VisibilityIQ™ Foresight and OneCare

User Guide

February 2024

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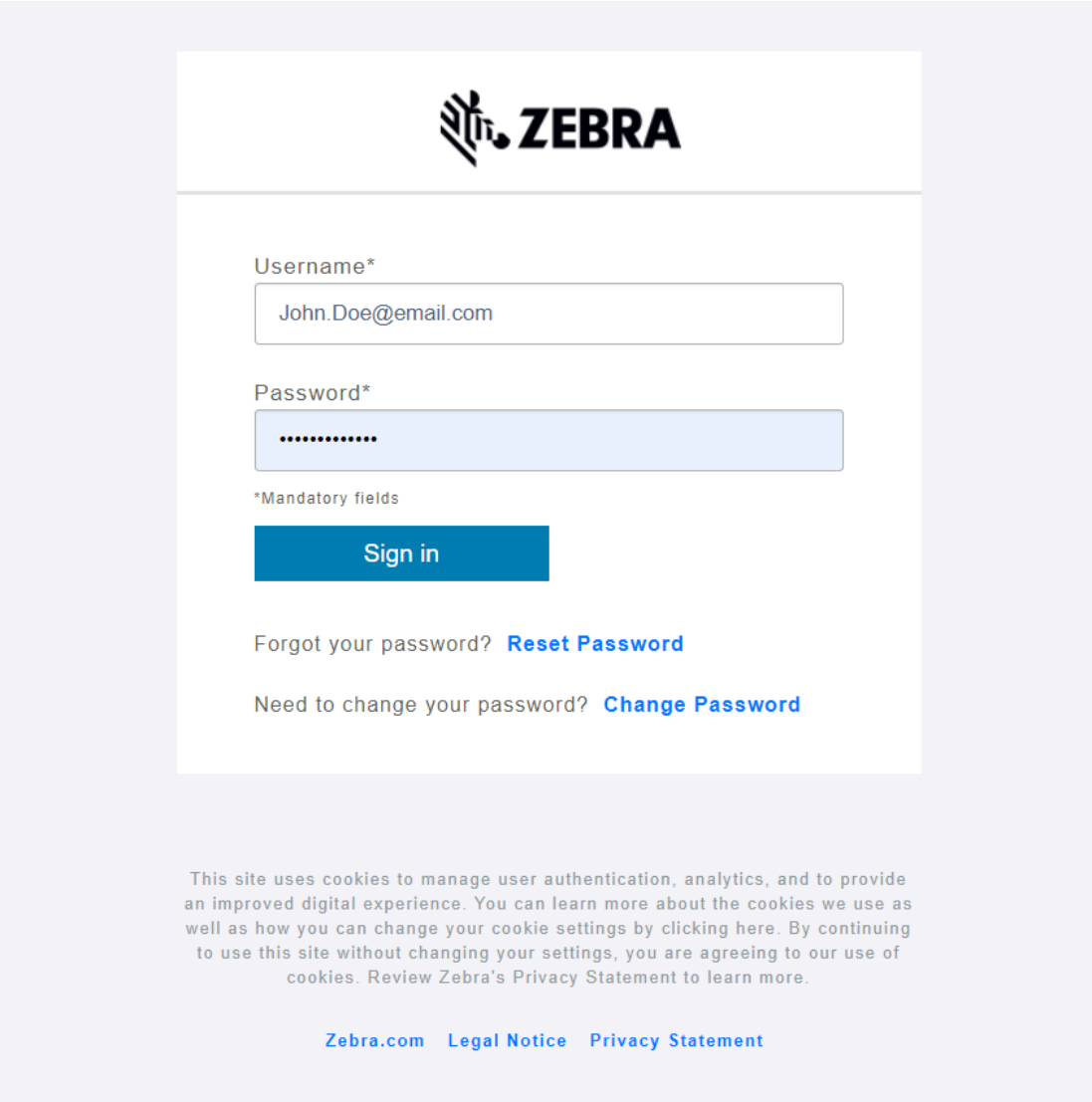
LOGGING IN

Log in to access the VisibilityIQ™ online dashboard for VisibilityIQ™ Foresight.

1. Go to zebra.com/visibilityiq.
2. Log in:
   - First Time User: Enter the User ID and Password provided in your Welcome email.
   - Existing User: the User ID and password remain the same.



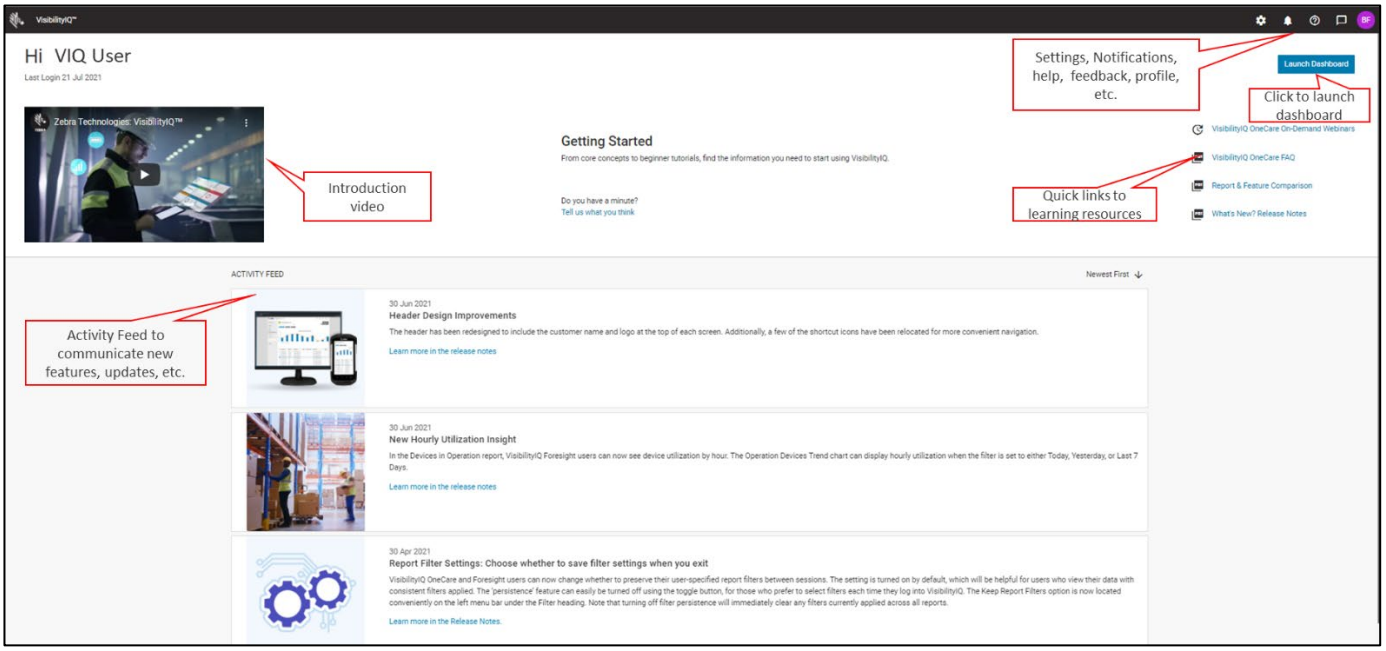
Communications Hub

After login, you move to a landing page called the *Communications Hub*.

