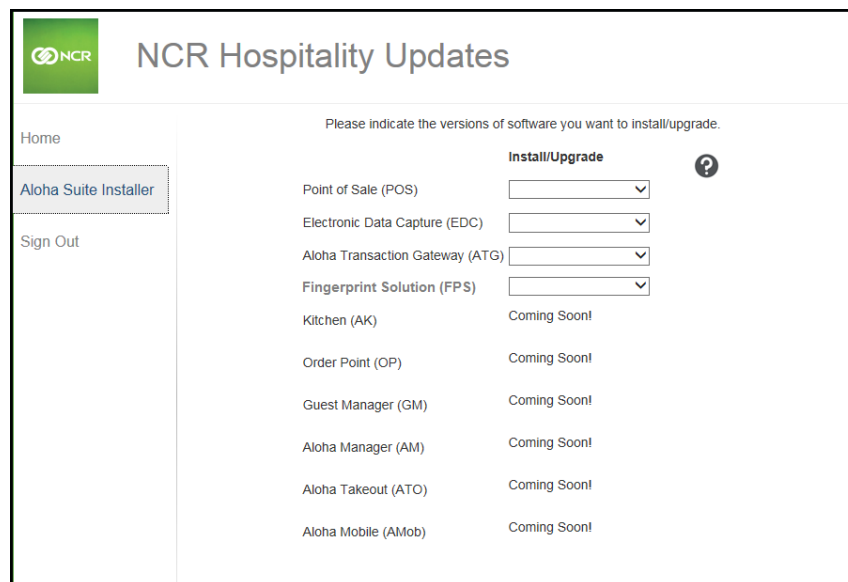
Figure 1 Aloha Update > Aloha Suite Installer

3. Select **15.1** from the 'Fingerprint Solution (FPS)' drop-down list and click **NEXT**.
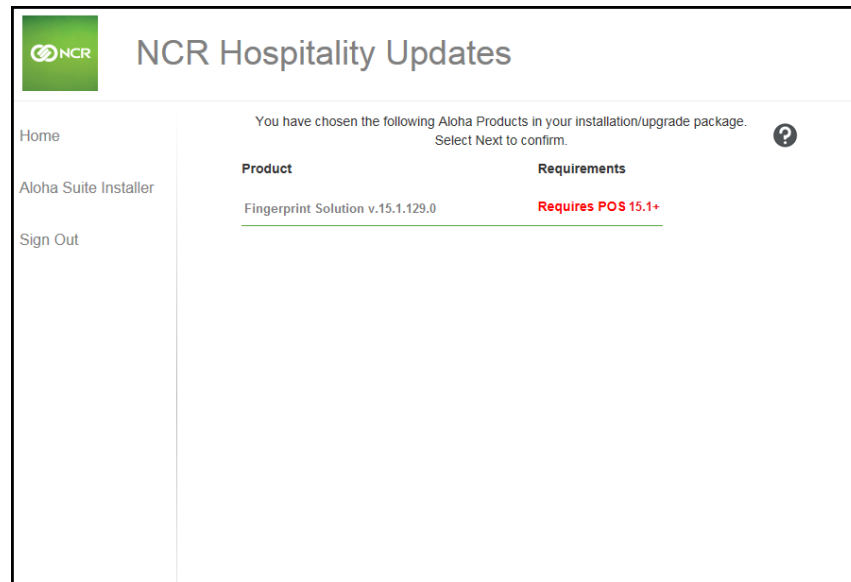
Figure 2 Product Dependencies

4. Verify the **version** and **other dependencies** that appear in red and click **NEXT**.
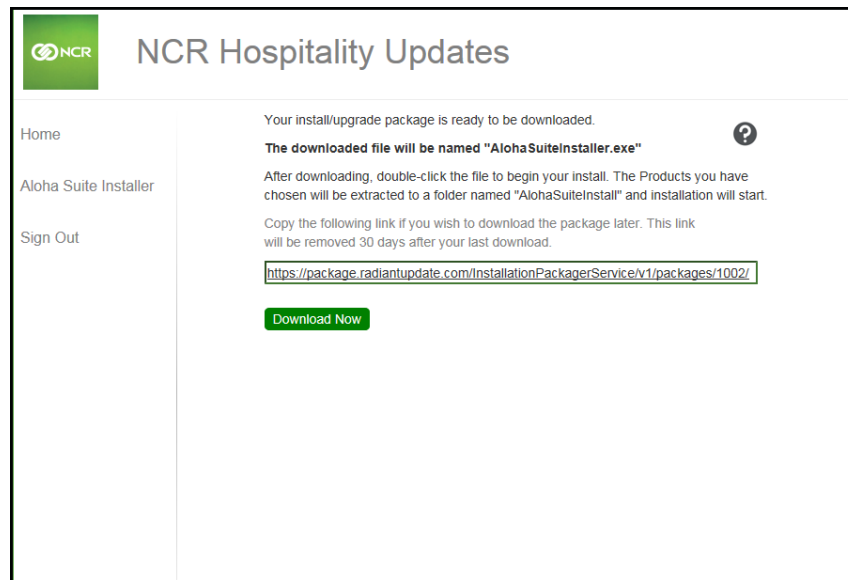
Figure 3 Aloha Suite Installer FPS Download Package

5. Once Aloha Update creates the package, download the **package** to a staging folder on your BOH file server.

    -OR-

Copy the **download link,** if you want to download at a later time. The link is valid for 30 days.

To install FPS on the BOH:

1. Execute the **Aloha Suite Installer**. The installer creates a folder by the same name that contains the products you downloaded and Setup.exe, which orchestrates the installation/upgrade. Installation begins automatically.
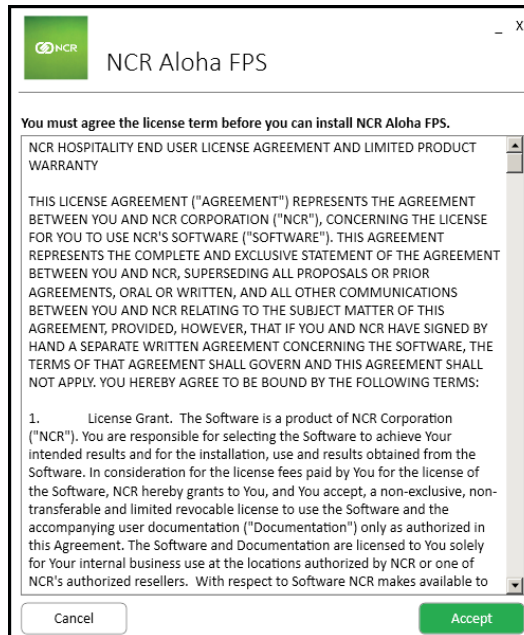
Figure 4 NCR Aloha FPS EULA

2. Click **Accept** to accept the end user license agreement (EULA).
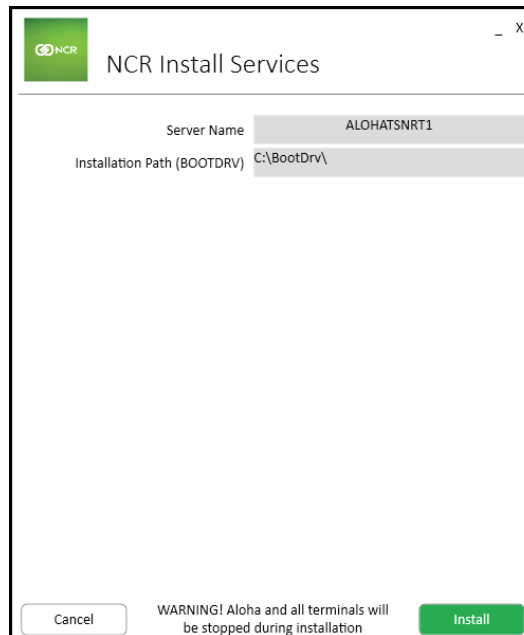
Figure 5 FPS Installation Path

3. Verify the **installation information** and click **Install**.
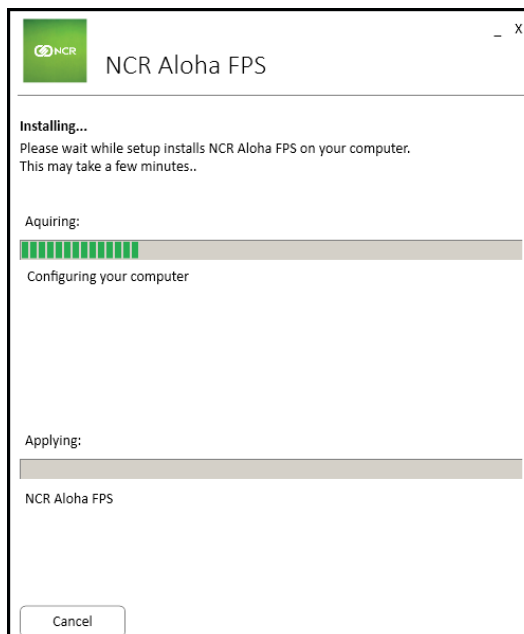
Figure 6 FPS Installation Progress Screen

A progress screen appears.
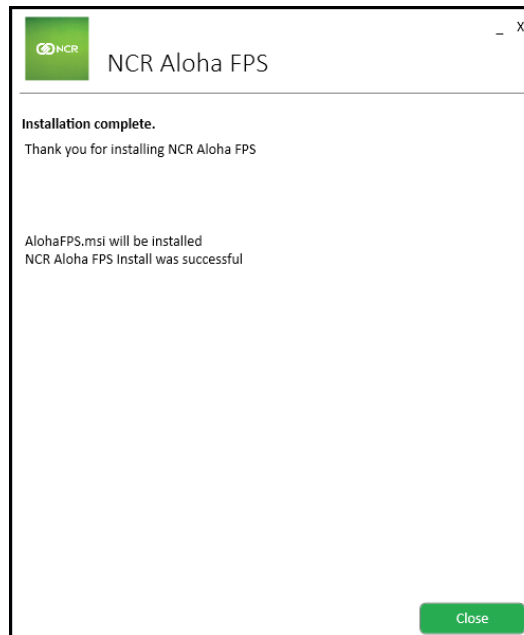
Figure 7 FPS Installation Successful

4. After the Aloha Suite Installer successfully installs FPS, click **Close**.

5. Perform a **data refresh** to propagate the new FPS files to each terminal. You can wait and let the End-of-Day (EOD) process accomplish this step for you, if you prefer. RAL will register all FPS files when it performs a BIN sync.

