eTag & eTag Mini User Manual version [1.0.3]





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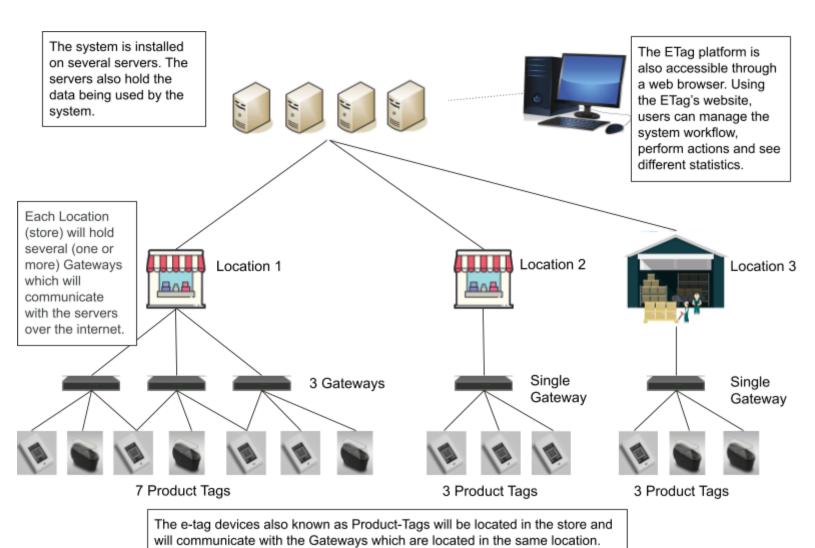
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General workflow

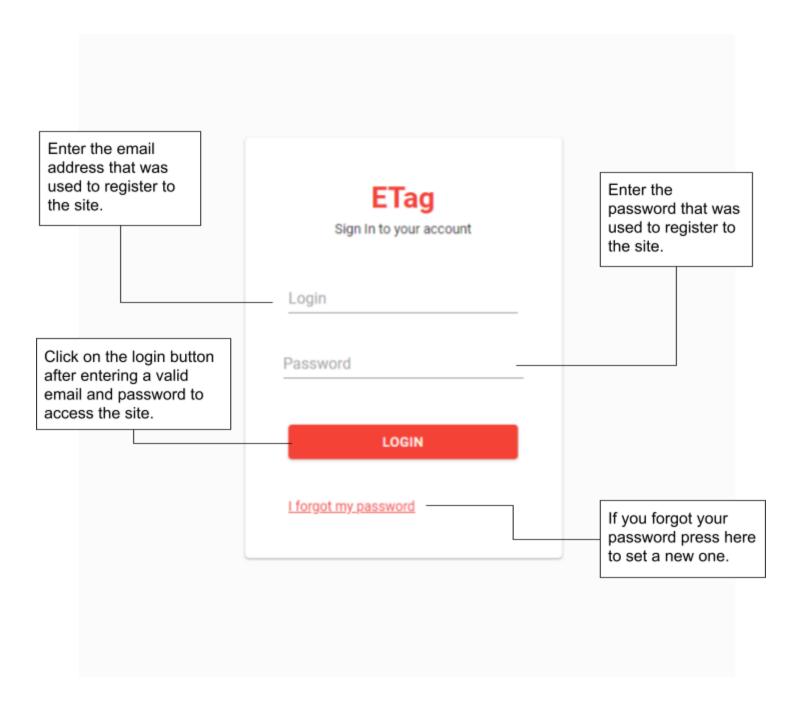
The e-tag device was developed to serve as an automatically updating electronic display. It displays multiple images to the customer, each holding information about the product attached to the device.

The eTag platform relies both on hardware and software services to add, update and view information. The system is installed on several servers and the data is transmitted from the gateways to the servers over the internet. Here is a flow chart to help you understand the big picture.



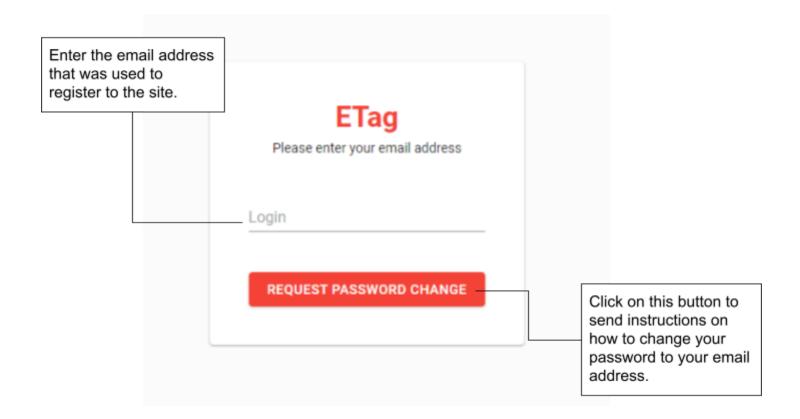
Login Page

When first visiting the site you are greeted with the login page. Here you are required to enter your login credentials, meaning your email and password in order to gain access to the site.



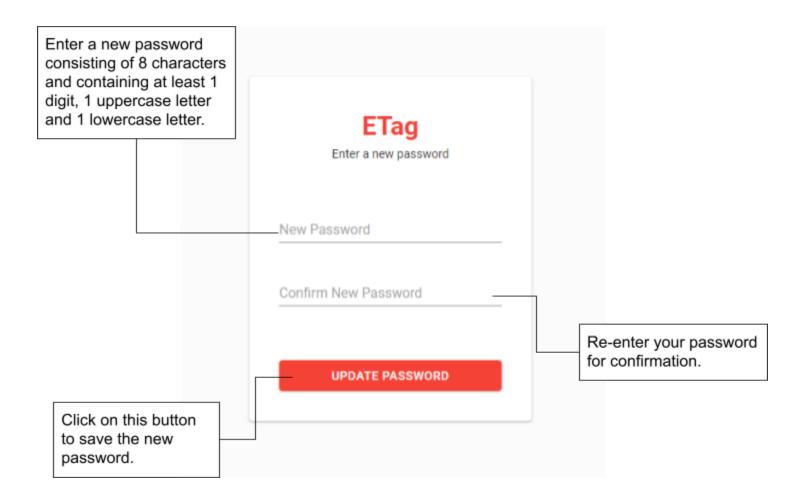
Forgot my password

Clicking on the "I forgot my password" link in the previous page will lead you to this page where you can enter your email address and receive instructions on how to change your password.