The Communications Hub provides the communications on things such as new features/updates, learning resources, and useful links for VisibilityIQ OneCare and VisibilityIQ Foresight users.

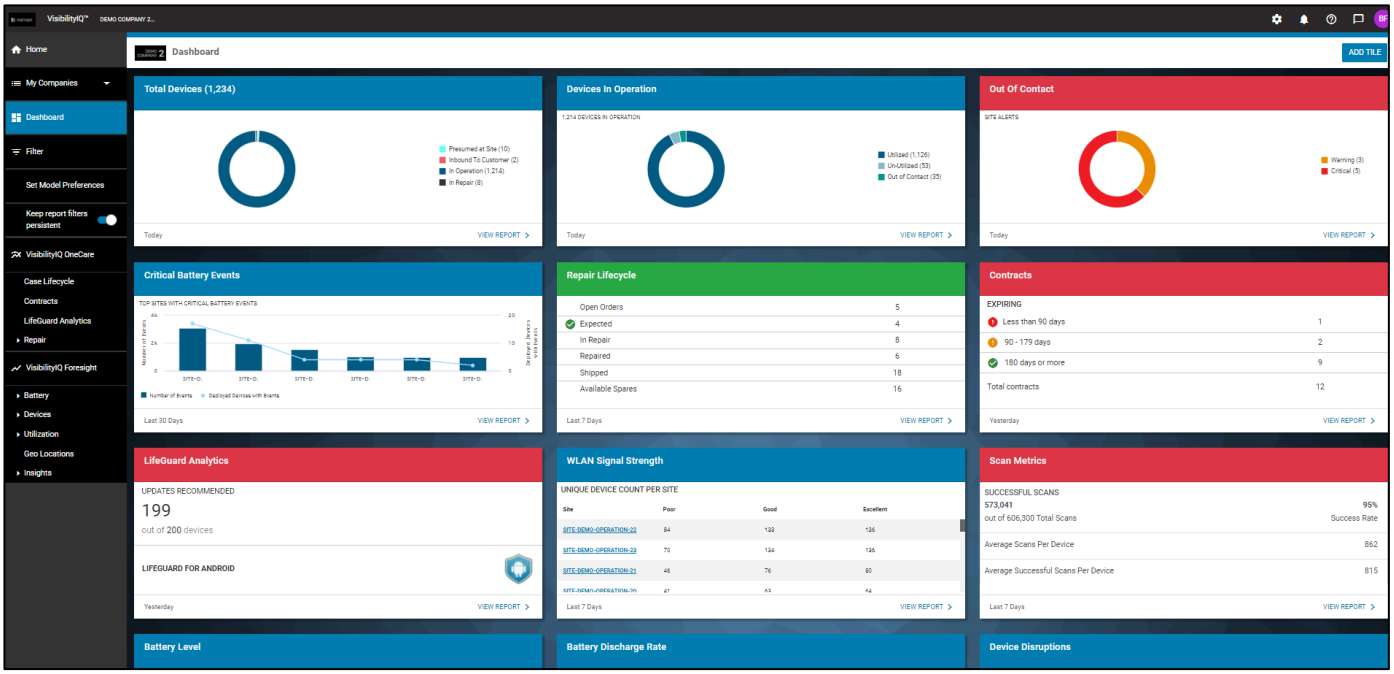
From the Communications Hub, you can do the following:

- Watch a short introductory video for an overview of VisibilityIQ.
- Get an activity feed to understand what's new with VisibilityIQ.
- Click on quick links to access the learning resources.
- Provide feedback on VisibilityIQ.
- Go to the documentation repository to access documentations available for VisibilityIQ.
- Go to different support pages.
- Launch the dashboard to access the VIQ dashboard and reports.



USER DASHBOARD

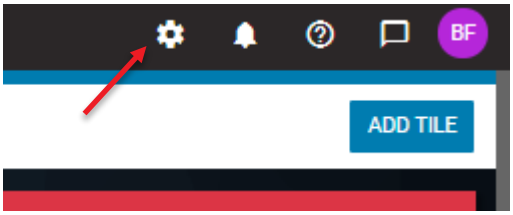
In the top-right corner of the Communications Hub, click **Launch Dashboard** to display your specific VisibilityIQ OneCare view or VisibilityIQ Foresight view.

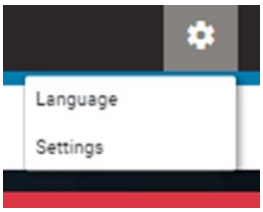


Note you may not have any report tiles on your dashboard when you log in for the first time. See **Add Report Tiles to Dashboard** to add reports you need to the dashboard.

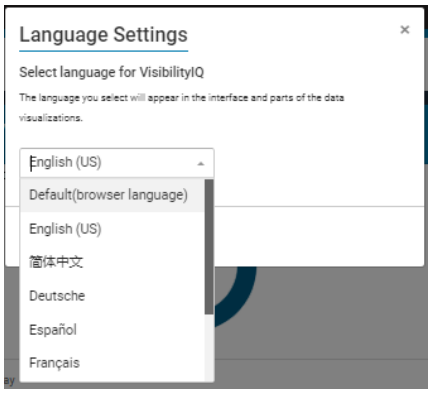
Global Navigation Bar

Click the gear icon on the Global Navigation Bar in the top-right corner to access the user settings menu.