To install FPS on a FOH terminal:

1. On a FOH terminal, access **Control Panel > Add or Remove Programs**.
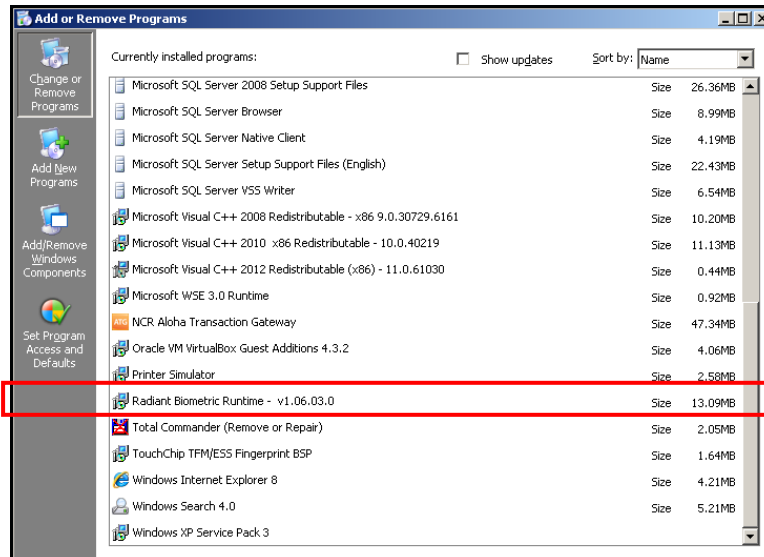
Figure 8 Control Panel > Add Remove Programs

2. Uninstall **older versions of RadBio**, if applicable.
3. Reboot the **terminal**.

⚠ **Caution: If you do not reboot, the drivers will not successfully install.**

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4. Copy **RadBio_RT_v1.08msi** to the terminal and double-click to begin the **new driver installation**.
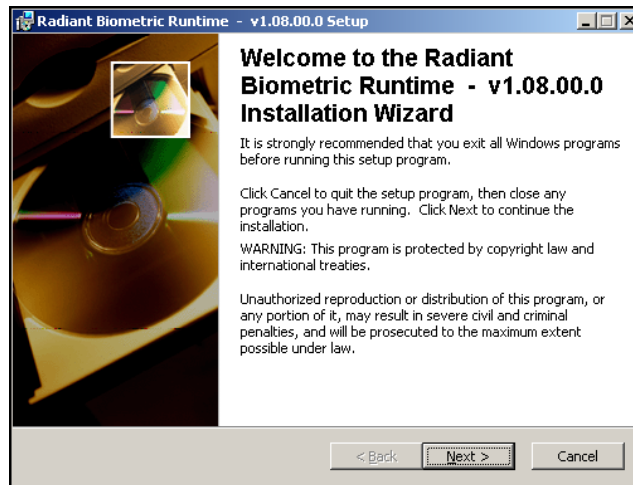
Figure 9 RadBio Install Welcome Screen

5. Click **Next**.
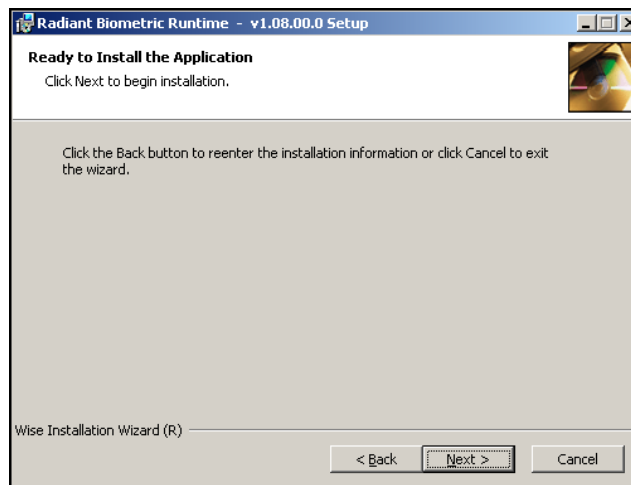
Figure 10 RadBio Installation Screen

6. Click **Next**.
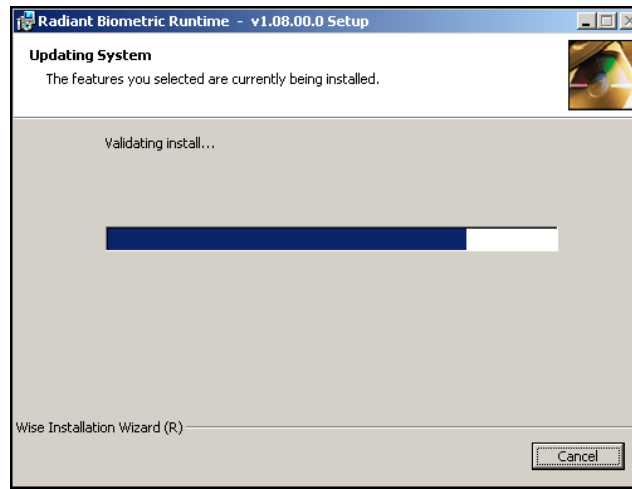
Figure 11 RadBio Progress Screen

A progress screen appears.
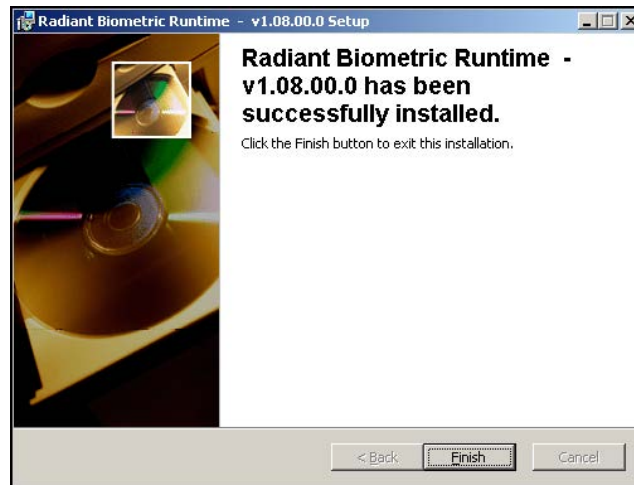
Figure 12 RadBio Install Finish Screen

7.   Click **Finish**.

8.   Reboot the **terminal** to properly register the driver and complete the installation.

Downgrading FPS

Where it becomes necessary to downgrade to a previous version of the Aloha POS, contact support for the specific steps involved. You must re-enroll any enrollments created while using FPS 15.1.

> ● **Tip:** To mitigate re-enrollment, restore the FPS and FPSSync folders that you backed up prior to the upgrade to EXTDATA.

Using FPS equipment with non-NCR Voyix terminals

Non-NCR UPEK, UPEK2 and Digital Persona fingerprint devices are supported with the purchase of additional licensing. Please contact your reseller or RSM.

Configuring Fingerprint Scanner

Configuring the Aloha POS system to use a fingerprint scanner is almost exactly the same for Quick Service and Table Service. You must add a new 'Enroll Fingerprints' button to a panel in Quick Service, but Table Service adds this button for you on the Employee Functions screen.

For maximum flexibility, the Aloha POS system can accommodate the use of fingerprint scanners and mag card readers at the same time. If you configure the system to use both, the fingerprint scanner takes precedence. This section details the configuration requirements for a fingerprint scanner. You must access several functions to complete the configuration. If you are an experienced user, refer to Procedures at a Glance for abbreviated steps. If you prefer more detail, continue reading this document.

Fingerprint Scanner Procedures at a Glance:	
If you are viewing this document using Adobe Acrobat Reader, click each link for detailed information regarding the task.	
1.	Access **Maintenance > Business > Store > Store Settings > User Interface** tab and select 'Support UPEK Fingerprint devices,' if you have a UPEK or UPEK2 scanner device attached to any of your terminals. See page 19.
2.	Access **Maintenance > Business > Store > Store Settings > Security** tab to configure global password usage with a fingerprint scanner, and whether it is optional or required. See page 20.
3.	Access **Maintenance > Hardware > Terminals > Readers** tab and configure each terminal so equipped to use a NCR Voyix fingerprint scanner. See page 21.
4.	Access **Maintenance > Labor > Employees** and configure each employee record to require the employee to use a fingerprint scanner to clock in, log in, or both, in accordance with your business needs. This configuration is optional. See page 23.
5.	Install and configure the **FPSPurge.exe utility** to automatically remove fingerprint enrollments of terminated or deleted employees. See page 24.
6.	Access **Maintenance > Business > Store > Store Settings** tab **> System** Group to configure FOHHook.bat to run on the master terminal. See page 25.
7.	Access **Maintenance > Labor > Access Levels > Employee tab > Enroll Fingerprints** option, and provide a manager the ability to enroll fingerprints in the database. This causes the 'Enroll Fingerprints' button to appear on the FOH Employee screen. See page 26.
8.	Access **Maintenance > Menu > Panel Editor**, in Quick Service, and add a button to a FOH panel, for the 'Enroll Fingerprints' function. See page 27.
9.	Access **Utilities > Refresh Data** to update the information on the FOH terminals, or wait for the EOD process to accomplish the data refresh for you.