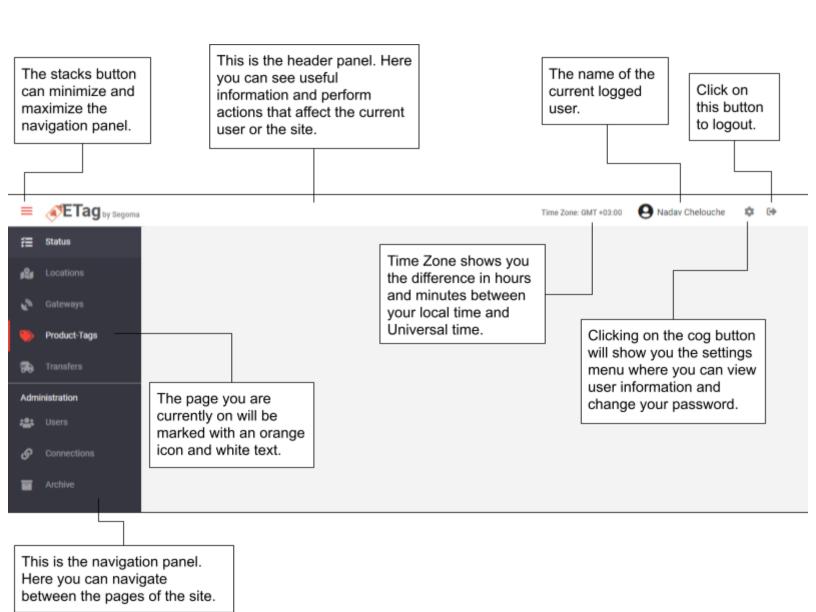
Enter a new password

After requesting a password change an email with a link will be sent to you. Clicking the link will lead you to this page where you can change your password.



^{*}You can also change your password in the "Users" page.

Website Layout



Settings Menu

The "User Information" tab shows some information about the current user. Settings × User Information ID 1 First Name Nadav Last Name Chelouche Position Admin Password Management

You can also change your password under the "Password Management" tab by entering a new password and clicking on the "Update Password" button. Settings User Information Password Management New Password Confirm New Password UPDATE PASSWORD

The Grid



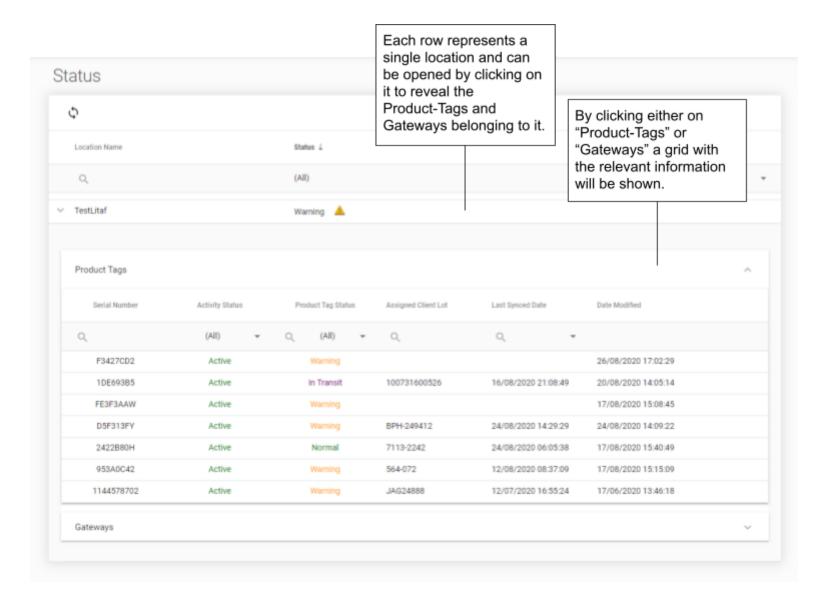
On some grids you can select rows to perform certain actions on them.



Status Page

The status page shows store locations and their current status, each location row also contains the Product-tags and Gateways Grids belonging to that respective location.

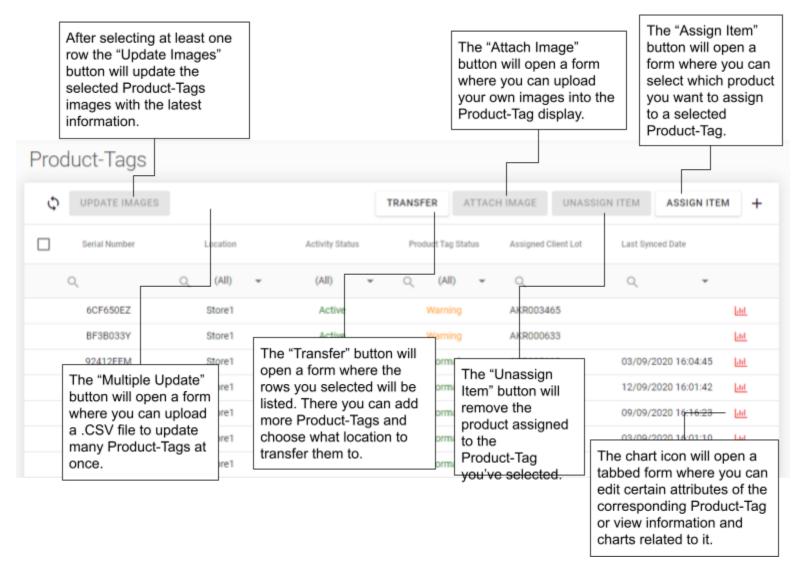




Product-Tags Page

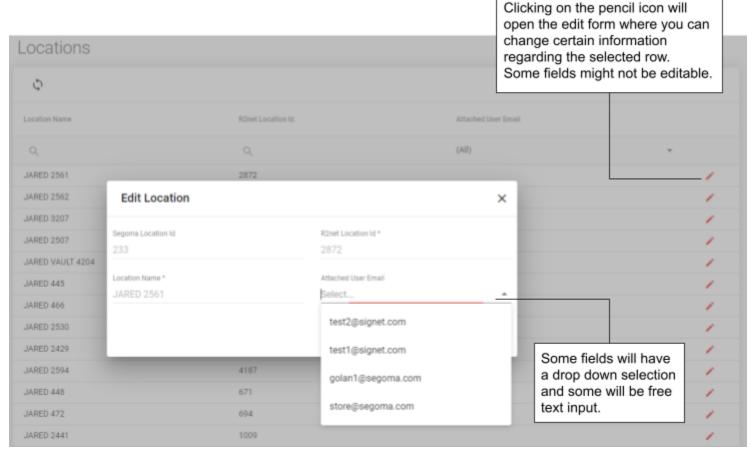
The Product-Tags page is where you can manage, edit and view information about Product-Tags.

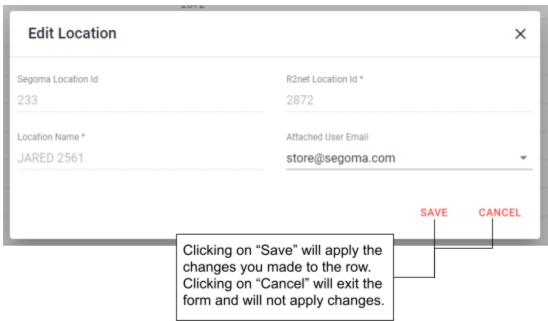
.



