



N-Scan Application Guide v6

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N-Scan Overview

Access control systems use barcode scanners to validate tickets and member cards at entry. By validating tickets and member cards at entry an organization can:

- Decrease ticket fraud.
- Offer secure print at home ticketing.
- Record and view attendance data in real time.
- Catch and resolve seating errors at the door rather than at the seat.
- Provide faster, more convenient entry to members

N-Scan is the Tessitura Network's access control solution. In addition to the standard access control functions N-Scan allows an organization to:

- Use tickets and member cards to additionally grant entry to special access areas. Criteria such as constituencies, price types, and memberships can be used to validate entry to the special access area.
- Check seat status, seating availability, and hold seats from the N-Scan mobile units. Troubleshoot seating issues from within the seating area.
- Deliver messages to constituents upon entry. Remind subscribers about renewals or help separated party members meet up.
- Track the arrival of specific constituents or any constituent with a particular constituency on a N-Scan mobile units or send a notification email or text message upon the arrival of a tracked constituent. Perfect for development staff who need to personally greet donors and VIPs on arrival.
- View constituent record details for a tracked constituent from N-Scan mobile units. Use this feature to remember a name or look up helpful information for a conversation.
- View performance sales and attendance information from N-Scan mobile units. Allows the house manager to monitor how the house is filling while on the go.

Planning

When planning for N-Scan usage consider the following:

- Barcodes must be printed on all tickets for use with N-Scan. Either the ticket number or N-Scan number can be bar coded and used by the N-Scan system. The use of the N-scan number is recommended as it contains additional inform-

ation that would be otherwise unavailable when a connection to the wireless network is lost.

- Where will tickets be scanned? Where tickets are scanned determines how N-Scan units should be set up. If tickets are scanned at the entry to a performance space, then units only need to be configured with information for the performance in that space. But if tickets are scanned at the entrance to a lobby shared by multiple performance spaces with concurrent performances, units should be configured with information for performances in all the spaces.
- What are the procedures for failed ticket scans? House management and ticketing staff should decide upon procedures for resolving failed ticket scans. Most failed scans will require box office investigation and resolution, though frequently this is as simple as handing constituents new tickets they forgot to pick up from Will Call.
- What are the procedures when a unit loses its wireless network connection? N-Scan offers an offline scanning mode that saves ticket data for later import into Tessitura, but another option preferred by some organizations is to tear tickets and scan the stubs later when network problems have been resolved.
- Develop a plan to check for and upload offline scans after each performance.
- How can seating problem resolution procedures be changed and improved with N-Scan? N-Scan provides house management with the ability to research seating availability from within the performance space. Review seating problem resolution procedures and revise to take advantage of N-Scan functionality.
- Who could benefit from the [monitor attendance](#) features? The monitor attendance features allow staff to track the arrival of constituents, either with an N-Scan unit or by email/text message notification. Make sure all staff who interact with constituents are informed of the monitor attendance capabilities, especially executive staff, so they can choose to use them if desired.

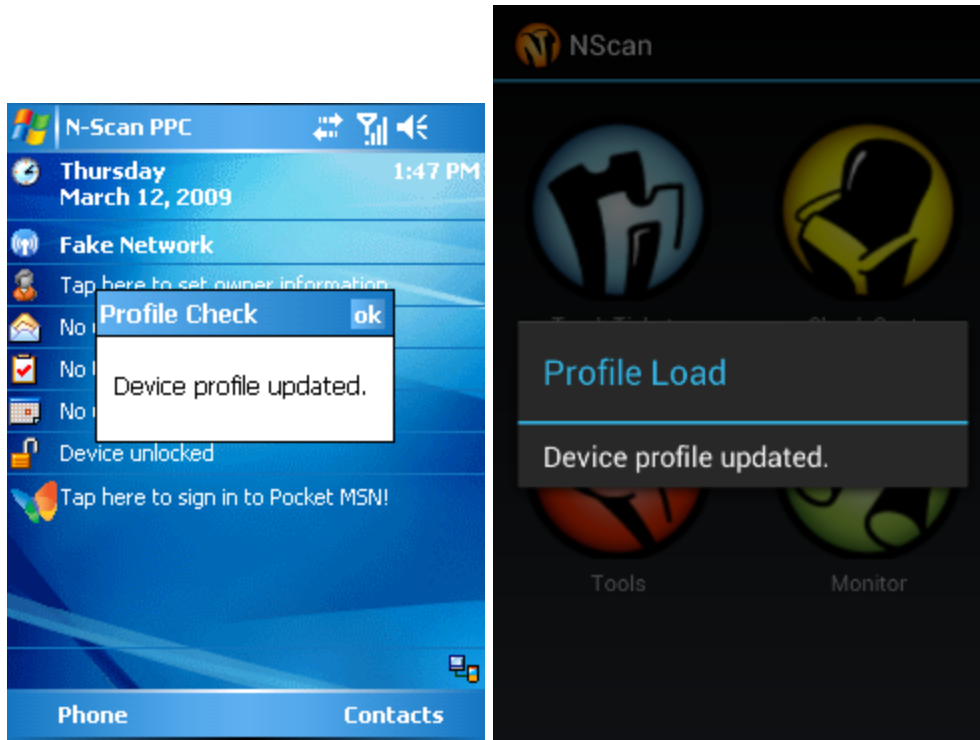
N-Scan Units

N-Scan is designed to be used on Windows Mobile or Android devices. These devices include Symbol scanners, pocket PCs, and smart phones that use Windows Mobile v6 or greater or Android 4.1.1 or greater, have a touch sensitive screen, and have 802.11 Wi-Fi. The primary units used with N-Scan must be equipped with scanners that can be used to read barcodes on tickets, but additional units without scanners can be used for administrative functions such as tracking constituents, viewing constituent information, and viewing sales data.

Note: An N-Scan license is required for each unit on which N-Scan is installed.

Starting N-Scan

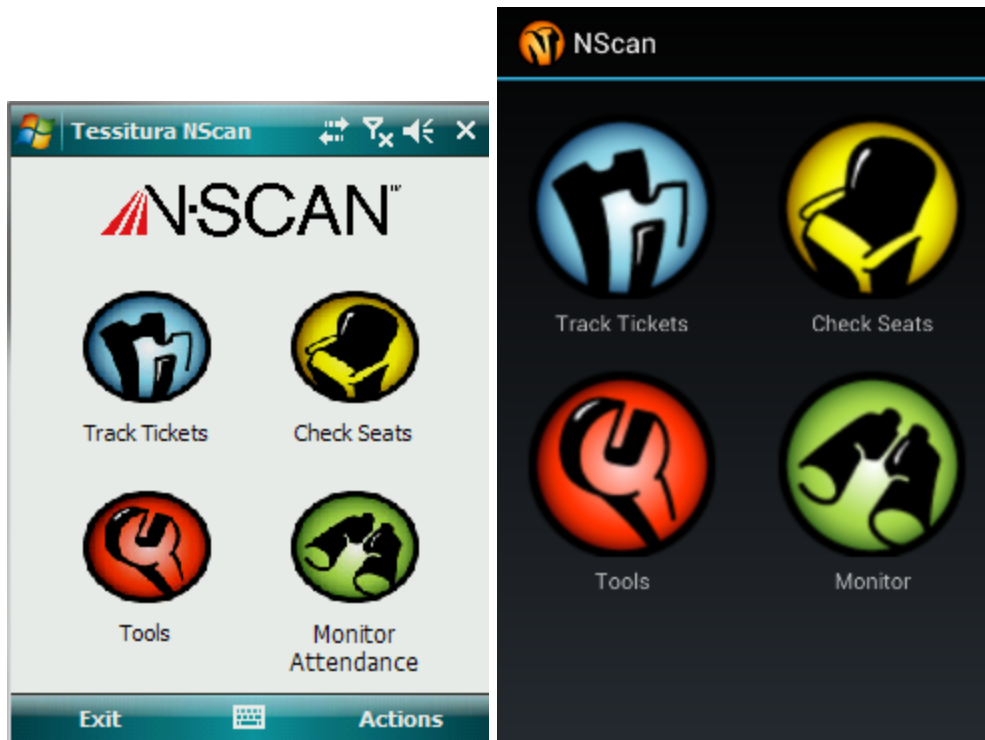
Click **Start** and click the **N-Scan** icon. The unit checks for a profile in Tessitura and updates the settings if a profile exists. A popup indicates whether or not a profile was found:



Note: If a connection to the wireless network is unavailable, the profile check will display an error indicating that it could not connect to the server so no profile changes were made. N-Scan will still open and function in offline mode, though N-Scan must be manually switched to [offline mode](#). If this error is received at start up check that the wireless network is functioning and within range. Also check the NScan Service URL for the unit in [System Settings](#).

Note: If the unit is not set to check for a profile, see [Params from Host](#), the profile check message will indicate that local settings are being used.

N-Scan opens to the **Homescreen**:



There are four options on the N-Scan Home screen:

Track Tickets – Used to scan tickets. See [Track Tickets](#) for details.

Check Seats – Used to check the status of seats and view seating availability. See [Check Seats](#) for details.

Tools – Used to configure N-Scan on the unit. See [N-Scan Unit Settings](#) for details.

Monitor Attendance – Used to view a list of tracked constituents, view tracked constituent details, and to view performance sales information. See [Monitor Attendance](#) for details.

Actions/Menu

Clicking **Actions** (on WM) or opening the menu (on Android) offers the following option(s):

Check Server – Checks the unit’s connection to the wireless network. A popup opens indicating whether the unit has a successful connection or no connection.

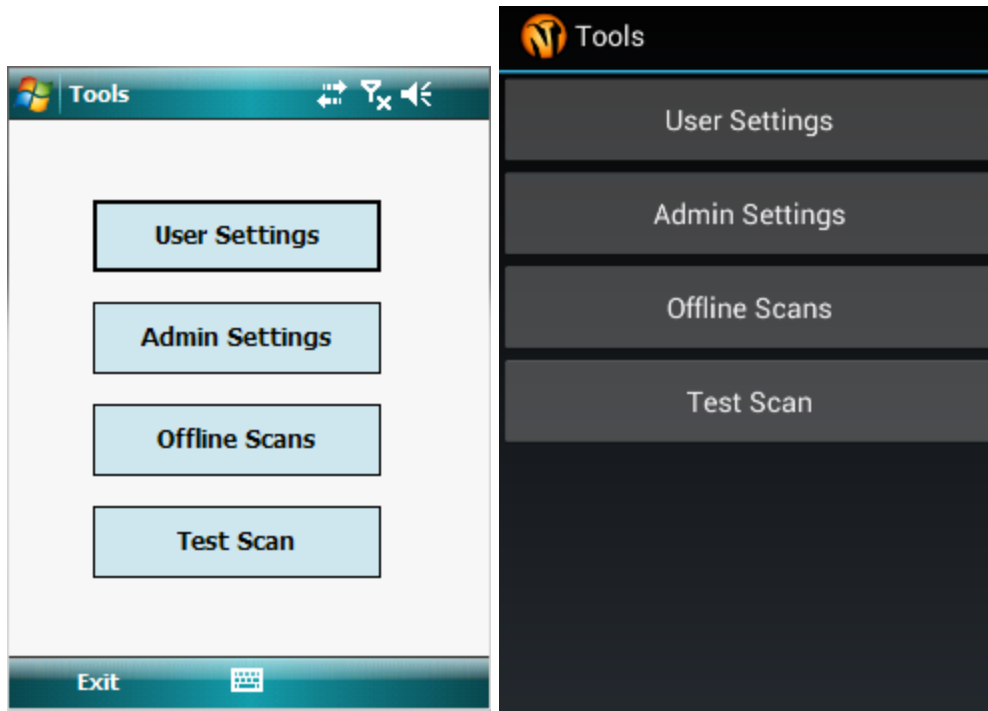
Check Offline Scans opens a popup that displays the number of offline scans stored on the unit. For more details on offline scans see [Offline Mode](#).

Check Version opens a popup that displays the current version of N-Scan software.

N-Scan Setup

N-Scan Unit Settings

N-Scan unit settings are accessed by clicking the **Tools** icon on the Main Menu. There are four options on the Tools screen:



[User Settings](#) - From this area users can select a successful scan sound and sound volume.

[Admin Settings](#) - The N-Scan functional settings reside in this area. The Admin Settings area is password protected and a password prompt opens when this icon is clicked.

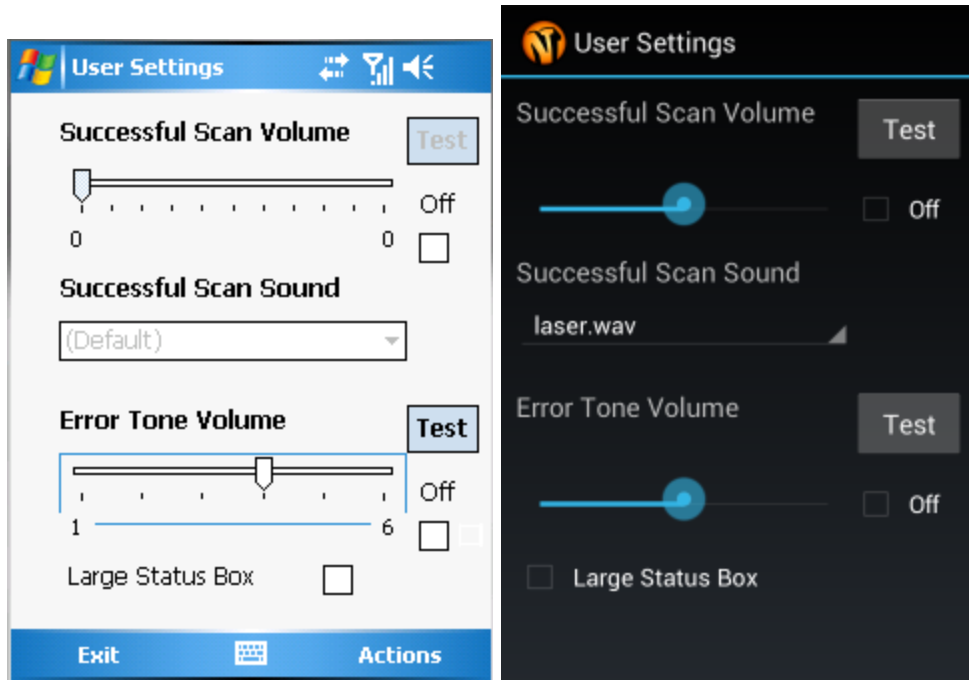
[Offline Scans](#) - This area holds functions used to output and clear scanning data held in the unit when it is placed in offline mode. The Offline Scans area is password protected and a password prompt opens when this icon is clicked.

Note: The default password is “nscan” though this password should be changed at installation. If the password for a unit is forgotten, it can be reset by accessing the options.xml file on the unit.

[Test Scan](#) - From this area users can practice scanning tickets or member cards (without actually validating or updating data) to become familiar with a unit.

User Settings

The **User Settings** screen is used to change the sounds and the volume of sounds emitted by the N-Scan unit.



By default, N-Scan produces a single beep for a successful scan. This beep can be changed to a different sound by making a selection from the **Successful Scan Sound** dropdown.

Note: If ushers will be scanning in close proximity to each other, using a different sound for each unit can help ushers distinguish their successful scans from the successful scans of other units.

The volume of sounds is adjusted using the two volume sliders:

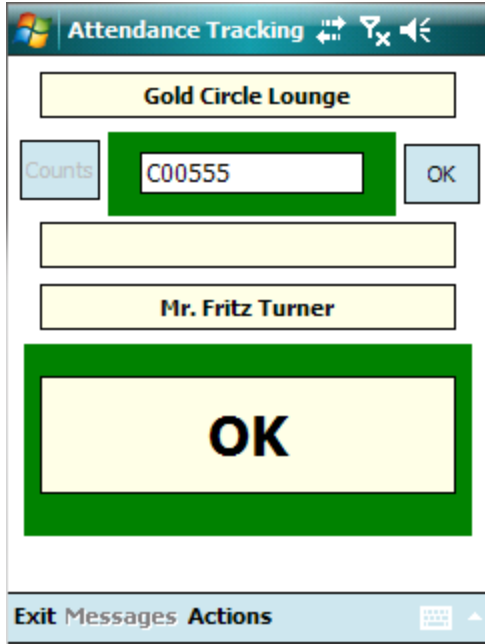
Successful Scan Volume adjusts the volume of the standard successful scan beep.

Error Tone Volume adjusts the volume of the error tone for invalid scans.

Clicking the **Test** button for either sound tests the sound at the current volume setting. Checking the **Off** box for either sound mutes that sound.

Checking the **Large Status Box** increases the size of the status box that displays the result of a ticket scan on the Ticketed Events and Special Access Areas screens:

Note: Checking the Large Status Box option has no effect in the Android application.



Note: When the larger size is used, seat locations, member admission counts, and qualifying access area entry criteria are not displayed.

Actions/Menu

Clicking **Actions** (on WM) or opening the menu (on Android) offers the following option(s):

View Setup - Displays the tabs from the [Admin Settings](#) area in read-only form and without requiring a password.

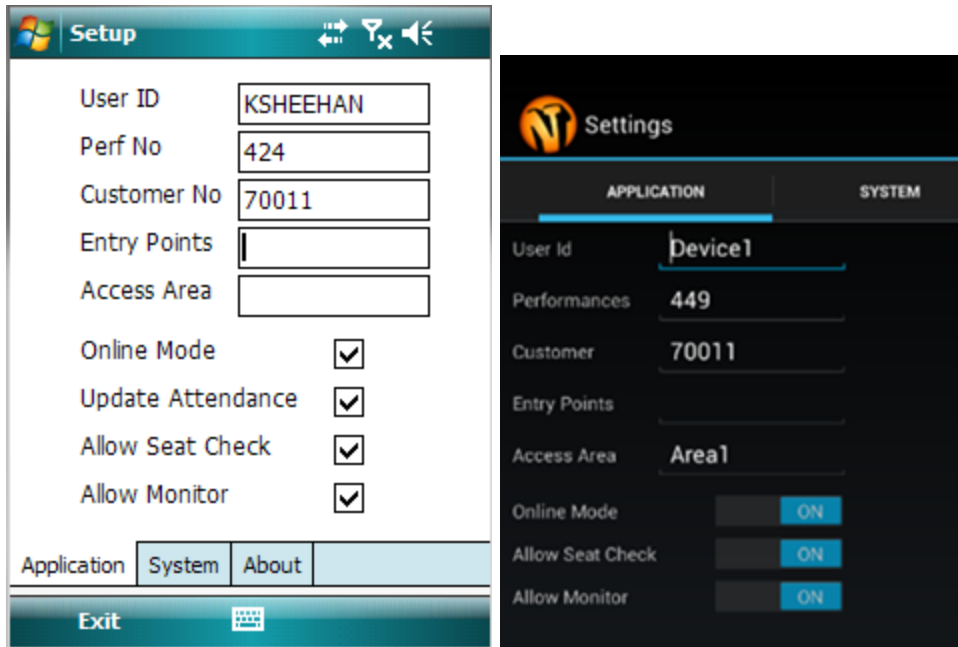
Admin Settings

The Admin Settings area is organized into three tabs: [Application](#), [System](#), and [About](#).

Note: The Admin Settings area is password protected and a password prompt opens when this icon is clicked.

Application

The **Application** tab holds operational settings that for a unit:



When N-Scan is started on a unit **User ID, Performance, Customer, Entry Points, Access Area, Allow Seat Check, and Allow Monitor** can be automatically updated by creating a profile for the unit in Tessitura. Using unit profiles allows you to manage the settings of all units from a central location, as opposed to making changes on each individual unit. For details on setting up unit profiles see [N-Scan Unit Profiles](#). The use of unit profiles is recommended.

The settings available on the Application tab are:

User ID - The ID that will be recorded in the N-Scan tables for scans from the unit. A unique ID should be entered for each unit.

Note: The N-Scan unit user ID does not correspond to a Tessitura user ID.

Units that will be used by ushers or rotating staff should generally have generic user IDs such as Unit 1, Usher 1, or House Manager. Units that are used by regular staff members can have personal IDs.

Perf No - This field holds the ID numbers of performances for which entry is being validated and recorded. If a scanned ticket is not for one of the entered performances or a scanned membership is not valid for one of the entered performances, an error is raised and entry is denied. If no performances are entered here, tickets and member cards cannot be successfully scanned.

Note: Unit profiles can be configured so that the unit is automatically configured with the ID numbers of any performances on the current date in a particular facility. For details see [N-Scan Unit Profiles](#).

Note: When multiple performance numbers are entered, constituents can still gain access to the wrong performance if they have tickets to one of the other valid performances. Generally multiple performances should only be entered if tickets are being scanned at a shared entry point for the different performances, such as when scanning at entry to a lobby shared by more than one venue as opposed to the entrances to the individual venues, or when preparing for a matinee and evening performance. For matinee and evening performances, or any other performances on the same day that do not have overlapping access times, door open and close times should be entered for the performances; for details see [Configuring Door Open and Close Times](#).

Customer No – This optional field holds the Tessitura constituent ID of the person using the unit. The constituent ID is used by N-Scan to gather information from Tessitura for the [Monitor Attendance](#) features. This field is generally left blank on units used by ushers.

Entry Points – This is the entry point assigned to the unit. When a ticket for a seat assigned to a different entry point is scanned, an error is raised indicating the entry point where the constituent should enter. Multiple entry points can be entered; multiple values should be entered separated by commas without spaces. Entry point values can be found in the [TR_NSCAN_ENTRANCE](#) table, **Entrance** column. This field can be left blank if entry points are not in use.

Note: When entry points are in use, be careful that each unit is used at the correct entry point. Consider labeling units with their entry points to prevent assigning a unit to an usher at the wrong door.

Access Area – This is the access area assigned to the unit. When an access area is assigned to a unit, the unit validates scanned tickets for entry to the specified special access area based on the criteria defined for that access area. See [Configuring Special Access Areas](#) for details on setting up access areas. Access area values can be found in the [TR_NSCAN_ACCESS_AREA](#) table, **Area Code** column. Only one access area can be entered. This field can be left blank if special access areas are not in use.