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Specifying a fingerprint scanner type

FPS v15.1 requires knowledge of the fingerprint scanner type you are using to initialize the enrollment database. Using older terminals where even one UPEK or UPEK2 fingerprint device is used, you must select 'Support UPEK Fingerprint devices' or the fingerprint scans will fail on UPEK/UPEK2 devices. Digital Persona devices will function where this setting is enabled.

If all terminals are using Digital Persona fingerprint devices, clear 'Support UPEK Fingerprint devices.'

This setting impacts the enrollment process as detailed in the "Enrolling Fingerprints for Use with Fingerprint Scanners" section below.

> ⚠ **Caution: Do not change this setting with active enrollments! If you change this option, you must re-enroll all employees.**
>
> **If you clear 'Support UPEK Fingerprint devices' and use a UPEK scanner, the terminal debout will contain the following error and the fingerprint sensor will not initialize:**
>
> ```
> FPSSrvr: Will attempt to use Digital Persona Matcher
> followed by
>
> FPSSrvr: [RadBioInit] RBERR_READER_NOT_PRESENT
> ```

To enable the use of UPEK/UPEK2 fingerprint devices:

1. Access **Maintenance > Business > Store > Store Settings.**
2. Select the **User Interface** group, located at the bottom of the screen.
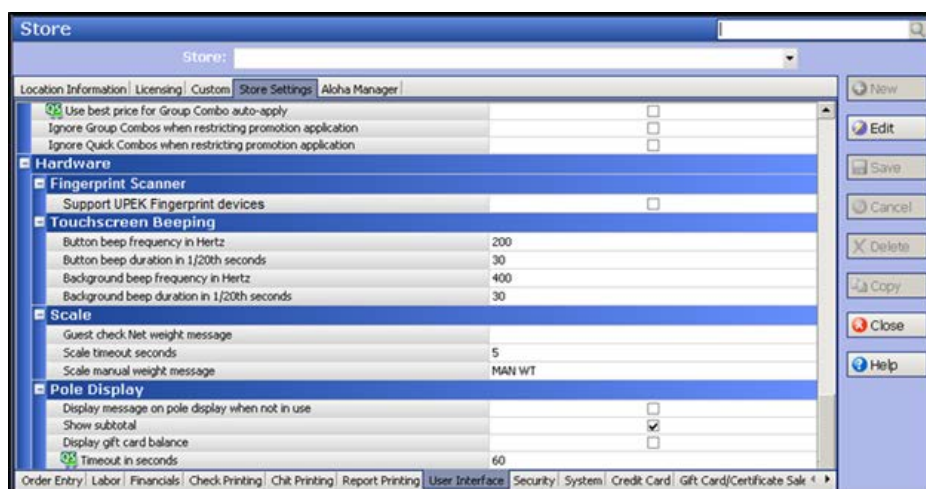
Figure 13 Store Settings > User Interface > Hardware

3. Under the 'Fingerprint Scanner' group bar, select **Support UPEK Fingerprint devices** to make this feature active.

4. Click **Save**.

Configuring password usage

Password usage in the Aloha POS system is not mandatory, as installed; however, when you want to use a fingerprint scanner, you must configure the password as optional or required, depending upon the level of security you want to impose on the system. If you configure the password as disabled, employees can clock in or log in to the FOH terminals without using a fingerprint scanner, regardless of other settings.

To configure the password in the Aloha system:

1. Select **Maintenance > Business > Store > Store Settings**.

2. Select the **Security** group, located at the bottom of the screen.

Figure 14 Store Settings - Security Group

3. Under the 'POS Password' group bar, select **Optional** or **Required** from the 'Password method' drop-down list. We recommend you select 'Required,' to maximize the security of your Aloha network.

> **Note:** f you select Optional, you can use the employee ID number, a password, mag card, or fingerprint scanner for logging in to a FOH terminal, or for 'manager password' responses. If you select Required, the system excludes the employee ID number as an acceptable method of access. You can use these methods for clocking in, unless you select 'Must use fingerprint scanner clock in'in Maintenance > Labor > Employees > Employee tab.

4. Click **Save**.

Although important for password definitions, it is not necessary to configure the number of digits for the password, when using a fingerprint scanner, if you set 'Password method' to Required. If the password method is set to Optional, you must configure the remainder of the password settings correctly.

> **Reference:** Refer to the Quick Service or Table Service Reference Guides for more information about the requirements for configuring employee passwords.

Configuring a terminal to use a fingerprint scanner

Currently, the Aloha POS system supports the integration of a fingerprint scanner into several models of NCR Voyix terminals. Support for different types of terminals with an integrated fingerprint scanner will expand, as more types of terminals become available with an integrated fingerprint scanner. We recommend all scanners in a given site use the same model and type. Contact NCR Voyix technical support for help with determining if your fingerprint scanners are the same.

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To configure a terminal to use a fingerprint scanner:

1. Select **Maintenance > Hardware > Terminals**, in all configuration tools.
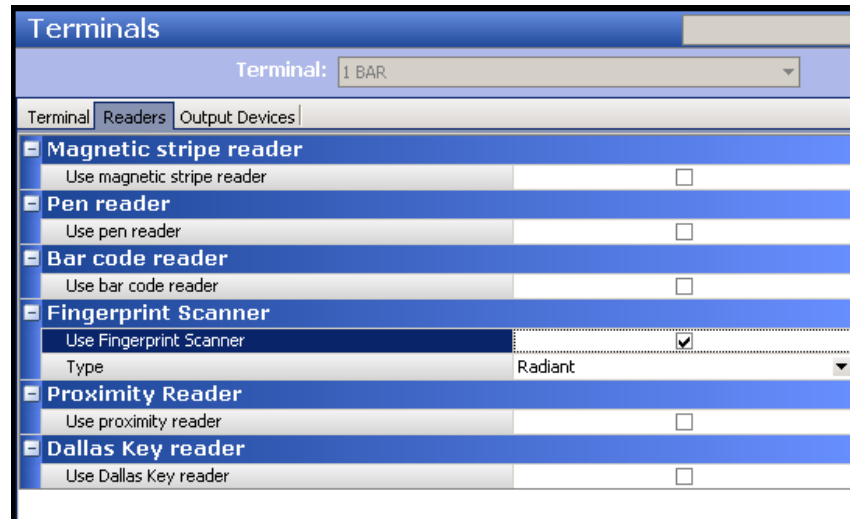
Figure 15 Enabling a Fingerprint Scanner

2. Select a **terminal** from the 'Terminal drop-down list.

3. Select the **Readers** tab.

4. Under the 'Fingerprint Scanner' group bar, select **Use Fingerprint Scanner** to activate support for a fingerprint scanner on the selected terminal.

5. Select **Radiant** from the 'Type' drop-down list, if not already selected.

6. Click **Save**.

7. Repeat this **procedure** for each terminal in the network with an attached fingerprint scanner.

Requiring employees to use a fingerprint scanner

After configuring each terminal to use a fingerprint scanner, you may also define which employees must use a fingerprint scanner to log in or clock in to the Aloha POS system. This type of configuration is optional, but recommended, once your employees become proficient with using the fingerprint scanner.

To configure an employee to use a fingerprint scanner:

1. Select **Maintenance > Labor > Employees**, in all configuration tools.

Figure 16 Employees - Employee Tab

2. Verify the **Employee** tab is the active tab.
3. Select an **employee** from the 'Employee' drop-down list.
4. Under the 'POS security options' group bar, select **Use fingerprint scanner for clock in**, to require the employee to use a fingerprint scanner when clocking in.
5. Select **Use fingerprint scanner for login and manager approval**, if you want to require an employee to use a fingerprint scanner when logging in, or when responding to a 'manager approval' Just in Time (JIT) message.

> ● **Tip:** The 'POS security options' group bar and options do not appear for employees with the 'Above store only' employee type. The employee type must be set to 'POS only' or 'POS and above store' for this group bar to appear.

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> **Tip:** You can configure the Aloha POS system to permit employees to use mag cards, fingerprint scanners, or both. These two methods of access are not mutually exclusive. If you configure the system to use both, employees can use either method to log in to the system. However, if you select 'Use fingerprint scanner for clock in,' that employee must use a fingerprint scanner to clock in.

6. Click **Save**.

7. Repeat this procedure for **each employee** in your system who must use a fingerprint scanner.

Installing the fingerprint purge utility

Marking an employee as terminated (zapped), or deleting an employee, does not automatically remove their fingerprint enrollment from the database. The Aloha fingerprint scanner software includes a utility, FPSPurge.exe, for removing fingerprint enrollments of terminated employees. This utility reads Emp.dbf on the host computer, and removes fingerprint patterns not belonging to active employees.