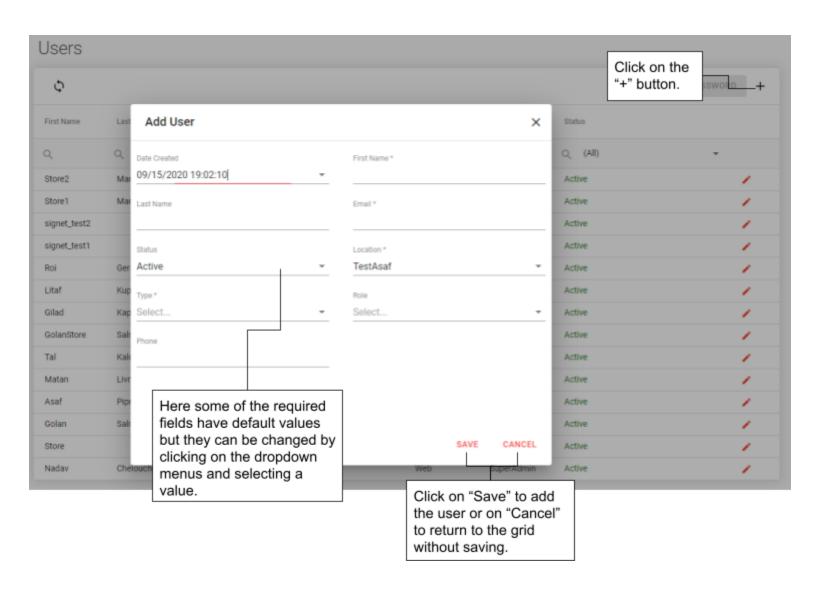
How to...

How to edit a Location (a.k.a store, warehouse, etc...)

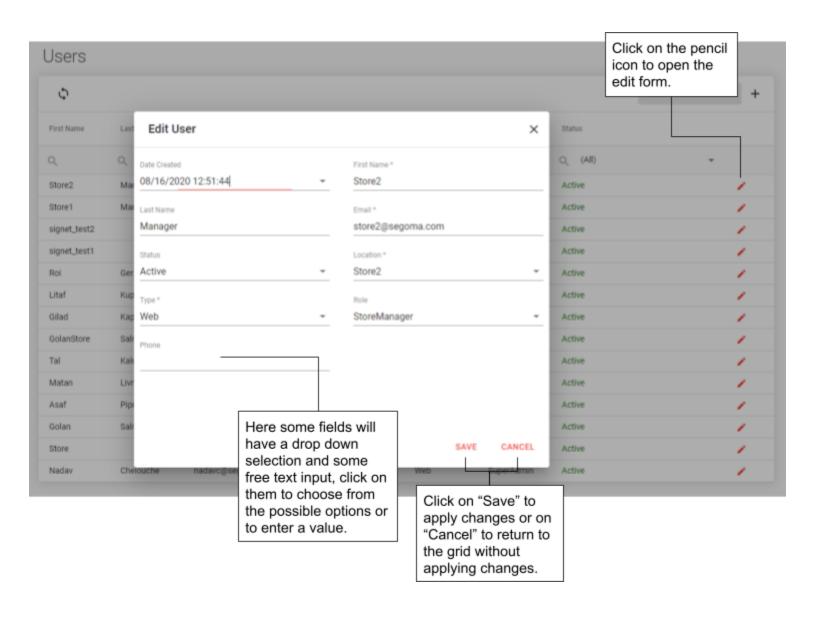




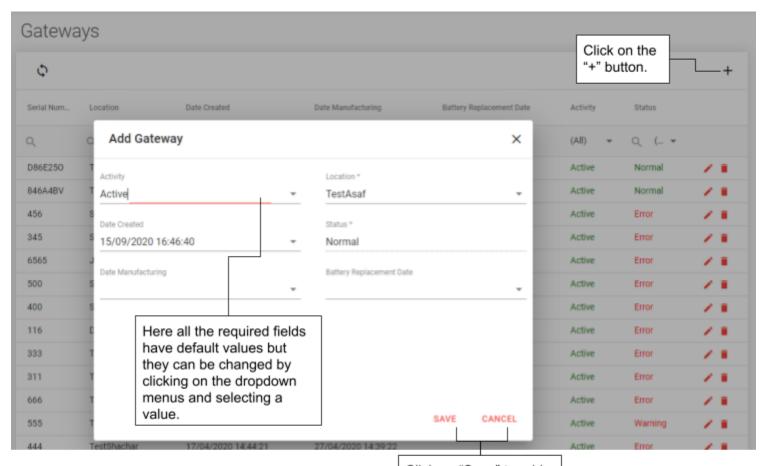
How to add a User



How to edit a User

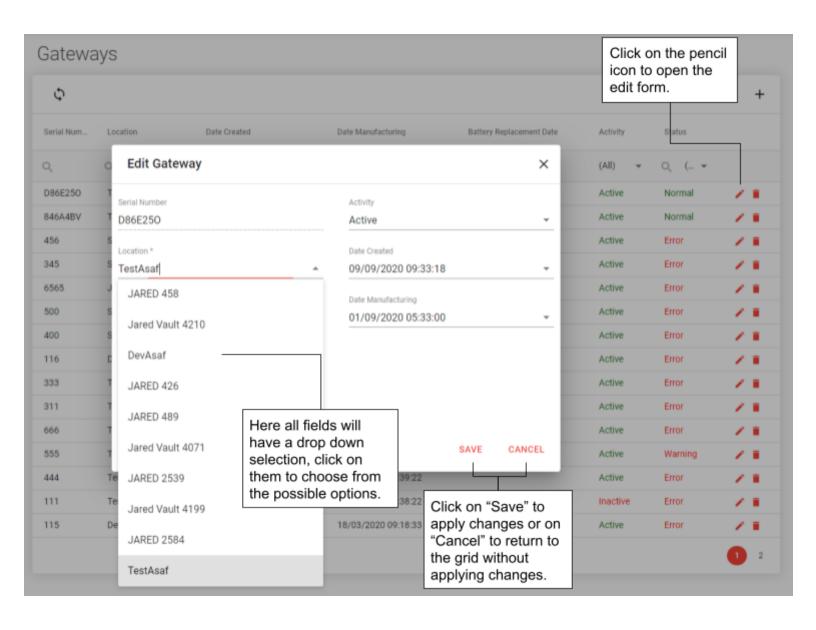


How to add a Gateway

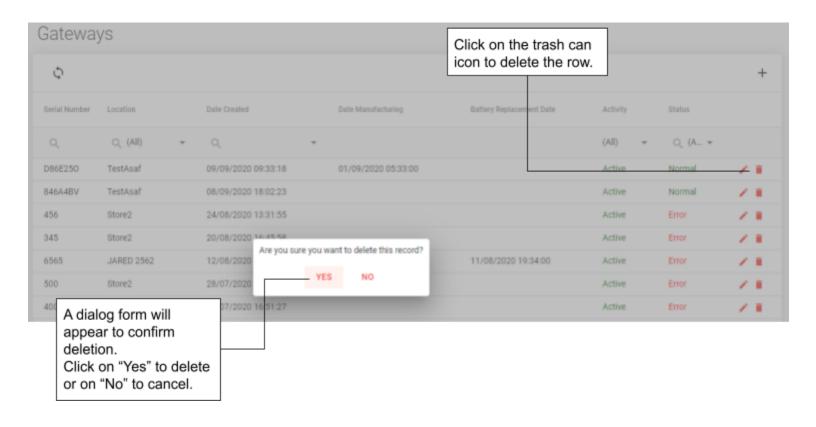


Click on "Save" to add the gateway or on "Cancel" to return to the grid without saving.

