Vuze ® Table Location System

Installation Manual

HME Wireless, Inc.

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Vuze ® Table Location System

CONCEPT

The Vuze Table Location System provides users the ability to quickly identify where a party is located in a restaurant in order to deliver food in a timely and efficient manner.

By using Vuze by HME Wireless ("HMEW") users will have the ability to craft their system to fit their needs and budget. Unlike other systems, HMEW's active RFID technology allows users to create Delivery Zones or, by adding additional tags, have a tag per Table. Delivery Zones allow food runners to eliminate a majority of the restaurants floor space when locating a guest. Food runners can be fully engaged with diners and ensure the best experience is offered, while quickly delivering the order.

Vuze provides users multiple view options; list, image, or map; for finding their customer, as well as, the ability to cater Delivery Zone or Table names to whatever they desire like Window, Patio, or Booths. This flexibility offers quicker training and eliminates the need for learning or referencing a floor map full of foreign numbers.

COMPONENTS

Your Vuze Table Location System is comprised of three hardware elements; the GuestTag, the ReferenceTag, the Reader, and two software elements; the Vuze Waitlist and Vuze Management Software

GuestTag

- A numbered coaster style device that is handed to a guest to determine their location.
- Runs on a rechargeable battery pack and can hold a charge for up to 15 hours between charges.
- Stacks on the GuestTag charger for recharging. For best results, do not stack more than 15 tags high.
- GuestTag charger looks similar to the GuestTag with two exceptions; 1) does not have number on the top face and 2) has two charging holes in the back case for the power supply and to "daisy chain" multiple chargers together with a "jumper wire." (Available from HMEW, part# JMP).

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ReferenceTag

- A three part, weather resistant tag that will be secured to a location or object in the restaurant.
- Runs on two "A" cell Lithium Ion batteries (contact HME Wireless for replacements, part# ALITH). Expect 12-24 months battery life, depending on delivery volume.
- Reference Tags identify specific points in the restaurant that will be displayed on screen as locations.

Vuze Reader

- The "engine" of the Vuze system; catches all traffic from the GuestTags and pushes it to the appropriate location for processing.
- Requires a clear line of sight to the dining room. For the best experience, it is recommended that the Reader be placed approximately 6 - 10 feet from the floor with the antenna pointing up. A common location is to mount the reader to a swing arm in a Hybrid installation or in the office in a Cloud installation.

VUZE SOFTWARE

The Vuze Management software handles all of the back end setup for the Vuze system. In Management, you will be able to add or make adjustments to the different tags, as well as, pull reports showing the latest activity of each of the tags in the system for troubleshooting; images are available in Appendix A. Vuze Waitlist allows users to quickly identify the location of a GuestTag (customer) based on information received by the Reader.

Vuze Waitlist

- Shows a "paddle" for each GuestTag that is active.
- Paddles are displayed in the order GuestTags become active.
- Paddle record shows the GuestTag number, the Location, and two optional Timers.
- One represents the amount of time that the GuestTag has been active.
- The other represents that amount of time that the GuestTag has been at the most recent location.
- Each Paddle has three user defined color thresholds based on how long the Paddle has been on screen; green, yellow and red.

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DEPLOYMENT

The Vuze Table Location system utilizes a technology called Active RFID. Active RFID allows the tags to be in constant communication with each other and aids in ensuring that the system is as real-time as possible.

To ensure the best experience when using Vuze, it is important to understand one core ideal throughout.

A GuestTag MUST hear the same ReferenceTag two times in a row (2x) for it to register an update on the display.

For example: GuestTag # 10 is handed to a guest and they go to sit down.

As that guest is moving through the dining room #10 is calling out and listening for any ReferenceTag responses. After the Reference Tags respond, #10 collects all of that information and transmits it to the Reader for processing. The ReferenceTag that is considered the LOUDEST is what the system considers to be the closest, regardless of distance. Since the guest is moving, each time #10 responds back to the system it is hearing a different ReferenceTag as the loudest (since it is not 2x in a row, the system is not updated).

When the guest sits down in Zone 4 or by the Window or on Table 12, the GuestTag will continue to call. Since the guest is no longer moving it will hear the ReferenceTag marking that area 2x or more in a row and will update the screen to show the appropriate location.

The same concept applies when handing out a GuestTag ("Activating"), or returning a GuestTag ("Deactivating"); the specific GuestTag MUST hear the same ReferenceTag 2x in a row before the system will update.

ⓘ *Metal Surfaces or obstructions may deflect the Reference Tag signal resulting in a tag being the closest BUT not being the LOUDEST.*

ⓘ *When moving, the Guest Tag will call out every four (4) seconds and when at rest, every twelve (12) seconds. As a result, you will see a slight delay on the display.*

ⓘ *Guest Tags will need to charge a minimum of one hour prior to use.*

ⓘ *The system relies on the GuestTag assuming that the closest Reference Tag is also the loudest. It is important to ensure that obstructions do not prevent that from being the case.*

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Hardware Setup

- Unpack and identify all GuestTags and GuestTag chargers. Place in designated locations near or around register or primary distribution area.
- Ensure adequate power is available for the chargers. HMEW recommends that all components be plugged into surge protection devices.
- Plug power supplies into chargers and place GuestTags on chargers.
- Utilizing the previously completed Pre-Installation Worksheet and floor map (copies provided in packaging) determine where the PC or device(s) that will display the Vuze software will be located, typically in the "expo" area. Ensure that there is adequate power available for the device(s); giving consideration for the Reader.
- Unpack, identify, and separate each of the Reference Tags according to the tag "type". Each tag will be labeled based on information provided during the sales process.
- There are three "types" for Reference Tags:
    - Activate - located where the GuestTags are distributed to guests; i.e. Register, Host Stand
    - Zone or Table - labeled by name to indicate the location in the dining room; i.e. Window, Table 14
    - Deactivate - located where the GuestTags are collected after food has been delivered; i.e. Expo
- Confirm that all equipment that is anticipated is accounted for. HMEW will provide in the packaging recommended wood screws for mounting Reference Tags as well as plastic zip ties if Patio tables were identified on the Site Survey or floor map. Commercial grade Velcro® (not included) is recommended if mounting is not possible with provided screws or ties.
- Utilizing the floor map previously provided place the Reference Tags in their marked locations.