Although it is possible to run FPSPurge manually from a program shortcut, we recommend you run it automatically, as part of your routine EOD process. Add the following line to the FOHHook.bat file in the \Bin directory on the file server:

```
%Localdir%\Bin\FPSPurge.exe /out debout.0%Term%
```

Specify a file name, after the '/out' switch, to which you would like FPSPurge to insert information about records removed. The Aloha program creates this file in %LOCALDIR%\Tmp on the local machine, which is the master terminal, when FOHHook.bat runs. The terminal copies this information to the main debout file, Debout.yyyymmdd.nn, when the next EOD runs. If the program makes changes to the database, FPSPurge creates a backup of the previous database on the file server.

> **Note:** If you do not specify the '/out' parameter for FPSPurge.exe, the program output appears on the screen, and is not captured anywhere else.

The FOHHook.bat file runs during the EOD process on the master terminal, just before the master terminal restarts. Running FPSPurge daily keeps your system functioning at peak efficiency by removing unnecessary fingerprint enrollments as soon as possible.

Use the following steps to run a purge manually after operational hours:

1. Close the **Aloha POS** on all terminals, returning them to their desktop.

2. On the master terminal, execute **FPSPURGE.exe** from within %LOCALDIR%\Bin.

3. Restart the **Aloha POS** on master terminal and all other terminals.

> **Reference:** Refer to "Understanding fingerprint scanner file structure" on page 41 for more information about how FPSPurge creates backups of the fingerprint pattern database, and how it copies backups from the master terminal to the BOH file server.

Configuring the master terminal to run FOHHook.bat

You must edit Aloha.ini, in %IBERDIR%\Newdata on the file server, to configure the FOHHook.bat to run on the master terminal, as there is no corresponding option on the user interface for this parameter.

To configure FOHHook.bat to run on the master terminal:

1. Access **Maintenance > Business > Store > Store Settings.**
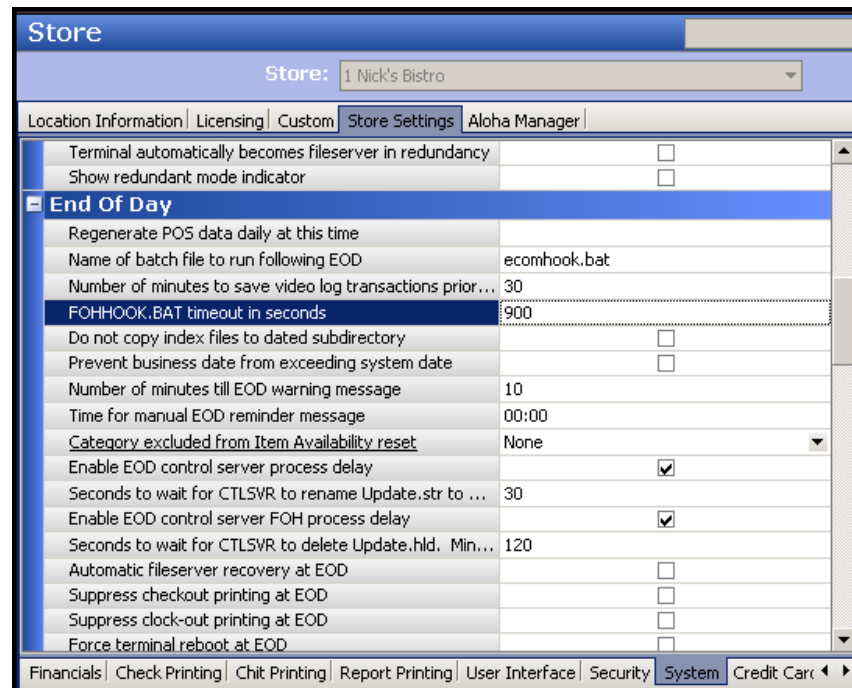
Figure 17 Store Settings > System > End Of Day

2. Select the **System** group, located at the bottom of the screen.

3. Under the 'End Of Day' group bar, change the **FOHHOOK.BAT timeout in seconds** to a number greater than zero. We recommend setting this value to 900 seconds (15 minutes), to cause the EOD process to terminate FOHHook.bat after this time interval, in case it hangs during execution. This time interval gives the Aloha POS system plenty of time to complete tasks in the FOHHook.bat before terminating the process.

4. Click **Save**.

Providing manager ability to enroll fingerprints

The Aloha POS system requires you to designate an employee to be responsible for enrolling fingerprints in the database. You must use the Access Levels function to provide at least one employee, preferably a manager, permission and access to enroll fingerprints. We strongly recommend you protect the security of the system by only giving managers access to fingerprint enrollment. Employees can re-enroll their own fingerprint by accessing the Change Password screen at any time.

To provide a manager the ability to enroll fingerprints:

1. **Maintenance > Labor > Pos Access Levels.**
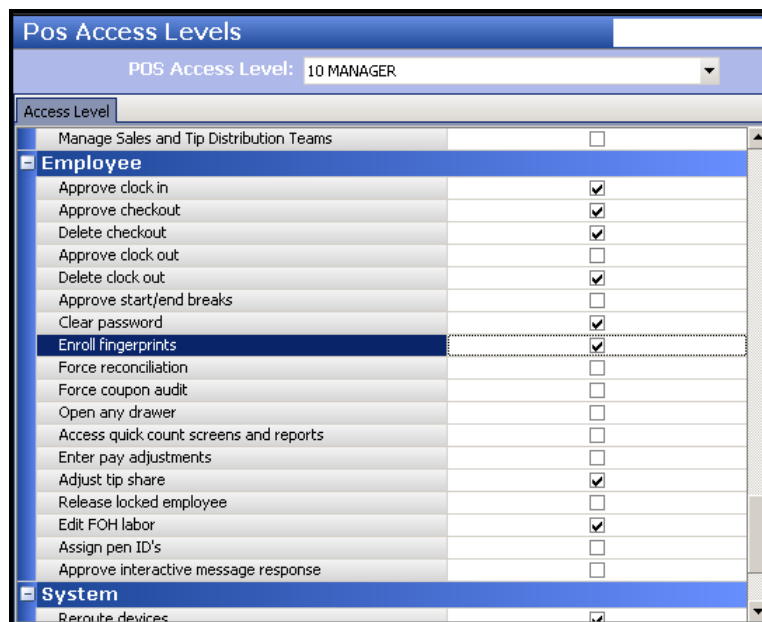
Figure 18 Pos Access Levels

2. Select the **access level** to which managers are assigned, from the 'POS Access Level' drop-down list.
3. Under the 'Employee' group bar, select **Enroll fingerprints**.
4. Click **Save**.

> ● **Tip:** Managers with 'Enroll fingerprints' enabled may add fingerprint enrollments to the system for an employee from a FOH terminal by touching the Enroll Fingerprint button; however, if a fingerprint scanner device is not connected to the terminal, the enrollment process will not begin.

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Adding the enroll fingerprint button function to a panel (Quick Service)

In Table Service, when you give Enroll Fingerprint access to a manager, the program automatically adds the button that initiates this activity to the appropriate FOH function screen. In Quick Service, you must select a panel and add the button to it manually. If an employee without sufficient permission, as defined in their assigned access level, selects this button, the Aloha POS system prompts for a manager password, so you can add the button anywhere in the FOH. Built in security features prevent unauthorized users from accessing the enroll fingerprint functionality.

1. Access **Maintenance > Screen Designer > Quick Service Screen Designer**.
2. Select **Work with Panels.**
3. From the Panel menu, select **Open Panel,** to place a **new button** or edit an **existing button**.
4. Select and open the **panel** currently used for manager functions.
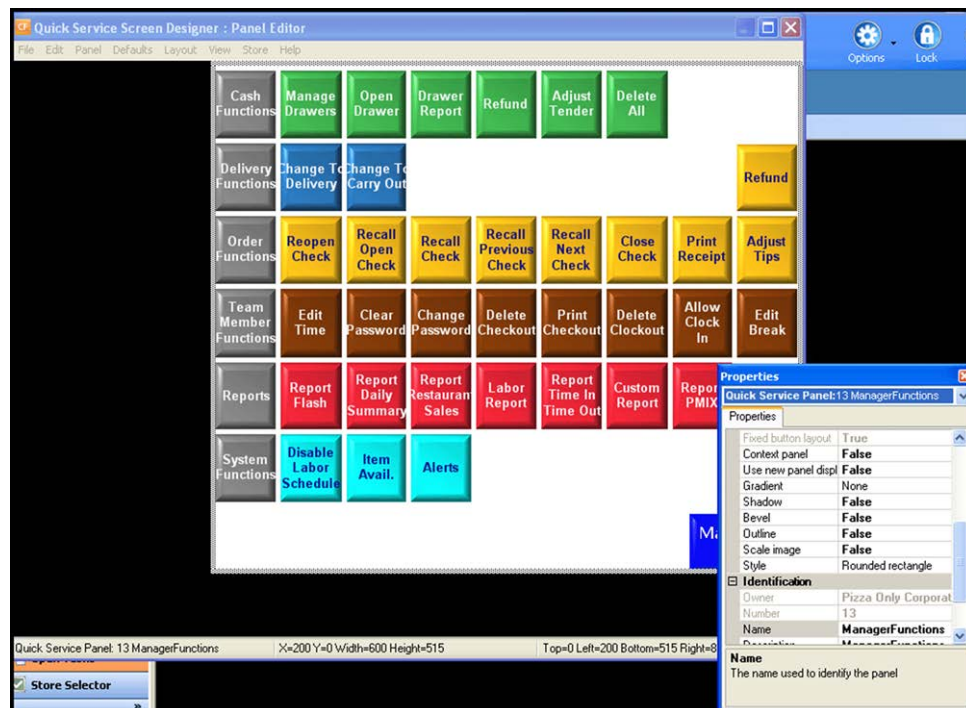
Figure 19 Example Manager Menu, in Panel Editor