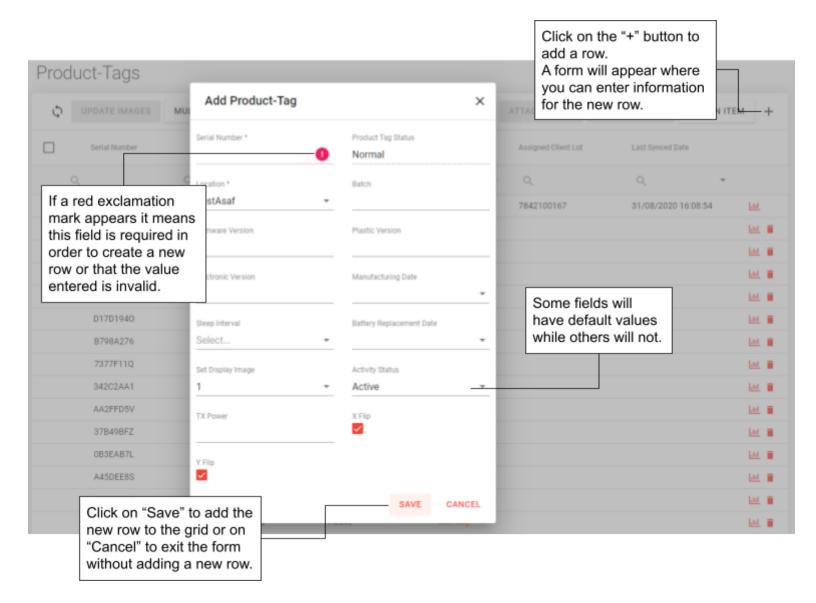
How to edit a Gateway



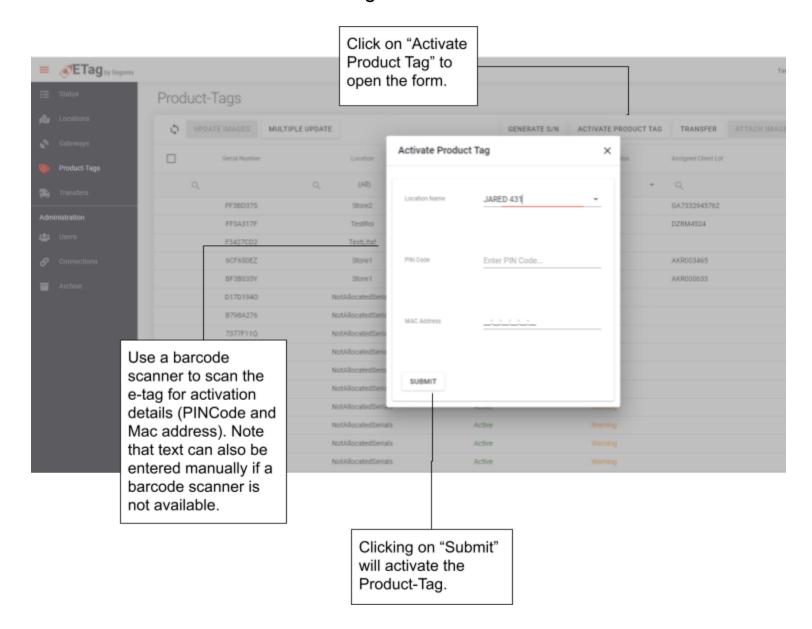
How to delete a Gateway



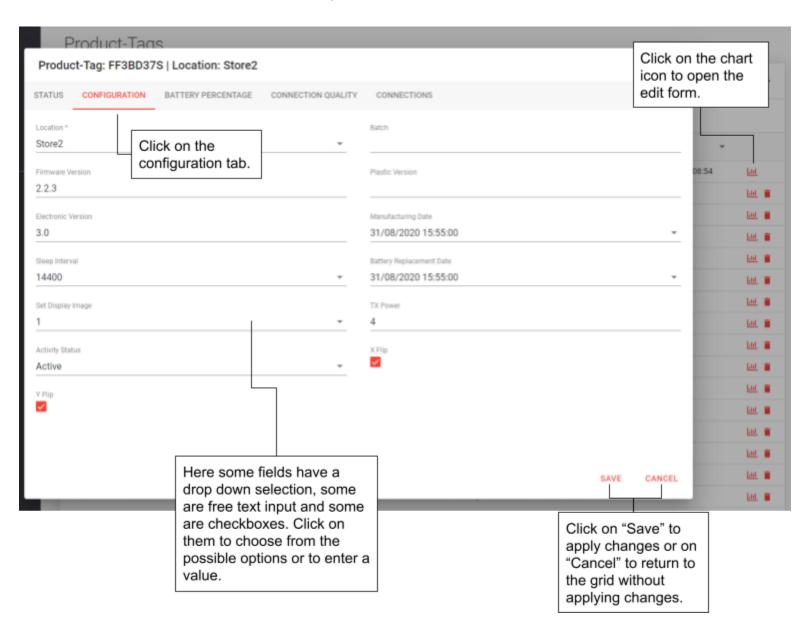
How to add a Product-Tag



How to activate a Product-Tag

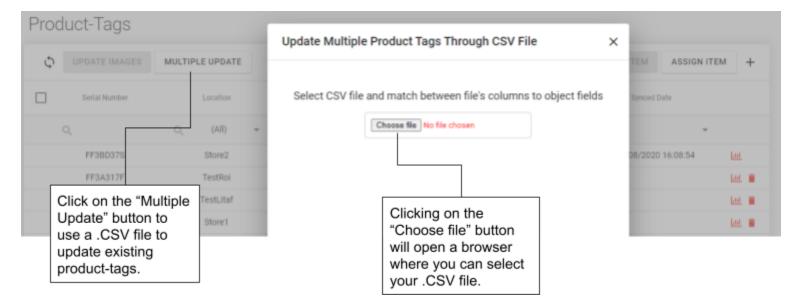


How to edit a Product-Tag



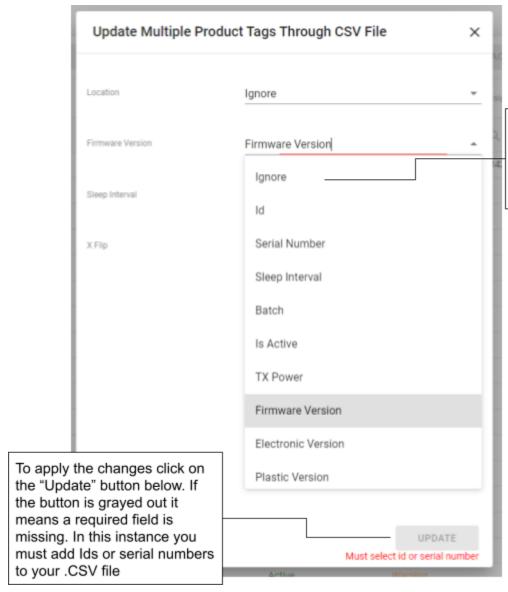
How to edit multiple Product-Tags

In some cases you might want to update more then one product-tag at a time and to do so you can use the "Multiple Update" form.