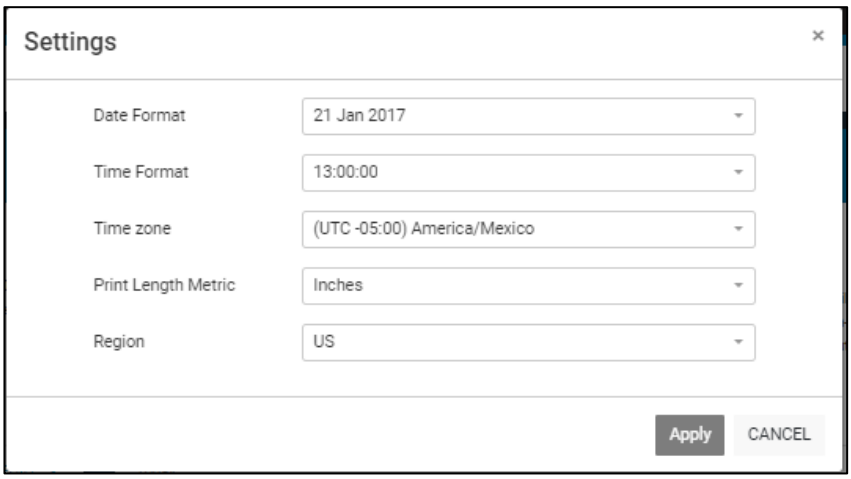




- Select **Language** for the language options.



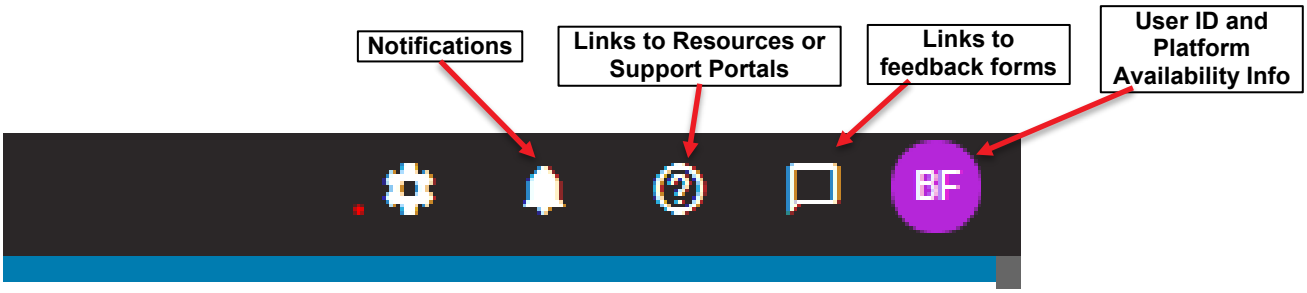
- Select **Settings** to set your user preferences.



After selecting your preferences, click **Apply**.

Additionally, in the Global Navigation Bar, you can do the following:

- Click the Notification icon to see any current alerts.
- Click the Help icon to access VIQ resources or support portal.
- Click the Feedback icon to provide your feedback or enhancement ideas.
- Click the User icon to log out or to view Platform Availability performance data for previous month.
  The Platform Availability performance indicator shows the percentage of time that the VisibilityIQ portal was available for user log-in over the previous month.
  NOTE: A percentage will not display until the system acquires a full month of data for the previous calendar month.

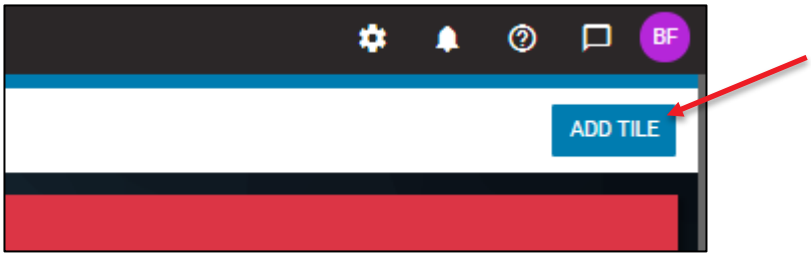


Your VisibilityIQ Foresight view is ready to use.

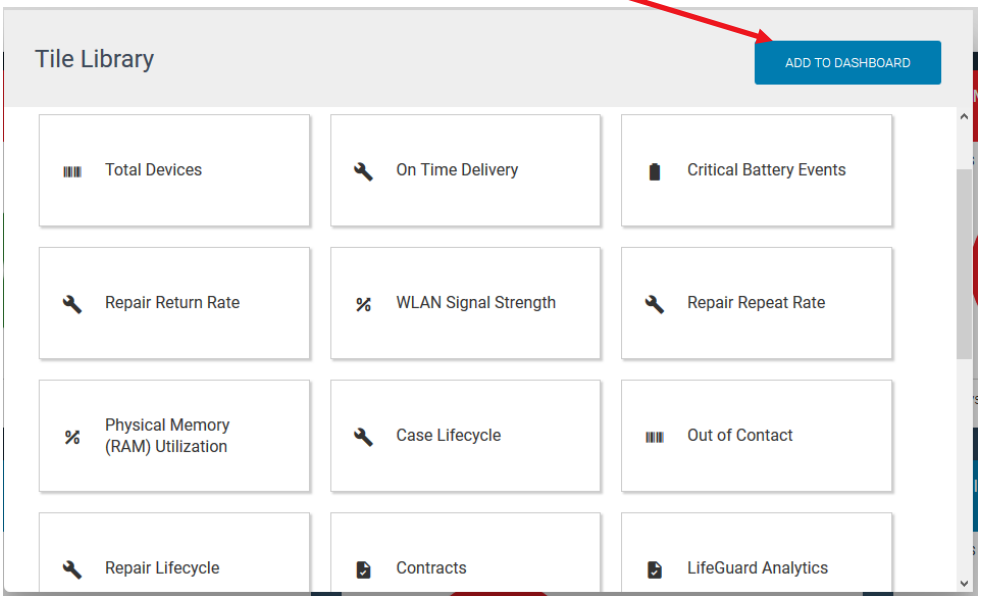
Add Report Tiles to the Dashboard

Add report tiles to your view.

1. After you have set your preferences, click **Add Tile** in the top right corner on the Global Navigation Bar to access the Tile Library.



2. Select the report that you wish to add, and then click **Add to Dashboard**.

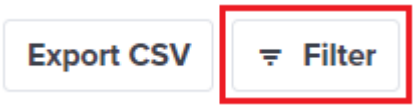


The summary view tiles of the reports selected display.