5. If you are adding a **new button**, select **Edit Panel** from the Commands menu.
6. Select **False** for both 'Mark as template' and 'Fixed button layout.'
7. Right-click in the panel and select **New Button**.
   -OR-

If you are editing an **existing** or **unused button**, select the button, and edit the button in the 'Properties' dialog box.
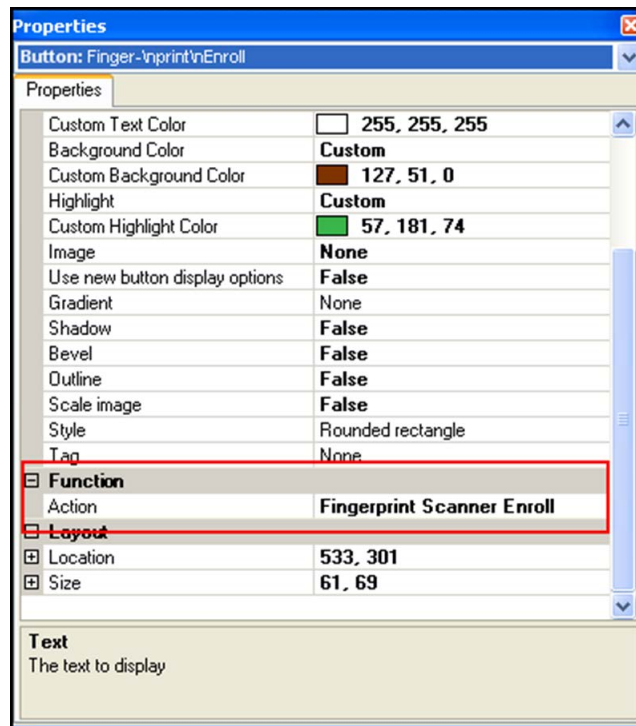
Figure 20 Fingerprint Scanner Enroll Button Function

8. Under the 'Function' group bar, select **Fingerprint Scanner Enroll** from the 'Action' drop-down list.

9. Choose the **appearance** of the button by making selections in the 'Text,' 'Image,' and other options under the 'Appearance' group bar.

10. Click and drag the **new button** to the desired grid location, as required.

11. Click **somewhere in the panel** to view the panel Properties dialog box again.

12. Select **True** from the 'Mark as template' drop-down list, to lock all components of the panel in place.

13. Right-click the **panel**, select **Save Panel** from the drop-down list, and exit **Panel Editor**.

Refreshing data

After all settings are in place in the configuration management tool, you must select **Utilities > POS > Refresh Data** to transfer the new information to the FOH terminals, or wait for the EOD process to accomplish the data refresh for you. After the data refresh is complete, all new settings become operational across the Aloha network.

Using Fingerprint Scanner

The basic operational requirements of fingerprint scanners are quite straightforward:

- A manager must enroll the employee fingerprint, before the employee can access the system using a fingerprint scanner for the first time.

- For slide scanners, we recommend employees slide their full finger-touch area across the scanner in a single, smooth, steady motion, pausing at the end to allow the system to respond. Using just the finger tips or finger edges can cause readings of insufficient size or detail to register reliably in the database.

- For area scanners, we recommend employees place their finger normally on the scanner window. Light or excessive force may limit the scan sample or distort the fingerprint and reduce the likelihood of a match.

- After their first access to the system, employees can use the Enter New Password screen to enroll a new image of their own fingerprint, if necessary.

- Clocking in or logging in can begin at the floating logo screen. If the employee is clocking in, the system presents the Job Code screen. If the employee is already clocked in, the system presents the home screen assigned to the employee.

If an employee experiences difficulties with clocking in or logging in to a terminal using a fingerprint scanner, the most common cause is a non-representative, or non-functional, fingerprint enrollment. Refer to <u>"" on page 32</u> for information about quickly replacing the current enrollment with a new one. Refer to <u>"Scanning the fingerprint correctly" on page 39</u> for information about how employees should scan their fingerprints, each time they use a scanner.

This section provides detailed information about how to use a fingerprint scanner. If you are an experienced user, refer to Procedures at a Glance for abbreviated steps. If you prefer more detail, continue reading this document.

Procedures at a Glance:
If you are viewing this document using Adobe Acrobat Reader, click each link for detailed information regarding the task.   <u>Enroll fingerprints</u> in the Aloha POS system.   Use the fingerprint scanner to <u>access an Aloha FOH terminal</u>.

Enrolling fingerprints for use with a fingerprint scanner

The fingerprint enrollment procedure involves several captures of the fingerprint, giving the program multiple scans from which to build a master image.

1. Log in to a **FOH terminal** as a **manager** with permission to enroll fingerprints.
 	
   ○ For **Quick Service installations**, locate and touch the **Enroll Fingerprint button** to access the Select Employee screen.
 	
   ○ For **Table Service installations**, touch **Employee**, and then **Enroll Fingerprint** to access the Select Employee screen.
	Select Employee
	
	ABBY GALE JERRY WILL
	ANNIE UPP JOSE GARCIA
	APRIL SHOWERS Mobile Pay Server 1
	BILL CHANGER PENNY NICHOLS
	Driver One SHERRY DECANTER
	FRANCES CHILDE T1Training Interface1
	Gary Bussy Terminal Interface1
	GRAHAM KRAKKER TERRI KLOTH
	Harry Host Timmy Takeout
	Holly Hostess
	
	✓ OK ✗ Cancel
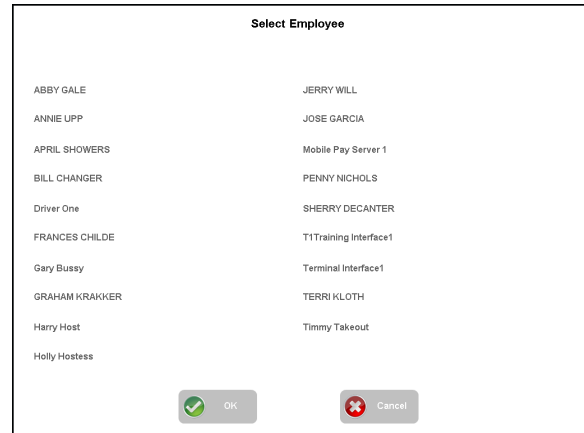
2. Touch the **employee name**, and touch **OK** to begin the fingerprint enrollment process. A message appears, asking the employee to scan their finger.	Please scan finger for Image Capture ✗ Cancel
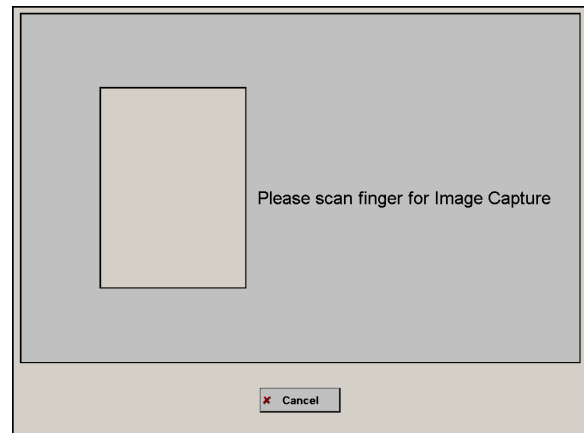
Tip: For best results, ask the employee to use their thumb or forefinger, as these are easier to read. As a 'best practice,' caution them not to use the finger tip or edge, as these do not reliably register in the database.

This message, and any subsequent enrollment message, includes a visual indicator that changes to reflect each action the employee takes during the enrollment process. The indicator provides visual feedback to the employee or the enrolling manager that the system is performing requested tasks. Several different metrics have bearing on the overall 'score' of the enrollment, so it is possible to see a relatively clear representation of the fingerprint image, but still result in a failed attempt to record the fingerprint image successfully. In such cases, simply repeat the process.

3. Ask the employee to use the **fingerprint scanner** to scan their **finger**, pause, and watch the screen until the system responds. When the first scan of the fingerprint is complete, a message appears, asking the employee to scan their finger again.

4. Ask the employee to scan their **finger** again, pausing to allow the system to respond. The system detects the change, records the new pattern, and continues to ask the employee to scan their finger, until it gathers the required number of valid images.
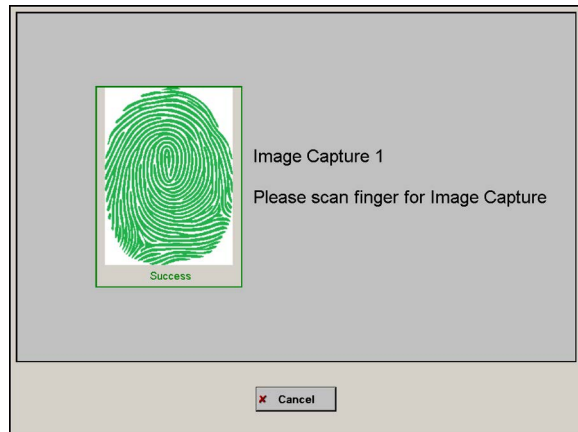
Tip: If you select 'Support UPEK sensors,' you must successfully match three scans, where the first successful scan acts as the baseline. If you clear 'Support UPEK sensors,' you must successfully match four scans.