ⓘⓘ DO NOT mount the Reference Tags at this point. ⓘⓘ

TOUCH SCREEN PC

- Vuze PC instructions assume the PC was purchased from HMEW as part of the Vuze system. Details may vary if PC is sourced elsewhere.
- Each Vuze PC is Wifi capable, optional Remote PC Support is available, contact HMEW for pricing.
- Prior to shipment, HMEW has fully staged, configured, and tested your Vuze PC with your tags.
- Ensure proper power is available and place PC in pre-determined location.
- Once on, the PC will automatically load Vuze. A review of the interface is detailed later in this document.

READER

- The Reader requires a direct connection to the Vuze PC's Ethernet or network connector.
- Ensure proper power is available for both the Reader and the PC.
    - HMEW recommends all components be plugged into surge protection devices.
- Install Reader in a location that is between 6 - 10 feet off the ground with the antenna pointing up. Be sure to avoid stainless steel or other metallic surfaces.
- To confirm the Reader connection is active:
    - Select PING Reader from the Desktop
    - If successful, you should see the following:

    - If unsuccessful, check all connections and retry PING Reader.

ⓘⓘ PC and Reader setup is complete. ⓘⓘ

TESTING

The Vuze software is designed to allow a user to quickly identify the location of a GuestTag (customer) based on information received by the tags.

As mentioned previously, the Vuze system is Active RFID and constantly calling; as a result, there will be moments when the system will display a location that is adjacent to the intended location. This is an expected consequence of the constant communication going on with the system. During the testing phase, users and installers can work to reduce these instances by testing the ReferenceTag locations and making slight adjustments to the tag placement detailed on the map provided.

There are three types of possible actions that occur in a GuestTag "transaction"

- Activate - begins the transaction when the order is taken.
- Seat - a GuestTag hears the same ReferenceTag 2x at a Delivery Zone or Table.
- Deactivate - ends the transaction after the food is delivered.

Testing Activate and Deactivate Tags

The Activate and Deactivate tags have the most influence on your system performance.

- When placing Activate tags near the cash register keep in mind some of the following:
    - The tag signal will be deflected by metal surfaces so try not to place directly next to object like cash drawers, coolers, or wire metal racks.
    - It is important to have a 6 - 12 inch space between the Activate tag location and the GuestTags.
- To ensure Activation on each transaction, make sure that the GuestTag is taken off of the charger early enough in the POS entry to ensure that the GuestTag has time to call 2x and hear the Activate Tag. Rushing this process and

ⓘ The system is developed and intended to eliminate a majority of the dining room from consideration when delivering food.

While delivering food, staff should be fully engaged and scan the area for the intended guest as well as other opportunities for service.

ⓘ A "transaction" is defined as the time from when a GuestTag is handed to a guest until the time that the GuestTag is returned to the deactivate area after food delivery.

ⓘ For testing, utilize two GuestTags from the charger with the Reference Tags placed in the dining room as described on page 7.

ⓘ When a GuestTag is charging, the tag is in Sleep Mode and will not send any updates. When Activating or Deactivating ensure that the tag has enough time to hear the nearby ReferenceTag 2x (approx 10 seconds).

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taking the tag off of the charger too late will cause the system to not hear the Activate command and impact the records on screen.

To ensure the GuestTags are hearing the Activate and Deactivate tags perform the following test:

- Remove a GuestTag from the charger. When the tag is removed and coming out of Sleep Mode you will see the red LED on the tag flash twice, this indicates that the tag is awake and active.
- Wait approximately 10 seconds then take the GuestTag into the dining room and place it at a location adjacent to a ReferenceTag.
- After a few seconds the Vuze display will show the paddle for that tag on screen with the name of the ReferenceTag that it is sitting next to.
- Once that is seen on screen, remove the GuestTag and take it to the Deactivate area.
- When it has been in the Deactivate area for approximately 10 seconds the paddle will automatically drop off of the screen.
- Testing is complete for the Activate and Deactivate tags.
- Should you see different results, adjust the location of the Activate or Deactivate tags to ensure they are clear of any metal surfaces and have adequate distance from the GuestTags and retry.

Testing Delivery Zones or Table Tags

After completing the test for Activate and Deactivate tags, you are ready to test the Reference Tags used for identifying Delivery Zones or Tables. To accomplish this perform the following test:

- Follow the steps above for testing the Activate tag.
- Test the GuestTag(s) at each area marked on the provided floor map to ensure that each ReferenceTag is showing as expected.
- Once the Reference Tags locations have been tested and confirmed, place the Reference Tags under the object or table like on a seat and perform the above test a second time.