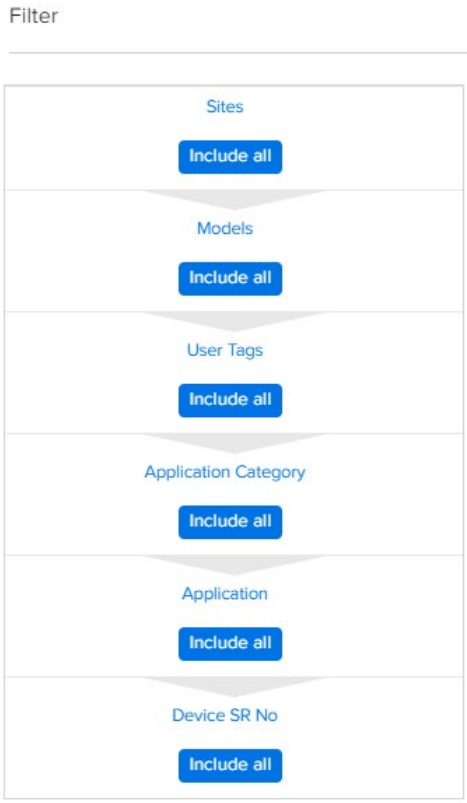
3. Click **View More Details** within a tile to provide a table of filtered records.

   The fields are sortable by ascending or descending order by clicking on the carat (^) on the header records:

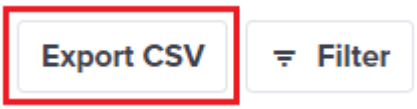
   The data table can be further filtered using filters.



   Each filter option is dependent on the filter option above it.

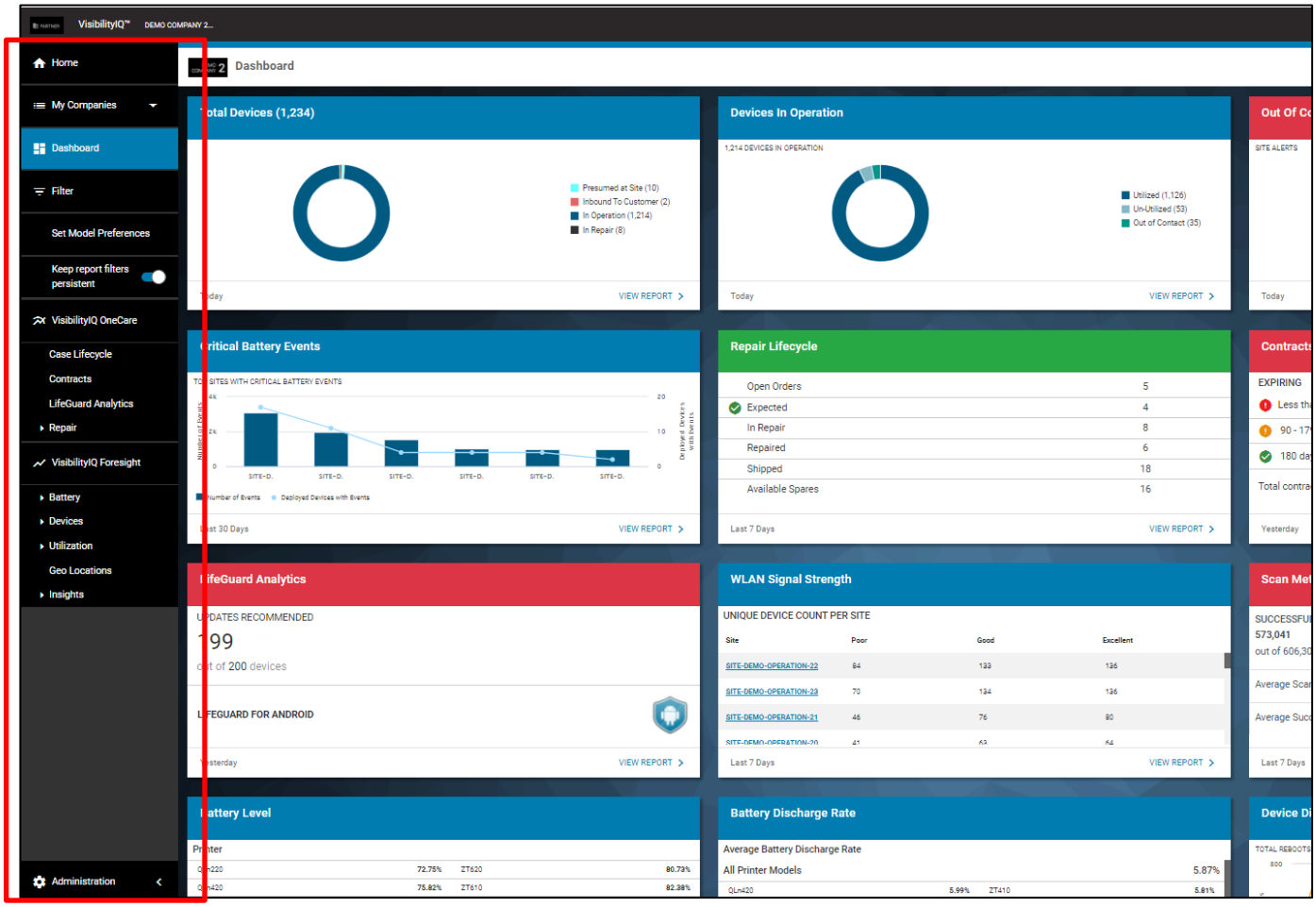


   The data table can be exported to csv.



Left-Hand Navigation Bar

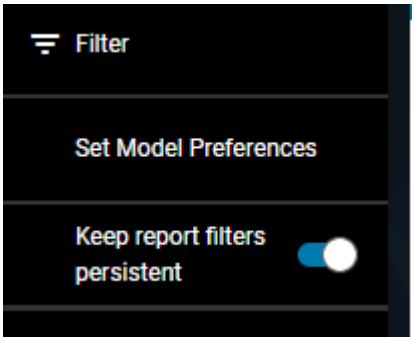
The Left-Hand Navigation Bar provides easy access for you to view the dashboard, set up global level filter settings, access to reports for more details and perform administration tasks such as assign sites, change report settings, or subscribe to email alerts.



From the Left-Hand Side Navigation Bar, you can do the following:

- Click Home  to return to the Communications Hub.
- Click My Companies  to go to the end customer list (Partner only).
- Click **Dashboard**  to access to the main dashboard view page from report view.
- Click **Filter**  to change filter settings .
- Access reports for analytics and insights.
- Click **Administration** to get to the administration section for functions such as site assignment and report settings (Admin users only).