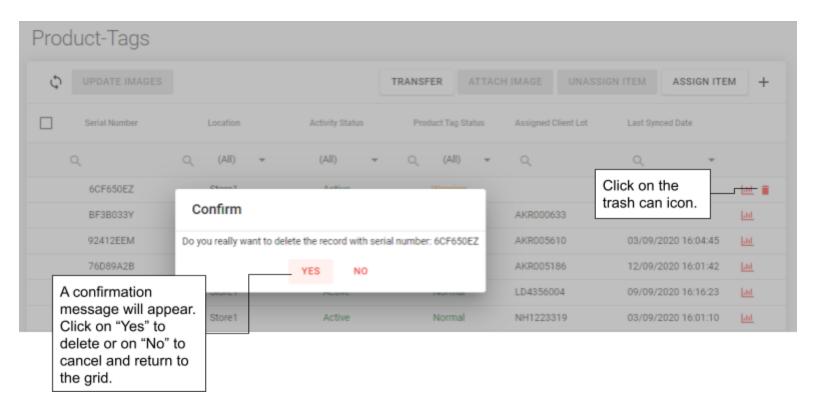
After selecting your .CSV file two columns will be displayed, the left column are the names of the columns in your .CSV file and the right column are the product-tags field you want to update. You will need to match the two columns to successfully update your product-tags.





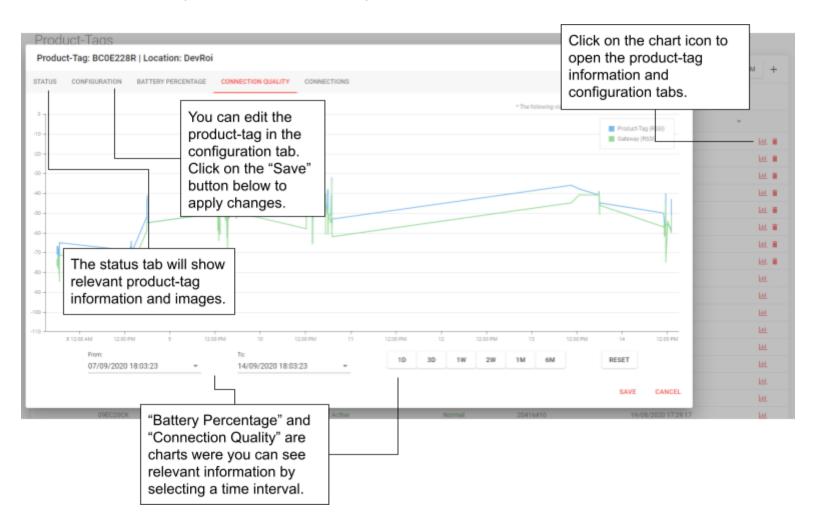
You can match between the columns by selecting the right field from the drop down menu. If you don't want to update a value select "Ignore".

How to delete a Product-Tag



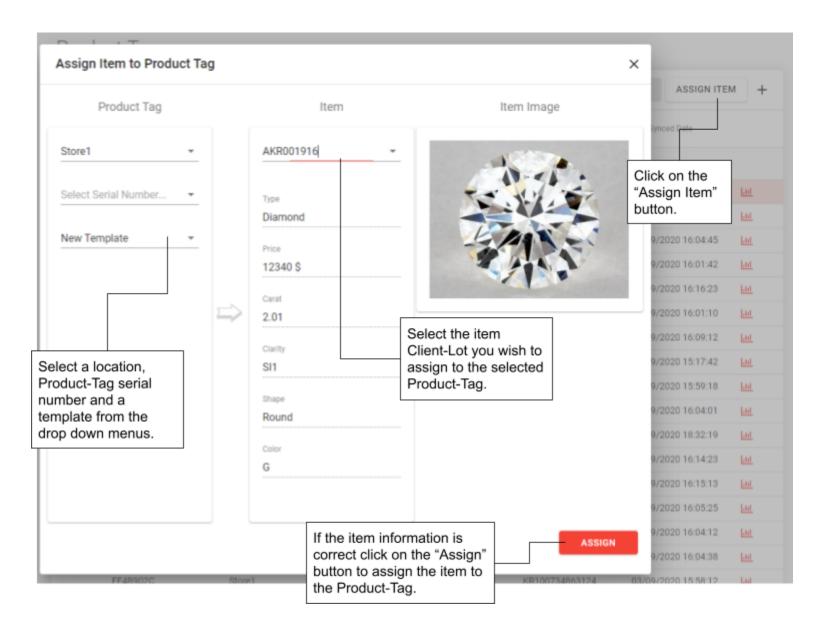
How to view Product-Tag's statistics

The chart icon on the right side of every product-tag row can be clicked to show a lot of useful and necessary information and to enable you to edit some of that information.



How to assign a diamond to a Product-Tag

Here is how to assign an item such as a diamond to the Product-Tag device.



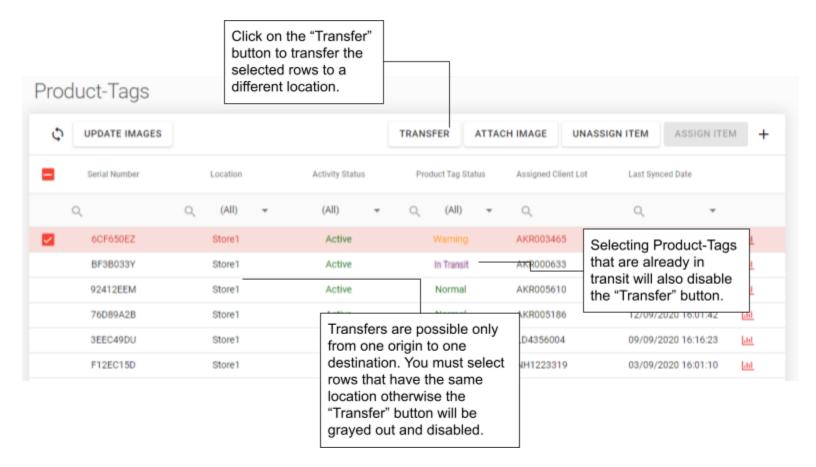
How to unassign a diamond from a Product-Tag