Online Mode – When this box is checked, the unit will interact with Tessitura, updating attendance data as tickets are scanned, and making [Check Seat](#) and [Monitor Attendance](#) features available. When the box is unchecked the unit will run in [offline mode](#).

Setting a unit to offline mode from this screen is generally used for scanning tickets at an event offsite or otherwise outside the range of the wireless network. This option can be useful for scanning tickets to an offsite event, such as tickets to a benefit dinner, or scanning tickets to a regular performance at a preshow reception rather than at the door to the theater. Scanning tickets in these situations is generally done more to record attendance than control access, as ticket validation capabilities are limited or unavailable in offline mode.

N-Scan Setup

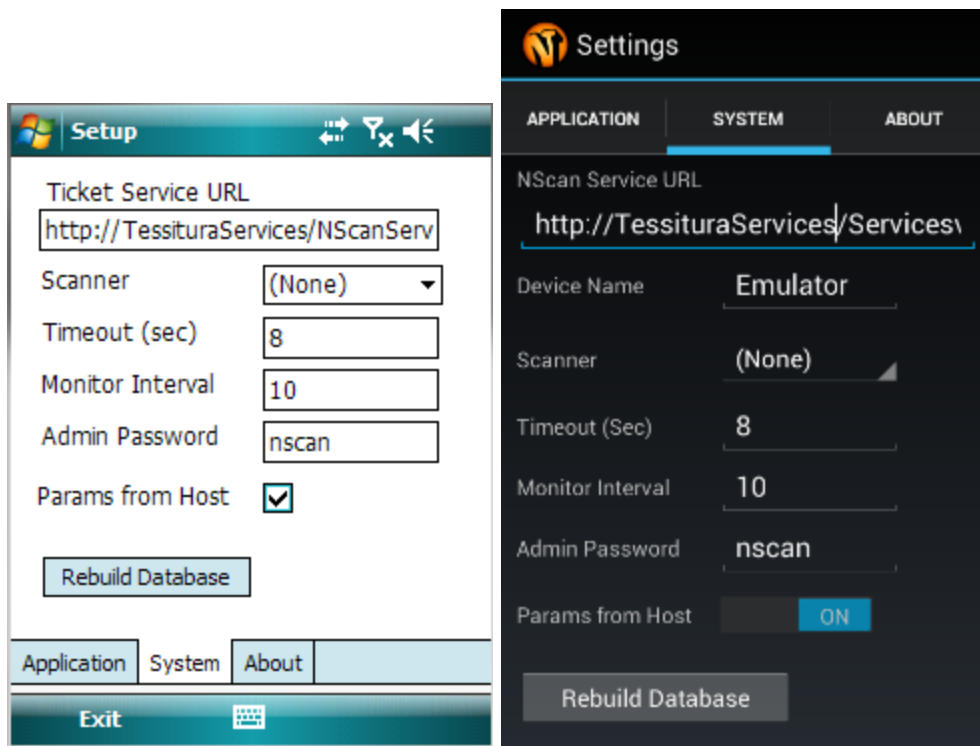
Note: Offline mode can also be used when a unit loses its connection to the network during normal operations. Toggling to offline mode in that situation can be done from the [Track Tickets](#) screen.

Allow Seat Check - When this box is checked, the [Check Seats](#) screen can be accessed.

Allow Monitor - When this box is checked, the [Monitor Attendance](#) screen can be accessed.

System

The **System** tab holds the unit configuration settings that are generally set at installation and adjusted only for network changes and troubleshooting:



NScan Service URL - This is the N-Scan web service location. The value in this box is dependent upon the installation selections made when installing the N-Scan web service. The general URL format is: *http://<SiteName>/NScanService/*. This value should not change after installation unless the System Administrator indicates a change is required.

Device Name(Android app only) - An ID assigned to the unit used to match it to the unit profile stored in Tessitura.

Note: Each unit must have an ID unique among all units and PCs on the wireless network

N-Scan Setup

Scanner – This holds the type of scanner in the unit. N-Scan supports Symbol and Socket scanners.

Note: If using a handheld pocket PC or smart phone without a scanner, this value should be left as **(None)**.

Timeout (sec) – This is the amount of time (in seconds) the scanner will wait for a response before sending a communication error message to the unit.

Note: The default value is 8 seconds. Change this value only if there are an unusually high number of timeout messages. While increasing this value may help with scanning successes, it also indicates a problem in the wireless network that should be addressed to optimize performance.

Monitor Interval – This is how frequently (in seconds) the [Monitor Attendance](#) screen checks for an update.

Admin Password – This is the password used to secure the Admin Settings area of the unit. Generally the password for all units is the same. Passwords are case sensitive.

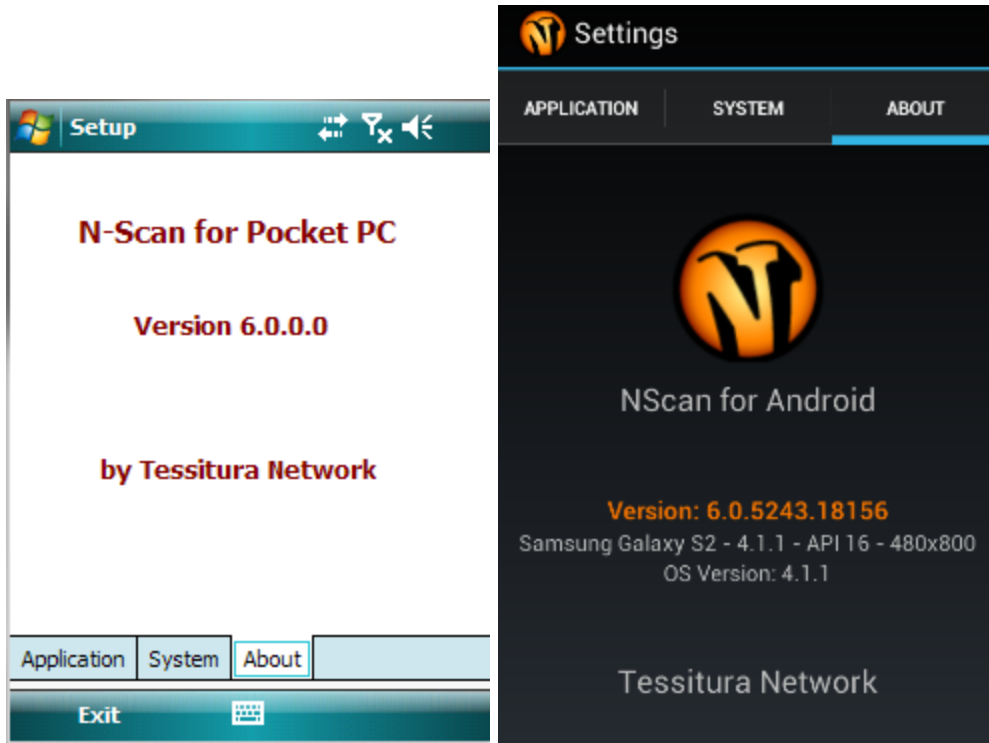
Params from Host – When this box is checked, the N-Scan unit will check Tessitura for a [unit profile](#) when N-Scan is started; if a profile is found the application settings will be updated according to the profile. When this box is not checked, the N-Scan unit will not check for or use a unit profile. Note that the use of unit profiles is strongly recommended.

Rebuild Database – This button rebuilds the database that holds the N-Scan data on the unit. When N-Scan is first installed, this button must be clicked to build the required databases for the first time. If a unit is experiencing difficulties, clicking this button may help resolve the issue. Clicking this button is also done as part of an N-Scan version update.

Note: If there is offline scanning data on the unit, do **not** click the **Rebuild Database** button until the offline data has been transferred to Tessitura or a file. See [Uploading Offline Scans](#) for details.

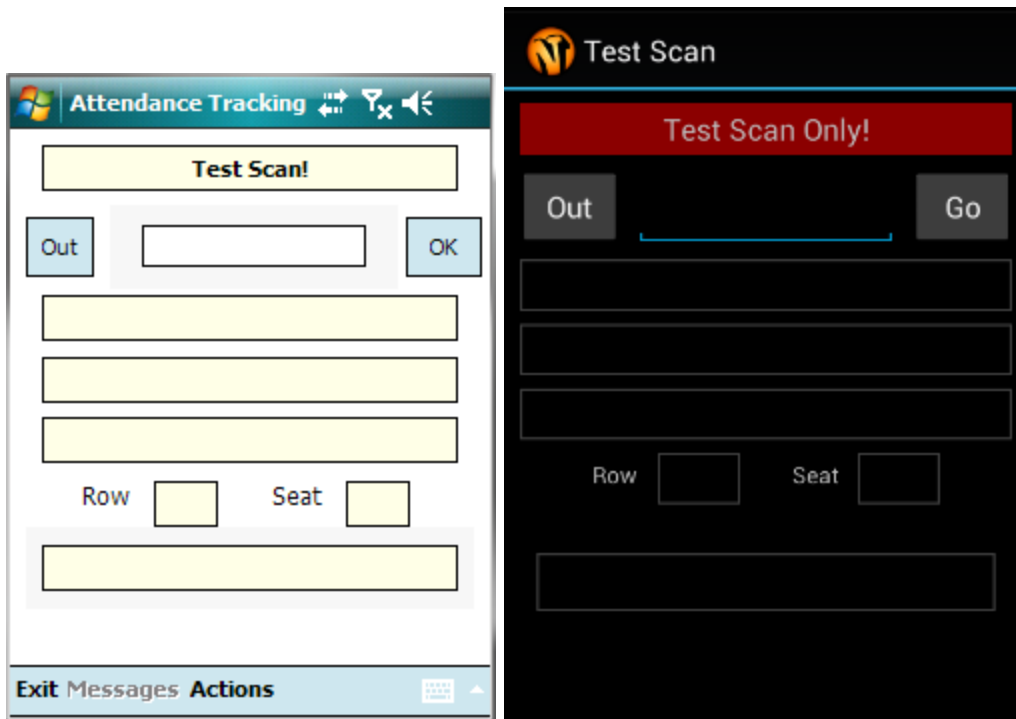
About

The **About** tab displays version information for the N-Scan software installed on the unit:



Test Scan

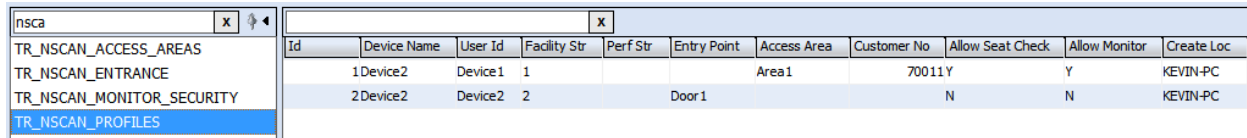
The **Test Scan** screen is used for practicing scanning tickets or member cards (without validating or updating data) to become familiar with a unit.



Scanning data that ends in an even number generates a valid scan result. Scanning data that ends in an odd number generates a randomly selected [invalid data error](#).

N-Scan Unit Profiles

Profiles for N-Scan units that set the [Application](#) settings can be entered into the **TR_NSCAN_PROFILES** system table, allowing the settings for multiple units to be updated from a single location rather than on the individual units. Each N-Scan unit should have a profile created in this table.



Id	Device Name	User Id	Facility Str	Perf Str	Entry Point	Access Area	Customer No	Allow Seat Check	Allow Monitor	Create Loc
1	Device2	Device1	1			Area1	70011Y		Y	KEVIN-PC
2	Device2	Device2	2		Door1			N	N	KEVIN-PC

Entries in this table have the following columns:

Device Name – The ID of the unit that will be updated by this profile.

Note: Each unit must have a device name unique among all units and PCs on the wireless network.

User ID – The User ID for the unit. This is used for logging scans by the unit only. Units that will be used by ushers or rotating staff should generally have generic user IDs such as Unit 1, Usher 1, house manager. Units that are used by regular staff members can have personal IDs.

Facility Str– Entering a facility ID automatically updates the unit with the performances in that facility for the current date. Multiple facility IDs can be entered separated by commas. Using this feature means units will not need to be manually updated with new performances each day and is highly recommended.

Note: To facilitate effective usage of the automatic performance updates for units based on a facility, you may want to create additional facilities for performance setup even though the same facility could be used. For example, if daily museum admission performances and Omnimax performances both used the same general admission facility, entering that facility ID for a unit profile would mean that tickets for both daily admission and Omnimax performances would be valid on the unit. Creating two different general admission facilities, one used for daily admissions and a second used for Omimax performances, would allow you to set a unit profile to update daily with only the daily admission performance or the Omnimax performances.

Note: Facility IDs must be retrieved by querying the T_FACILITY table in SQL Server Management Studio.

N-Scan Setup

Perf Str – The performance ID numbers to set for the unit. Multiple performance numbers can be entered separated by a comma with no spaces. If a facility is entered, this should be left blank.

Entry Point – The entry point to set for the unit. Multiple entry points can be entered separated by a comma with no spaces. When a ticket for a seat assigned to a different entry point is scanned, an error is raised indicating the entry point where the constituent should enter. Entry point values can be found in the [TR_NSCAN_ENTRANCE](#) table, **Entrance** column.

Access Area – The access area to set for the unit. Only one access area can be entered. Access area values can be found in the [TR_NSCAN_ACCESS_AREA](#) table, **Area Code** column.

Customer No – The constituent ID of the person using the unit. The constituent ID is used by N-Scan to gather information from Tessitura for the [Monitor Attendance](#) features and determines security access to Tessitura data. This column is generally left blank for units used by ushers.

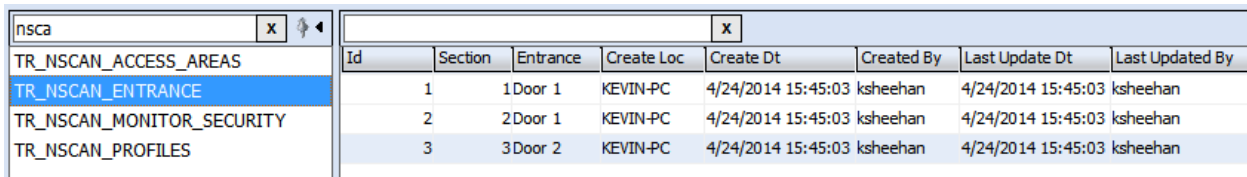
Allow Seat Check – Entering Y checks the Allow Seat Check box for the unit, granting access to the [Check Seats](#) screen. Entering N unchecks the Allow Seat Check box for the unit, denying access to the Check Seats screen.

Allow Monitor – Entering Y checks the Allow Monitor box for the unit, granting access to the [Monitor Attendance](#) screen. Entering N unchecks the Allow Monitor box, denying access to the Monitor Attendance screen.

Configuring Entry Points

Entry points can be associated with sections and assigned to N-Scan units to add additional validation to entry scans based on the location of the seat. This is generally used in larger venues to help guide constituents to the correct entrance for a seat location, such as making sure constituents with seats on the left side of the house don't enter doors on the right side of the house. When a ticket for a seat assigned to an invalid entry point for a unit is scanned, an error is raised indicating the entry point where the constituent should enter.

Entry points are set up in the **TR_NSCAN_ENTRANCE** system table:



Id	Section	Entrance	Create Loc	Create Dt	Created By	Last Update Dt	Last Updated By
1	1Door 1	KEVIN-PC	4/24/2014 15:45:03	ksheehan	4/24/2014 15:45:03	ksheehan	
2	2Door 1	KEVIN-PC	4/24/2014 15:45:03	ksheehan	4/24/2014 15:45:03	ksheehan	
3	3Door 2	KEVIN-PC	4/24/2014 15:45:03	ksheehan	4/24/2014 15:45:03	ksheehan	

Each section in a facility for which entry point validation is in use must have an entry in this table. Entries in this table have the following columns:

Section - The section (from TR_SECTION) to which an entry point is assigned.

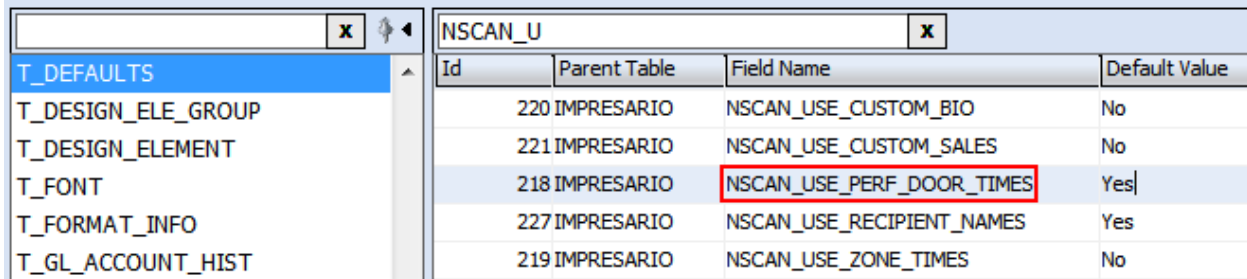
Entrance - An entry point description assigned to the section. This is the description entered into an N-Scan [unit](#) or [unit profile](#) when assigning it to an entry point.

Configuring Door Open and Close Times

Door open and close times can be used as an additional validation check for tickets to a performance. Tickets to a performance will only be accepted between the door open and close times.

Note: Using door open and close times is helpful for controlling access to multiple performances that take place on the same date as long as they use different open and close times. Performances that start at the same time tend to have overlapping door open and close times, so this method may not be helpful for sorting out tickets for different performances taking place at the same time.

The **NSCAN_USE_PERF_DOOR_TIMES** entry in the **T_DEFAULTS** table controls whether or not N-Scan will respect the door open and close times on performances:

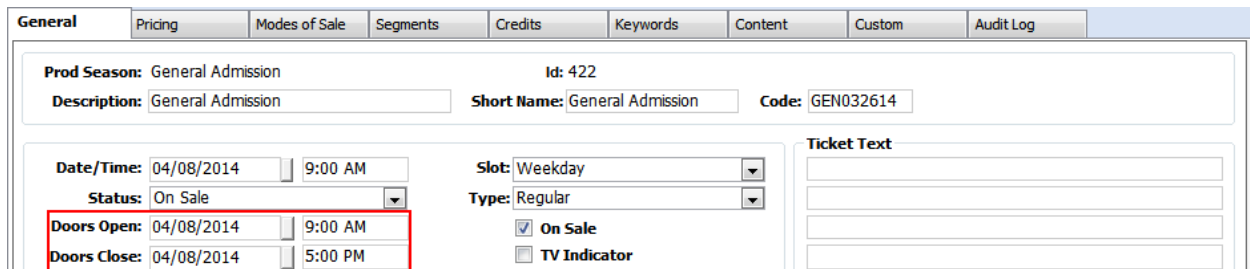


The screenshot shows a database table view for the T_DEFAULTS table. The table has four columns: Id, Parent Table, Field Name, and Default Value. The row for NSCAN_USE_PERF_DOOR_TIMES is highlighted with a red box, showing a Default Value of Yes.

Id	Parent Table	Field Name	Default Value
220	IMPRESARIO	NSCAN_USE_CUSTOM_BIO	No
221	IMPRESARIO	NSCAN_USE_CUSTOM_SALES	No
218	IMPRESARIO	NSCAN_USE_PERF_DOOR_TIMES	Yes
227	IMPRESARIO	NSCAN_USE_RECIPIENT_NAMES	Yes
219	IMPRESARIO	NSCAN_USE_ZONE_TIMES	No

To use door open and close times, set the **Default Value** to **Yes**.

Door open and close times are set on the **General** tab of performances:



The screenshot shows a performance configuration form with several tabs: General, Pricing, Modes of Sale, Segments, Credits, Keywords, Content, Custom, and Audit Log. The General tab is active. The form includes fields for Prod Season, Description, Short Name, Code, Date/Time, Status, Slot, Type, Doors Open, Doors Close, On Sale, and TV Indicator. The Doors Open and Doors Close fields are highlighted with a red box, showing values for 04/08/2014 at 9:00 AM and 5:00 PM respectively.

Zone Scan Start and End Times

Price zone specific scan start and end times can be set, which override the performance door open and close times (though the date portion of the Doors Open and Doors Close fields on the performances are still respected). This option is

N-Scan Setup

generally used for museum exhibits and other timed admission situations where each price zone represents a time period when the ticket can be used. Zone scan start and end times are set on price zone maps in Facility Manager:

Time	Scan Start Time	Scan End Time	Created/Modified
9:30 AM	9:30 AM	10:00 AM	Created: 7/16/2012 09:53:18 by Modified: 4/2/2014 15:41:33 by k
10:00 AM	10:00 AM	10:30 AM	Created: 7/16/2012 09:53:18 by Modified: 2/10/2014 21:45:02 by
10:30 AM	10:30 AM	11:00 AM	Created: 7/16/2012 09:53:18 by Modified: 2/10/2014 21:45:02 by
11:00 AM	11:00 AM	11:30 AM	Created: 7/16/2012 09:53:18 by Modified: 2/10/2014 21:45:02 by

For example, a zone with a Time of 9:30 AM is set up to manage admissions for the 9:30-10:00 time slot for a special exhibit. The Scan Start Time would be set to 9:30 AM and the Scan End Time would be set to 10:00 AM, and then N-Scan would only recognize tickets with the 9:30 price zone as valid for entry between 9:30 AM and 10:00 AM.

The `NSCAN_USE_ZONE_TIME` entry in the `T_DEFAULTS` table controls whether or not N-Scan will respect zone scan times:

Id	Parent Table	Field Name	Default Value
220	IMPRESARIO	NSCAN_USE_CUSTOM_BIO	No
221	IMPRESARIO	NSCAN_USE_CUSTOM_SALES	No
218	IMPRESARIO	NSCAN_USE_PERF_DOOR_TIMES	Yes
227	IMPRESARIO	NSCAN_USE_RECIPIENT_NAMES	Yes
219	IMPRESARIO	NSCAN_USE_ZONE_TIMES	Yes

To use zone scan start and end times, set the **Default Value** to **Yes**.