Filter Settings



The filter settings allow you to

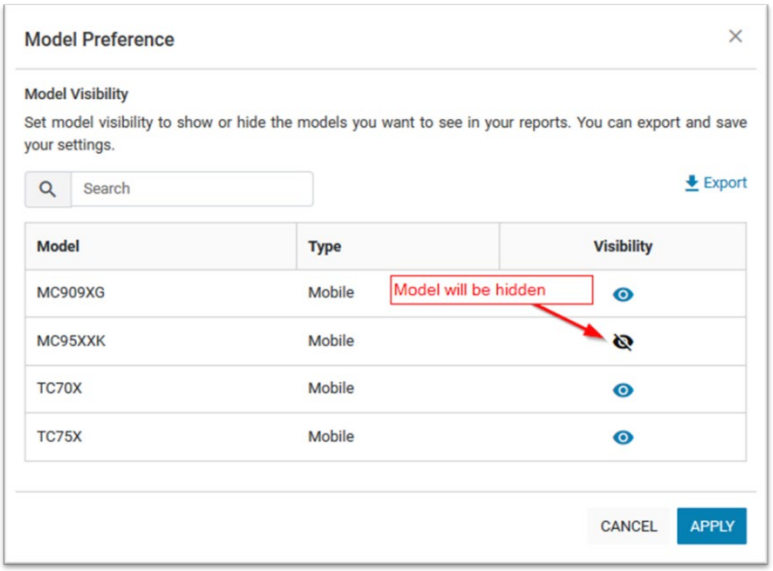
- Select models to view in the reports.
- Choose if you want the filters in the report view to be persistent or not by turning of or off the toggle switch. If you enable the persistent filters, the filters (for example: model, system tag, user tag, date), selected in the report view remain persistent even after you log out. Otherwise, the filters are cleared after you exit from current report view.

These settings apply to all reports after the filters are selected.

Model Preference

Model Preference enables you to filter the entire dashboard based on the models selected. However, filtering within a report will still apply for the subset of models selected in the Model Preference feature.

Click **Set Model Preference** to access the Model Preference window.



In the Model Preference window, you can choose the models that you do not wish to see by clicking the Visibility icon . The icon changes to black with a line through it . This will disable the model from viewing. Then click Apply and the selected model(s) is now hidden from the reports. Click on the icon again to enable it to show in the dashboard.

In addition, use the search box to filter to a specific model. Click Export, to export the entire list of models to an Excel file.

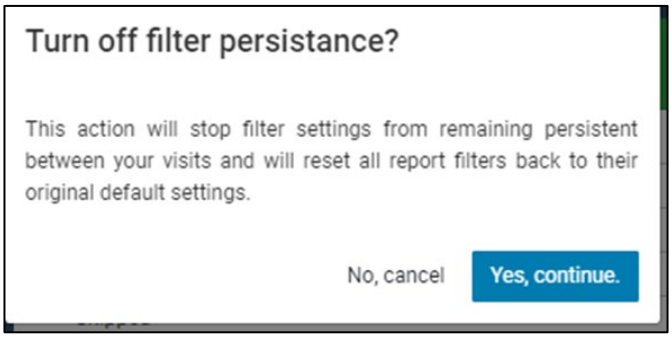
NOTE: The selected models remain selected until you manually clear them.

Set Up Persistent Filters for All Reports

The persistent filter setting on the Left-Hand Navigation Bar allows you to easily select if you want the filters in reports to be persistent or not by enabling or disabling the feature.

The persistent filter setting is enabled by default.

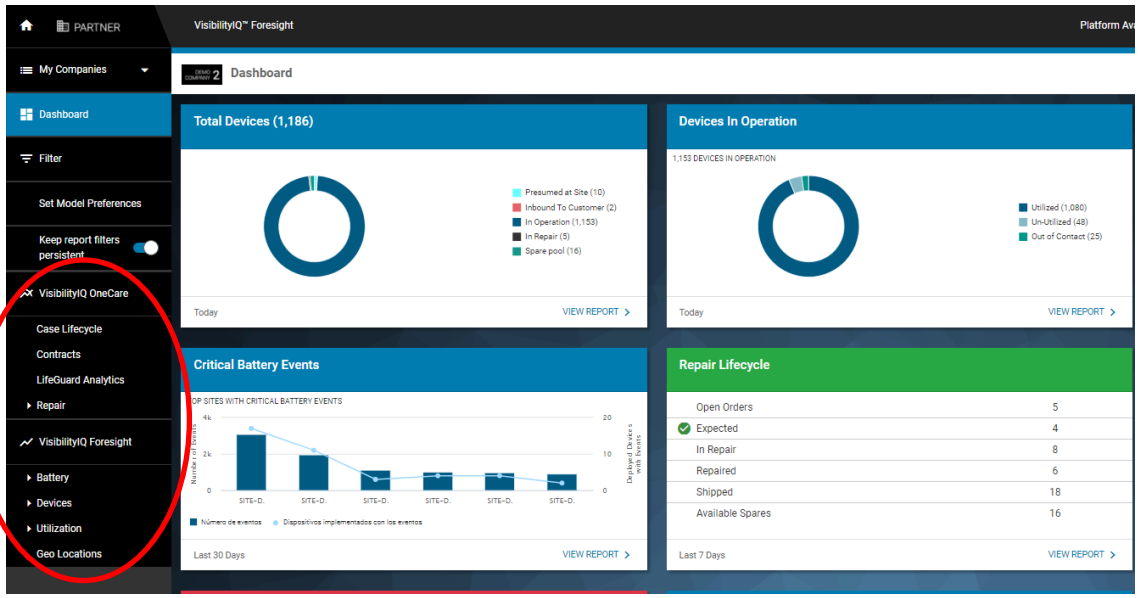
If you opt to disable the feature, the program prompts for confirmation. Select **Cancel** or **Continue**.



When you confirm disabling the feature, all filters selected in all reports are cleared, and the reports show the default view when you access the reports during your next session.

Reports and Insights

Reports can also be accessed through the Left-Hand Navigation Bar.



Administration

An admin user can access the Administration tab to get to the administration section to perform the following admin tasks.