ⓘ *When moving GuestTags from the Deactivate area to the Activate area or chargers, be aware of the following:*

ⓘ *If GuestTags are collected in a basket or bin at the Deactivate area, move the entire basket to the Activate area before placing tags on the charger.*

ⓘ *GuestTags placed on the charger go into Sleep mode immediately. Prior to placing GuestTags on the charger ensure that they have adequate time to hear the Activate tag 2x. Failure to do this results in an action we call "Ghosting."*

ⓘ *A location is based on the LOUDEST ReferenceTag being heard 2x. That may not always be the closest. It is important when placing Reference Tags that diligence is taken in ensuring they are not mounted next to items that will cause the signal to be deflected or impacted; such as, walls or snug against table legs.*

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- This second test will ensure that objects below table top level like walls, booth seats or adjacent high top tables do not adversely affect the previous test.
- Adjust ReferenceTag placement by hand until the desired results are achieved.
- It is not necessary to test every inch of the tabletop but it is important to factor where a guest may place a GuestTag when waiting.

- Once you are comfortable with the location of the Reference Tags and have an understanding of what area will display on screen, the test is complete.
- Return the GuestTags to the Deactivate area to clear the records on screen.

MOUNTING

When all testing is complete and you are satisfied with the results and location of each of the Reference Tags it is time to mount them. Each ReferenceTag is comprised on three pieces; the mounting plate which mounts to the table or object, the face or bottom plate, and the tag or bubble. The face plate and tag snap into the mounting plate on it is on the table or object.

- For wood tables and objects: place mounting plate onto object and secure to table. Only two screws are necessary to ensure a quality installation, additional screws can be added as desired. HMEW will provide an allotment to install two screws with each tag.
- For wire mesh patio tables: if possible, HMEW recommends mounting the ReferenceTag on the table top. If not possible, utilize two plastic zip ties (included) to secure the mounting plate to the table. Once secured snap in the ReferenceTag (may require a bit or force) and trim the excess ends of the plastic ties.
- For solid metal or dense surfaces (concrete, marble): these surfaces will cause significant deflection of the RFID signals and HMEW does not recommend mounting the ReferenceTag underneath these types of surfaces.

ⓘ If a ReferenceTag does not respond, check the batteries by unscrewing the top "bubble" piece of the tag and resetting the batteries.

ⓘ RECOMMENDED TOOLS

- *Drill with Phillips screw bit*
- *Needle nose pliers*
- *Cutter*

ⓘ Wire Mesh tables used on patios cause deflection of RFID signals. HMEW recommends Zone installations for Patios and, if possible, secure the tag to an object that will not deflect the signal as much like planter boxes or security fences.

ⓘⓘ Table placement AND ORIENTATION are very important for optimal use. After mounting a tag, place a sticker on the table leg or table edge to display the proper orientation.

ⓘⓘ Be certain after tables have been moved that they are returned to the proper LOCATION AND ORIENTATION to prevent incorrect readings.

ⓘ Once all tags are mounted installation is complete.

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SYSTEM USE

As GuestTags are distributed to customers and they are seated, you start to the see the Vuze display updating. Each record carries four (4) potential pieces of information about that customer.

- GuestTag - the number distributed to the customer and to be found when delivering food.
- Location - the name assigned to the Delivery Zone or Table when the GuestTag is located.
- Timers - time since the last Location has been registered and/or total transaction time (user adjustable).
- Threshold Color Bar - displays if the Seated time is within user defined parameters.

On the Vuze Waitlist, this information is provided in a "paddle" format listed by the first record on screen at the top. Each paddle displays the GuestTag on the left, followed by the Location, with the Timer below. Colors are determined by a threshold set in Vuze Management.

- The Vuze display is designed to not show a paddle until it is in motion away from the register area; therefore, the timer will not read 0:00 when the record first appears.
- The Waitlist software requires specific events to occur to function as intended.
    - Guest Tag MUST hear the Activate Tag 2x (approx. 10 seconds) before leaving the register area to display on screen.
    - Guest Tag must hear a Delivery Zone or Table tag 2x in a row to display a location on the screen.
    - Guest Tag MUST hear the Deactivate Tag 2x in a row to remove the record from the screen.
- As mentioned during the Testing phase on page 6, it is crucial that the Guest Tag is given ample time to hear the Activate Tag prior to being handed out. Failure to do this will result in the Guest Tag not appearing on screen.

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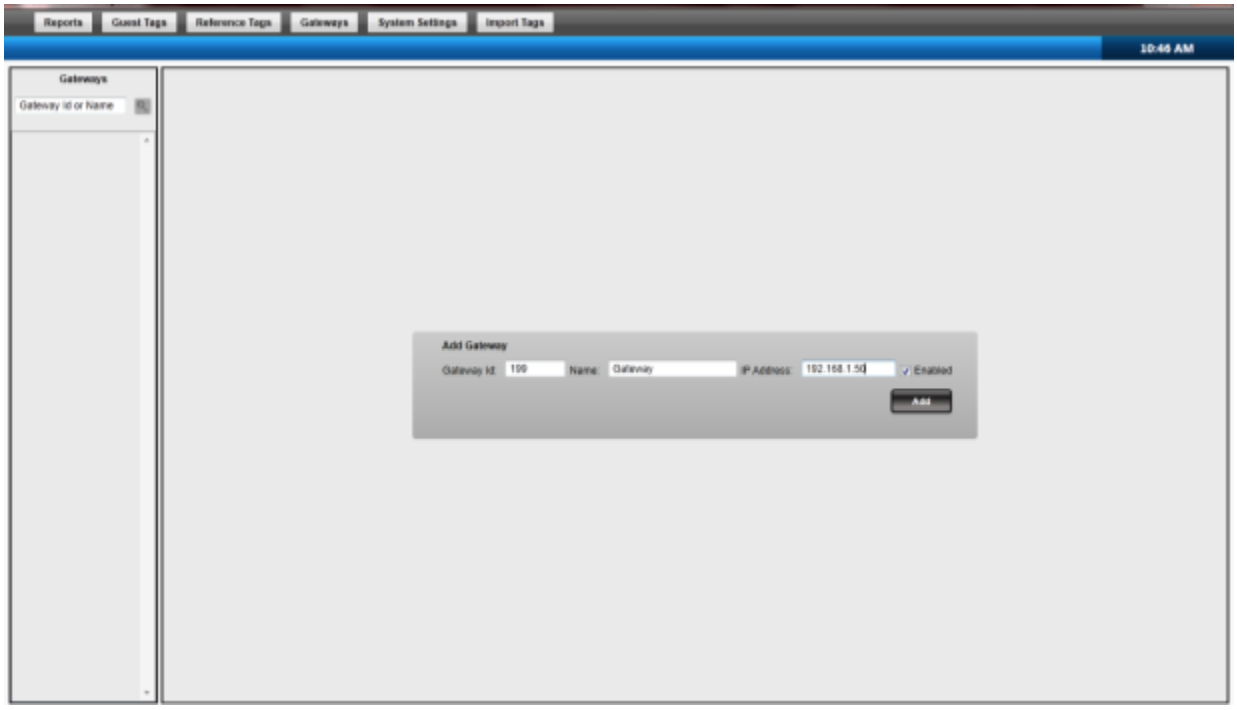
Appendix A