Note: In order for this feature to function, the door open and close times must still be set at the performance level and encompass all times that will be valid for the zone times.

Member Admissions Setup

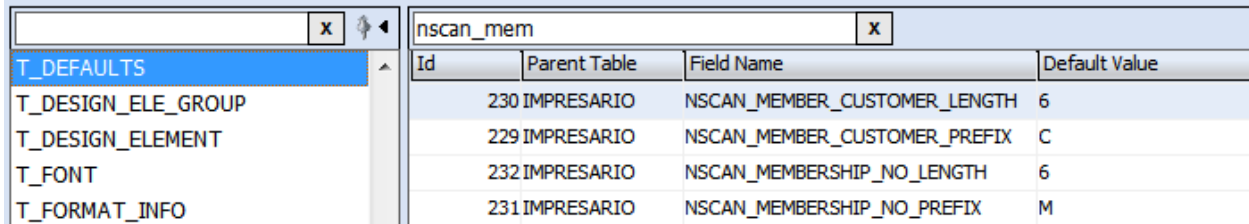
Memberships can be used to validate entry to and record attendance for performances by scanning a constituent ID or membership record ID. Member admission setup consists of:

N-Scan Setup

- Setting member constituent ID and/or membership record ID formats
- Setting membership entry limits on membership levels
- Associating membership organizations with production seasons

Setting Member Constituent ID and Membership Record ID Formats

N-Scan distinguishes constituent IDs and membership record IDs from ticket numbers based on user-defined prefixes and data lengths set in the **T_DEFAULTS** table:



The screenshot shows a database window with two panes. The left pane displays a list of tables under the 'T_DEFAULTS' schema, including T_DESIGN_ELE_GROUP, T_DESIGN_ELEMENT, T_FONT, and T_FORMAT_INFO. The right pane shows the 'nscan_mem' table with the following data:

Id	Parent Table	Field Name	Default Value
230	IMPRESARIO	NSCAN_MEMBER_CUSTOMER_LENGTH	6
229	IMPRESARIO	NSCAN_MEMBER_CUSTOMER_PREFIX	C
232	IMPRESARIO	NSCAN_MEMBERSHIP_NO_LENGTH	6
231	IMPRESARIO	NSCAN_MEMBERSHIP_NO_PREFIX	M

Constituent ID formats are set with the **NSCAN_MEMBER_CUSTOMER_LENGTH** and **NSCAN_MEMBER_CUSTOMER_PREFIX** entries.

Membership record ID formats are set with the **NSCAN_MEMBERSHIP_NO_LENGTH** and **NSCAN_MEMBERSHIP_NO_PREFIX** entries.

Note: Most organizations will use either constituent IDs or membership record IDs, but not both. When a constituent ID is used, N-Scan will find all current, properly configured membership records for the constituent, meaning the same ID can be reused from year to year as a membership is renewed. When a membership record ID is used, that ID is specific to a single membership record, so once that membership record is no longer current, a new ID must always be printed.

The prefix values can be one or more characters (using letters only is recommended). The chosen prefix value must then be added to the beginning of the data string that is printed as a barcode on member cards.

The length value should include the prefix characters and be long enough to encompass the growth of ID numbers over time. For example, if constituent IDs will use a prefix of C and you want to account for ID numbers that are up to 6 digits, you would enter a length value of 7 (1 prefix character plus 6 digits). ID numbers that have less than the maximum number of digits should be padded with zeros when printed as a barcode on member cards. For example, if a member constituent ID 7877, the value printed on the member card would need to be C000787.

The **N-Scan Customer No** ticket design element automatically adds the specified member prefix and any required padding 0s to meet the specified member length for constituent IDs.

N-Scan Setup

Formatted member constituent IDs and membership record IDs can also be scanned into the Owner field in ticket orders and the Constituent field on the Order Search screen.

Setting Membership Entry Limits on Membership Levels

Membership levels in a membership organization that will be used for member admission scanning must have entry limits defined:

The screenshot shows a form for setting membership entry limits. The form is titled "N-Scan Setup" and contains several sections:

- Level:** 2, **Rank:** 1, **Description:** Family
- Initiation:** Radio buttons for "First of Next Month", "Today" (selected), "First of This Month", and "Fixed Date 00/00/0000".
- Category:** Basic, **Constituency:** (none), **Inactive:**
- Start Amt:** \$125.00, **End Amt:** \$125.00, **Non-Deductible Amt:** \$.00, **No. Issues:** [blank]
- Expiration:** **Expire:** 12 Months After Initiation, Always Expire at End of Month, **Renew:** 2 Months Before Expiration, **Lapse:** 2 Months After Expiration, **Reinstate:** 12 Months After Expiration
- Pledge Settings:** **Basis Amt:** \$125.00, **Suspend:** [blank] Months After Initiation, **Cancel:** 1 Months After Initiation
- N-Scan Limits:** **Adult:** 2, **Child:** 6, **Other:** [blank]

There are three membership admission categories: **Adult**, **Child**, and **Other**. The limits determine the maximum number of admissions in each category that can be recorded for a performance with a membership at that level. For example, if a Family membership includes admission for 2 adults and up to 6 children, for the Family membership level you would set the **Adult** limit to 2, the **Child** limit to 6, and leave the **Other** limit blank.

Note: If the limit is blank for all three categories on a membership level, memberships at that level cannot be used to validate entry.

Associating Membership Organizations with Production Seasons

The performances with which memberships can be used to validate entry are defined by associating membership organizations with production seasons on the **N-Scan Membership Entry** tab:

N-Scan Setup

The screenshot shows the N-Scan Setup interface for a production. At the top, the production is identified as "Admissions" with ID 421. The description is "General Admission", the season is "14 Admissions", and the premiere is "(none)". There is an unchecked checkbox for "N-Scan Allow Multiple Entry". To the right, there are three text input fields for "Ticket Text". Below this, a tabbed interface is shown with tabs for "Credits", "Keywords", "Content", "N-Scan Membership Entry" (which is highlighted with a red box), and "Custom". The "N-Scan Membership Entry" tab is active, showing two panes: "Member Organizations" and "Associated". The "Member Organizations" pane has a table with columns "Description" and "Selected", listing "Friends of Autumn Ridge" and "MCAC". The "Associated" pane has a table with columns "Description" and "Created", listing "Museum Members" with a creation date of "4/25/2014 14:46:54 by ksheelan". Both panes have "Select All" and "Invert" buttons at the bottom. Arrow buttons (>> and <<) are located between the panes.

Membership organizations not associated with the production season are listed in the Member Organizations pane. Membership Organizations associated with the production season are listed in the Associated pane. To move a membership organization from one pane to the other, click on the membership organization and then drag it to the other pane or click one of the arrow buttons.

When a membership organization is associated with a production season, current membership records in the membership organization can be used to validate entry to all performances in the production season.

Allowing Multiple Entries

N-Scan can be configured to allow multiple entry scans for tickets to a performance without having to [scan the ticket out](#). This can be useful for environments where admission is valid for an entire day and allows reentry privileges.

Multiple entry scan privileges are set at the Production Season level:

This is a close-up screenshot of the "N-Scan Allow Multiple Entry" checkbox, which is checked and highlighted with a red box. The surrounding interface elements are partially visible, including the "Production: Admissions" label, "Id: 421", "Description: General Admission", "Season: 14 Admissions", and "Premiere: (none)".

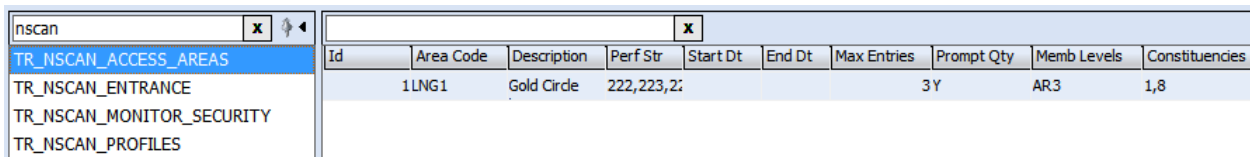
If the **N-Scan Allow Multiple Entry** box is checked on a production season, tickets for all performances in the production season can be scanned multiple times without generating a **Ticket Already Recorded** error. No data is recorded on the 2nd and subsequent scan of a ticket, so attendance counts will not be affected.

Note: A ticket must still be for a performance currently valid on the N-Scan unit. This means that as long as N-Scan units are properly configured, a ticket for a past performance won't be considered valid for future performances.

Configuring Special Access Areas

Performance tickets can also be used to grant access to special access areas, such as a donor lounge. Entry validation for special access areas is based on criteria entered in the **TR_NSCAN_ACCESS_AREAS** table:

Note: After access areas are defined they must be assigned to N-Scan units either in the [unit profile](#) or on the [Application](#) tab of the unit.



Id	Area Code	Description	Perf Str	Start Dt	End Dt	Max Entries	Prompt Qty	Memb Levels	Constituencies
1	LNG1	Gold Circle	222,223,2			3 Y		AR3	1,8

Note: When multiple entry criteria are specified a ticket or constituent need only meet one of the criteria to grant entry to the special access area with one exception. If performance numbers are specified, the ticket must be for one of the specified performances in addition to meeting one of the other criteria.

Entries in this table have the following columns:

Area Code - A code used to identify the special access area for N-Scan units.

Description - The descriptive name of the area

Perf Str - A comma delimited string of performance IDs. If a scanned ticket is for one of the performances it will grant entry to the special access area.

Note: Scans of member cards will not meet the entry criteria for access areas with specific performances selected, as there is no performance tied to the scanned data.

Start Dt - The starting active date for the special access area. If the current date is before this date no scanned tickets will be granted entry.

End Dt - The ending active date for the special access area. If the current date is after this date no scanned tickets will be granted entry.

N-Scan Setup

Max Entries – The maximum number of entries a ticket or member card can provide to the special access area. When the number of entries recorded for a ticket or member card exceeds this number, scans of the ticket or member card for the access area will register as invalid. If this value is left blank, a ticket or member card can be used for an unlimited number of entries to the access area.

Prompt Qty – When set to Y, the Counts window opens automatically upon a valid scan for the access area. From the Counts window a number of entries for that scan can be entered. If the Counts window is not used, one entry is recorded for each valid scan.

Memb Levels – A comma delimited string of membership levels. If the scanned ticket or member card belongs to a constituent with a membership at the specified level with a status of Active, Pending, Awaiting Payment, or Lapsed it will grant entry to the special access area.

Note: If the data on a scanned member card is a membership record ID, any membership record belonging to the constituent can meet the access area criteria, not just the membership record identified on the member card.

Constituencies – A comma delimited string of constituency IDs. If the scanned ticket or member card belongs to a constituent with one of the constituencies it will grant entry to the special access area.

Keyword No – An attribute ID. A value must also be specified in the Keyword Value column. If the scanned ticket or member card belongs to a constituent with the attribute and specified attribute value it will grant entry to the special access area.

Keyword Value – A value for the attribute specified in the Keyword No column. If the scanned ticket or member card belongs to a constituent with the attribute and specified attribute value it will grant entry to the special access area.

Price Types – A comma delimited string of price type IDs. If the scanned ticket uses one of the price types it will grant entry to the special access area.

Price Zones – A comma delimited string of price zone IDs. If the scanned ticket uses one of the price zones it will grant entry to the special access area.

Note: Scans of member cards will not meet price type or price zone criteria, as there is no seat information tied to the scanned data.

List – The ID of a list. If the scanned ticket or member card belongs to a constituent on the list it will grant entry to the special access area.

Control Group – The control group to which the special access area is assigned; used for the display of attendance data on the Attendance History screen.

N-Scan Hold Code

Seats can be held from an N-Scan unit using the [Check Seats](#) feature. The hold code that will be applied to seats by N-Scan is specified with the **NSCAN_SEAT_CHECK_HOLD_CODE** entry in the **T_DEFAULTS** table:

t_de		nscan_se			
T_DEFAULTS		Id	Parent Table	Field Name	Default Value
T_DESIGN_ELE_GROUP		223	IMPRESARIO	NSCAN_SEAT_CHECK_HOLD_CODE	34
T_DESIGN_ELEMENT		222	IMPRESARIO	NSCAN_SECTION_DESC_SOURCE	
T_LIST_DECOY_NAMES					

Set the **Default Value** to the ID number of the hold code.

Note: Hold code IDs must be retrieved by querying the T_HC table in SQL Server Management Studio.

You may want to create a hold code specifically for this purpose so that seats held from N-Scan can be easily identified.

Including or Excluding Hold Codes for Check Seats

The [Check Seats](#) screen has an option to include held seats in the total listing of available seats. By default, all hold codes are listed. The hold codes listed can be limited with entries in the **T_DEFAULTS** table:

t_de		hold_cod			
T_DEFAULTS		Id	Parent Table	Field Name	Default Value
T_DESIGN_ELE_GROUP		225	IMPRESARIO	NSCAN_EXCLUDE_HOLD_CODES	
T_DESIGN_ELEMENT		224	IMPRESARIO	NSCAN_INCLUDE_HOLD_CODES	28,29
T_LIST_DECOY_NAMES		223	IMPRESARIO	NSCAN_SEAT_CHECK_HOLD_CODE	34

Use the **NSCAN_EXCLUDE_HOLD_CODES** entry to exclude the specified hold codes; seats held with the hold codes specified will not be listed on the Check Seats screen. Enter the hold code ID as the value. Multiple hold codes can be entered as a comma delimited string. This entry is best used when only a few hold codes out of many should be hidden.

Use the **NSCAN_INCLUDE_HOLD_CODES** entry to limit included hold codes to only those specified; seats held with hold codes other than those specified will not be listed on the Check Seats screen. Enter the hold code ID as the value. Multiple hold codes can be entered as a comma delimited string. This entry is best used when all but a few hold codes should be hidden.

Changing the Displayed Section Information

When a ticket is scanned, the section description for the ticket is displayed by default. Alternate section information from TR_SECTION can be displayed instead or in addition to description with the **NSCAN_SECTION_DESC_SOURCE** entry in the **T_DEFAULTS** table:

t_de		NSCAN_S			
		Id	Parent Table	Field Name	Default Value
T_DEFAULTS		223	IMPRESARIO	NSCAN_SEAT_CHECK_HOLD_CODE	34
T_DESIGN_ELE_GROUP		222	IMPRESARIO	NSCAN_SECTION_DESC_SOURCE	description,additional_text
T_DESIGN_ELEMENT					

Set the **Default Value** to the data column from TR_SECTION for the data you want to display. The columns and column combinations that can be used for this entry are:

- Description
- Additional_text
- Additional_text2
- Description,Additional_text
- Description,Additional_text2
- Short_desc,Additional_text
- Short_desc,Additional_text2
- Additional_text,Additional_text2
- Additional_text2,Additional_text

Note: To display description only, leave the entry blank, as this is the default.

Monitor Attendance Security

The [Monitor Attendance](#) module uses Tessitura security user groups to control the data displayed, and to apply control group security. Each staff member using the Monitor Attendance module must have an entry in the **TR_NSCAN_MONITOR_SECURITY** table assigning the constituent ID used with the Monitor Attendance module to a user group:

N-Scan Setup

Id	Customer No	User Group	Create Loc	Create Dt
1	70011	Admin	KEVIN-PC	4/23/2014 14:51:00
2	70052	House Manager	KEVIN-PC	4/25/2014 09:14:25

Entries in this table have the following columns:

Customer No - The constituent ID the staff member is using to manage his or her Monitor Attendance functionality.

User Group - The security user group to reference for security settings when pulling data for the Monitor Attendance functionality. Generally, staff members who are Tessitura users should be assigned to the same user group as their Tessitura user ID. Staff members who are not Tessitura users should be assigned to whichever user group has view rights to the appropriate data.

To view the standard Monitor Attendance data, the selected user group should have view access to Contribution History, Ticket History, and Package History.

Note: Entries in this table have no effect on security access within the Tessitura application.

Using Custom Biographical Info and Sales Data

The biographical information and sales data displayed in the [Monitor Attendance](#) section can be customized. The first step to customizing this data is to add custom code to the procedures used to gather the data: `LP_NSCAN_USER_CONSTITUENT_BIO` for the biographical information and `LP_NSCAN_USER_SALES` for the sales data.

Note: Customizing these procedures is performed in SQL Server Management Studio and requires experience writing SQL code.

After the stored procedures have been customized, N-Scan must be set to use the customized procedures rather than the standard procedures. These settings are controlled with entries in the `T_DEFAULTS` table:

Id	Parent Table	Field Name	Default Value
220	IMPRESARIO	NSCAN_USE_CUSTOM_BIO	Yes
221	IMPRESARIO	NSCAN_USE_CUSTOM_SALES	Yes
218	IMPRESARIO	NSCAN_USE_PERF_DOOR_TIMES	Yes
227	IMPRESARIO	NSCAN_USE_RECIPIENT_NAMES	Yes
219	IMPRESARIO	NSCAN_USE_ZONE_TIMES	Yes

N-Scan Setup

To use the custom biographical info procedure, set the **Default Value** to **Yes** for the **NSCAN_USE_CUSTOM_BIO** entry.

To use the custom sales data procedure, set the **Default Value** to **Yes** for the **NSCAN_USE_CUSTOM_SALES** entry.

N-Scan Default Entries

The following entries in the T_DEFAULTS table are used for N-Scan functionality and configuration:

Field Name	Default Value
NSCAN_BYPASS_MEMB_COUNT	Used to maintain compatibility with certain pre-existing customizations. Should not be used by most organizations.
NSCAN_EXCLUDE_HOLD_CODES	The ID of a hold code to exclude when the Check Seats screen is to include held seats in the total listing of available seats. Multiple hold codes can be entered as a comma delimited string. Seats held with the specified hold codes will never be listed as available. This entry is best used when only a few hold codes out of many should be hidden.
NSCAN_INCLUDE_HOLD_CODES	The ID of the hold code to include when the Check Seats screen is to include held seats in the total listing of available seats. Multiple hold codes can be entered as a comma delimited string. Only seats held with the specified hold codes will be listed as available. This entry is best used when all but a few hold codes should be hidden.
NSCAN_MEMBER_CUSTOMER_LENGTH	The character length use to identify scanned data as a member constituent ID . The length value should include the prefix characters and be long enough to encompass the growth of ID numbers over time.

N-Scan Setup

Field Name	Default Value
NSCAN_MEMBER_CUSTOMER_PREFIX	A prefix value used to identify scanned data as a member constituent ID . The prefix value can be one or more characters (using letters only is recommended). The chosen prefix value must then be added to the beginning of the data string that is printed as a barcode on member cards.
NSCAN_MEMBERSHIP_NO_LENGTH	The character length use to identify scanned data as a membership record ID . The length value should include the prefix characters and be long enough to encompass the growth of ID numbers over time.
NSCAN_MEMBERSHIP_NO_PREFIX	A prefix value used to identify scanned data as a membership record ID . The prefix value can be one or more characters (using letters only is recommended). The chosen prefix value must then be added to the beginning of the data string that is printed as a barcode on member cards.
NSCAN_MESSAGE_CLOSE_ACTION_NO	The ID of the Action to add to add to a Patron Message CSI when it is marked as read from an N-Scan unit.
NSCAN_MESSAGE_CS_ISSUE_NO	The ID of the CSI Activity Type to use when creating Patron Message CSIs .
NSCAN_MONITOR_CONST_ATTRIBUTE	The ID of the attribute used to monitor the attendance of any constituents with a particular constituency.
NSCAN_MONITOR_EMAIL_PURPOSE	The ID of the contact point purpose used to manage N-Scan email notifications .
NSCAN_MONITOR_INDIVIDUAL_ATTR	The ID of the attribute used to monitor the attendance of specific constituents.
NSCAN_MONITOR_LIST_ATTRIBUTE	The ID of the attribute used to monitor the attendance of a list of constituent.

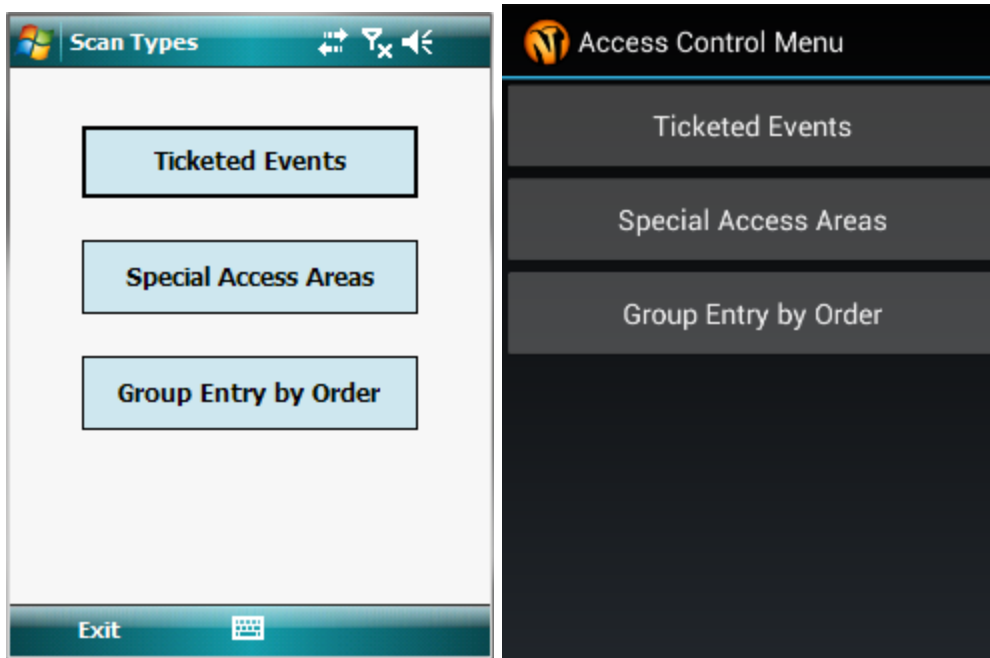
N-Scan Setup

Field Name	Default Value
NSCAN_SEAT_CHECK_HOLD_CODE	The ID of the hold code used to hold seats from an N-Scan unit using the Check Seats feature.
NSCAN_SECTION_DESC_SOURCE	The section information to display for a seat when a ticket is scanned. For details on the available options, see Changing the Displayed Section Information .
NSCAN_USE_CUSTOM_BIO	When set to Yes, the LP_NSCAN_USER_CONSTITUENT_BIO custom procedure is used to gather biographical information for display in the Monitor Attendance section.
NSCAN_USE_CUSTOM_SALES	When set to Yes, the LP_NSCAN_USER_SALES custom procedure is used to gather sales data for display in the Monitor Attendance section.
NSCAN_USE_PERF_DOOR_TIMES	When set to Yes, door open and close times for a performance are respected when a ticket is scanned.
NSCAN_USE_RECIPIENT_NAMES	When set to Yes, if a recipient is set for a ticket, the recipient's name is displayed on N-Scan units instead of the owner's name.
NSCAN_USE_ZONE_TIMES	When set to Yes, price zone specific scan start and end times are respected and override the performance door open and close times when a ticket is scanned.