If the system cannot read one of the scans during the enrollment process, a message appears asking the employee to scan their finger again.

A reason for the failure to record the scan appears below the fingerprint.
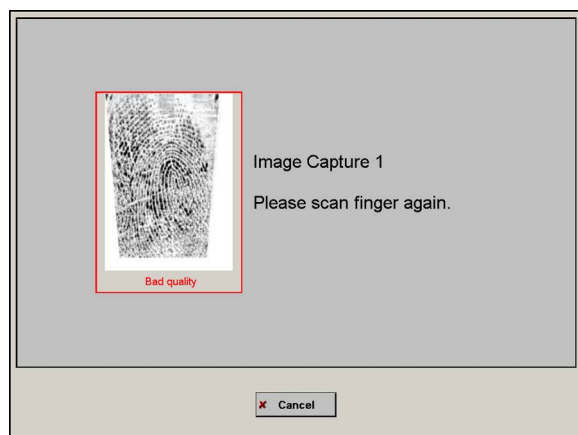
If too much time elapses between any two events in the sequence, the image capture process times out. The enrollment process must begin again.
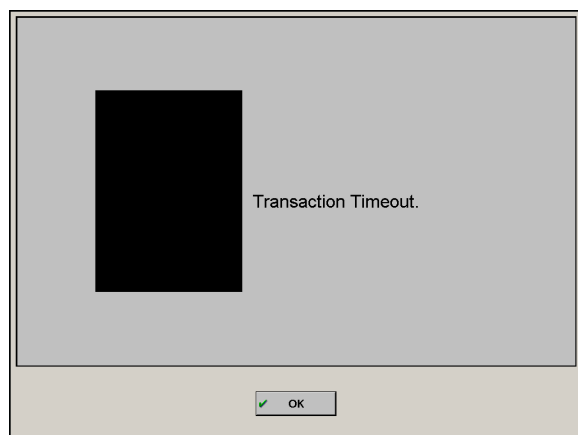
When the system displays a message announcing successful enrollment, a mathematical model of the fingerprint is part of the database. Click **OK** to dismiss the screen.

Image Capture 4

Enrollment successful.

Success

✔ OK

ℹ **Note:** Although the FOH screens differ considerably between Quick Service and Table Service, both programs provide access to the same FOH Change Password screens, and the same fingerprint enrollment screens.

Although fingerprint scanners do a good job of reading through poor conditions, such as a finger with a little dirt and grease on it, occasionally it may be necessary to replace the current fingerprint model with one that will work better. An employee can use the Change Password function to easily re-enroll their fingerprint pattern.

1. Clock in or log in to a **FOH terminal**, to access your home screen.

FRANCES CHILDE

Exit

- Open Tables -

11 Table 11

New   Transfer   Functions

Adjust
Payments   Tips   Sales   Refund
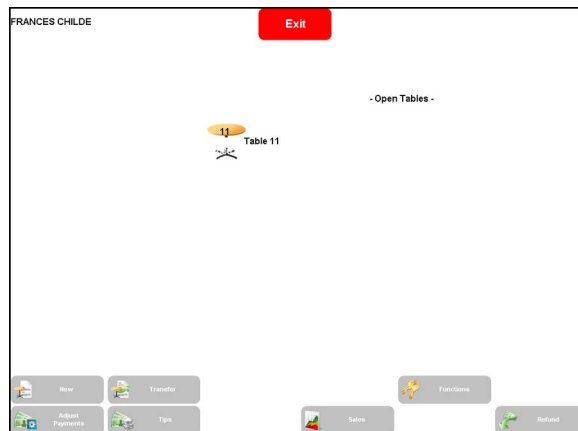
2. Touch **Functions** to access the Special Functions screen.

Exit

Special
Functions

Reports | Financial | Alerts
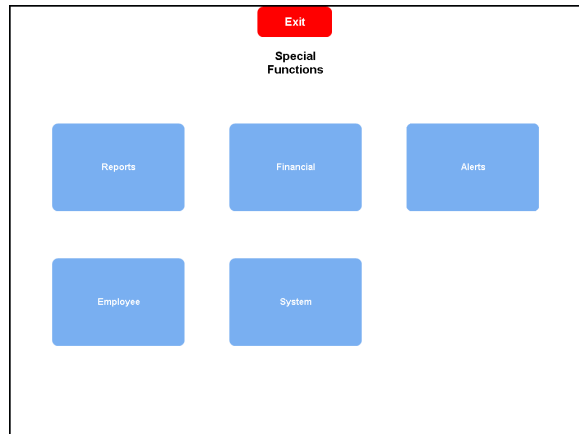
Employee | System

3. Touch **Employee** to access the Employee Functions screen.

Exit

Employee

View Schedule | Server Information | Change Password

Disable Emp Mag Card

Back
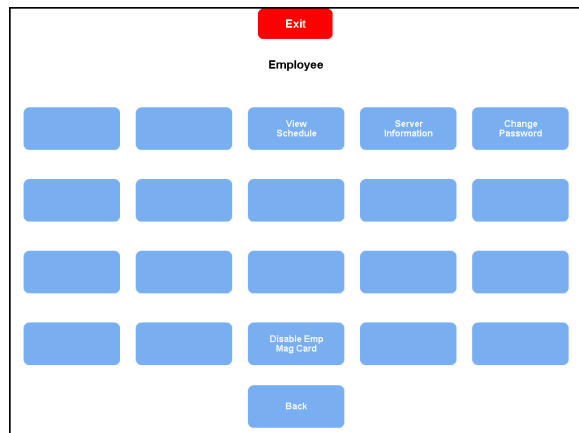
4. Touch **Change Password** to access the Enter New Password screen.

5. Touch **Enroll Fingerprint** to repeat the original fingerprint enrollment process.

Exit

Enter New Password

1	2	3
4	5	6
7	8	9
Clear	0	OK

Enroll Fingerprint

Cancel
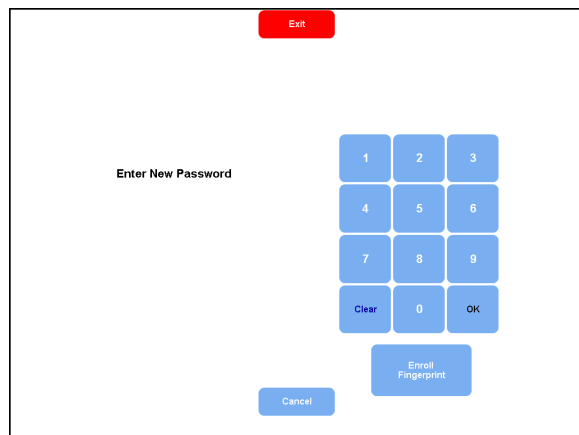
Accessing the Aloha POS system using a fingerprint scanner

Aloha fingerprint scanners make access to Aloha FOH terminals quick, easy, and secure. Routine activities, such as clocking in, logging in, or responding to 'manager password' messages are easy, moment by moment.

Clocking in

1. Depending on your fingerprint scanner type, slide your finger across or place your finger on the **scanner panel** one time and wait for the system to respond. The system does several things:

   ○ The cursor centers on the Floating Logo screen.

   ○ The cursor changes to the 'link select pointer,' a small white pointing hand, while the program identifies your fingerprint.

   ○ The terminal beeps, when it reads the fingerprint successfully, if the terminal supports beeping.

   ○ The system searches for the fingerprint and takes the appropriate action by logging the person in to the terminal, presenting a manager approval request (JIT), or presenting the Job Code screen, if the person is clocking in.
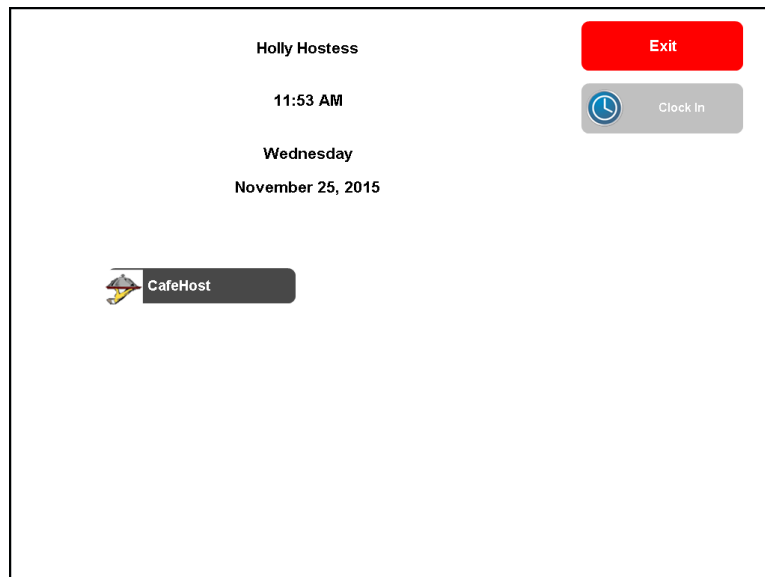
Figure 21 Job Code Selection Screen

○ If the system is unable to locate the fingerprint in the database, a message appears, stating the system was unable to recognize the fingerprint.

> 💡 **Tip:** Some older terminals do not support the beep function. If you want your terminal(s) to beep, you can use the Device Manager to enable the on-board speaker. If you enable the speaker and the terminal still fails to beep, the speaker may not be physically present in the terminal.