Site Assignment

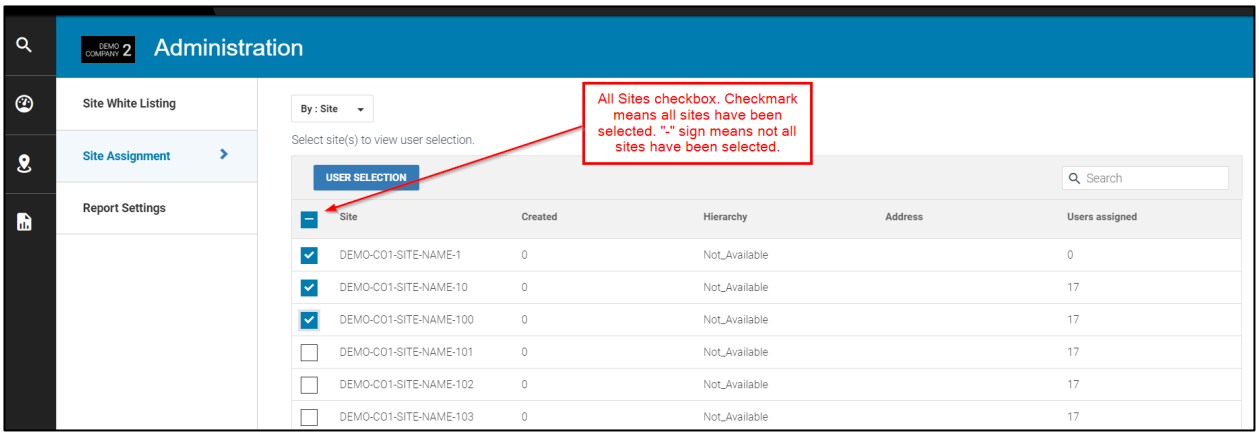
Description

The Site Assignment feature allows data associated with the site name to show in the dashboard for specific users. Sources that site names come from:

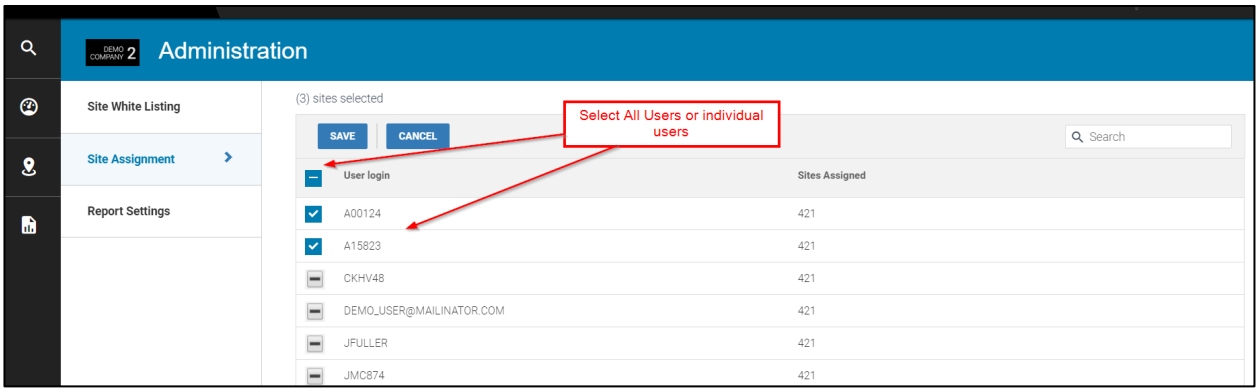
- Siebel
- Contracts (Siebel)
- SFDC
- MDM (These sites are created in the MDM hierarch and will always be passed through to the customer dashboard) – VisibilityIQ Foresight ONLY

To Assign Site(s) to All Users

1. Go into customer dashboard.
2. In left side navigation bar, go to Administration.
3. Click on Site Assignment tab.
4. Click all sites checkbox.



5. Click User Selection.



6. Choose all users to apply the sites to.
7. Click Save

To Assign Sites to A Specific User or Subset of Users

1. Go into customer dashboard.
2. In left side navigation bar, go to Administration.
3. Click on Site Assignment tab.
4. Select By: User view.
5. Select the User(s) that you wish to assign sites to.
6. Click on Site Selection.

7. Select the site you wish to add to the user(s). This should have an unmarked checkbox for the site(s) you which to add.
8. Click Save

*Caution: Following this process, any site that is not selected, will not be assigned to the user. So be sure to only select the sites you wish to add and leave the others as is.

To Unassign/Remove Site(s) From A User

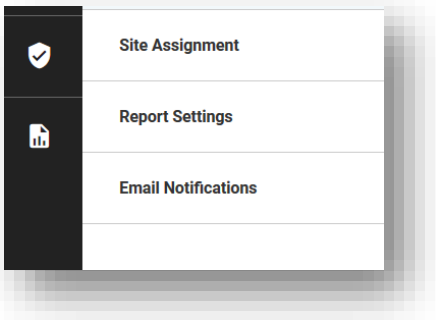
1. Go into customer dashboard
2. In left side navigation bar, go to Administration
3. Click on Site Assignment tab
4. Select User Selection
5. Select the User(s) that you wish to remove sites for
6. Click Save
7. Click on Site Selection
8. Remove the checkmark from the site(s) you which to remove.
9. Click Save

Email Notifications

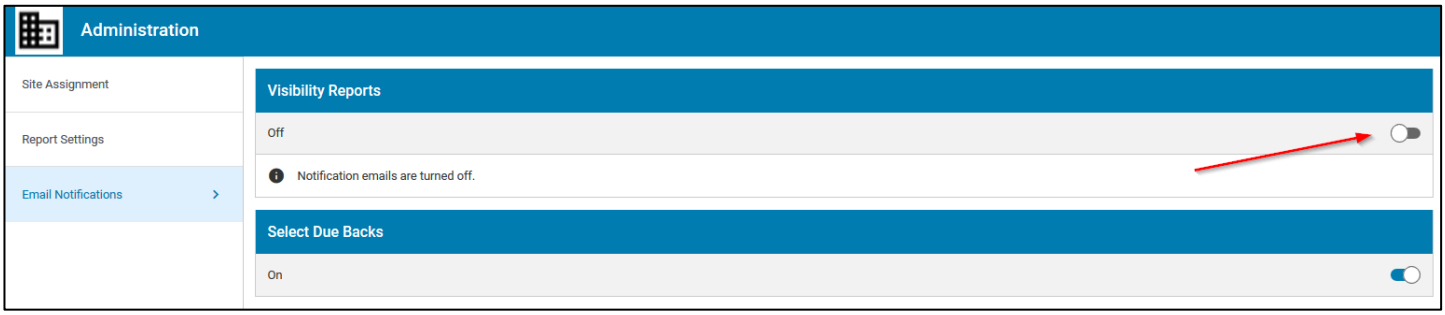
Email notifications allow an admin user to receive a daily email summarizing the changes in threshold metrics for each applicable report. The notifications can be turned on/off for any report for which a threshold is available. By default, Email Notification is disabled. You will begin to receive emails on the second day after enablement and only when the criticality of a threshold has changed, green to amber, amber to red, and vice versa. Users may enable alerting for up to maximum of 8 thresholds.