N-Scan Usage

Track Tickets

The **Track Tickets** area, accessed by clicking the Track Tickets icon on the Main Menu, is used to validate entry to and record attendance for performances and special access areas:



Click [Ticketed Events](#) if scanning tickets or member cards for performances.

Click [Special Access Areas](#) if scanning tickets or member cards for special access areas.

Click [Group Entry by Order](#) if scanning or entering order numbers to record attendance for tickets in bulk.

Scanning Tickets

Basic scanning depends on the type and model of scanning unit. Most units with scanners have two buttons, one on each side. Pressing either button activates the scanner. In N-Scan, the scanner is active only from the Track Tickets area.

There are two different types of scanners.

- 1D Scanners project a single red line from the scanner. The scanner line must be placed horizontal to the barcode for a proper read.

N-Scan Usage

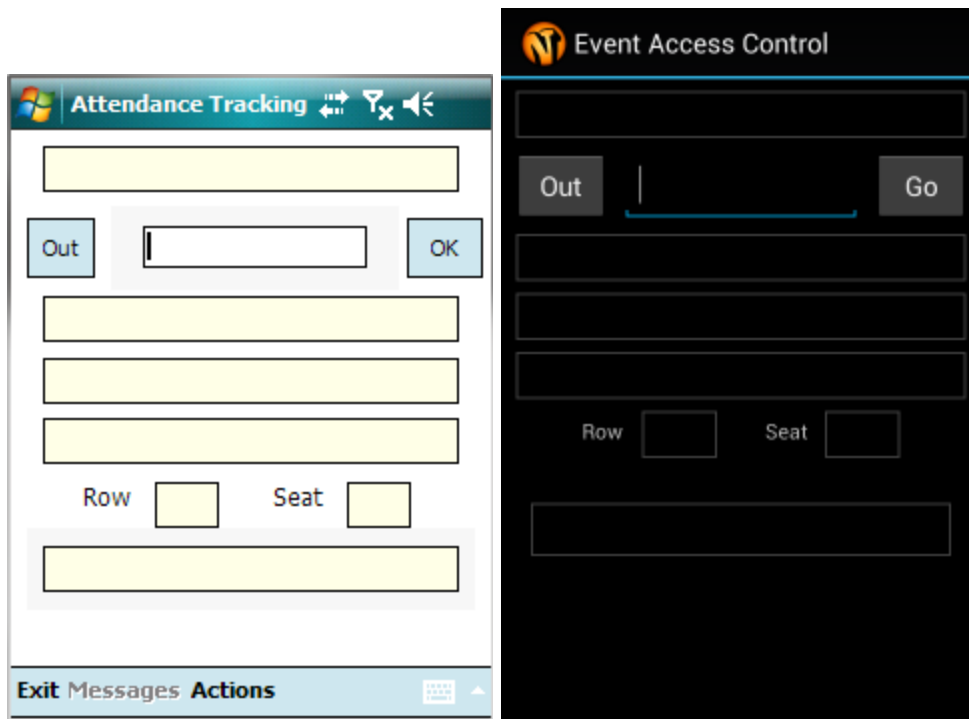
- 2D Scanners project a box with a cross in the middle. The barcode must be inside the perimeter of the box for a proper read. Orientation does not matter. However, additional text in the box may cause a misread.

Note: When scanning multiple tickets using a 1D scanner, it is easiest to line the tickets with the barcodes exposed in a vertical line. When scanning multiple tickets using a 2D scanner, it is easiest to fan the tickets with the barcode like a deck of cards. Users should experiment with the method that works best for the scanner.

Scanning a barcode populates the **Validation Data** field and automatically clicks the **OK** button. N-Scan then validates the scanned data by communicating with Tessitura.

Ticketed Events

The **Ticketed Events** screen is used to scan tickets or member cards for validation at entry and to record attendance.



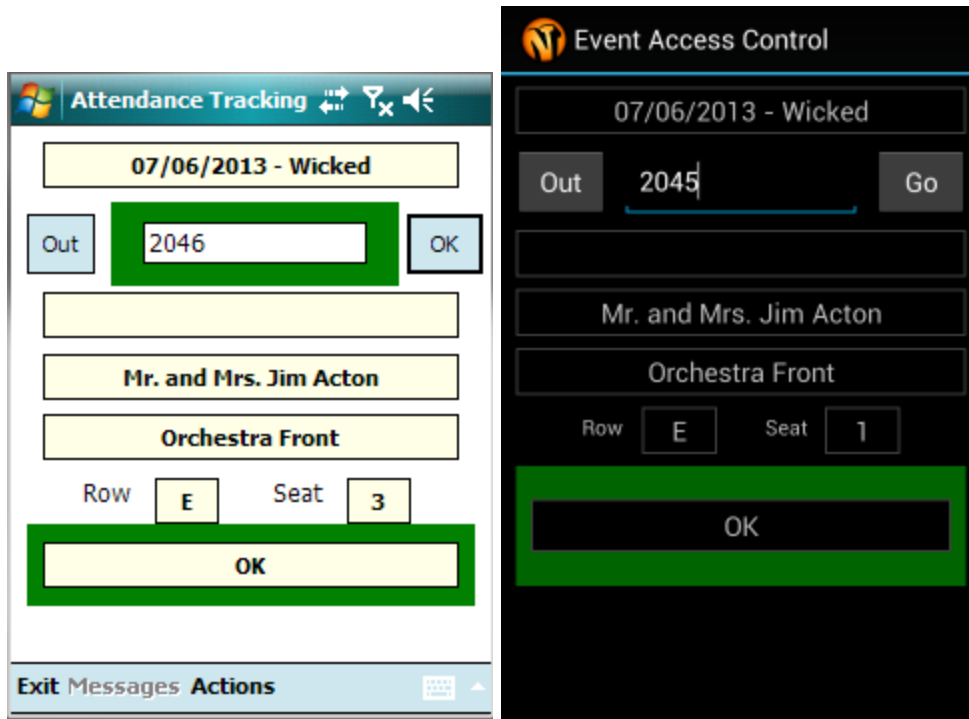
The field between the **Out** and **OK/Go** buttons is the **Validation Data** field, where the data used to validate a ticket or membership is entered. An operator may also manually enter a data string for validation and then click **OK/Go**.

Note: The **Out** button switches the scanning from Entry mode to Exit mode. See [Exit Mode](#) for details on Exit mode usage.

The box beneath the **Validation Data** field is the **Mode** field, which indicates if the unit is set to Exit Mode or Offline Mode.

N-Scan Usage

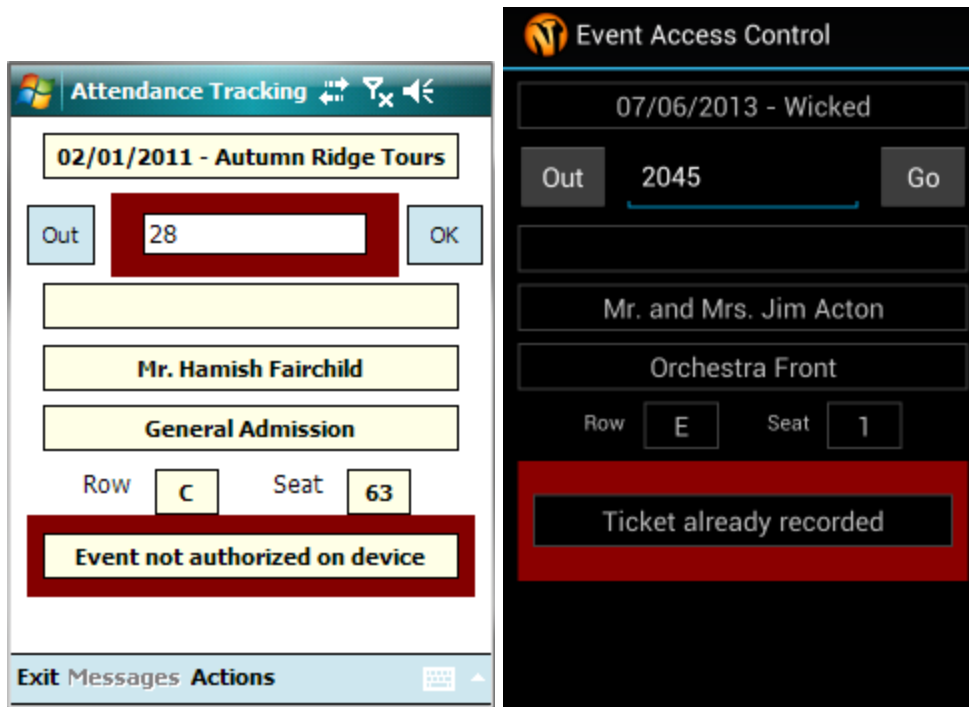
A scan of valid data produces an audible beep and displays a Status Message of **OK** at the bottom of the screen, outlined in green:



Note: A valid scan of a member card will open the Admission Counts window. See [Member Admissions](#) for details.

Note: When scanned data cannot be identified as an internal N-Scan number, a membership number, or a constituent ID, the external barcode data table (which is populated by the Order Import utility) is checked for a match to the scanned data. Internal N-Scan numbers are identified based on the presence of the NSCAN_BARCODE_PREFIX (as specified in T_DEFAULTS) or the default prefix of 99. If you will be importing and scanning barcodes from another Tessitura organization, be sure that they have set a value for NSCAN_BARCODE_PREFIX (so that the default value of 99 is not used) and that the value is different from the value set in your system. This setting must be configured before any tickets are printed or the export utility is run so that the prefix value is properly added to any N-Scan numbers generated by their system.

A scan of invalid data produces an audible error tone and displays a Status Message outlined in red detailing the nature of the failed validation:



For a listing and explanation of all error messages see [Invalid Data Error Messages](#).

Once a ticket number, membership ID number, or constituent ID number has been entered, data for the corresponding ticket or membership is displayed on the screen.

The box at the top of the screen is the **Performance** field. For tickets, the field displays the date and description for the performance on the ticket. For memberships, the field displays the performance description and performance code of the performance for which membership admission is being recorded.

The box beneath the Mode field is the **Constituent** field. When a ticket number is scanned, it displays the default salutation for the constituent who owns the ticket scanned. When a membership record ID or constituent ID is scanned, the box displays the default salutation for the member.

Note: N-Scan can be configured to display the Recipient salutation instead of the Owner salutation, if a recipient exists for a scanned ticket.

The box beneath the Constituent field displays the **Section** description when a ticket is scanned or the **Membership Level** description and code when a constituent ID or membership record ID is scanned.

Note: The section information displayed can be customized. By default, the section description is displayed, but the short description, additional text 1, additional text 2, or any combination of two can be displayed instead. For details see [Changing the Displayed Section Information](#).

When a ticket is scanned, the **Row** and **Seat** value for the ticket are displayed beneath the section info. When a constituent ID or membership record ID is scanned, the admission counts (**Adult**, **Child**, and **Other**) are displayed beneath the membership level info, after they have been selected.

The area beneath the results box displays a notification if the constituent who owns the ticket or member card has a message available. See [Viewing Patron Messages](#) for details.

Actions/Menu

Clicking **Actions** (on WM) or opening the menu (on Android) offers the following option(s):

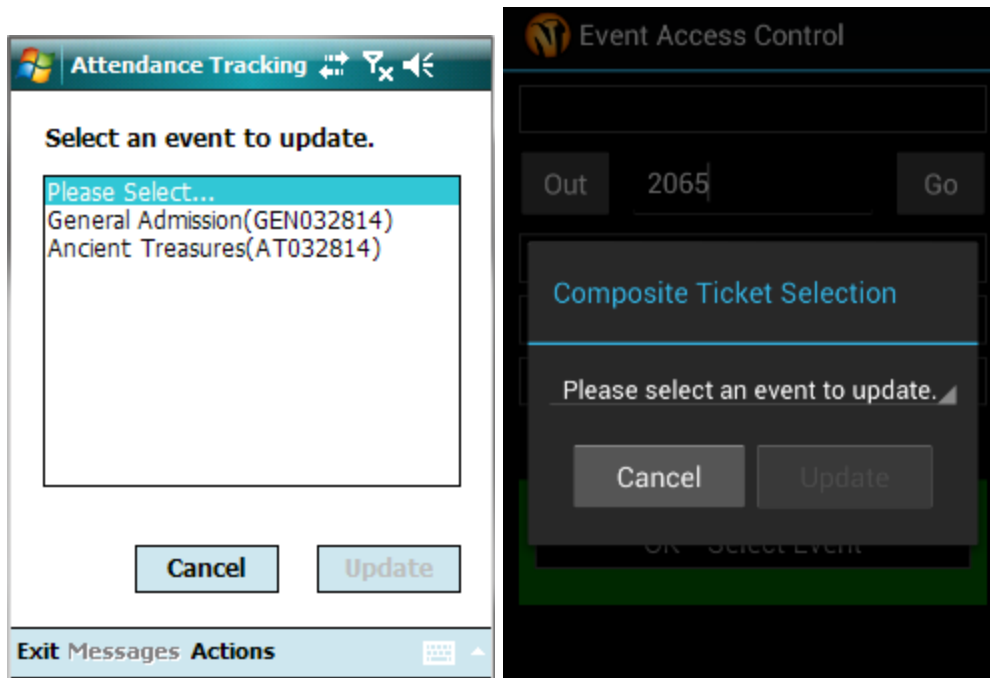
Online/Offline is used to toggle between online mode and [offline mode](#).

Check Server checks the unit's connection to the network. A popup opens indicating whether the unit has a successful connection or no connection.

Device Scan Count opens a popup that displays the number of successful scans by the unit for each performance set on the unit. Only online scans are counted for these totals.

Scanning Composite Tickets

When a composite ticket is scanned by an N-Scan unit, the application looks up the component performance ticket numbers associated with the composite ticket number and checks which are for performances valid on the unit. If there is only one component performance valid on the unit, N-Scan proceeds validating that performance ticket. If there are multiple component performances valid on the unit, a performance selection window opens:



Select which performance to validate and then click **Update**. N-Scan will then proceed with validating the ticket for the selected performance. The component performance ticket could still fail validation based on door open and close times, zone scan start and end times, entry point, or having already been recorded for entry.

If no component performances are valid on the unit, a **Ticket For Other Performance** error is raised. If the composite ticket has been invalidated by a reprint, a **Ticket Number Not Found** error is raised.

Member Admissions

Memberships can be used to validate entry to and record attendance for performances on the [Ticketed Events](#) screen of N-Scan. This functionality is generally used so that member cards can be scanned directly at entry points for admission to museums and other cultural attractions.

Memberships are used for admission validation by scanning (or entering) a constituent ID or membership record ID. When a constituent ID is validated, the system searches for all current membership records for the constituent at a level with membership entry limits defined and in a membership organization associated with performances valid on the N-Scan unit. When a membership record ID is validated, the system checks that the specified membership record is current, at a level with membership entry limits defined, and in a membership organization associated with performances valid on the N-Scan unit.

Note: A membership record is considered current when it has a Current Status of Active, Awaiting Payment, Suspended, or Lapsed.

When a valid membership record is found, the **Admission Counts** window opens:

Adult(1)	Child(0)	Other(0)
1	0	0
0	0	0
1	0	0

The top box displays the **Member Name**.

The second box displays the **Membership Organization** of the valid membership record. If a constituent ID was scanned and the constituent has valid membership records in multiple membership organizations, you must select which membership record to use by selecting a membership organization from the dropdown.

The third box displays the **Membership Level** (description and code) for the selected membership record.

The fourth box is used to select a **Performance** for which to record attendance. The dropdown lists all performances in the production season associated with the selected membership organization that are valid on the N-Scan unit. If there is only one valid performance, it is selected automatically.

Note: If N-Scan is set to respect Door Open and Close times, performances that are not open for scanning will be filtered out of the performance dropdown.

Once a performance is selected, admission counts must be entered for the performance. There are three membership admission categories: **Adult**, **Child**, and

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Other. The membership level of the selected membership record determines the maximum number of admissions allowed for the performance in each category (which is displayed beside the category names). The selected admission counts are displayed in the center row (between the green or blue lines). To increment the count for a category, click the number below middle row. To decrement the count for a category, click the number above the middle row. When finished entering admission counts for the performance, click the **Update** button.

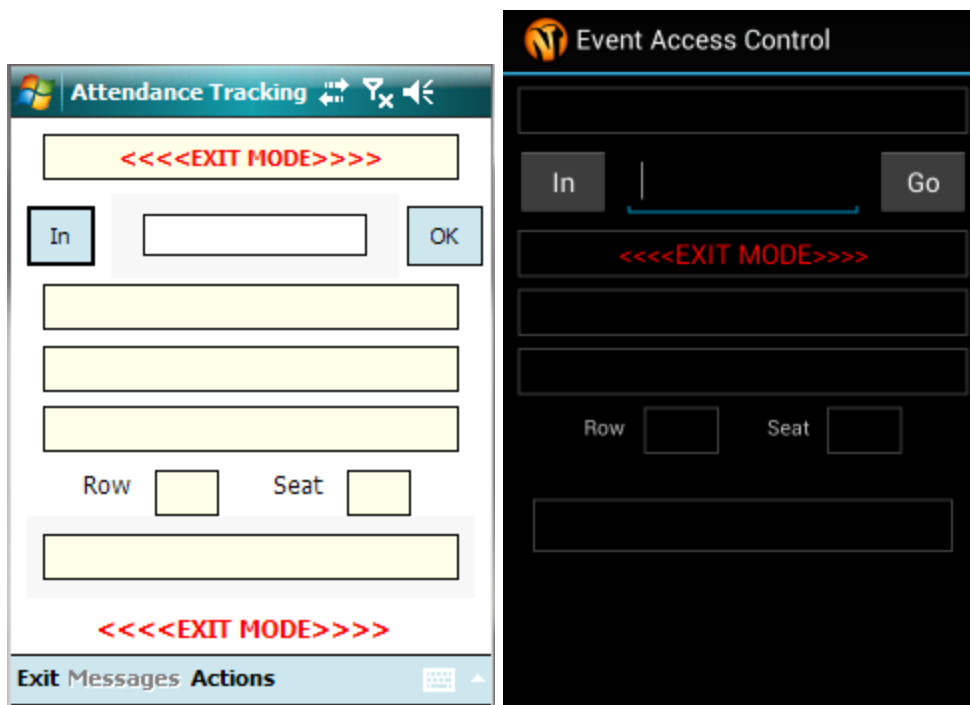
Note: Membership admission counts are recorded to the attendance data table (displayed on the Attendance History screen) and are reflected on the Attendance by Performance report. Membership admission counts are not reflected on standard sales reports, as no ticket sales transactions have taken place for these entries.

Exit Mode

If a constituent needs to leave the controlled area, N-Scan can scan a ticket out so ticket can be scanned again upon reentry.

Note: N-Scan can be also be configured to allow multiple entry scans for tickets to certain performances without having to scan the ticket out. For details see [Allowing Multiple Entries](#).

To set N-Scan to use Exit mode, click the **Out** button. The screen changes, displaying <<<<EXIT MODE>>>>:



The Out button also changes to an **In** button, which is used to return to Entry mode.

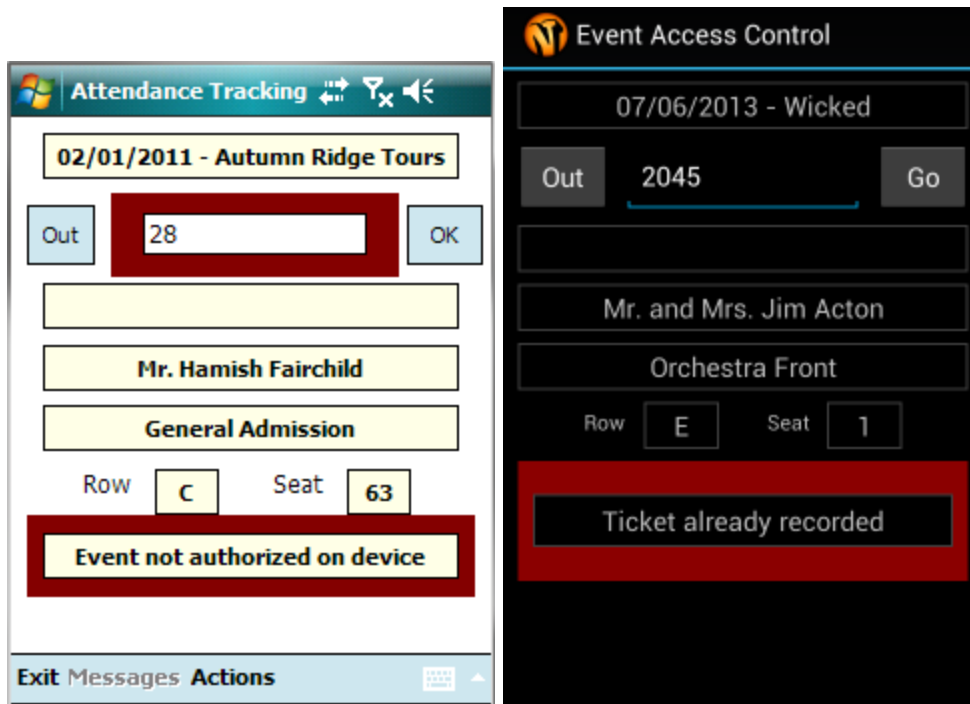
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An OK message is displayed when tickets are scanned out.