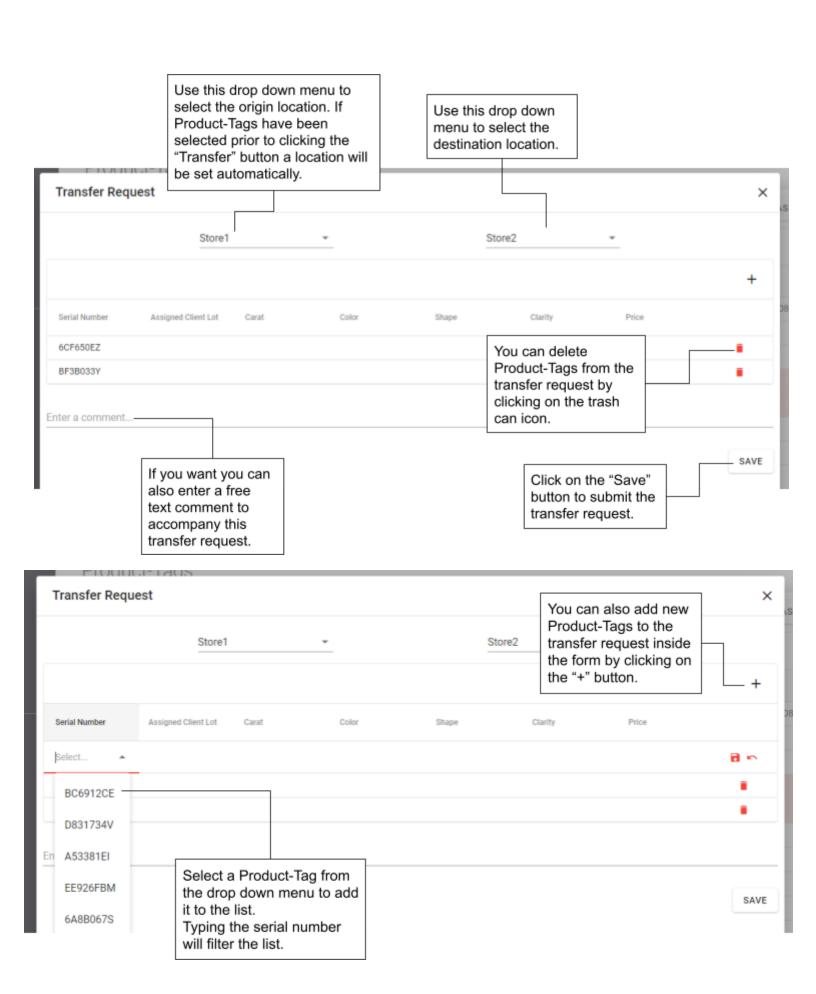
Items such as diamonds need to be assigned and unassigned to Product-Tag devices. Here is how to unassign an item from a Product-Tag.



How to transfer a Product-Tag from one location to another

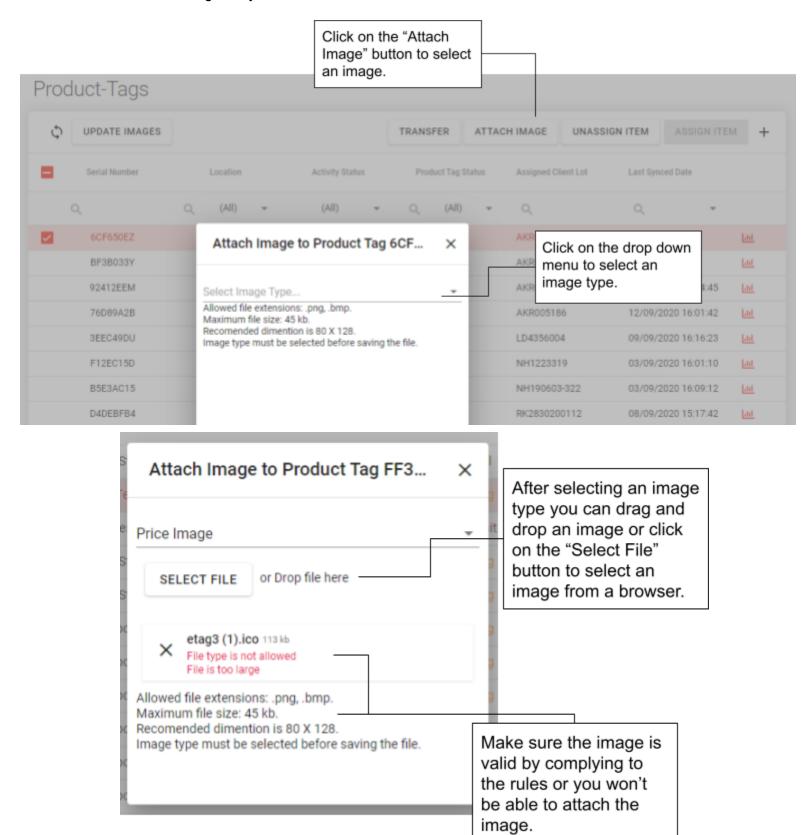
In the Product-Tags grid you can also transfer Product-Tags from one store to another.





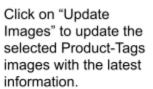
How to attach a custom image

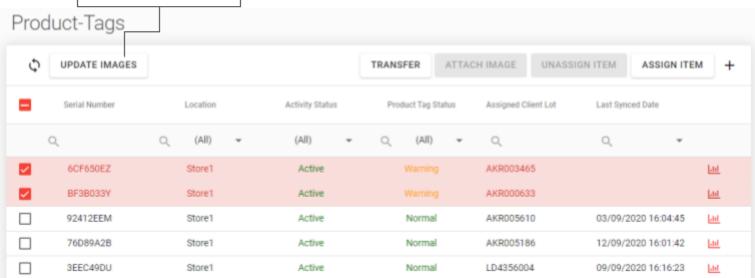
The images displayed on the Product-Tag device are usually automatically generated, but you can also add images of your own.



How to force an images update

The data displayed on the e-tag device is periodically updated. In some cases you might want to speed up the update by manually forcing it. to do that follow the instructions below.





Gateways (Centrals)

The Gateway is the point against which all peripheral communication is established. In BLE terminology, it is called a Central. We implemented the central on an Intel NUCs running bluetooth capabilities via a USB dongle.

Current central versions are running on a Linux OS, specifically RedHat. The latest version supported can be found in the <u>Latest software/firmware versions</u> section.

The central must have a working internet connection to be able to receive updates from the server.

All centrals will be installed by an IT technician who will verify the central service is up, running, and is able to connect to the internet, and if possible the eTags, when it is installed.

eTag

The unit attached to each product is called an eTag. The units functions are automatic, but some functions which were found to be useful towards controlling a specific eTag.