Enable Email Notifications

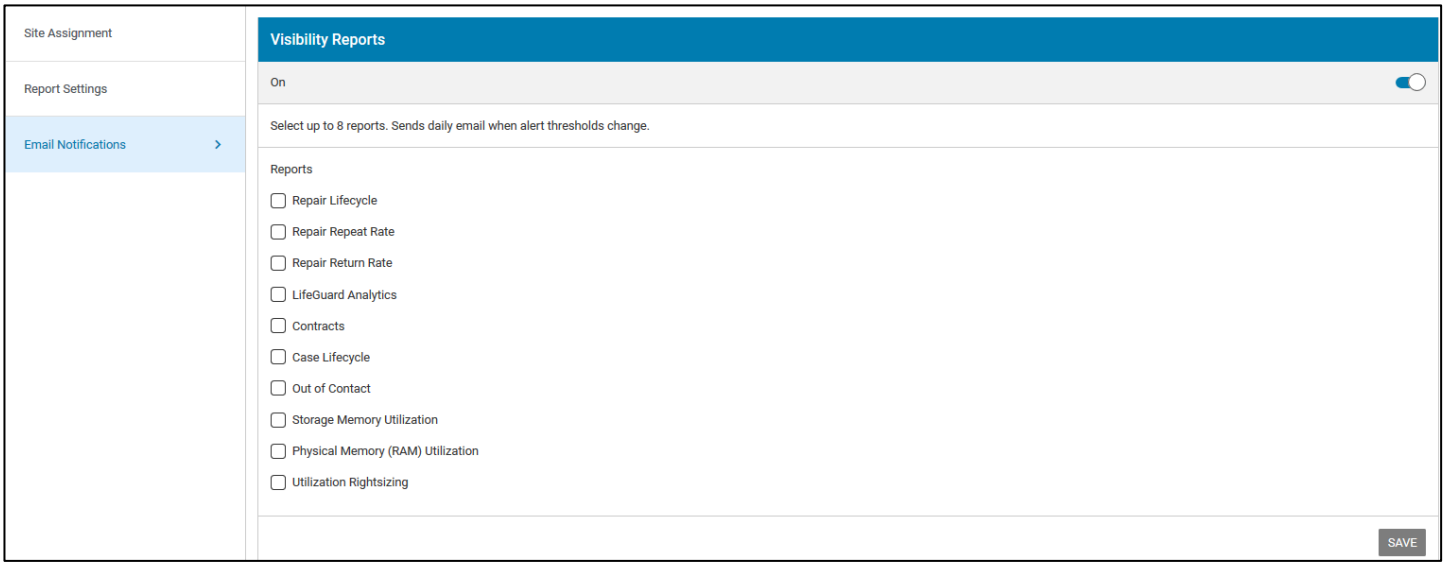
Navigate to the Administration tab within the dashboard. Choose Email Notifications.



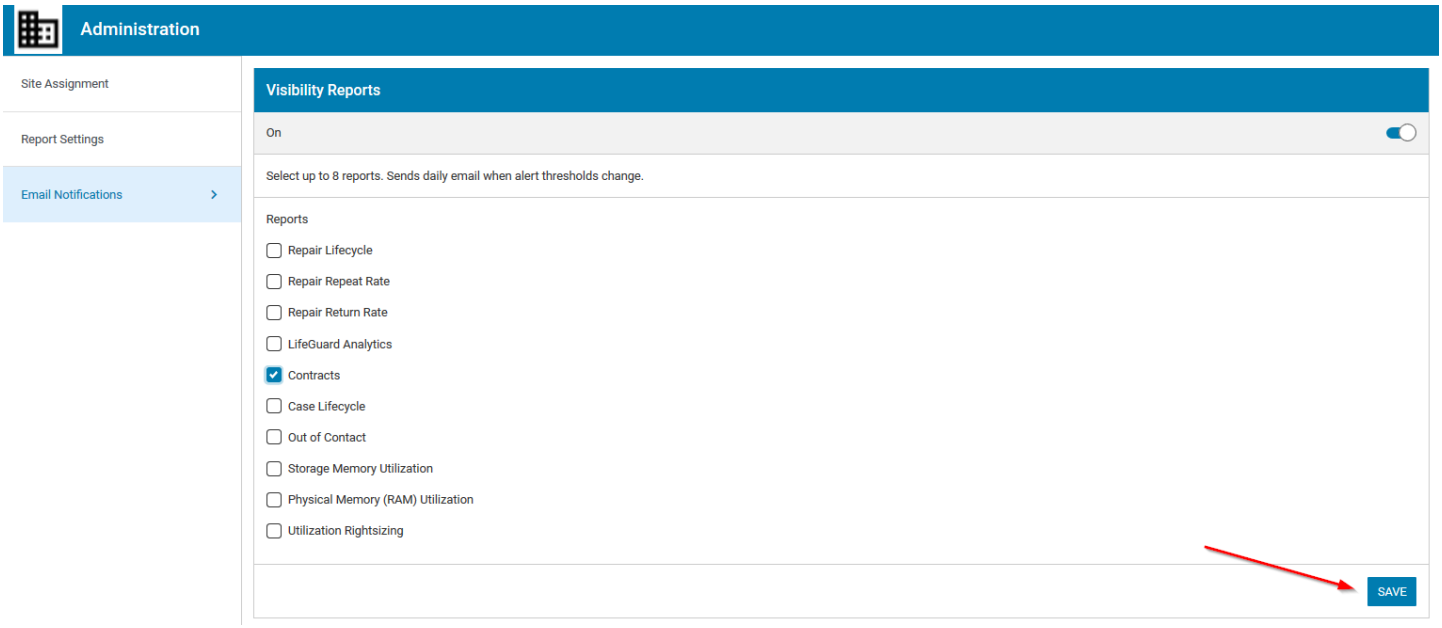
Click the button to the right to enable notifications.