Note: Scanning a ticket out does not update Tessitura. The seat is still listed as Entered House. However, there is an N-Scan table which records tickets scanned out and records when the ticket is scanned in again.

Invalid Data Error Messages

A scan of invalid data produces an audible error tone and displays a Status Message outlined in red detailing the nature of the failed validation:



The possible error messages are:

Ticket Number Not Found – The ticket number does not exist.

Note: This error is also displayed if the data scanned cannot be identified as membership record ID, a constituent ID, or external barcode data.

Ticket Has Been Returned – The ticket was returned in Tessitura.

Event Not Authorized on Device – The ticket is for a performance that is not in the configuration settings for the unit.

Ticket Superseded by Reprint – The ticket was invalidated by a reprint.

Ticket Already Recorded – The ticket has already been scanned and validated.

Wrong Performance Date/Time – It is before the Door Open time or after the Door Close time for the performance to which the ticket belongs.

Wrong Entry Time Range – It is outside the zone scan start and end times for the price zone of the ticket.

Must Enter At [Entry Point] – The ticket is for a seat that uses a different entry point. The correct entry point is included in the message.

Ticket Already Exited – The ticket has already been scanned out and not scanned back in. See [Exit Mode](#) for details on scanning out tickets. This message is only received when the unit is Exit Mode.

Ticket Not Scanned In – The scanner is currently in Exit Mode and a ticket is being scanned out without first have been scanned in.

Active Membership Not Found – If the scanned data was a constituent ID, no current membership records were found for the constituent. If the scanned data was a membership record ID, the specified membership record is not current.

No Admission Levels Defined – If the scanned data was a constituent ID, none of the current membership records found for the constituent are at a level with membership entry limits defined. If the scanned data was a membership record ID, the specified membership record is current but not a level with membership entry limits defined.

No Events for this Membership – If the scanned data was a constituent ID, none of the current membership records found for the constituent at a level with membership entry limits defined are in a membership organization associated with performances valid on the N-Scan unit. If the scanned data was a membership record ID, the specified membership record is current and at a level with membership entry limits defined but is not in a membership organization associated with performances valid on the N-Scan unit.

Troubleshooting Invalid Scans

The following are some common causes and possible resolutions for invalid ticket errors:

Ticket Number Not Found – This could be as simple as a misread barcode or as malicious as a fraudulent ticket. If scanning the ticket a second time generates the same message, the patron should be directed to the box office or a house manager for resolution.

Ticket Has Been Returned – This message is often received when a constituent exchanges a ticket over the phone and then attempts to use the old ticket in error. In this case the constituent often has arrived at the correct performance but has simply forgotten to pick the new tickets up from the box office. Training ushers to ask if constituents have exchanged their tickets when this message is received can help to quickly solve problems and calm the constituents.

Event Not Authorized on Device – This message is generated if a constituent comes on the wrong date or tries to enter the wrong venue when multiple performances are taking place at the same time. If the constituent has come on the wrong date, he or she should be directed to the box office or a house manager for resolution. If the constituent has come to the wrong venue, he or she can be directed to the correct venue.

Ticket Superseded by Reprint – When a ticket is reprinted the ticket number or N-Scan number for the old ticket is invalidated, leading to this error message, and a new ticket number or N-Scan number is generated for the new, valid ticket. Often this message is received when constituents request a reprint but then later find and use the original ticket. The constituent should be directed to the box office. Frequently the constituents have simply forgotten to pick up the reprint, but if that is not the case reprinting the tickets again will invalidate the first reprint and prevent them from being used fraudulently.

Ticket Already Recorded – This message is generated when the same N-Scan number or ticket number has already been scanned. If the ticket is on official ticket stock, which is difficult to duplicate, the most likely cause is a constituent leaving the scanned area without being scanned out and then being scanned on reentry. It may be acceptable for the usher to allow entry for the constituent in this case. However, if print at home ticketing is in use, a patron could have printed the same ticket more than once, making it possible the same ticket be used by different people. When this message is received for a print at home ticket the constituent should be directed to a house manager or the box office.

Wrong Performance Date/Time – This message displays when a ticket is scanned before or after the performance or zone door open/close times. This may happen on days when there are matinee and evening performances, when tickets are scanned at a shared entry point for multiple venues with performances that start at different times, or when using timed admission tickets in museum settings. When this error is received, constituents should be informed when they can take their seats or directed to the house manager.

Must Enter At – This message means a constituent is attempting to enter from the incorrect entry point. As it is frequently impossible to reach a seat when entering from the wrong entry point (such as when entering the orchestra doors when you have a balcony ticket), constituents should be redirected to the appropriate entry point, which is included in the error message.

Active Membership Not Found – This message generally means that the constituent's membership has expired. When this error is received, constituents should be directed to admissions or member services staff.

No Admission Levels Defined – This message generally means that the constituent does not have a membership at a level with admission benefits defined. When this

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error is received, constituents should be directed to admissions or member services staff.

No Events for this Membership – This message generally means that the constituent is attempting to use a member card to gain entry to a performance that is invalid on the N-Scan unit, such as when attempting to use a member card to gain access to a special exhibit not included in membership benefits (or for which additional timed entry tickets must be picked up at the admissions desk). When this error is received, constituents should be directed to admissions or member services staff.

Special Access Areas

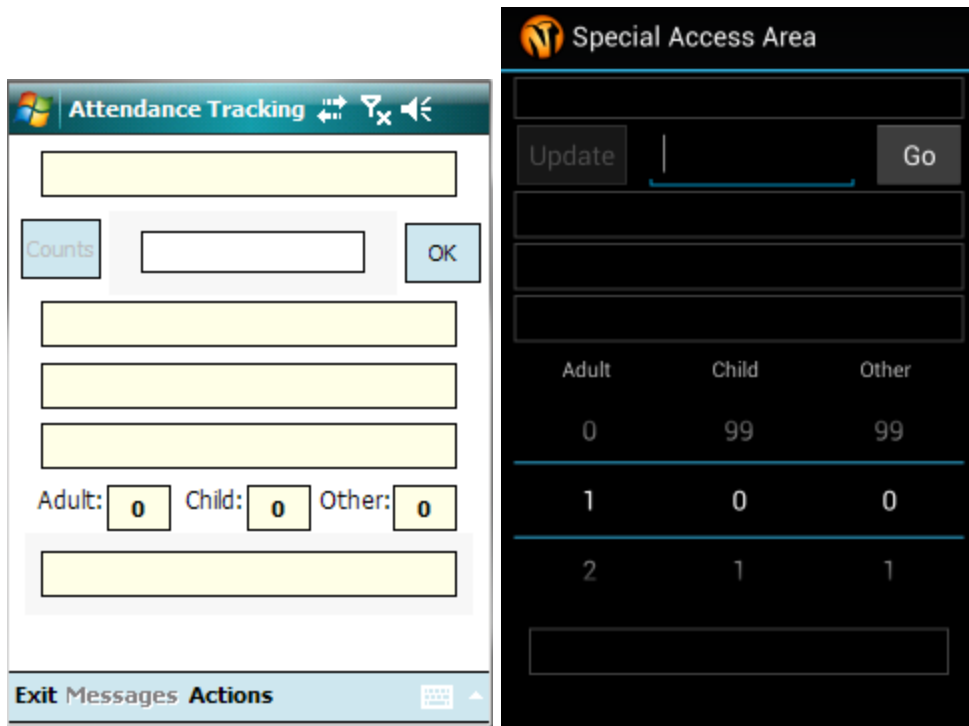
The **Special Access Areas** screen is used to scan tickets or member cards to validate entry into special access areas, such as a lounge. When a ticket is scanned, first the ticket number is validated (check that the ticket number exists and has not been invalidated by a return or reprint). Then the ticket and owning constituent are evaluated to see if they meet the entry criteria for the access area.

Note: When a composite ticket is scanned, any valid component performance ticket contained in the composite ticket can meet the access area criteria.

When a member card is scanned, the member's constituent record is evaluated to see if it meets the entry criteria for the access area.

Note: Scans of member cards will not meet the entry criteria for access areas with specific performances selected, as there is no performance tied to the scanned data.

The Special Access Areas screen consists of the following:



The box at the top of the screen is the **Access Area** field and displays the description of the special access area assigned to the unit (after the first scan).

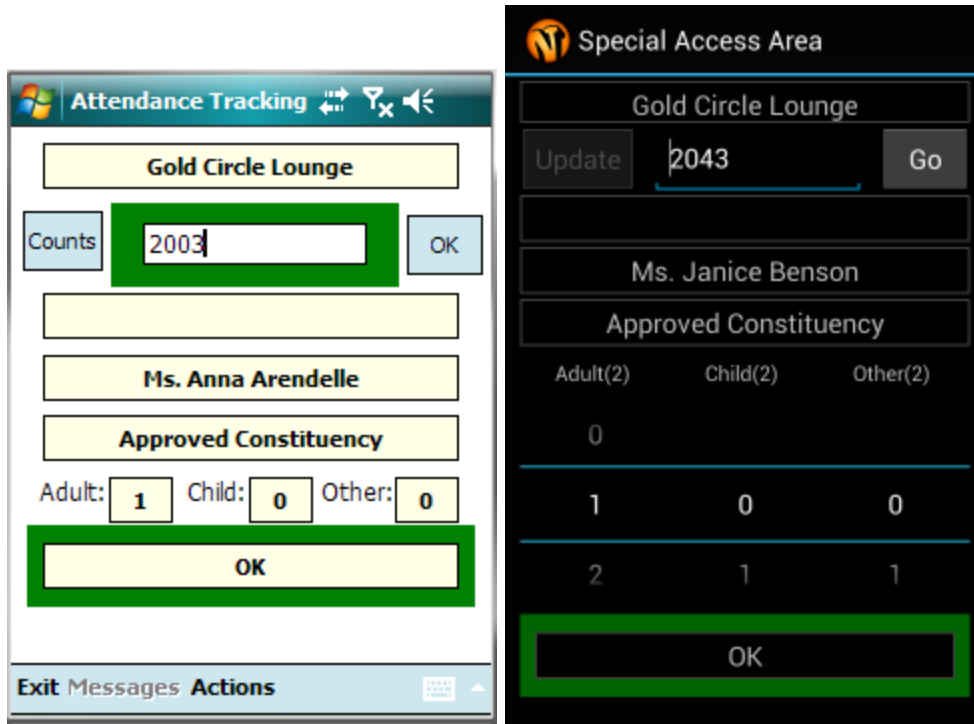
The field between the Counts/Update and OK/Go buttons is the **Validation Data** field, where the data used to validate entry to the access area is entered. When a ticket or member card is scanned, the scanned data is entered into the Validation Data field. An operator may also manually enter a data string for validation and then click **OK/Go**.

The box beneath the Validation Data field is the **Mode** field, which indicates if the unit is set to Offline Mode.

The box beneath the Mode field is the **Constituent** field, which displays the default salutation for the ticket owner or member.

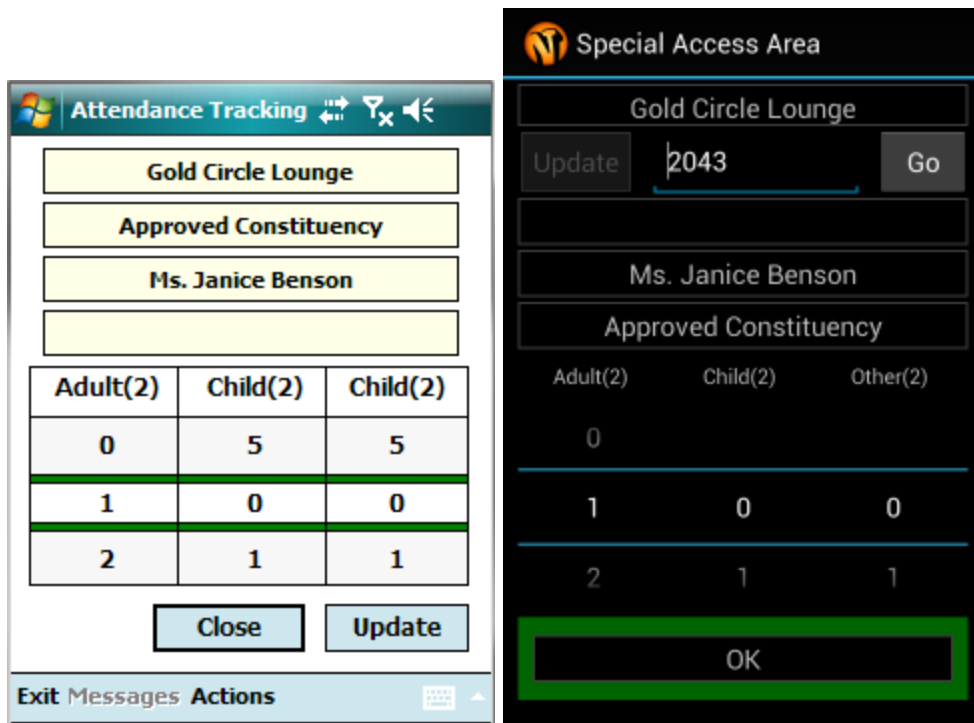
The box beneath the Constituent field is the **Criteria** field, which displays the criterion that qualified the constituent for entry to the access area.

If the scanned data is valid and qualifies for entry to the special access area, the first entry qualification that the ticket meets is displayed in the Criteria field and **OK** is displayed in the validation results box.



There are three entry count categories: **Adult**, **Child**, and **Other**. On a valid scan, one Adult entry is recorded.

When the access area is set to prompt for counts, the Counts window opens:



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From the counts window multiple entries can be recorded for a single valid scan. The total number of entries allowed for the access area is displayed in parenthesis beside each entry category. The selected entry counts are displayed in the center row (between the green or blue lines). To increment the count for a category, click the number below middle row. To decrement the count for a category, click the number above the middle row. When finished setting the entry counts, click the **Update** button.

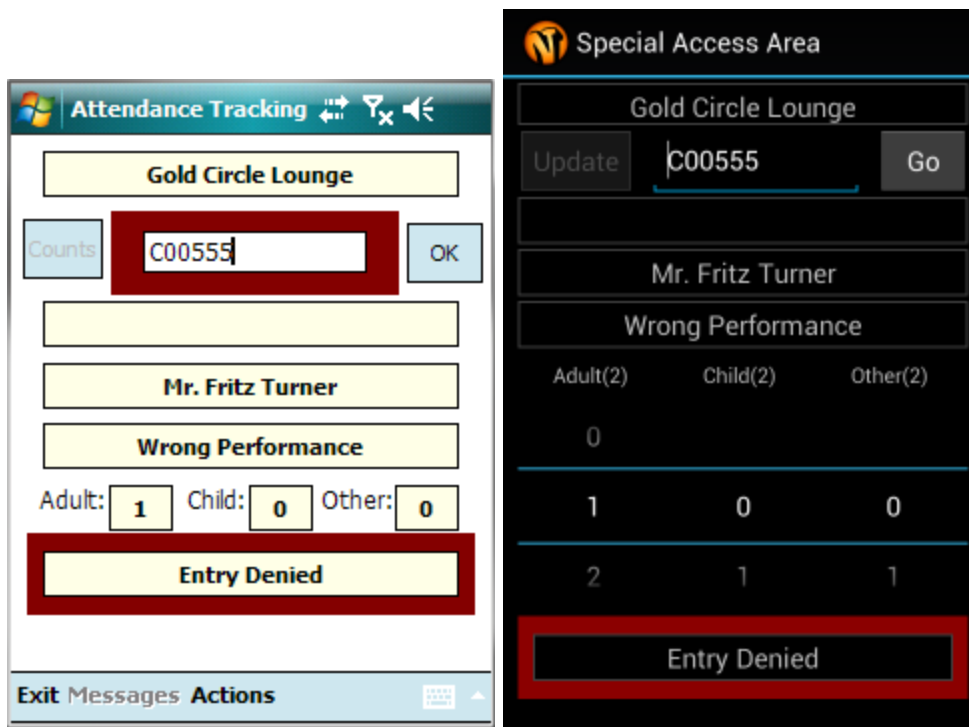
Note: On the Android version of the application, entry numbers are always displayed and editable on the main Special Access Areas screen.

The **Counts** button (on the Windows Mobile application) manually opens the counts window, which can be used to edit the entry counts.

Note: Entry counts for special access areas are recorded in the T_ATTENDANCE table. To report on special access area entry data see the [N-Scan Attendance Scan](#) report.

If the scanned data is not valid, an error tone is emitted and an invalid data error is displayed in the validation results box. See [Invalid Data Errors](#) for details on the various errors.

If the scanned data is valid but does not qualify for special access area entry, an error tone is emitted and the message **Entry Denied** is displayed in the validation results box:



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If entry is denied because the maximum number of entries for the access area has been reached for the ticket, the Criteria field displays the maximum number of entries for that area.

If an access area has not been assigned to the unit or the assigned access area is not currently active an error tone is emitted and the message **Access area not found** is displayed in the validation results box.

The area beneath the results box displays a notification if the constituent who owns the ticket has a message available. See [Viewing Patron Messages](#) for details.

Note: Scans of member cards will not trigger patron messages for access areas, as there is no performance tied to the scanned data, and patron message CSIs must be associated with performances.

Actions/Menu

Clicking **Actions** (on WM) or opening the menu (on Android) offers the following option(s):

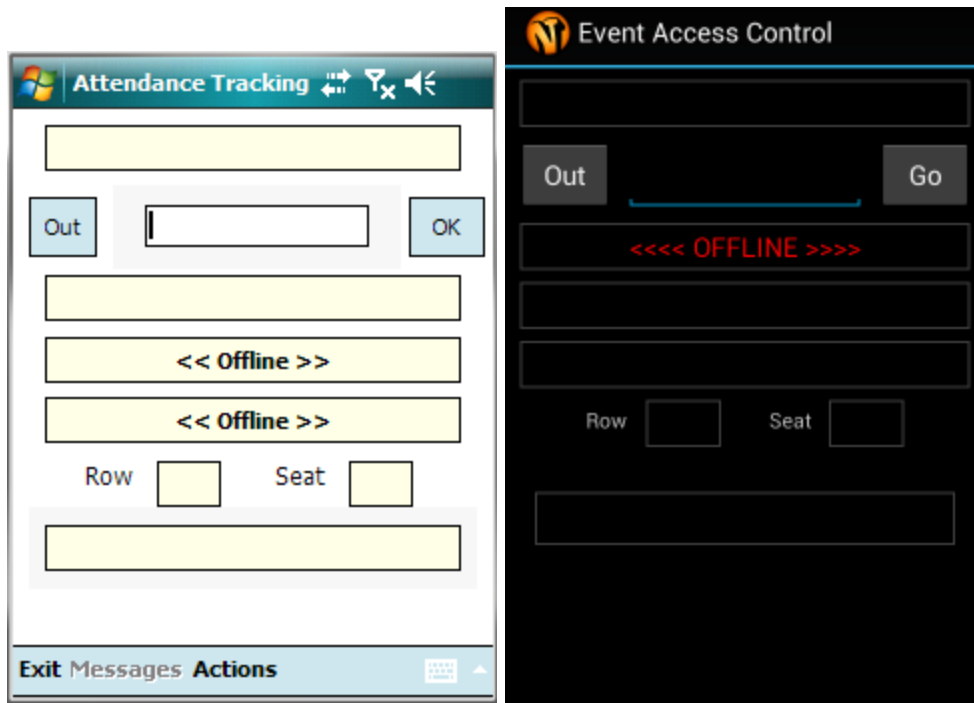
Online/Offline is used to toggle between online mode and [offline mode](#).

Check Server checks the unit's connection to the network. A popup opens indicating whether the unit has a successful connection or no connection.

Offline Mode

Offline mode can be used to scan tickets and member cards when the wireless network is not available.

To enter Offline mode, select **Set Offline** from **Actions/Menu**.



<<Offline>> is displayed on the screen, indicating that the unit is in Offline mode.

When a unit is in Offline mode, scanned tickets are not validated and seat statuses are not updated in Tessitura; however if the N-Scan number is used as the barcode on tickets, the performance can be validated against the performances entered in the unit's configuration settings. For member cards, memberships are not verified. For special access areas, entry criteria are not verified. All data scanned in Offline mode is stored on the unit in a table that can be uploaded into Tessitura when the network connection is restored so that attendance data can be recorded.

[Group Entry by Order](#), [Patron Message](#), [Check Seat](#), and [Monitor Attendance](#) features do not function in Offline mode.

To return to Online mode select **Set Online** from **Actions/Menu**.