Type of eTags

The eTags may come in several different forms, each one meant for a different use case. For example, the loose diamond eTag is meant to hold a loose diamond and server as its display, while the eTag Mini is meant to be attached to a Jewelry piece.



eTag and eTag Mini

There are only slight differences between the eTag models which are mainly relating to number of buttons and physical differences in products. There is no difference between the products in terms of behavior.

How to add a product-tag (eTag)

The eTag should arrive at your store in 'System off' operating status, and the screen will show three 'Z' signs, along with the eTag serial number in both explicit and QR form.



New eTag

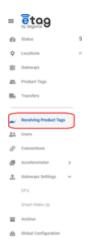


Transferred eTag

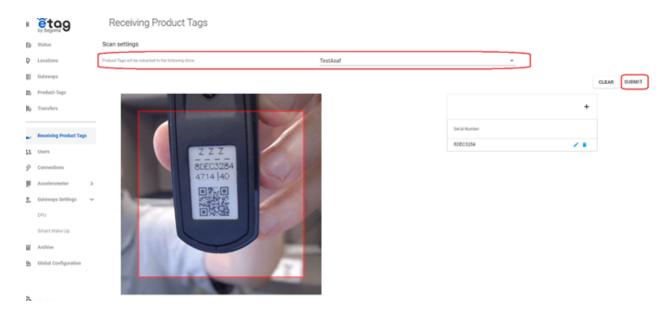
Add the eTag to your store

The eTag needs to be assigned to your store before it can perform its tasks.

- 1. Locate the "Segoma" app on your iPad's home screen, or enter the website from any workstation.
- 2. Log into the website using your store's login credentials.
- 3. Select the 'Receive Product Tags' page on the left-hand side



- 4. Make sure the location matches the store you wish to assign the eTag into.
- 5. Select an eTag and scan the QR code on the ZZZ screen.



If the camera is not working for any reason, manually type the serial shown on the ZZZ screen into the web page.

You can also try switching to the Pairing info screen by pressing one of the buttons on the etag, which holds a larger QR code and scan that QR. Notice that switching between screens will wake the eTags up.







Transferred eTag Main screen

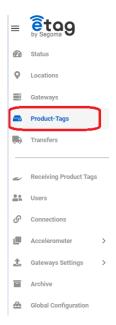


eTag Pairing screen

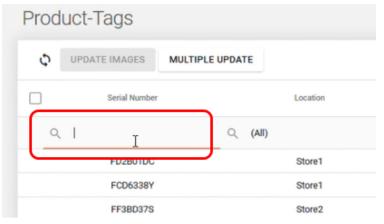
6. The eTag Serial should be listed now. Press Submit. Multiple eTags may be submitted at once.

Assign a product to an eTag

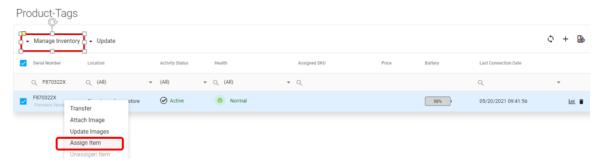
- 1. Locate the "Segoma" app on your iPad's home screen, or enter the website from any workstation.
- 2. Log into the website using your store's login credentials:
- 3. Select the 'Product Tags' page on the left-hand side.



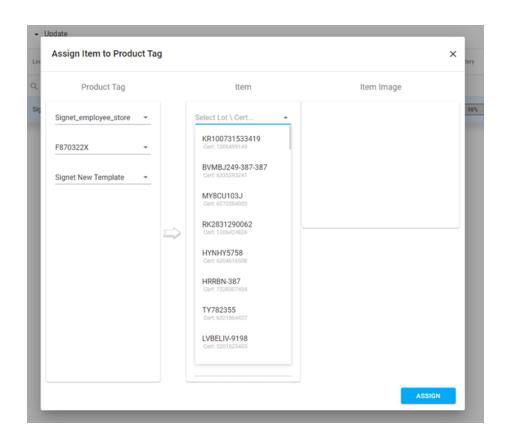
- 4. Assign an eTag. You need to locate/populate the serial number in the Product Tags page. There are two ways to do this:
 - a. Open the camera feature and scan the QR code on the bottom of the eTag. Or,
 - b. Manually enter the eTag's serial number (located on the bottom of the eTag or in the info screen) in the Serial Number search bar



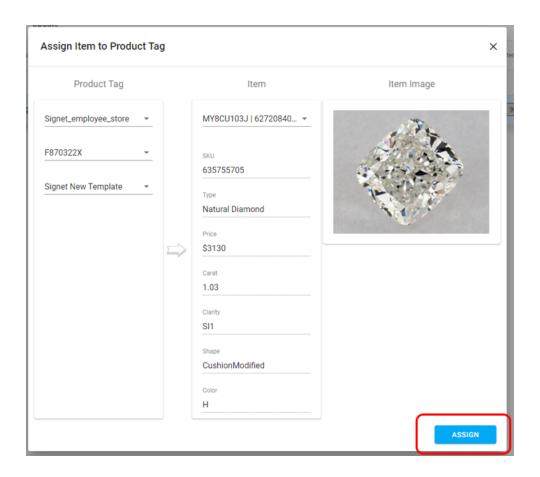
5. The eTag will populate in a row on the page. Make sure that row is highlighted and click the "Assign Item" button by using the "Manage Inventory" menu in the upper left-hand corner.



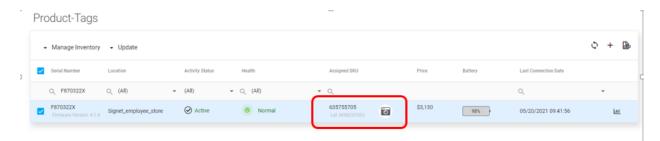
- 6. A pop-up window will display.
 - a. Under Product Tag (eTag), your store number should populate.
 - b. The eTag serial number that was entered should populate.
 - c. Leave Signet New Template as-is.
 - d. Under Item, click on the drop-down menu to see a list of all diamond cert numbers, or lot numbers, for your store. Select the first one listed.



7. The diamond's cert number (or lot number) should populate along with the diamond's image and key features. Click the "Assign" button in the lower right-hand corner.



- 8. It may take a few hours for eTags to show they are assigned to a loose diamond.
- Once assigned, the eTag will populate the diamond's price, data and the relevant link QR Code. The assigned item can be viewed under the "Assigned SKU" heading in the Product-Tags window.



Pair the eTag with a GateWay

Part of the process an eTag goes through when being assigned to a store is the pairing process. This process requires a pairing code be read from the eTag display and entered into our website. Usually, the pin codes are read and reported to our servers during the eTag production and testing process, but sometimes the data may be incomplete, incorrect or missing, which will require the pairing information to be re-entered.