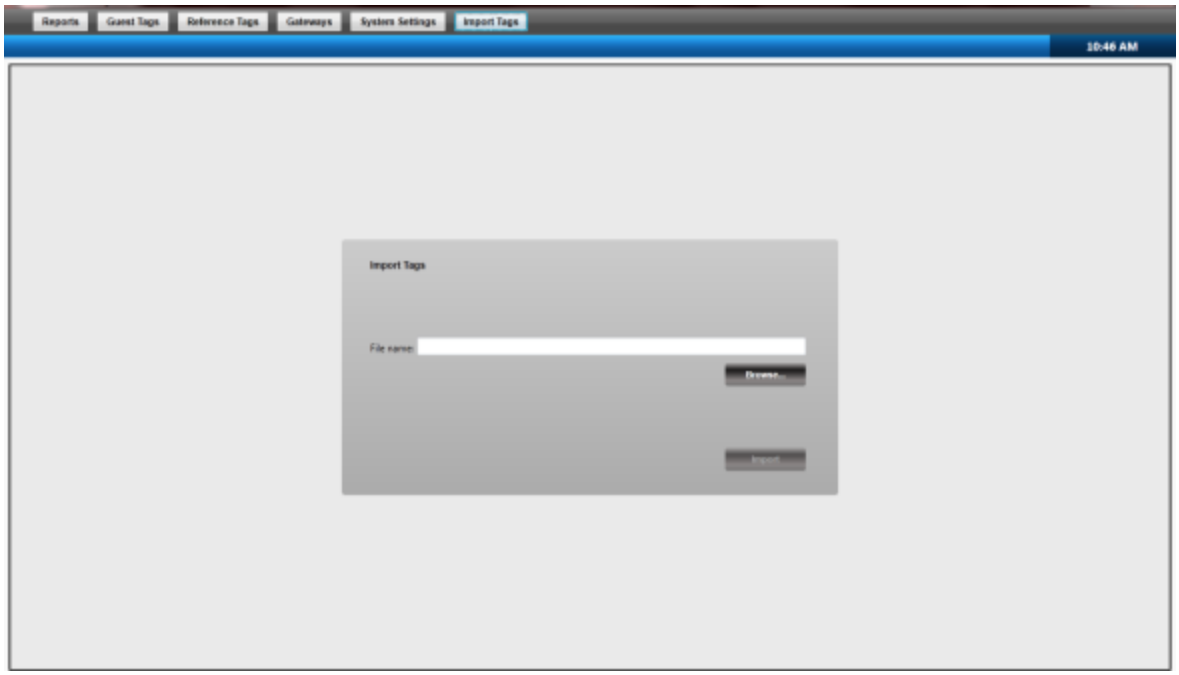
Vuze Management Software

The Vuze Management software tells your system what tags that it is listening for. If you purchased a PC from HMEW all of the following has already been completed prior to shipment.