2. Touch the correct **job code** for your shift, and then touch **Clock In**. Your **home screen** appears. See Figure 22 for Quick Service. See Figure 23 for Table Service.

Figure 22 Example of a FOH Home Screen, Quick Service

Figure 23 Example of a FOH Home Screen, Table Service

Logging in

If you are already clocked in to the Aloha POS system for your shift, logging back in after exiting the system is exceptionally quick and easy. Depending on your fingerprint scanner type, slide your finger across or place your finger on the scanner panel one time and wait for the system to respond. When successful, your home screen appears.

Troubleshooting Fingerprint Scanner

If difficulties arise with an Aloha fingerprint scanner, the first symptom is usually a message stating, 'Unable to Recognize Fingerprint.' The causes of these difficulties can range from the simple need to enroll a new fingerprint for a single employee to the need to update the fingerprint scanner software and drivers. This section can help you work through this process.

Defining a working installation

The current definition of a working installation involves specific elements:

- One or more NCR Voyix terminals with a compatible fingerprint scanner installed.
- If the site contains two or more terminals with a fingerprint scanner, use the following table to determine if the terminals are compatible with each other with regard to the fingerprint scanner:

Type of Scanner	Software Version	Notes
AuthenTec area scanner (square) and AuthenTec slide	Compatible using software version 1.1.0.9.	Higher software versions do not support the area scanner.
AuthenTec slide scanner, UPEK and UPEK2 slide scanner	Compatible using FPS v4.0, or earlier.	AuthenTec is NOT supported in FPS 15.1.
Digital Persona	Software versions 4.0.0.16 or higher.	

- Microsoft .Net Framework, v2.0, and Visual C++ 2005 Redistributable Package (x86) and\ or Visual C++ 2008 Redistributable Package (x86), typically provided as part of the terminal image.

> **Note:** If your terminal lacks either of these prerequisite components, contact an NCR Voyix team member to determine if an image is available for your terminal containing both before attempting an installation yourself. A new terminal image could save you time.

If you are using a NCR Voyix terminal without an integrated fingerprint scanner, you may add this feature by ordering an external USB UPEK, UPEK2, or Digital Persona sensor. You can purchase an external scanner from NCR Voyix. The vn.n drivers support this external scanner. In this case, one or more NCR Voyix terminals with the external fingerprint scanner installed constitute the hardware component of a working installation.

> **Note:** In any troubleshooting situation involving an externally mounted fingerprint scanner, always remember to verify the scanner is securely plugged in before you move on to more complex tasks.

Verifying the configuration

Occasionally, the 'should' concept gets in the way of our success. If one terminal does not respond to the fingerprint scanner, or if the whole system fails to respond to attempts to log in, a quick configuration check is a good idea, even if you 'know' how things are set up. When you experience difficulties, ensure the fingerprint scanner is active for each terminal with a scanner, and that 'Radiant' is selected in the 'Type' drop-down list, in Maintenance > Hardware > Terminals > Readers tab.

Verifying the hardware

The most common question when we have problems with computers is, 'Is the hardware functioning properly?' Two test utilities are available for determining the integrity of your hardware.

Using the test utility

NCR Voyix has created a test utility to help diagnose issues with UPEK, UPEK2, or Digital Persona fingerprint scanners. It is easy to run BiometricsTest.exe on a given terminal to determine scanner status and driver versions. This test application allows you to test the scanner independently of the Aloha POS system and determine if faults are caused by hardware or driver installation.

The RadBio installer places the test utility in C:\Program Files\Radiant\RadBio folder. You can run BiometricsTest.exe directly from this folder to test basic scanner functionality. To get an accurate description of the drivers currently in use on a given system, copy the application to the %IBERDIR%\Bin folder. When you launch the utility, a dialog box appears. If the first two segments are green, you should see a message at the bottom, 'Reader is ready, scan your finger to test.'
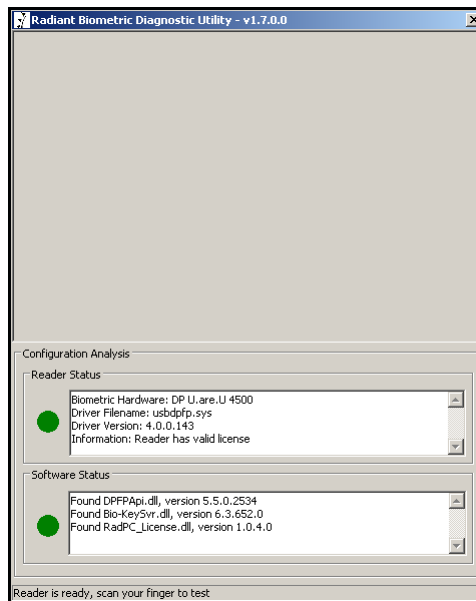
Figure 24 BiometricsTest.exe Utility, Ready for Test

Slide your finger across the fingerprint scanner one time, to test the image quality.
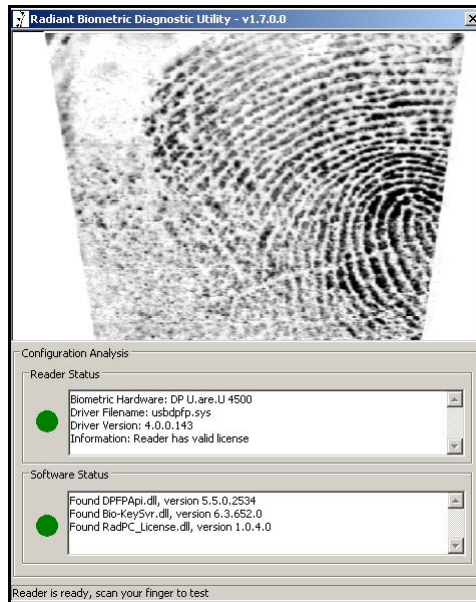
Figure 25 BiometricsTest.exe Utility, Showing Test Image

If the first two segments remain green, and if the image appears good, the hardware is working properly.

Where either section is yellow, your scanner may still be working so long as the message on the bottom is 'Reader is ready, scan your finger to test' and your fingerprint appears when you perform a scan.

If either 'Reader Status' or 'Software Status' are red, the message 'Reader is not ready' appears at the bottom. You may need to uninstall and reboot the terminal, then reinstall the RadBio drivers and reboot the terminal again.

Biometric tests create a Test.txt detail log in C:\Windows\Biometric containing hardware, driver, and license information.

Scanning the fingerprint correctly

If an employee does not use the correct technique when scanning their finger, they may experience chronic difficulty with accessing the Aloha POS system with a fingerprint scanner. Incorrect technique leads to storing unreliable patterns in the database.

To scan a finger on the 'slide' scanner:

1. Place the finger flat on the scanner, with the first crease above the scanner bar.

2. Slide the finger down across the scanner, keeping the finger flat during the entire scan.

3. Continue to slide the finger down, in one smooth motion, at least until the extreme tip of the finger clears the scanner bar.

4. Remove the finger from the terminal, and wait for the system to respond.

    The following photograph shows the 'target zone' for the fingerprint scanner, and the 'start' and 'finish' lines. The employee should attempt to present this area to the fingerprint scanner bar at each use.

Figure 26 Photograph Showing the 'Target Zone' for Slide Fingerprint Scanners

To scan fingers on the Digital Persona scanner:

1. Place the finger on the scanner.
2. Keep the finger still until the scanner light changes from blue to red.
3. Remove the finger from the terminal and wait for the system to respond.

Figure 27 Photograph Showing the Digital Persona Scan

Understanding fingerprint scanner file structure

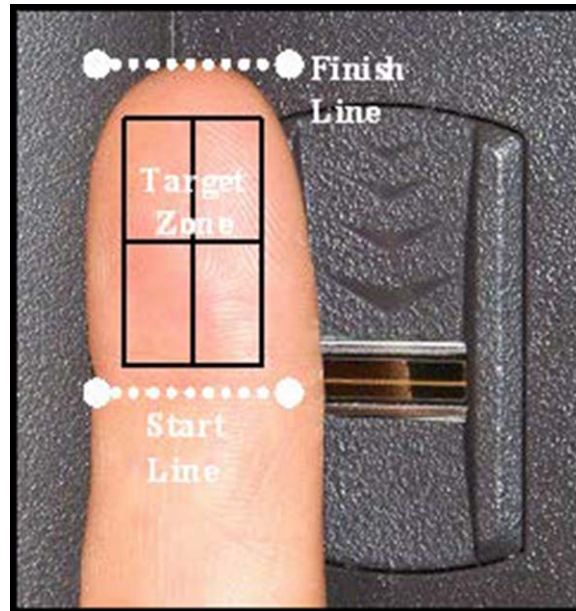The file structure supporting the fingerprint scanner installed in NCR Voyix terminals involves directories that serve to synchronize database copies, and to preserve a backup. FPSPurge.exe determines much of what happens in the file and database structure during the course of a given day. As previously stated, we recommend running FPSPurge.exe daily, as part of the EOD process.

If FPSPurge.exe makes no changes to the database, all functions relating to the fingerprint scanner and the software supporting them continue as before. When FPSPurge makes changes in the local database, the changes take place in the two directories on the terminals, %LOALDIR%\ExtData\FPS, and %LOCALDIR%\ExtData\FPSSync. The system treats these two directories, collectively, as the local database.