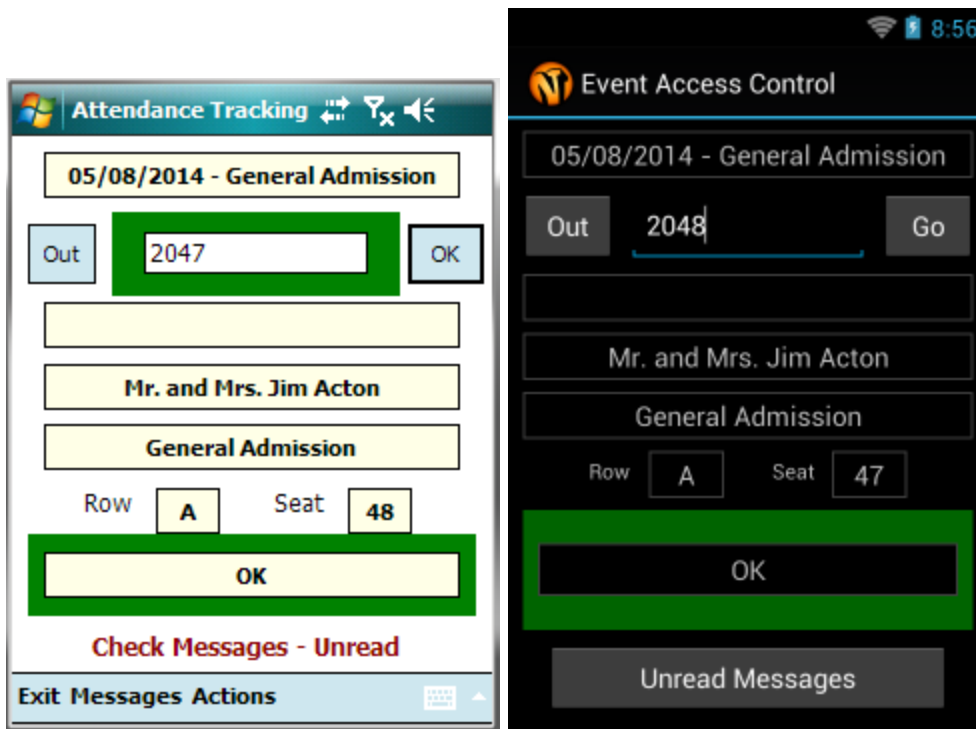
Note: Data scanned while in Offline Mode is not automatically uploaded to Tessitura when switching back to Online Mode. Until the offline data is loaded into Tessitura, ticket validation may be inaccurate and data in Monitor Attendance will be inaccurate. See [Uploading Offline Scans](#) for details on uploading scan data recorded while in Offline mode.

Offline mode can also be useful for planned situations such as scanning tickets to an off-site event, such as tickets to a benefit dinner, or scanning tickets to a regular performance at a preshow reception outside of network range, rather than at the door to the theater. Scanning tickets in these situations is generally done more to record attendance than control access, as ticket validation capabilities are limited or unavailable in offline mode.

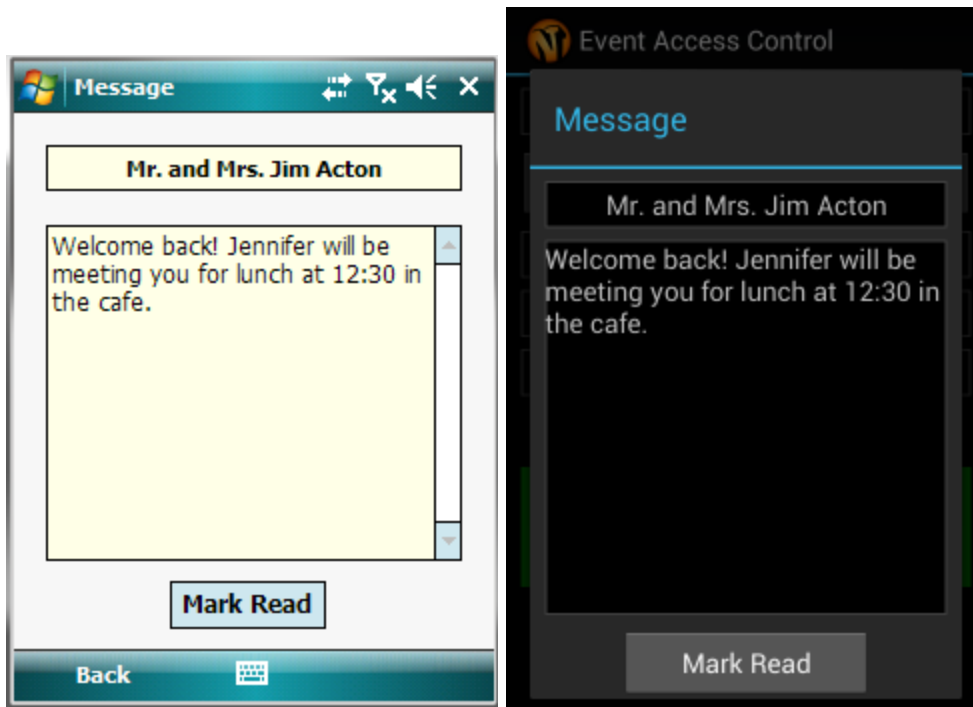
Viewing Patron Messages

Messages for constituents can be entered into Tessitura for delivery upon the scan of one of their tickets or member card using CSIs. For details on adding messages to constituent accounts see [Patron Messages](#).

When a message has been added to a constituent record and a ticket or member card for that constituent is scanned, either for a performance or a special access area, the unit emits a doorbell sound, the screen displays **Check Messages - Unread** (WM) or **Unread Messages** (Android) below the Results box, and the Messages button becomes active:



Clicking the Messages button opens the message:



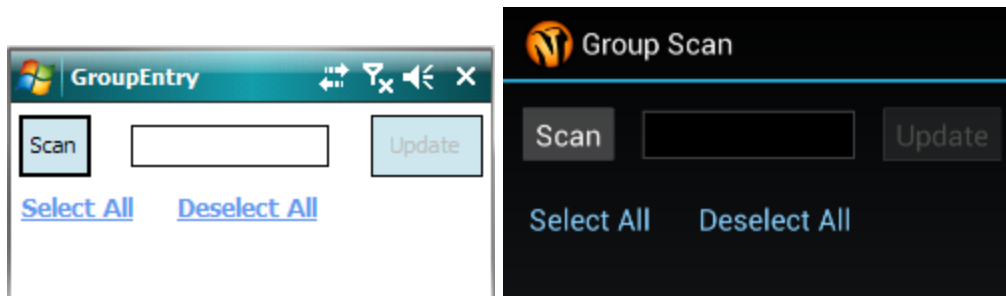
After the message has been delivered to the constituent, click **Mark Read** to close the message and mark it read. If another ticket from the same constituent is scanned, **Check Messages – Read**(WM) or **Messages** (Android) will be displayed below the Results box, but no sound plays.

Note: Clicking **Mark Read** adds an N-Scan Message Delivered action to the message CSI and closes the CSI in Tessitura.

If the constituent indicates that the message belongs to another person in the party who has not yet arrived, click **Back** rather than the **Mark Read** button. Since the message has not been marked as read, the doorbell will sound when the next ticket is scanned for the same constituent ID and the message can be delivered to the right person.

Group Entry by Order

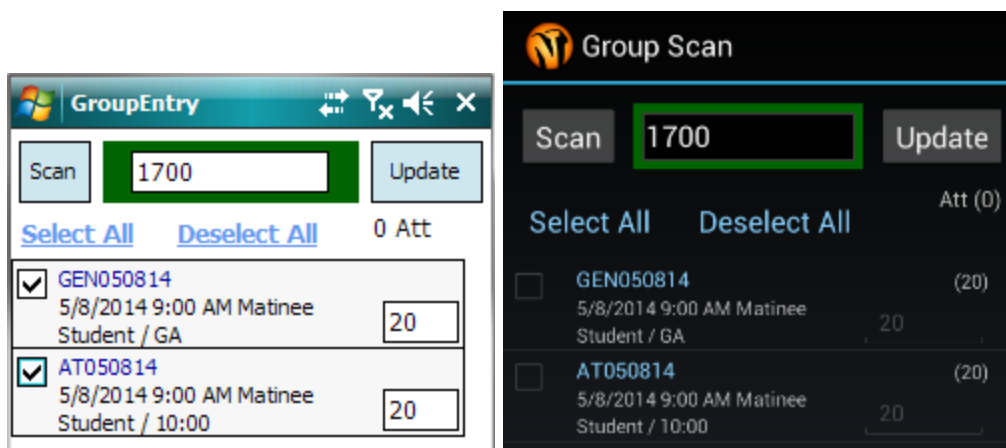
The **Group Entry by Order** screen is used to scan or enter order numbers to record attendance for tickets in bulk. This feature can be useful for quickly managing check-in for group orders.



When an order number is entered in the validation data field, N-Scan checks if the order number exists and then if the order is fully paid. If the order is fully paid, the system checks for any sub line items (SLIs) that have been printed but not yet marked Attended.

Note: To use this function, SLIs must have a status of Ticketed. To update the status of the SLIs in an order to Ticketed without printing actual tickets, you can print the orders to a file or to a null printer.

If valid SLIs are found in the order they are displayed, grouped by performance, price type, and price zone:



The **Att** figure beneath the update button lists the number of SLIs in the order that have already been marked as Attended.

Checking the box beside a group of SLIs activates that group for updating. All groups of SLIs can be selected by clicking **Select All**. All groups of SLIs can be deselected by clicking **Deselect All**.

The number of SLIs in a group to mark as attended defaults to the number available to be updated. To mark fewer SLIs as attended, click in the box and enter a new number.

When the desired number of SLIs to update has been set, click **Update** and then Yes on the confirmation window to mark the SLIs as Attended. After the SLI update is

complete, the system will ask if you want to reload the order to display the updated data.

Invalid Order Errors

The following validation errors may be received on the **Group Entry by Order** screen:

Order Not Found - The entered data is not a valid order number.

Order Has Balance Due - The order exists but has a balance due so is not eligible.

No Valid Sub Line Items Were Found on the Order - No SLIs with a status of Ticketed were found in the order

All Items on This Order Have Been Marked Attended - All SLIs in the order were Ticketed and have already been marked Attended.

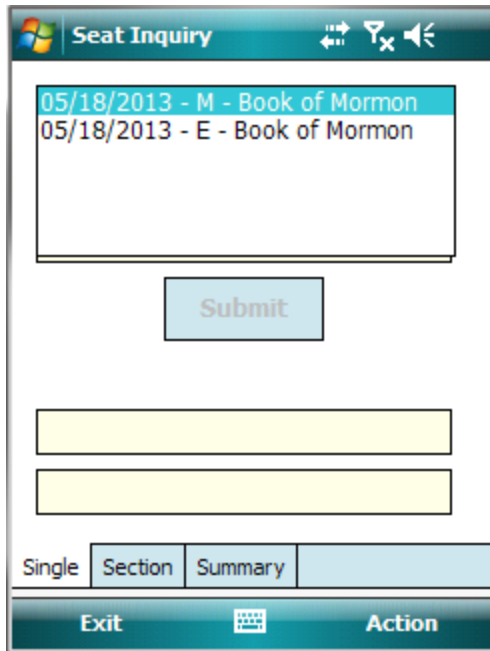
Cannot Complete Update. Please Reload Order and Try Again - Generally this means that the status on some of the SLIs has changed between when the order was loaded the update was submitted.

Check Seats

The **Check Seats** screen, accessed by clicking the Check Seats icon on the Main menu, is used to check the status of seats and is used by a house manager or usher to troubleshoot seating problems from within the house.

Note: Access for this screen may be disabled in [Admin Settings](#).

On the Windows Mobile application, if more than one performance has been entered into the unit, a pop up window opens upon entering the Check Seats screen:



Click the desired performance to continue.

Note: On the Android application, a performance is selected in each Check Seats area before retrieving data.

The Check Seats screen is divided into three areas:

Single - This is used to check the status of an individual seat.

Section - This is used to display all available and held seats in a section.

Summary - This is used to view a summary of the number of seats available, grouped by section or entry point.

Uses for Check Seat

Check Seats **Single** is generally used to solve seating issues. If a constituent with a valid seat asks if they can move to a specific seat, a house manager or usher can enter the row and seat to determine if it is available. When looking for any available seat, use the Check Seats **Section**.

Check Seats **Single** is also used to retrieve the name of a person sitting in a seat. This should be used with some caution, as constituents can give their tickets to another person. If a staff member recognizes the person but cannot remember his or her name, using this lookup function may be useful in overcoming a memory lapse.

Check Seats **Section** is generally used to resolve a seating issue by finding available seats that can be used to reseat constituents. A house manager or usher can enter a section and all available seats in that section will be returned. Many organizations hold

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seats specifically for seating problems; if this is the case the **Show Holds as Available** box should be checked before searching.

Check Seats **Summary** is generally used to quickly identify sections with the most available seats. The section identified can then be selected on the Section tab to identify specific available seats.

When reseating based on available seats returned by N-Scan, be sure to hold the seat using the **Use Selected Seat** function so that tickets for the seats are not issued to other constituents.

Checking Single Seats

Check Seats **Single** has the following fields:

The image displays two screenshots of the N-Scan application interface for checking single seats. The left screenshot shows the desktop version with a teal header 'Seat Inquiry', a dropdown menu for performance (05/18/2013 - M - Book of Mormon), input fields for Row and Seat, a Submit button, and a bottom navigation bar with 'Exit' and 'Action' buttons. The right screenshot shows the Android version with a black header 'Single Seat Inquiry', a dropdown menu for performance (05/18/2013 - M - Book of Mormon), input fields for Row and Seat, a Submit button, and a bottom navigation bar with 'Exit' and 'Action' buttons.

Performance - The box at the top of the screen displays the performance for which seat information is being checked.

Note: On the Android application, the performance must be selected from the dropdown before any data is entered.

Row - The row of the seat being checked.

Seat - The seat number of the seat being checked.

Section - The section of the seat being checked.

N-Scan Usage

Submit - A button used to submit the Row and Seat and retrieve seat status information.

Constituent Name - The first box below the Submit button displays the constituent name if the entered seat is reserved or ticketed.

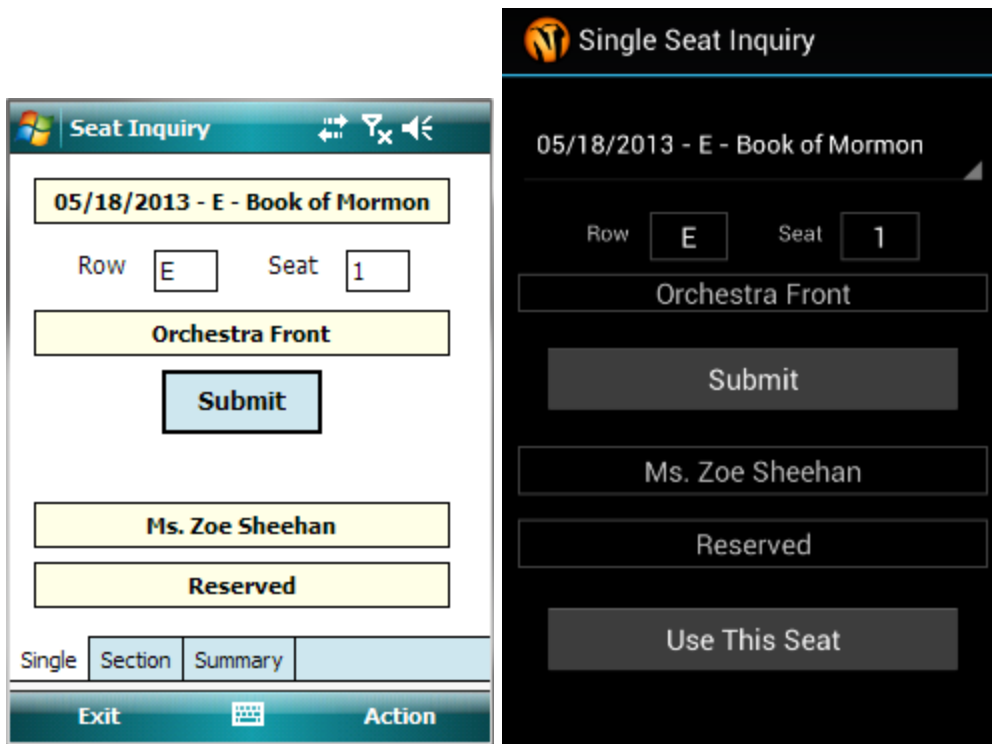
Status Box - The second box beneath the Submit button displays the status of the entered seat.

To check the status of a seat:

1. Click the **Row** field and enter the row of the seat.
2. Click the **Seat** field and enter the seat number of the seat.
3. Click the **Submit** button.

If more than one section has a seat with the entered row and seat number value, a section selection window opens. Click the section of the seat.

4. The seat status information is displayed.



Seats can have one of the following statuses:

Open - The seat is not sold or held and is available for use.

On Hold - [Type of Hold] - The seat is not sold, but is on hold. The type of hold is displayed for additional information. This seat may or may not be available for use, depending on the type of hold and policy.

Reserved - The seat is sold, but the ticket for the seat has not been scanned.

Checked In - The seat is sold and the ticket for the seat has been scanned.

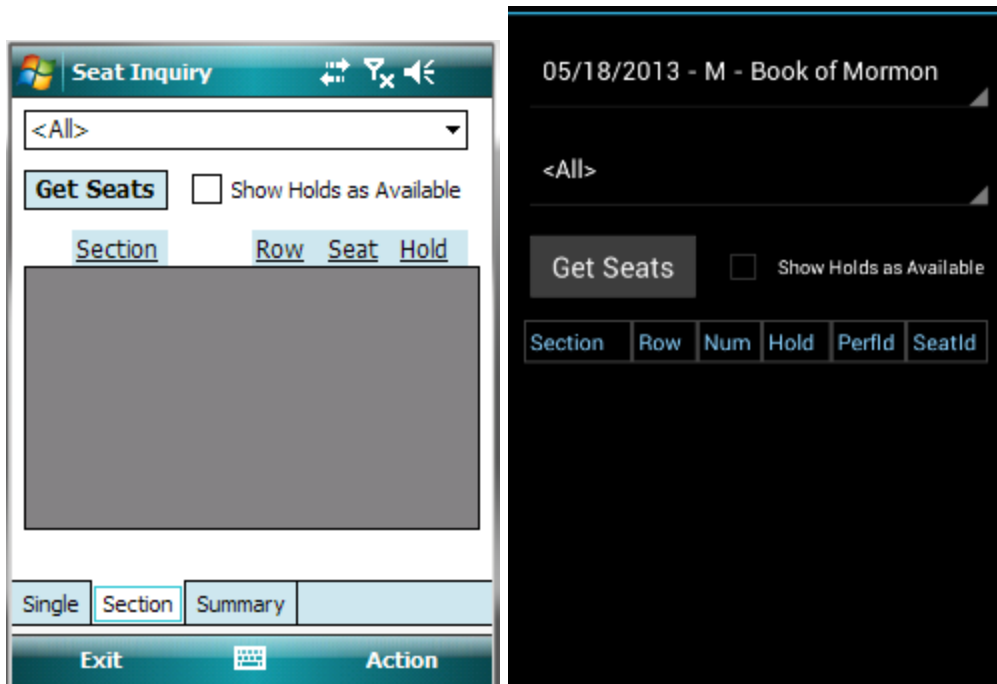
If the seat status is Reserved or Checked In, the name of the constituent who has the seat is displayed.

Holding a Seat

The seat entered can also be held from this screen by selecting **Use Selected Seat** from the **Action** menu (WM) or pressing **Use This Seat** (Android). When this action is selected, the hold code specified in the [N-Scan defaults](#) will be applied to the seat. This is useful when re-seating a patron into an available seat so that the seat is not sold by the box office.

Checking a Section

Check Seats **Section** is used to list all available seats in a section and has the following fields:



Note: On the Android application, the performance must be selected from the dropdown at the top of the screen before any data is entered.

N-Scan Usage

Section – The section being searched. The field is a dropdown from which a section is selected. It defaults to <All>.

Get Seats – This button submits the selected section and returns available seats in that section.

Show Holds as Available – When this box is checked, seats on hold in Tessitura will be listed with the available seats. Any held seats listed will include the hold code currently applied to the seat. When the box is unchecked, the default setting, held seats are not returned by the search.

Note: Specific hold codes can always be excluded from being listed here with the Exclude Hold Codes or Include Hold Codes settings in [T_DEFAULTS](#).

Results – The box at the bottom of the screen displays the results of the section search. One row is listed for each available and held seat in the section. For each seat the section, row, seat number, and hold code (if applicable) is listed.

To search for available seats in a section:

1. Select a **Section** from the dropdown.
2. To include held seats in the results, check the **Show Holds as Available** box.
3. Click **Get Seats**. All available seats for the section are listed:

Section	Row	Seat	Hold
Orchestra H		2	
Orchestra H		4	
Orchestra H		6	
Orchestra H		8	
Orchestra H		10	
Orchestra H		12	

Section	Row	Num	Hold	PerfId	SeatId
Orchestra K	29			355	7379
Orchestra K	27			355	7380
Orchestra K	25			355	7381
Orchestra K	23			355	7382
Orchestra K	21			355	7383
Orchestra K	19			355	7384
Orchestra K	17			355	7385
Orchestra K	15			355	7386
Orchestra K	13			355	7387

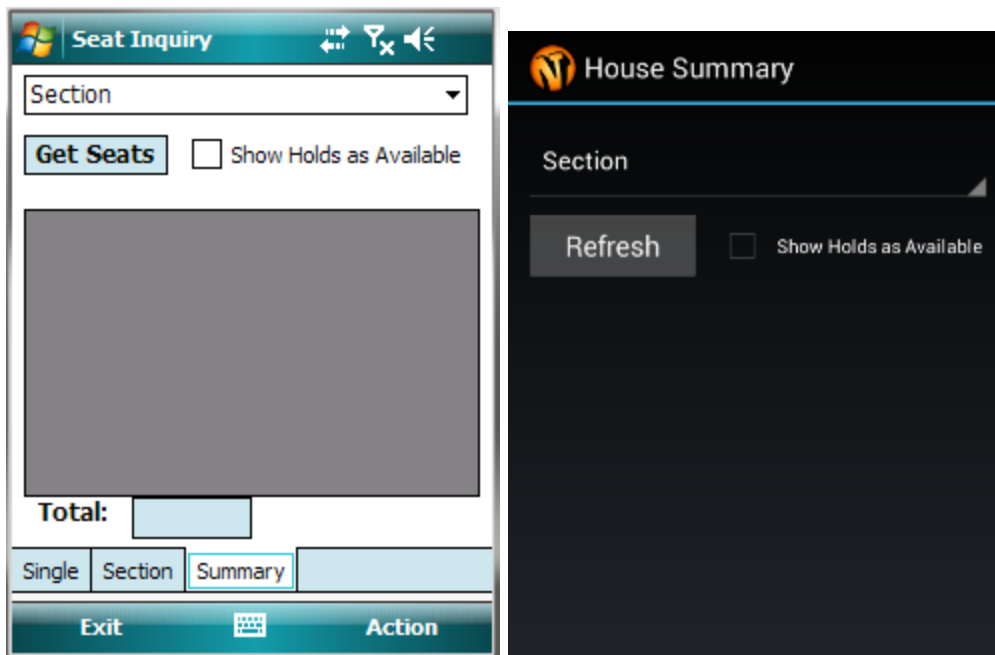
If no seats are listed, there are not available seats in the section.