If you are handling an eTag which has arrived at your store from one of our manufacturing locations, it should arrive in the 'ZZZ' system off screen, and its main 3 images will show the 'welcome' screen, a 'pairing info' screen and an 'info' screen. If this eTag has arrived to you from a different store, or has otherwise been updated with any image, the pairing info can be reached by entering the menu \rightarrow selecting the pairing info option. The pairing image shows the eTag Bluetooth address and the pin number for this eTag, as well as a QR code holding all of this information for easier input into the web. It will look similar to this:



Now that you have the pairing information in front of you, you need to enter it into the Web. Follow the 'How to activate a Product Tag' section of the guide. To complete the pairing process, the eTag will need to start advertising.

Once the pairing process completes between a central and an eTag, a bluetooth connection will be formed and all relevant information will be passed between units. If any update is necessary, it will occur automatically and the display will refresh.

Start Advertising and connect to a central

To wake the eTag from its system off state, press any button.



The eTag will wake up and one of two images will be shown. Either the 'welcome screen', or the last default image which was communicated to the eTag, will be shown. The eTag will then

immediately start its advertising sequence and waits for a response from any functional Central within range¹.

How to change eTag parameters

Changing any of the eTag parameters is done using the web interface, follow the 'How to edit a product-tag' portion of the guide.

Any value you wish to change will be noted, and communicated to the eTag unit upon its next connection. The eTag will report back on its parameter change once it has changed it, and the Web display will be updated once this sequence has completed.

How to monitor the eTags

Monitoring the eTag status can be done using the web interface. To do so, follow the 'How to view product-tag's statistics' portion of the guide.

¹ This Set-up assumes you've already set up an eTag Central station. If not, see the <u>How To add a Gateway segment.</u>

eTag main screens and menu

Main screens

The eTag main screens can be flipped through by pressing any of the 2 outer buttons. These 3 main screens will show one of two groups of 3 images.

- If the eTag has never received any images over BLE, for example if it is arriving new from the factory, the 3 main images will show information relevant to assigning the eTag into a store.
- If the eTag has ever connected to a central, it will show the last data which was passed on to it. This can be a trio of 'Product not assigned' images, if the eTag was not assigned a product, or a trio of images showing the product data of the product it was assigned.



Welcome screens- eTag has never connected eTag



Info screen- a product was assigned to the

eTag Menu

To enter into the menu, hold any button for 3 seconds or more, then let go. The menu screen will be displayed where you can choose to see or perform actions relevant to the eTag. Enter a menu option by pressing the middle button.

The menu will automatically exist after 10 minutes without any action.

Menu-info

The menu information image will show you the Etad serial, the firmware and hardware versions, the battery percent last measured on this eTag and the last connection RSSI on this eTag. Production firmware versions are 3 chars (#.#.#), manufacturing firmwares are 4 chars long (#.#.#)



Menu -update now

To cause a peripheral to start its advertising sequence, and potentially connect to a central now, choose this option in the menu. Once chosen, the display will revert to one of the main images, and the eTag will begin its advertising sequence. This does not affect the scheduled connection attempt for this eTag, meaning that the scheduled wake up will occur regardless of this.

Menu-Pairing Info

To prevent outside attackers from gaining control over our eTags, we pair them with the centrals which they communicate with. The pairing process should have been done when first entering the eTag into the store, but if you need to repeat it for any reason, the relevant info will be displayed here. MAC address, Pin code, Pairing version and a QR code.



Menu- Erase Bonds

This option should not be selected unless specifically instructed to do so by an IT personnel or a Segoma team member.

Menu-System off

When placing an eTag into storage, or when it is not used for long periods of time, we recommend placing it into System off mode. This will decrease the power consumption to a minimum while allowing the battery to remain within the eTag. When in System off, a 'ZZZ...' image will appear on the screen, an example can be seen to the right. The 'ZZZ...' image contains a ZZZ marking on top, the eTag serial number, the eTag firmware and hardware version, and a QR code with all relevant pairing information for this eTag. Any button press will re-activate the eTag.



Menu-Regulatory info

Regulatory information which must be included with the device can be found here. You will find the eTag Model number and FCC ID matching the eTag model.



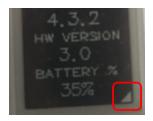
Menu- Exit menu

To exit the menu back to one of the main images, hold any button for three seconds, then let go. Or, select the 'Exit menu' option on the menu.

Icons

No Connection in a while

If an eTag hasn't connected to a gateway in a while, a small triangle icon will appear in the bottom <u>right</u> of the screen. It will disappear when a connection is established. Example image to the right.



Battery Low

If the battery is low, but still enough for the eTag to function, a square icon will appear on the bottom <u>left</u> of the screen. This icon should persist across all screens. The icon will disappear when the battery is changed to a new one. Example image to the right.



Battery Extremely Low

If the battery is extremely low, meaning the screen will not be able to update and the eTag may soon run out of battery, a 3-line frame will appear <u>at the top and bottom of the</u> screen. <u>Button clicks will no longer change the screen - it will be locked as-is until the battery is changed.</u> When the battery is replaced, the frame will disappear. Example image to the right.



Regulatory Information

Accessing Regulatory Information on an eTag device

The model number and FCC ID for each eTag unit may be accessed following these steps:

1. Open the menu by holding any of the eTag buttons for 3 seconds, then let go.



2. Navigate to the 'Regulatory' screen and select it.



The Model number and FCC ID will be shown on the display.



Regulatory info for eTag 4.5 and eTag 6.0

FCC

eTag 4.5

• FCC ID: 2A34XETAG4-5

- 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.
- This device complies with section 2.1091 and the limits specified in § 1.1310 of the FCC Rules.

eTag 6.0 (Mini)

- FCC ID: 2A34XETAG6-0
- 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.
- This device complies with section 2.1091 and the limits specified in § 1.1310 of the FCC Rules.

Warnings

• 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.

Notes

NOTE: This equipment has been tested and found to comply with the limits for a Class
B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to
provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not
installed and used in accordance with the instructions, may cause harmful interference to
radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Known issues

eTag firmware 4.6.1

eTag QR code is sometimes not readable.

Description: The eTag piring information QR code is sometimes not read correctly by QR scanners.

Solution:

Option A: All piring information is correctly displayed next to the QR code, so manually entering the eTag information from the pairing window will work correctly.

Option B: restarting the QR code regenerates the pairing information screen, which will resolve the problem. To reset the QR code, either force it into 'System off mode' by entering the menu, scrolling to the system off option and setting it to sleep, then press any button to wake the eTag up; or remove its battery and re-insert it.

Auto return to default image does not work on main images

Description: The eTag images should scroll back to the default image every 10 minutes or so, if no input was detected on the eTag. This does happen if the eTag is left on any of the menu images, but not if left on any of the main images.

Solution:

Will be fixed in the upcoming firmware version.

Troubleshooting guide

We have put together a troubleshooting guide which should reference all issues we come across, and their solutions. Please use this link to access it.

■ ETag Troubleshooting guide

Latest software/firmware versions

Software	Version	
Latest OS	RHEL 8.5	
eTag Central Service version	3.0.0	
eTag firmware version	4.6.1	