When FPSPurge.exe runs, it accomplishes the following:

1. Deletes all enrollments for employee IDs that are not present or marked as zapped in the local Emp.dbf. The actual 'purge' process happens during this step, if required.
2. If FPSPurge.exe makes no changes to the enrollment database, it exits at this point, ending the process.
3. Copies %IBERDIR%\ExtData\FPSSync to the \FPS directory, both on the file server. This activity makes a copy of 'yesterday's' enrollment database.
4. Copies the local database, from the %LOCALDIR%\Extdata\FPS directory on the master terminal to the \FPS and \FPSSync directories on the file server. Copying the database to the file server synchronizes the purged database to the file server for subsequent synchronization back to all terminals after EOD completes.

   When the terminals restart, as a result of the EOD process, the FOH on each terminal copies %IBERDIR%\Extdata\FPSSync to the local database on each terminal running FPSSvr, which only includes terminals that are master capable, or have a valid fingerprint scanner integrated in the terminal, and enabled in Terminal Maintenance.

Evaluating inability to read the fingerprint sensor

If the system displays a message, 'Unable to Start FPSSrvr (the system cannot read the Fingerprint Sensor),' or simply does not respond to the fingerprint scanner, the causes can include, but are not necessarily limited to the following:

- The terminal is not configured to use the attached fingerprint scanner on the BOH file server. Log in to Aloha Manager, and select the terminal, in Maintenance > Hardware > Terminals. Select Radiant from the Fingerprint Scanner > Type drop-down list, on the Readers tab.
- One or more of the .dll files that support fingerprint scanner may be missing or corrupt. Reinstall FPS on the terminal displaying the error by executing just the AlohaFPSSetup.exe on the terminal. Do not attempt to run the AlohaFPSSetup.exe in conjunction with Setup.exe as this will result in a

failure. You can locate AlohaFPSSetup.exe in the Aloha Suite Installer folder from the original install. Where no longer present, you can download from Aloha Update.

- One of the fingerprint scanners in the network may be malfunctioning. Try using a different scanner, if more than one is available in the network. Contact your NCR Voyix reseller for help resolving this issue.

If there is no fingerprint scanner attached to a terminal exhibiting this message, and if you have no expectation of using a fingerprint scanner with the terminal, you can safely acknowledge the message, and ignore it. Depending upon configuration, buttons relating to enrolling fingerprint patterns may not appear at all on this terminal. Employees that require a fingerprint scanner to clock in or log in must use another terminal to access the system.

Failure to recognize an existing fingerprint enrollment

The most common cause of the failure to recognize a fingerprint is simply that — the system and a specific employee no longer interact with each other effectively. When an employee is unable to access the Aloha POS system with a fingerprint scanner, the first test you should make is to determine if the failure is isolated to one employee, or if all employees are unable to access the system. If the problem is isolated to a single employee, enrolling a new fingerprint for them tends to restore their access. The new pattern replaces the old one, resolving the issue.

If the problem extends beyond the initial employee to include most or all employees at a site, you must perform additional analysis to establish the cause.

Correcting slow scanner response

You may occasionally notice a visible time lag between the time an employee interacts with the fingerprint scanner and the response of the system to that interaction. Occasional 'time lags' of this type are more common when the network is busy with EOD, or is otherwise involved with resource-intensive activities, especially if these activities also tend to occur in conjunction with shift changes. However, if slow performance becomes generally noticeable, the cause may be out of date software and drivers.

> **Reference:** Refer to RKS document number 10438, or contact your NCR Voyix team member, to determine the type of fingerprint scanner installed on your terminals, and whether you should upgrade your software.

Upgrading the fingerprint scanner software and drivers

As part of our commitment to constantly improve the customer experience with NCR Voyix products, we frequently release new versions of software and drivers. We recommend installing these when they become available. After obtaining the new software, the process outlined in this section will help you to upgrade the fingerprint scanner software and drivers, and to add the new utility for purging unnecessary fingerprint enrollments, FPSPurge.exe.

Do I need to update my fingerprint scanner software?

NCR Voyix releases newer versions of FPS software periodically, to enhance function, add features, or address issues. The best way to determine if an upgrade is needed is by first evaluating current performance, to determine if an improvement is required. To check the FPS version installed, find FPSSrvr.dll in the %IBERDIR%\Bin folder. Right-click the file and select properties; the FPS version is available in the resulting dialog box. The latest version of FPS is available on the [Aloha Update](#) site.

Inability of some employees to log in to some terminals

Occasionally, a terminal experiences a lack of communication with the Aloha network at large. If an employee enrolls a fingerprint on a terminal when this communication is momentarily lapsed, the system stores this pattern in the Trans.log. If the terminal comes back online before the EOD, it synchronizes local enrollments for the day from the Trans.log. If the terminal is offline past the EOD, it synchronizes the enrollment by copying the database from the file server.

Fingerprint archives

During the normal EOD process, FPS creates an FPS.sync containing all of the fingerprints in the Master Terminal FPSSync folder and in the BOH FPSSync folder. These compressed files represent a daily archive/backup of fingerprints in your system.

Cleaning the fingerprint scanner

Repeated usage over time can result in a dirty fingerprint scanner, which can prevent reading employee fingerprint patterns. Cleaning the fingerprint scanner is a simple matter, although you must exercise care in your choice of cleaners. We recommend establishing a cleaning schedule for the fingerprint scanner sensor, to prevent intermittent operation, or a temporary failure to read.

Cleaners to avoid

- Do not use cleaners that contain bleach, such as laundry bleach, chlorine-free bleach, or mildew removers. This type of cleaner can discolor the sensor, or damage associated circuitry, if the cleaner seeps into the terminal.
- Do not use solvents, such as acetone, naphtha, methyl ethyl ketone (MEK), trichloroethylene (TCE), paint thinner, turpentine, or similar. This type of cleaner can damage the sensor, in addition to damaging the terminal, internally, if it seeps inside.

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Acceptable cleaners

Cleaners like Windex, Formula 409, or Fantastic are acceptable for cleaning sensors on fingerprint scanner sensors.

To clean a fingerprint scanner sensor:

1. Shut down and disconnect **power** from the terminal.
2. Moisten a **clean, soft cloth** very lightly in a small area with the cleaner. Be careful to avoid an excess of cleaner, to prevent its seeping into the sensor circuitry, or into the terminal.
3. Gently rub the **sensor surface**, making sure to use a **new, clean** section of the cloth after a few rubs.
4. Continue to rub the **sensor surface** until it is visibly clean, using special care to avoid scratching the surface of the sensor with a part of the cloth that contains dirt already removed.
5. Wipe the **sensor surface** with a fresh, clean, dry cloth to remove any cleaner residue.
6. Restore the **power** to the terminal, and place it into operation.
7. Test the **sensor** to verify it correctly reads employee fingerprint patterns.

Appendix A: Harmonizing a scanner with software

Historically, NCR Voyix terminals have incorporated several types of a fingerprint scanner. It is important to correctly identify the type you have, so you can make sure you are using the correct software with it. In a given site, fingerprint scanner hardware may be of different types, depending on the terminal and its age. You must ensure that the software version you use works for all hardware types present. The fingerprint pattern database is stored on the file server, and is specific in format to the software used.

This section includes images of specific types of fingerprint scanners, and includes software version matrices, to help you match compatible software with your hardware.

UPEK slide scanner — Third generation scanner; identifiable by a gold wire running through the sensor window. Found on P1220 and P1520 terminals as well as on the external USB device.

Figure 28 UPEK Slide Scanner

FPS Version Support	Required POS Version	POS Image	Notes
4.0.0.28	6.7, or later 12.3, or later 14.1, or later 14.2, or later	Current	Enhancement to restrict enrollment to one physical user.

FPS Version Support	Required POS Version	POS Image	Notes
15.1	15.1	Current	Requires re-enrollment. Requires you select 'Support UPEK Fingerprint devices' in CFC for environments where even one UPEK2 scanner is used. See "Installing or updating FPS software on a NCR Voyix terminal" on page 9.

UPEK2 slide scanner — Fourth generation scanner also called the steel coat (SC); identifiable by two silver metal bars above and below the sensor window. Found on the P1220, P1520, and P1560 terminals. This is also available in an external USB format. A UPEK2 scanner also requires UPEK driver version 1.9.2.136 .

Figure 29 UPEK2 Slide Scanner

FPS Version Support	Required POS Version	POS Image	Notes
4.0.0.28	6.7, or later 12.3, or later 14.1, or later 14.2, or later	Current	Enhancement to restrict enrollment to one physical user.

FPS Version Support	Required POS Version	POS Image	Notes
15.1	15.1	Current	Requires re-enrollment. Requires you select 'Support UPEK Fingerprint devices' in CFC for environments where even one UPEK2 scanner is used. See "Installing or updating FPS software on a NCR Voyix terminal" on page 9.

Digital Persona 4500HD — Fifth generation scanner; identifiable by its large oval sensor window and blue glow. Found on P1230 terminals, as well as an external USB format.

Figure 30 Digital Persona Scanner

FPS Version Support	Required POS Version	POS Image	Notes
4.0.0.28	6.7, or later 12.3, or later 14.1, or later 14.2, or later	Current	Enhancement to restrict enrollment to one physical user.
15.1	15.1	Current	Requires re-enrollment. You can clear 'Support UPEK Fingerprint devices' in CFC if all sensors are Digital Persona.

Fingerprint Scanner, Feature Focus Guide

NCR Voyix welcomes your feedback on this document. Your comments can be of great value in helping us improve our information products. Please contact us using the following email address: Documentation.HSR@NCRVoyix.com

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