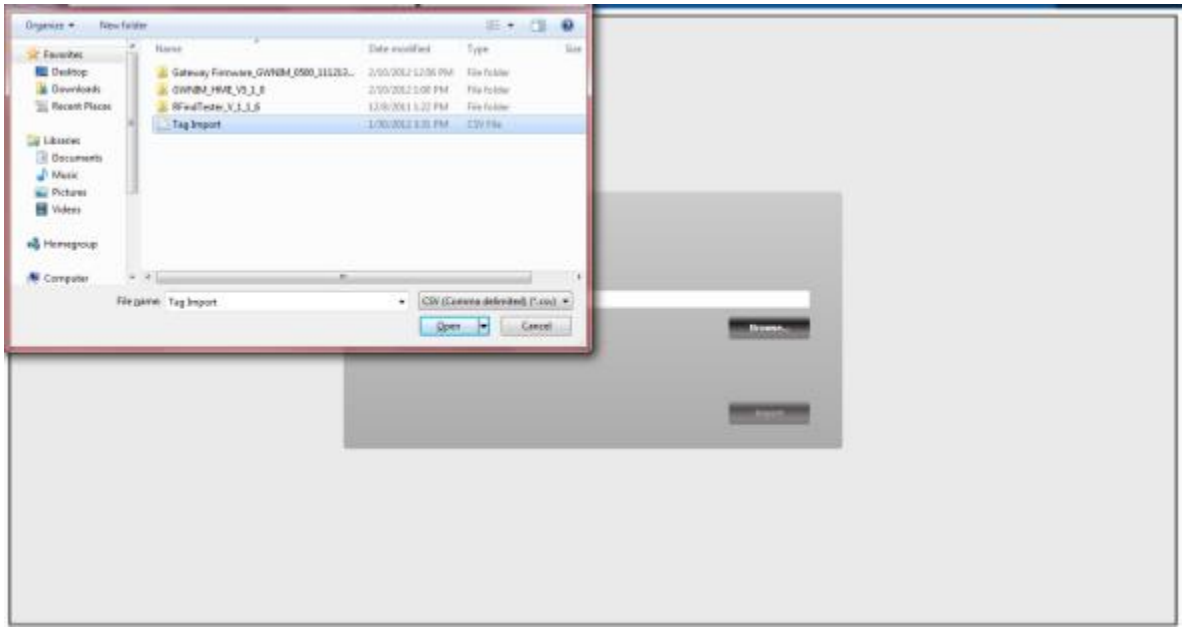
1. Open the Vuze Management Application on your Windows Menu.
2. Use the following steps to configure the system.
3. First item to configure is the Reader.
4. Choose Reader from the buttons on the top.
5. Enter the Reader ID (this is the number on the Reader front label)
6. Create a name for it
7. Enter the IP address for the Reader. The default address is 192.168.1.50.
8. Ensure that the '**Enabled**' box is checked and click ADD.



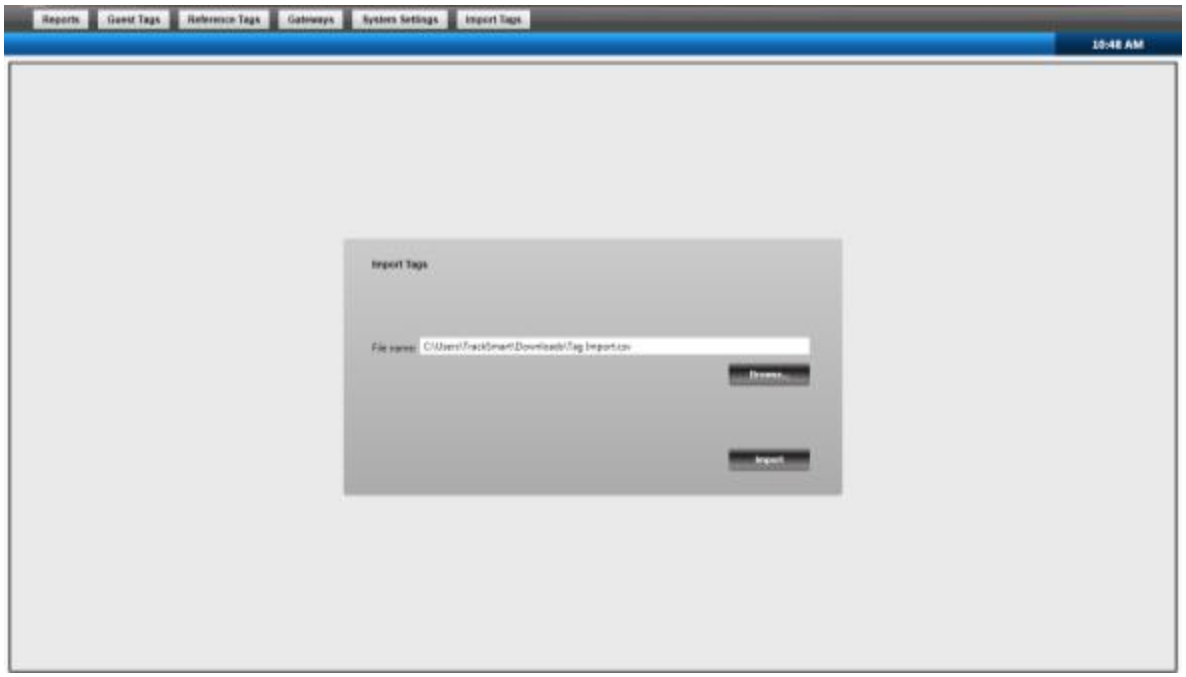
9. Next, you will need to import the tags into the system.
10. Select the Import Tags button on the top of the screen.