Holding a Seat

A seat can also be held from this tab. On Windows Mobile, select the seat by clicking it, then click **Action** and select **Use Selected Seat**. On Android, click on the seat and then click **OK** on the confirmation window to hold it. When this action is selected, the hold code specified in the [N-Scan defaults](#) will be applied to the seat. This is useful when reseating a patron into an available seat so that the seat is not sold by the box office.

Check Seats Summary

Check Seats **Summary** is used to view a summary of available seats and has the following fields:



Group By - The box at the top of the screen displays the selected grouping option for the totals of available seats. The options are Section or Entry Point.

Get Seats Button - This button submits the selected grouping option and returns the total available seats for each group.

Show Holds as Available - When this box is checked, seats on hold in Tessitura will be included in the available seat totals. When the box is unchecked, the default setting, held seats are not returned by the search.

Note: Specific hold codes can always be excluded from being listed here with the Exclude Hold Codes or Include Hold Codes settings in [T_DEFAULTS](#).

Results - The box at the bottom of the screen displays the results of the search. One row is listed for each group (section or entry point) with the total number of available seats for that group.

Total - The total number of available seats for the performance.

To view the available seat summary for a performance:

1. Select a **Group By** option from the dropdown.
2. To include held seats in the results, check the **Show Holds as Available** box.
3. Click **Get Seats**. The total number of available seats is displayed:

The left screenshot shows the 'Seat Inquiry' interface. It features a dropdown menu for 'Section', a 'Get Seats' button, and a checkbox for 'Show Holds as Available'. Below this is a table with columns: AreaDesc, TotalCoi, Perform, and Perform. The table contains four rows of data. At the bottom, a 'Total: 452' is displayed. Navigation buttons 'Exit' and 'Action' are at the bottom.

AreaDesc	TotalCoi	Perform	Perform
Balcony -	126	355	BOOK4
Mezzanine	74	355	BOOK4
Orchestra	177	355	BOOK4
Orchestra	75	355	BOOK4

Total: 452

Single Section Summary

Exit Action

The right screenshot shows the 'House Summary' interface. It features a dropdown menu for 'Section', a 'Refresh' button, and a checkbox for 'Show Holds as Available'. Below this is a table with columns: Area Desc, Total, PerfNam, RecType, and OpenCr. The table contains five rows of data.

Area Desc	Total	PerfNam	RecType	OpenCr
Balcony -	126	BOOK4	S	126
Mezzanine	72	BOOK4	S	72
Orchestra	173	BOOK4	S	173
Orchestra	75	BOOK4	S	75

Monitor Attendance

The **Monitor Attendance** module offers the following functionality on N-Scan units:

- Track the attendance of specific constituents, any constituent with a particular constituency, or any constituent on a specific list
- Review basic biographical information about tracked constituents
- View sales and attendance data for performances

These features are particularly useful to development or other customer relationship staff who are meeting and greeting constituents at performances.

Note: N-Scan can be installed on units without scanners, such as smart phones, specifically for the use of the Monitor Attendance module, though an N-Scan license is required for each unit on which N-Scan is installed. N-Scan can only run on smart phones that use Windows Mobile or Android as the operating system, and must have a touch sensitive screen.

Note: The monitor attendance functions can also be used to send an email notification to those without an N-Scan unit when a ticket for a tracked constituent is scanned. See [N-Scan Email](#) for details.

There are three areas in the Monitor Attendance module:

[Attending](#) - This area displays the patrons being tracked.

[Sales](#) - This area shows sales and attendance data for a performance and production.

[Summary](#) - This area shows a simple summary of the number of tickets sold and number of tickets marked attended for a performance, grouped by section or entry point.

Monitor Attendance Setup

Monitor Attendance features require some setup in Tessitura. The N-Scan user must have a constituent record in Tessitura. Additionally, monitor attendance attributes must be added to the record of the constituent being tracked and/or the N-Scan user.

Create a Constituent Record for the N-Scan User

Each N-Scan user who will be utilizing the Monitor Attendance functions requires a constituent account in Tessitura. Attributes are added to the constituent account to control which constituents are monitored. Add a new constituent record if the user does not already have one and note the ID number for this constituent record.

The constituent ID for the user must be then be entered into the user's [N-Scan unit profile](#) or directly into the N-Scan unit's [application](#) settings.

Monitor Individual Attribute

The attendance of specific constituents is monitored using the **NScan Monitor Individual** attribute. This attribute must be added to the record of the constituent to be monitored.

To add the NScan Monitor Individual attribute to a constituent record:

N-Scan Usage

1. Open the record of the constituent to be monitored and go to the **Attributes** screen on the **Attributes** tab.
2. Click the **Add** button.
3. Select **NScan Monitor Individual** from the **Attribute** dropdown:

History	Connections	Contributions	Transactions	Ticket History	Orders	Custom
General	Names	Contact Details	Plans	Relationships	Research	Attributes
<input checked="" type="radio"/> Attributes <input type="radio"/> Interests <input type="radio"/> Constituencies						
Attribute	Attribute Value		Created	Modified		
Tony Stark						
NScan Monitor Individual	70011			✖		

4. For the **Attribute Value**, enter the constituent ID of the N-Scan user.
5. Save the changes.

Monitor Constituency Attribute

The attendance of any constituents with a particular constituency, such as VIPs or board members, can be monitored using the **NScan Monitor Constituency** attribute. The attribute is added to the constituent account of the N-Scan user, and a constituency is selected for the attribute value.

To add the NScan Monitor Constituency attribute to a constituent record:

1. Open the constituent record of the N-Scan user and go to the **Attributes** screen on **Attributes** tab.
2. Click the **Add** button.
3. Select **NScan Monitor Constituency** from the **Attribute** dropdown:

History	Connections	Contributions	Transactions	Ticket History	Orders	Custom
General	Names	Contact Details	Plans	Relationships	Research	Attributes
<input checked="" type="radio"/> Attributes <input type="radio"/> Interests <input type="radio"/> Constituencies						
Attribute	Attribute Value		Created	Modified		
Kevin Sheehan						
NScan Monitor Constituency	Gold Circle			✖ Created: 5/9/2014 14:22:03 by ksheehan at KEVIN- Modified: 5/9/2014 14:22:03 by ksheehan		

4. Select a constituency from the **Attribute Value** dropdown.
5. Save the changes.

Multiple constituencies can be monitored by adding one NScan Monitor Constituency attribute for each constituency.

Monitor List Attribute

The attendance of constituents on a particular list can be monitored using the **NScan Monitor List** attribute. The attribute is added to the constituent account of the N-Scan user, and a list is selected for the attribute value.

To add the NScan Monitor List attribute to a constituent record:

1. Create the list and, if applicable, generate the list contents.

Note: Dynamic lists are **NOT** automatically regenerated when used by N-Scan.

2. Open the constituent record of the N-Scan user and go to the **Attributes** tab.
3. Click the **Add** button.
4. Select **NScan Monitor List** from the **Attribute** dropdown:

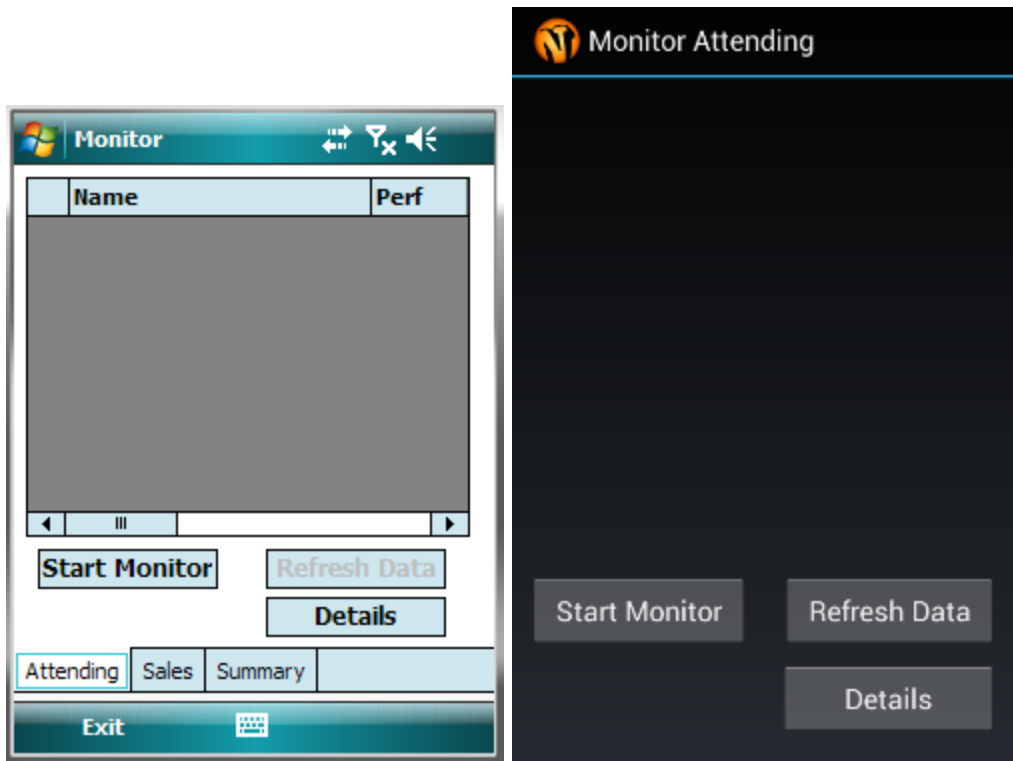
History	Connections	Contributions	Transactions	Ticket History	Orders	Custom
General	Names	Contact Details	Plans	Relationships	Research	Attributes
<input checked="" type="radio"/> Attributes <input type="radio"/> Interests <input type="radio"/> Constituencies						
Attribute	Attribute Value	Created	Modified			
Kevin Sheehan						
NScan Monitor List	DEV-KJS-Gold Circle Prospects	Created: 5/9/2014 14:24:04 by ksheelhan at KEVIN-	Modified: 5/9/2014 14:24:04 by ksheelhan			

5. Select a list from the **Attribute Value** dropdown.
6. Save the changes.

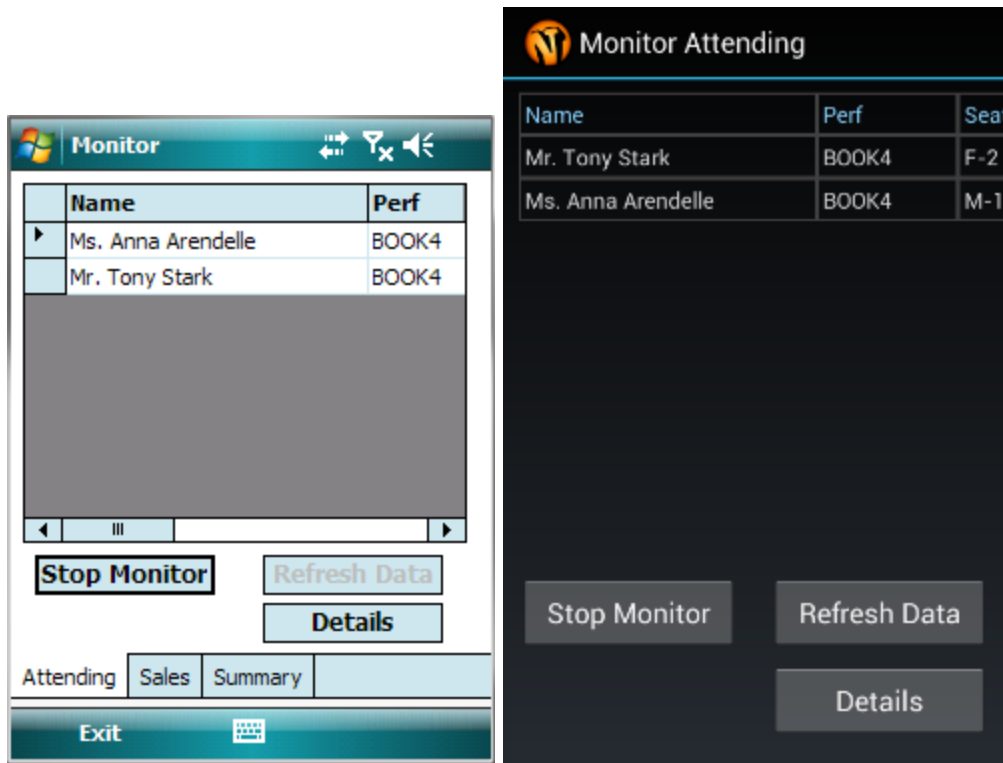
Multiple lists can be monitored by adding one NScan Monitor List attribute for each list.

Monitor Attendance - Attending

The **Attending** area of the **Monitor Attendance** module is used to monitor the attendance of tracked constituents to the performances currently valid on the unit:



Upon entering the area, click **Start Monitor** to begin the monitoring. The unit checks if any tracked constituents have been marked as attended. If some tracked constituents are found, the **Refresh Data** button becomes active; click the button to refresh the display:



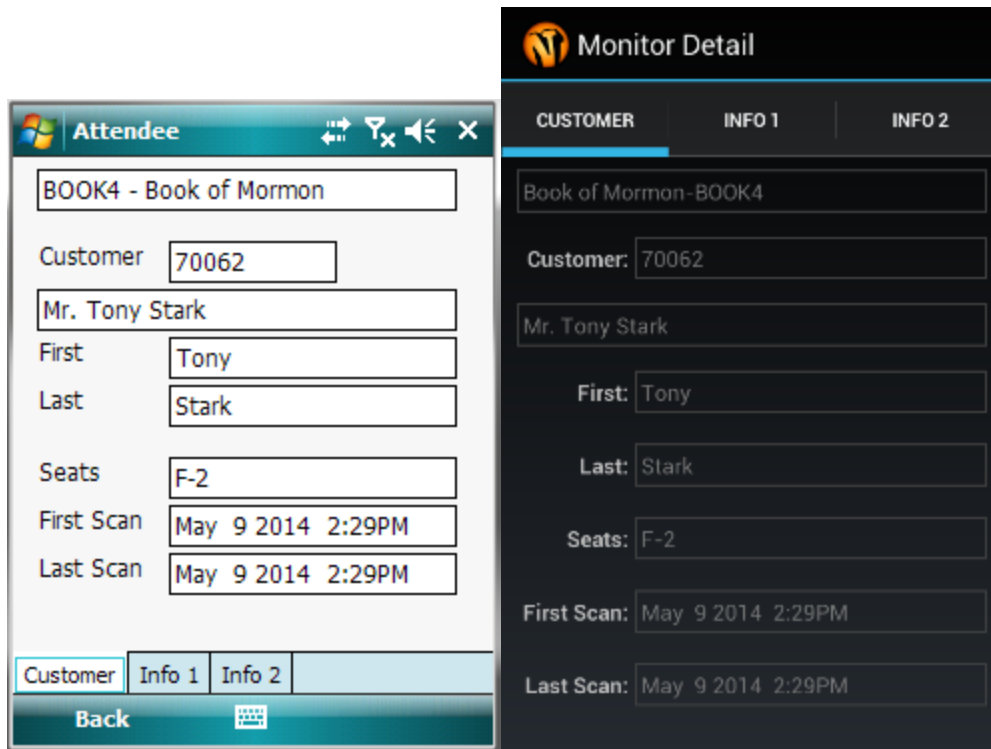
The unit regularly checks for updates; whenever there is new data the Refresh Data button becomes active and must be clicked to add the new constituents.

Note: How frequently the unit checks for updates can be adjusted on the [System](#) tab.

For found constituents, the constituent's name and the performance for which they were marked as attended is listed.

To view biographical information about one of the listed constituents, click the constituent and then click the **Details** button. The Details window opens for the selected constituent. The Details window is organized into three tabs:

Customer Tab



The customer tab displays summary information about the constituent and the performance for which the constituent was marked as attended. The following information is listed:

Performance - The performance for which the constituent was marked as attended.

Customer - The ID number of the constituent.

Name - The default salutation of the constituent.

First - The first name of the constituent.

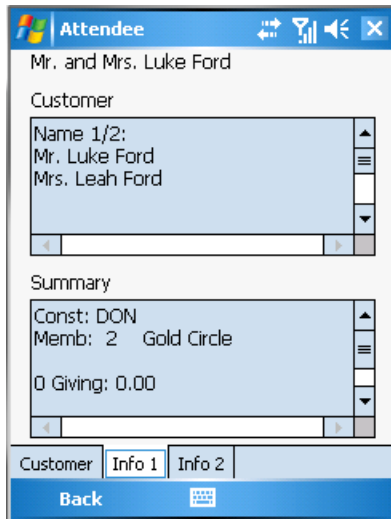
Last - The last name of the constituent.

Seats - The seats the constituent has for the performance that have been scanned in.

First Scan - The date and time the first of the constituent's tickets for the performance was scanned.

Last Scan - The date and time the last of the constituent's tickets for the performance was scanned.

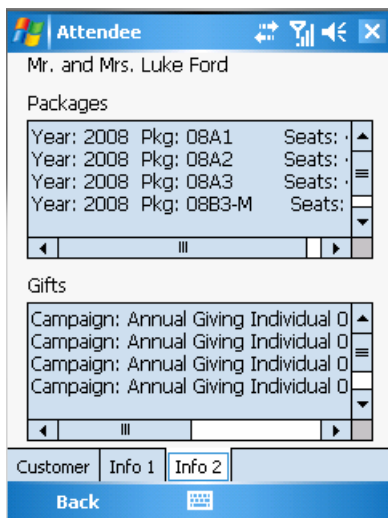
Info 1 Tab



The **Info 1** tab displays biographical information about the constituent. The top pane displays the name and primary postal address for the constituent. The bottom pane displays constituencies, membership level, and a contribution summary (total gifts over the last three years).

Note: All membership data is from the membership organization set as default in the T_DEFAULTS table. If the constituent does not have a membership record in the default membership organization, or a default membership organization has not been defined, the membership organization for the record with the latest expiration date is used. In all cases, only membership records with a status of Active, Pending, Awaiting Payment, Suspended, and Lapsed are considered. If a constituent has two qualifying membership records (such as an Active record and Pending record), data for either the record with the highest level (the default) or the record with the latest expiration date is returned, according to a setting in T_DEFAULTS table.

Info 2 Tab



The **Info 2** tab displays additional biographical information about the constituent. The top pane displays the last five packages purchased by the constituent. The bottom pane displays the last five contributions made by the constituent.

Note: The biographical information displayed on the Info 1 and Info 2 tabs can be customized. For details see [Using Custom Biographical Info and Sales Data](#).

Monitor Attendance – Sales

The **Sales** tab of the monitor attendance module displays sales and attendance data for a performance or production season (i.e., event):

The left screenshot shows the desktop version of the Monitor Sales interface. It features a 'Monitor' title bar with navigation icons. Below the title bar, there are radio buttons for 'Performance' (selected) and 'Production'. A dropdown menu shows 'VIS061208 Amahl and the Night Visit'. The main area contains a table with columns for 'Count' and 'Amount'. The data is as follows:

	Count	Amount
Capacity	446	24,530.00
Package	45	2,529.00
Single	37	1,811.00
Comp	0	0.00
Total	82	4,340.00
Cap %	18.4	
Attend	0	

At the bottom of the table is a 'Refresh' button. Below the table are tabs for 'Attending', 'Sales', and 'Summary'. At the very bottom is an 'Exit' button.

The right screenshot shows the mobile version of the Monitor Sales interface. It has a 'Monitor Sales' title bar with the N-Scan logo. Below the title bar are radio buttons for 'Performance' (selected) and 'Production'. A dropdown menu shows 'VIS061208 Amahl and the Night Vis'. The main area contains a table with columns for 'Count' and 'Amount'. The data is as follows:

	Count	Amount
Capacity	446	24,530.00
Package	45	2,529.00
Single	37	1,811.00
Comp	0	0.00
Total	82	4,340.00
Attend	0	

At the bottom of the table is a 'Refresh' button.

If multiple performances are entered into the unit, select a performance from the performance dropdown.

The **Performance** radio button displays sales data for the selected performance.

The **Production** radio button displays sales data for the production season to which the selected performance belongs.

Click the **Refresh** button to refresh the data.

The sales data displayed matches the data on the Tessitura Season Overview. The **Attend** figure is a count of all tickets scanned for the performance.

Note: The sales data can be customized. For details see [Using Custom Biographical Info and Sales Data](#).

Monitor Attendance - Summary

The **Summary** tab of the monitor attendance displays a simple summary of the number of tickets sold and number of tickets marked attended for a performance, grouped by section or entry point:

The left screenshot shows the desktop interface with the following table:

Area Desc	Total Coi	Perform	Perform
Mezzanine	2	355	BOOK4
Orchestra	6	355	BOOK4

Summary statistics: Sold: 8, Attended: 3. A Refresh button is visible.

The right screenshot shows the mobile interface with the following table:

Area Desc	Total	PerfNam	RecType	OpenCr
Mezzanine	2	BOOK4	S	0
Orchestra	6	BOOK4	S	0

Summary statistics: Sold: 8, Attended: 3. A Refresh button is visible.

If multiple performances are entered into the unit, select a performance from the performance dropdown.

The **Section** radio button groups sales by section.

The **Entry Point** radio button groups sales by entry point.

Click the **Refresh** button to refresh the data.

N-Scan Email Notifications

The N-Scan system can send an email when a ticket or member card for a tracked constituent is scanned. Text messages can also be sent to a cell phone if the cell phone has an email address that routes messages to the phone.

Note: For most cell phones, the texting email address is [cell phone number]@[provider network name]; consult the provider network for syntax.