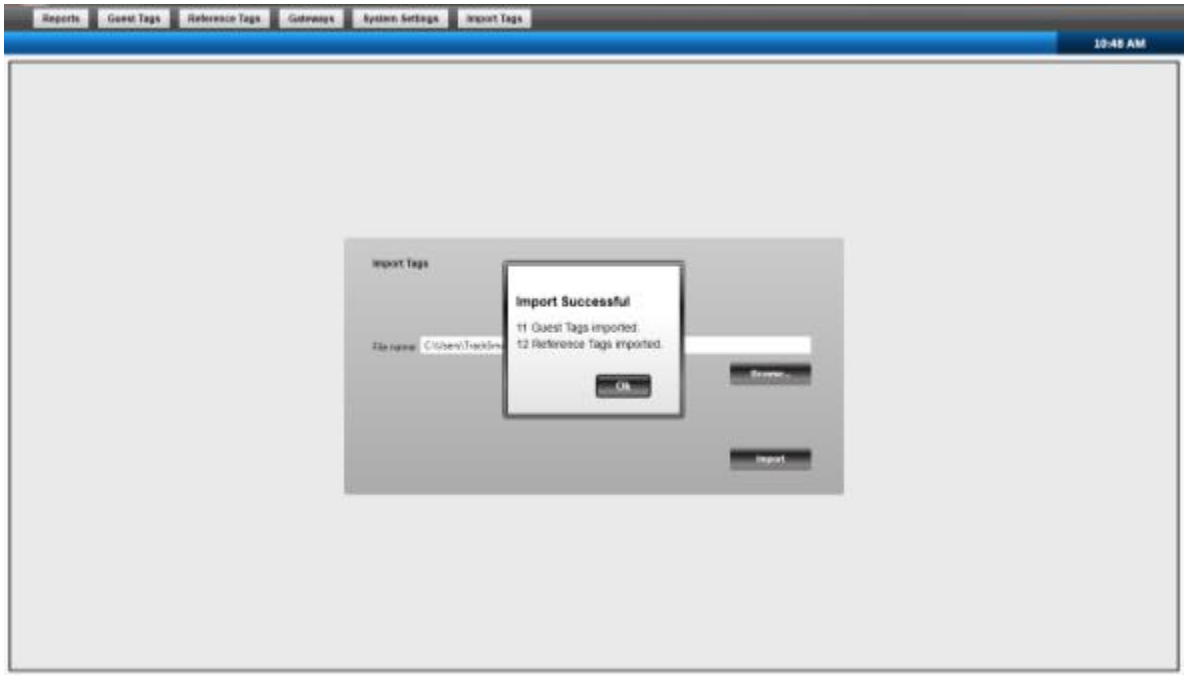
11. Click Browse and locate the file called Tag_Import.csv from the USB drive.



12. Click Open, you should see the file's path and name in the File Name window.



13. When you have verified that is correct, click Import. You should see a box popup confirming what has been successfully imported.



14. Close the Vuze Management application.
15. CONGRATULATIONS!! The system is ready to use.

Appendix B

COMPLIANCE

Radio Frequency Compliance Statement

The user(s) of this product is cautioned to only use accessories and peripherals approved, in advance, by HME Wireless, Inc. The use of accessories and peripherals, other than those approved by HME Wireless, Inc., or unauthorized changes to approved products, may void the compliance of these products and may result in the loss of the user(s) authority to operate the equipment.

> This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The antenna(s) used for the Reader transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device has been designed to operate with the antennas or antenna included with the product. The use of any other antenna(s) is strictly prohibited.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Compliance

This device complies with Canadian ICES-3(A).
Cet appareil est conforme à la norme NMB-3(A) du Canada.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

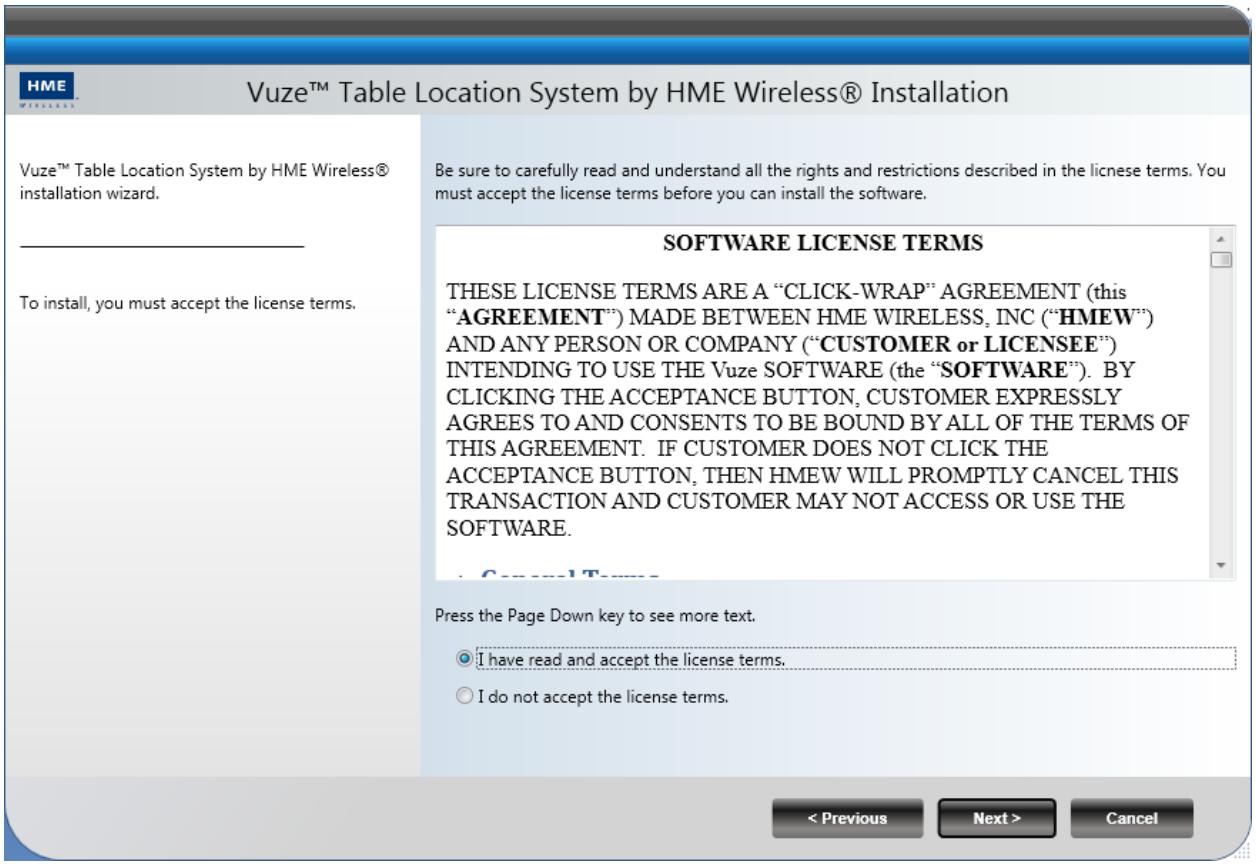
Cet appareil est conforme la norme d'Industrie Canada exempts de license RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de la appareil.