The recipient of an N-Scan email notification must have a constituent record. Add a new record if the email recipient does not already have a record.

Next the monitor attendance functionality must be set up. If monitoring the attendance of an individual constituent, see [Monitor Individual Attribute](#). If monitoring attendance for a group of constituents based on a constituency, see [Monitor Constituency Attribute](#). If monitoring attendance for a list of constituents, see [Monitor List Attribute](#). The constituent ID/record of the email recipient replaces the constituent ID/record of the N-Scan user called for in the referenced sections.

Finally, email address must be added to the constituent record of the email recipient with the **N-Scan Email** contact point purpose assigned to it:

Electronic Address

Owner: Kevin Sheehan

Address: ksheehan@tessituranewtork.com

Type: Primary Email Address

Salutation: (none)

Start Date: 00/00/0000 End Date: 00/00/0000

Months:

Jan Feb Mar Apr May Jun
 Jul Aug Sep Oct Nov Dec

Primary Inactive
 Allow HTML Allow Marketing

Purposes:

N-Scan Email

Edit

Created: 5/12/2014 12:43:08 by ksheehan at KEVIN-PC Modified: 5/12/2014 12:43:08 by ksheehan

Save Cancel

An email is sent when a ticket or member card for one of the tracked constituents is scanned. The email text reads, “Customer [name] has entered the building.”

Patron Messages

Messages can be delivered to constituents as their tickets or member cards are scanned using N-Scan. Patron messages are entered into Tessitura using [customer service issues](#) (CSIs).

Adding a Patron Message CSI

To add a patron message, a CSI is created for the constituent to whom the message is being sent. The CSI uses a special N-Scan category and activity type, added as part of the N-Scan installation, in order to mark it for delivery through the N-Scan system.

To add a patron message CSI:

1. Start a new CSI, either from the **Contacts**→**Customer Service** tab of the constituent record or by selecting **Add New Customer Service Issue** from the **Tools** menu.

If the new CSI is started from the Tools menu, enter the ID number of the message recipient in the **Constituent ID** field.

2. Select a **Contact Method**. Any contact method can be used.

Note: You may want to add a contact method specifically for N-Scan Patron messages to the TR_CONTACT_TYPE table. This is not done as part of the N-Scan installation process.

3. Select **N-Scan Message** for the **Category**.
4. Select **N-Scan Patron Message** for the **Activity Type**.
5. Select the **Season** of the performance at which the message should be delivered.
6. Select the **Performance** at which the message should be delivered.
7. Enter the message in the **Notes** field.

The screenshot shows a web form titled "Customer Service Issue". The form contains the following fields and values:

Constituent ID:	70000	Owner:	Jim and Lois Acton Household
Issue #:	39	Urgent:	<input type="checkbox"/>
Issue Date:	05/08/2014	Category:	N-Scan Message
Contact Method:	N-Scan	Origin:	(none)
Activity Type:	N-Scan Patron Message	Season:	14 Admissions
		Performance:	GEN050814
		Package:	(none)
Notes:	Thu 5/8/2014 9:00 AM Welcome back! Jennifer will be meeting you for lunch at 12:30 in the cafe.		
Created: 5/8/2014 16:55:25 by ksheehan at KEVIN-PC Modified: 5/12/2014 12:02:40 by ksheehan			

8. Click **Save** to save the CSI.

When a ticket for the selected performance belonging to the constituent is scanned or a member card is scanned to record entry to the performance, the [message indicator](#) will be displayed on the scanning unit.

Closing a Patron Message CSI

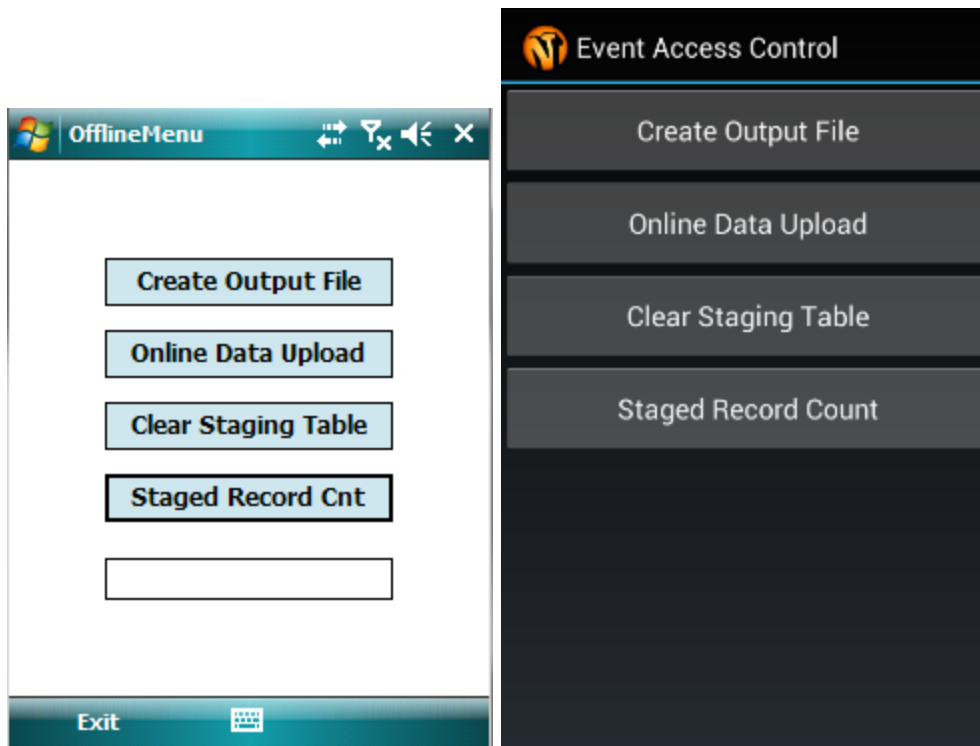
[Patron message CSIs](#) can be closed from an N-Scan unit by clicking the **Mark Read** button while viewing the message. When this button is clicked an **N-Scan Message Delivered** action with the **Resolved** box checked is added to the CSI.

Patron messages not marked read, either through user oversight or because the constituent never arrived at the performance, must be manually closed. You may want to create business practices for reviewing and closing undelivered patron message CSIs.

Uploading Offline Scan Data

Data scanned in Offline mode is stored on each scanner unit in a local database table. To log attendance, this data needs to be transferred to Tessitura. Offline data is managed from the **Offline Scans** area of Tools:

Note: The Offline Scans area is password protected and a password prompt opens when this icon is clicked.



To determine if a unit has offline data to load, click the **Staged Record Cnt** button. The box below the button displays the number of tickets in the staging table for the unit. This information can also be accessed from the Main Menu by clicking **Actions**→**Check Offline Scans**.

Transferring Offline Data to Tessitura

There are two methods for transferring the offline data to Tessitura:

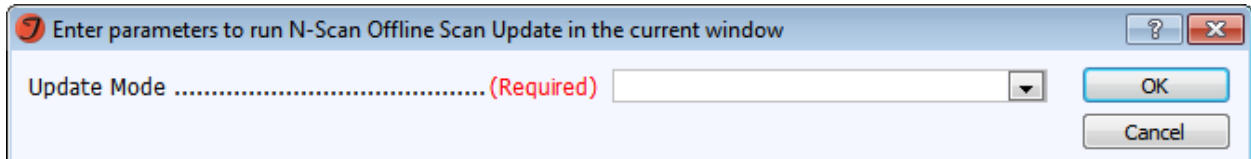
- **Online Data Upload** - If wireless communication is reestablished, clicking the **Online Data Upload** button directly loads the offline data into a staging table in Tessitura.
- **Create Output File** - If wireless communication cannot be reestablished, clicking the **Create Output File** button creates a text file on the unit, which can be transferred to a local PC using ActiveSync. This file then needs to be loaded into the

Uploading Offline Scan Data

staging table in Tessitura using the Import/Export function of SQL Server to import the file into the T_NSCAN_OFFLINE_STAGE table.

N-Scan Offline Scan Update Utility

After the offline data is loaded into the Tessitura staging table, the **N-Scan Offline Scan Update** utility, located in the N-Scan report folder, must be run in Tessitura. The utility uses the following parameter:



Update Mode – When set to **Yes** the utility updates Tessitura with successful scans and outputs a list of exceptions (i.e., invalid scans). When set to **No** the utility runs in preview mode listing successful scan and exceptions.

Note: When scanning in Offline mode, the date and time set on the unit is used as the scan date and time instead of the server date and time. If N-Scan has been set to use door open and close times, this may cause scans from the offline period to be counted in the exception list when the data is loaded back into Tessitura if the date and time on the unit was not correct at the time of scanning.

Output for the utility looks like this:

Autumn Ridge Performing Arts Center

N-Scan Off-line Scan Update

Page 1 of 1

Parameters

Update Mode: Yes

Scan Data	User	Date	Perf Code	Customer	Section	Row	Seat	Status
Ticketed Event Scans								
Scan Rejected								
2013	User1	2014-05-08 20:34	GEN032714	0	General	A	59	Ticket not for this
2013	User1	2014-05-08 20:34	GEN032714	0	General	A	59	Ticket not for this
Ticketed Event Scans	2							
Unknown Status								
2064	User1	2014-05-12 17:23	GEN050814	0	General	A	44	OK
2063	User1	2014-05-12 17:23	GEN050814	0	General	A	45	OK
Ticketed Event Scans	2							
Scan Rejected	4							
Report Totals	4							

/Tessitura/Reports/NScan/OfflineScanUpload

Run by ksheehan/Admin on 5/12/2014 1:26:09 PM (Request 895)

Clearing the Staging Table

After the staging table on the unit has been loaded into Tessitura, the staging table must be cleared. Clearing the staging table prevents the same scans from being reloaded into the Tessitura staging table, which will cause seat exceptions.

To clear the staging table on the unit, go to the **Offline Scans** area of **Tools** and click the **Clear Staging Table** button. This empties the table and readies it for use in the future.

N-Scan Reports

The N-Scan system includes three reports:

- [N-Scan Attendance Scan Report](#)
- [N-Scan Access Area Scan Exception Report](#)
- [N-Scan Event Scan Exception Report](#)

N-Scan Attendance Scan Report

The **N-Scan Attendance Scan Report**, located in the N-Scan reports folder, lists recorded attendance counts for selected performances and/or special access areas, with the option to detail the constituents for whom attendance was recorded.

Report Processing Summary

The **N-Scan Attendance Scan Report** selects all attendance entries for selected performances and/or special access areas. Attendance entries can be further filtered by scan date and whether or not they were generated by member admissions scans.

When run in **Summary** mode the report lists the total attendance counts for each included performance and special access area, broken out into the three admission/entry categories: Adult, Child, and Other.

Note: Attendance scans of performance tickets are always counted in the Adult category; there is no connection between price types and admission categories.

When run in **Detail** mode the report breaks out attendance counts by constituent within each performance and special access area. For attendance entries generated by member admission scans, the membership level is also listed.

Report Parameters

The **N-Scan Attendance Scan Report** uses the following parameters:

Enter parameters to run N-Scan Attendance Scan Report in the current window

Scan Start Date(Optional)	00/00/0000	OK
Scan End Date(Optional)	00/00/0000	Cancel
Season(s)(Optional)		Next
Performance Start Date(Optional)	00/00/0000	Previous
Performance End Date(Optional)	00/00/0000	Clear
Access Area(s)(Optional)		Report Help
Include Membership Scans?(Required)		
Detail or Summary?(Required)		

N-Scan Reports

Scan Start Date – Only attendance entries with scan dates on or after the entered date are included in the report. (Optional)

Scan End Date – Only attendance entries with scan dates on or before the entered date are included in the report. (Optional)

Season(s) – To include performance attendance data in the report, you must select one or more seasons. Only performances in the selected seasons are included in the report. Multiple selections are allowed.

Performance Start Date – Only performances on or after the entered date are included in the report. (Optional)

Performance End Date – Only performances on or before the entered date are included in the report. (Optional)

Access Area(s) – To include special access area attendance data in the report, you must select one or more access areas. Multiple selections are allowed.

Include Membership Scans? – When set to **Yes**, attendance entries generated by member admissions scans are included in the report. When set to **No**, attendance entries generated by member admissions scans are not included.

Detail or Summary? – When set to **Detail**, the report breaks out attendance counts by constituent. When set to **Summary**, the report lists only attendance count totals for each included performance and special access area.

Report Output

When run in **Summary** mode, output for the report looks like this:

Autumn Ridge Performing Arts Center

N-Scan Attendance Scan Report

Parameters

Access Area

	Adult	Child	Other	Membership Level
Total Gold Circle Lounge	27	2	0	
Total Access Areas	27	2	0	

Performance

	Adult	Child	Other	Membership Level
Total General Admission	5	1	0	
Total Performances	5	1	0	
Report Total	32	3	0	

/Tessitura/Reports/Nscan/AttendanceScanReport

Run by ksheehan/Admin on 9/5/2014 3:04:34 PM (Request 1033)

When run in **Detail** mode, output for the report looks like this:

Autumn Ridge Performing Arts Center

N-Scan Attendance Scan Report

Parameters

Access Area

Gold Circle Lounge	Constituent	Adult	Child	Other	Membership Level
	Ms. Anna Arendelle	4	0	0	
	Ms. Janice Michele Benson	1	2	0	
	Mr. Melodie Lorraine Bucchi	1	0	0	
	Mrs. Kate Furst	2	0	0	
	Mr. Lori Trudy Menyes	1	0	0	
	Ms. Dolores June Noe	2	0	0	
	Ms. Laurence Legrande Pawloski	2	0	0	
	Derick Sheehan and Kate Furst Household	2	0	0	
	Kevin and Amanda Sheehan Household	7	0	0	
	Mr. Fritz Kent Turner	5	0	0	
Total Gold Circle Lounge		27	2	0	
Total Access Areas		27	2	0	

Performance

General Admission	Constituent	Adult	Child	Other	Membership Level
	(General Public)	2	0	0	
	Ms. Anna Arendelle	1	0	0	Single
	Ms. Alice Winifred Koppy	1	0	0	Single
	Derick Sheehan and Kate Furst Household	1	1	0	Family
Total General Admission		5	1	0	
Total Performances		5	1	0	
Report Total		32	3	0	

/Tessitura/Reports/Nscan/AttendanceScanReport

Run by ksheehan/Admin on 9/5/2014 3:06:20 PM (Request 1034)

Technical Notes

Report Framework	SSRS
Data Object	NP_ATTENDANCE_REPORT
Report Object	AttendanceScanReport

N-Scan Access Area Scan Exception Report

The **N-Scan Access Area Scan Exception Report** , located in the **N-Scan** report folder, lists entry denied scans for special access areas.

Report Processing Summary

The **N-Scan Access Area Scan Exception Report** selects all access area scan exception entries recorded within the entered date range.

Exceptions are grouped in the output by access area. For each exception the following information is listed: the exception type (error message), the constituent ID of the ticket owner or member, the name of the ticket owner or member, a flag to indicate if the data scanned was a membership card or a ticket, the scan date, the data scanned, and the user entered on the unit that scanned the data.

Report Parameters

The **N-Scan Access Area Scan Exception Report** uses the following parameters:

From Date and **To Date** - All exceptions recorded in the entered date range are included in the report.

Report Output

The report output looks like this:

Autumn Ridge Performing Arts Center

N-Scan Access Area Exception Report Page 1 of 1

Parameters
From Date: 2014-09-08
To Date: 2014-09-08

Exception	Customer #	Name	Card	Scan Date	Scan Data	User
LNG1 Gold Circle Lounge						
Entry Denied	319	Ajay Marticelli	Y	9/8/2014 12:41:30 PM	C00319	User1
Entry Denied	777	Herb Stammen	N	9/8/2014 12:42:38 PM	406	User1

/Tessitura/Reports/NScan/AccessAreaExceptionReport Run by ksheehan/Admin on 9/8/2014 2:02:52 PM (Request 1067)

Technical Notes

N-Scan Reports

Report Framework	SSRS
Data Object	NP_ACCESS_AREA_EXCEPTION_RPT
Report Object	AccessAreaExceptionReport

N-Scan Event Scan Exception Report

The **N-Scan Event Scan Exception Report**, located in the **N-Scan** report folder, lists scan exceptions (i.e. invalid data scans) for performances. This report can be used to review nightly scan errors and troubleshoot issues.

Report Processing Summary

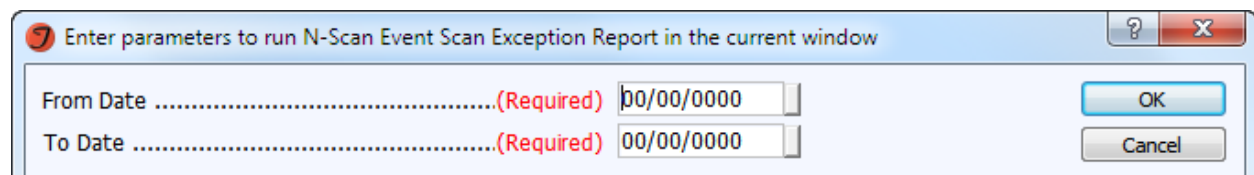
The **N-Scan Event Scan Exception Report** selects all performance scan exception entries recorded within the entered date range.

Exceptions are grouped in the output by performance, with exception entries that do not have a performance listed first. For each exception the following information is listed: the exception type (error message), the constituent ID of the ticket owner or member, the name of the ticket owner or member, the order number for the order to which a ticket belongs, the seat location (section,row,seat) for a ticket, the data scanned, and the user entered on the unit that scanned the data.

Note: If a valid membership is scanned for a member admission but the counts window is closed without saving, an exception is logged with a message of OK - Enter Counts.

Report Parameters

The **N-Scan Event Scan Exception Report** uses the following parameters:



Enter parameters to run N-Scan Event Scan Exception Report in the current window

From Date(Required) 00/00/0000

To Date(Required) 00/00/0000

OK

Cancel

From Date and **To Date** - All exceptions recorded in the entered date range are included in the report.

Report Output

The report output looks like this:

N-Scan Reports

Autumn Ridge Performing Arts Center

N-Scan Event Exception Report

Page 1 of 1

Parameters

From Date: 2014-09-08
To Date: 2014-09-08

Exception	Customer #	Name	Order #	Section/Row/Seat	Scan Data	User
Ticket number not found.					ACDS	User1
Ticket number not found.					C000846	User1
OK - Enter counts	846	Odell Shoup			C00846	User1
OK - Enter counts	319	Ajay Marticelli			C00319	User1
OK - Enter counts	319	Ajay Marticelli			C00319	User1
TOUR0201	2/1/2011 9:00:00 AM	Autumn Ridge Tours				
Event not authorized on device	89	Hamish Fairchild	129	General Admission / C / 63	28	User1
GEN051214	9/8/2014 9:00:00 AM	General Admission				
OK - Ticket already recorded	0	<General Public>	1705	General Admission / A / 69	2126	User1
PROOF2	9/14/2014 2:00:00 PM	Proof				
Ticket already recorded	70000	Jim and Lois Acton Household	467	Orchestra Front / E / 2	405	User1
Ticket already exited	70000	Jim and Lois Acton Household	467	Orchestra Front / E / 2	405	User1
Ticket not scanned in	777	Herb Stammen	466	Orchestra Front / D / 1	406	User1

/Tessitura/Reports/NScan/EventExceptionReport

Run by ksheehan/Admin on 9/8/2014 10:59:44 AM (Request 1060)

Technical Notes

Report Framework	SSRS
Data Object	NP_EVENT_EXCEPTION_RPT
Report Object	EventExceptionReport

N-Scan Attributes and CSI Values

As part of the N-Scan installation process, several attributes and CSI field values are added to Tessitura for use with N-Scan features. This topic lists the technical details of these attributes and CSI field values for reference.

Additionally, the N-Scan installation process takes the following related actions:

- An N-Scan keyword category (used to categorize attributes in criteria sets) is created and assigned to all N-Scan attributes.
- The Individual constituent type is associated with the N-Scan attributes as part of the N-Scan installation; entries must be manually added to TX_KEYWORD_CUST_TYPE to associate the attributes with any other constituent types.
- The ID numbers of the attributes and CSI field values created are added to the T_DEFAULTS table.

NScan Monitor Individual

Description - NScan Monitor Individual

Data_Type - Number

Edit_Mask - Numeric

Detail_Tbl - TX_CUST_KEYWORD

Detail_Col - !.Key_Value

Category - N-Scan

Use_For_List - Attributes

Multiple_Value - Check box checked

Incl_In_Basic_Search - Check box unchecked

NScan Monitor Constituency

Description - NScan Monitor Constituency

Data_Type - String

Edit_Mask - None

Detail_Tbl - TX_CUST_KEYWORD

Detail_Col - !.Key_Value

Ref_Tbl - VRS_CONSTITUENCY

N-Scan Attributes and CSI Values

Ref_Col - Description

Ref_Description - Description

Ref_Sort - Description

Category - N-Scan

Use_For_List - Attributes

Multiple_Value - Check box checked

Incl_In_Basic_Search - Check box unchecked

NScan Monitor List

Description - NScan Monitor List

Data_Type - String

Edit_Mask - None

Detail_Tbl - TX_CUST_KEYWORD

Detail_Col - !.Key_Value

Ref_Tbl - VS_LIST

Ref_Col - List_desc

Ref_Description - List_desc

Ref_Sort - List_desc

Category - N-Scan

Use_For_List - Attributes

Multiple_Value - Check box checked

Incl_In_Basic_Search - Check box unchecked

N-Scan CSI Field Values

N-Scan uses Tessitura customer service issues (CSIs) to deliver messages to constituents. As part of the installation, the following updates are made to Tessitura:

- **TR_CUST_ACTIVITY_CATEGORY** - An N-Scan Message category is created. This is not an auto close category.

N-Scan Attributes and CSI Values

- TR_CUST_ACTIVITY_TYPE - An N-Scan Patron Message type is created, assigned to the N-Scan Message category, and set to use Performances in the Perf Ind column.
- TR_ACTION - A Message Delivered action is created with no letter assigned.