Appendix C

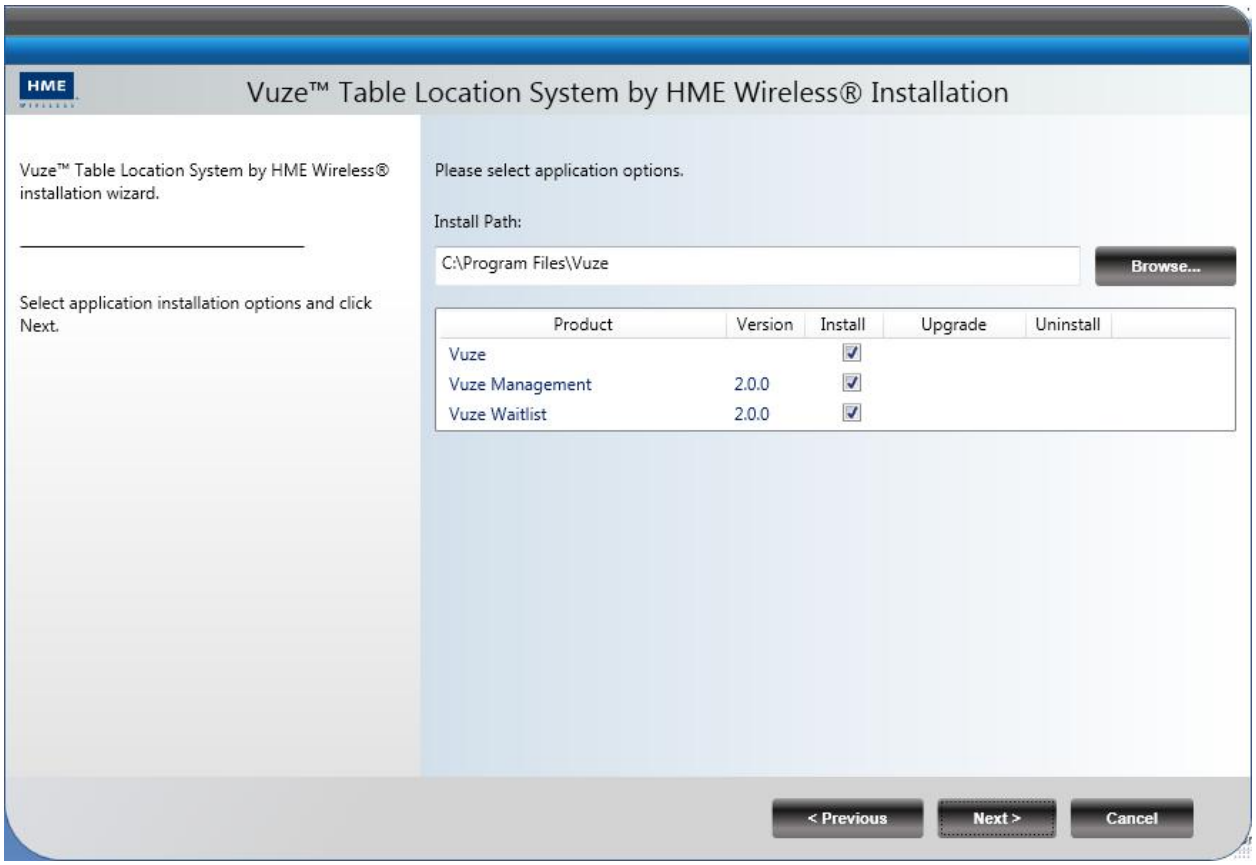
Vuze Installation Files

The following are images of each installation page for reference.

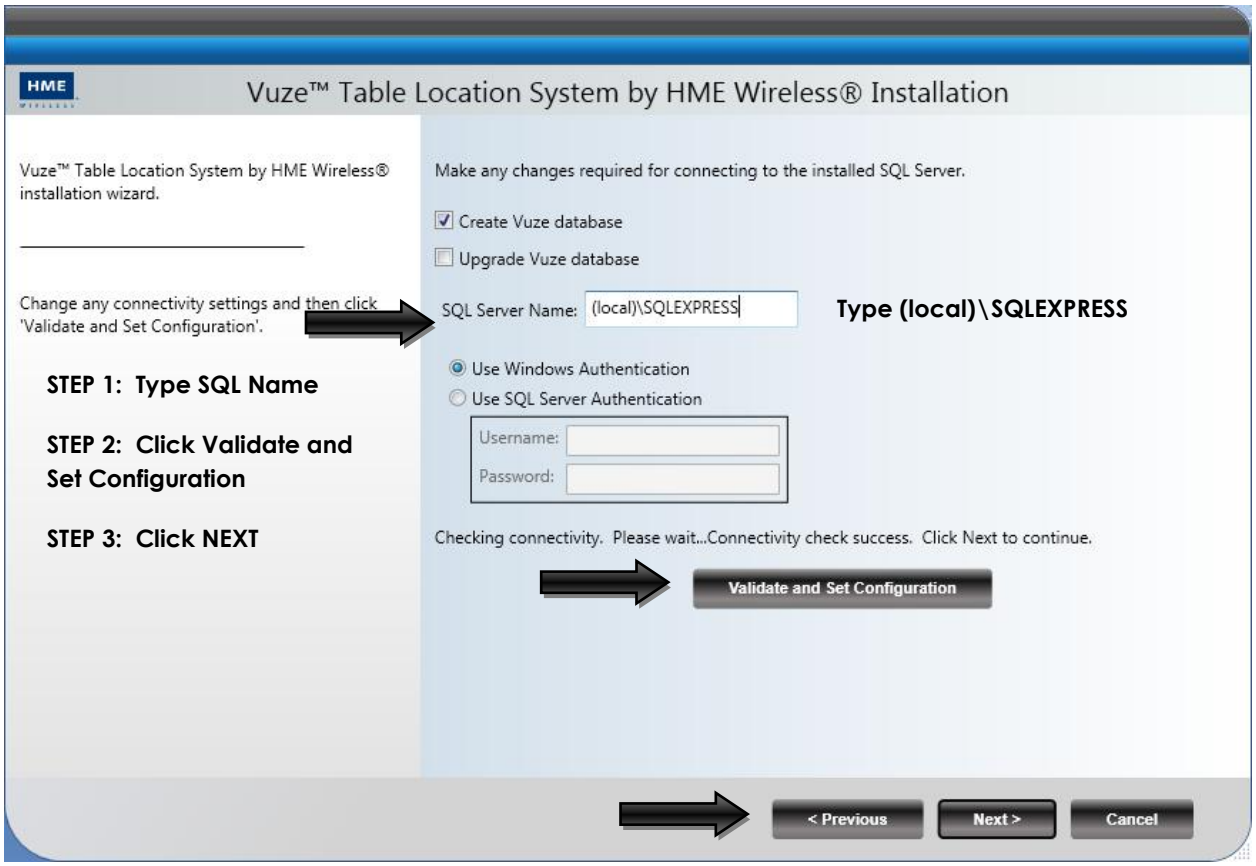
Click NEXT.



Click that you have accepted the terms and click NEXT.



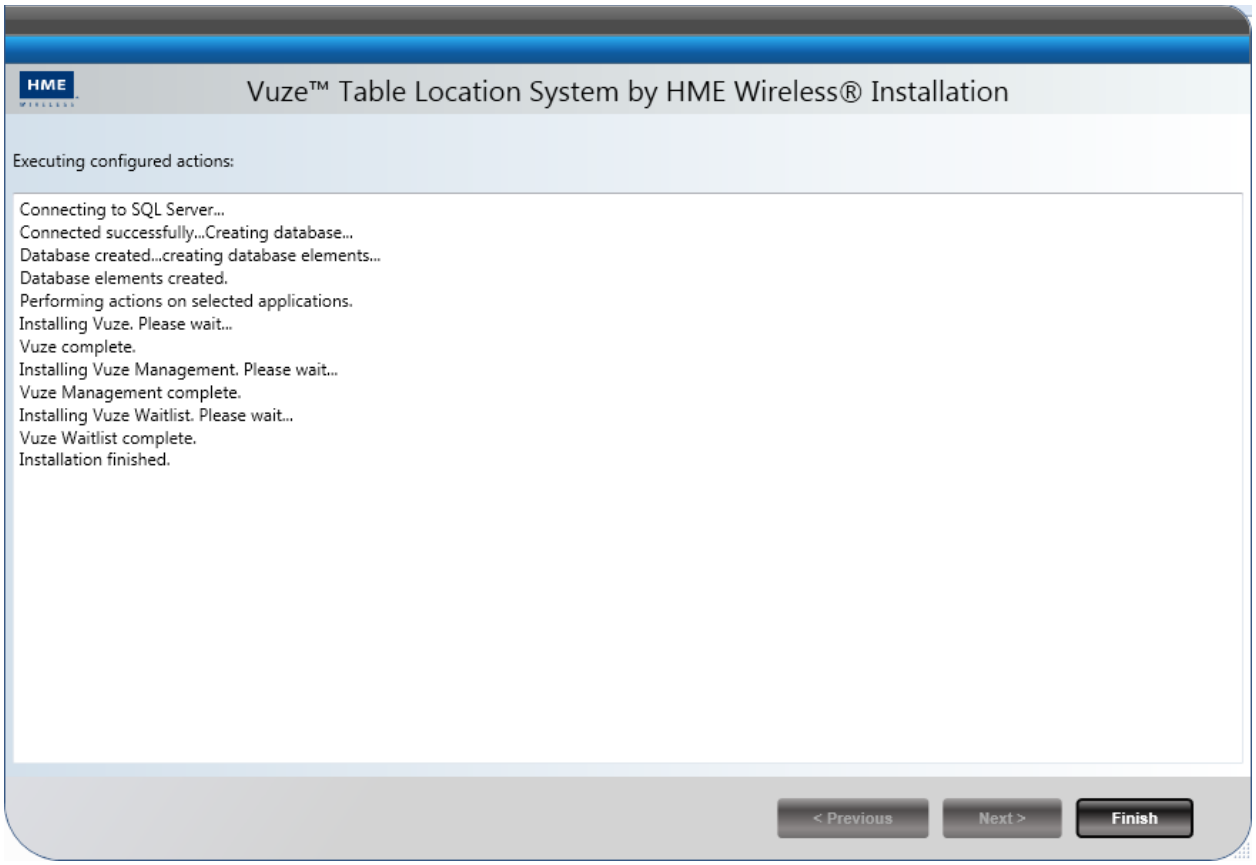
Ensure all three items are checked and path is correct, click NEXT.



Click on VALIDATE AND SET CONFIGURATION, wait for confirmation to appear.

When it says Connectivity check success, click NEXT.

Once you have confirmed everything, click NEXT to start the installation.



Click FINISH, installation is complete.