Once enabled, the software displays a list of reports for which notifications can be received.



Click the check box next to the report you would like to see included in the email.



Then click save.

Once enabled, you will begin receiving notifications the first day an alert has changed color from the previous day. From that point, you will only receive an email notification when an alert changes from one color to another. All alerts are contained in one email.

Disable Email Notifications

Navigate to the Administration tab within the dashboard. Choose Email Notifications.

Click the button in the upper right corner to turn off notifications.

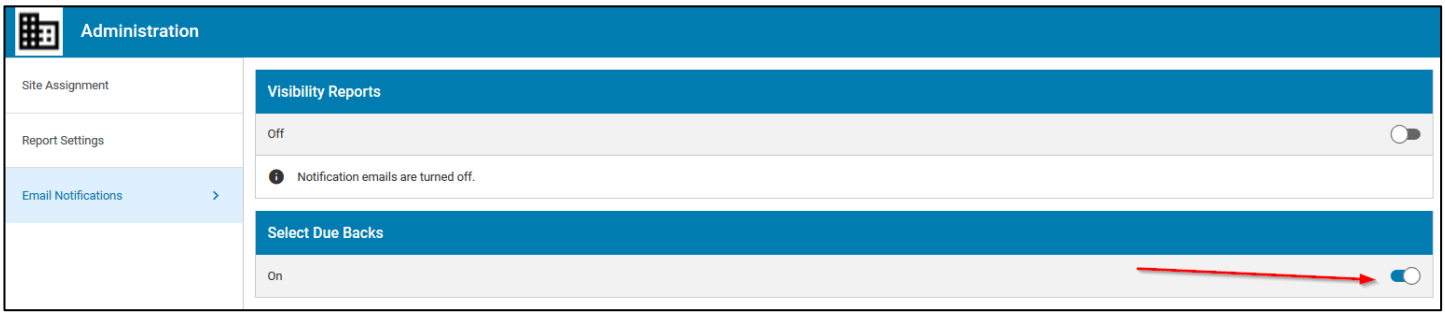
Then click save.

Or uncheck the box next to the report you would like to disable for notifications.

Then click save.

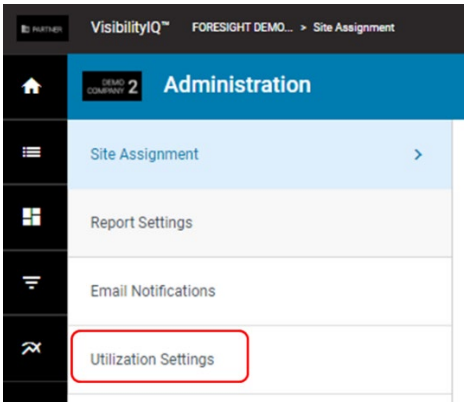
Select Due Backs Notifications

This feature will send an email every Monday to users, which have a “Partner Role” access or anyone that has opted in, which contains the Due Back serial numbers that are in Warning state (more than 14 days due) and Critical state (more than 30 days due), at that time, for each of their customers. This feature is accessed via Administrative settings.

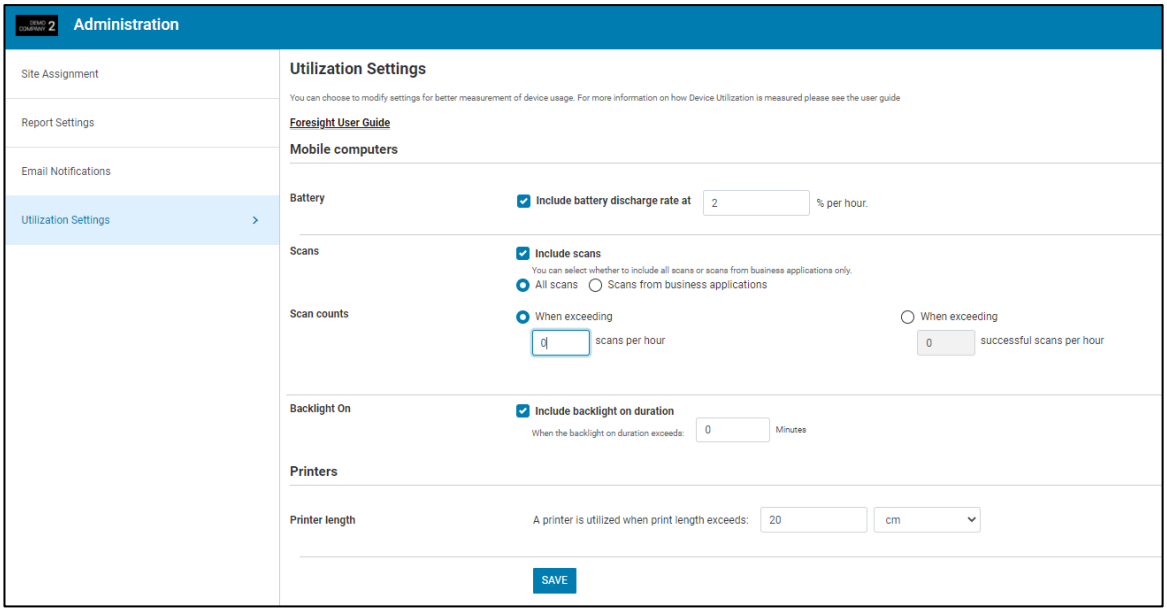


By default, the Select Due Back notification is enabled for users with “Partner Role” access. If desired, they can be opted out of receiving the email. Users with “End Customer” role will not see this feature. For internal users, this feature can be enabled.

Utilization Settings



Utilization Settings allow you to define the criteria to determine a device is utilized or not. Click **Utilization Settings** to make selections in the screen as shown here.



For mobile computers, select any or all three parameters and set the threshold values:

- Battery discharge rate
  You can choose to include battery discharge rate in the criteria to determine if a device is utilized or not. By default, the threshold value is set at 2% per hour, meaning a device is considered as “Utilized” if its battery discharge rate is over 2% in any hour during the day.

- Number of Scans
  You can choose to include any scans or only the scans from business applications in the criteria. For threshold settings, you can select number of scans (successful or unsuccessful) or only number of successful scans per hour and set up the threshold value. By default, “All scans” is enabled and “When exceeding 0 scans per hour” is set, meaning a device is considered as “Utilized” if there is at least 1 scan is performed in any hour during the day.

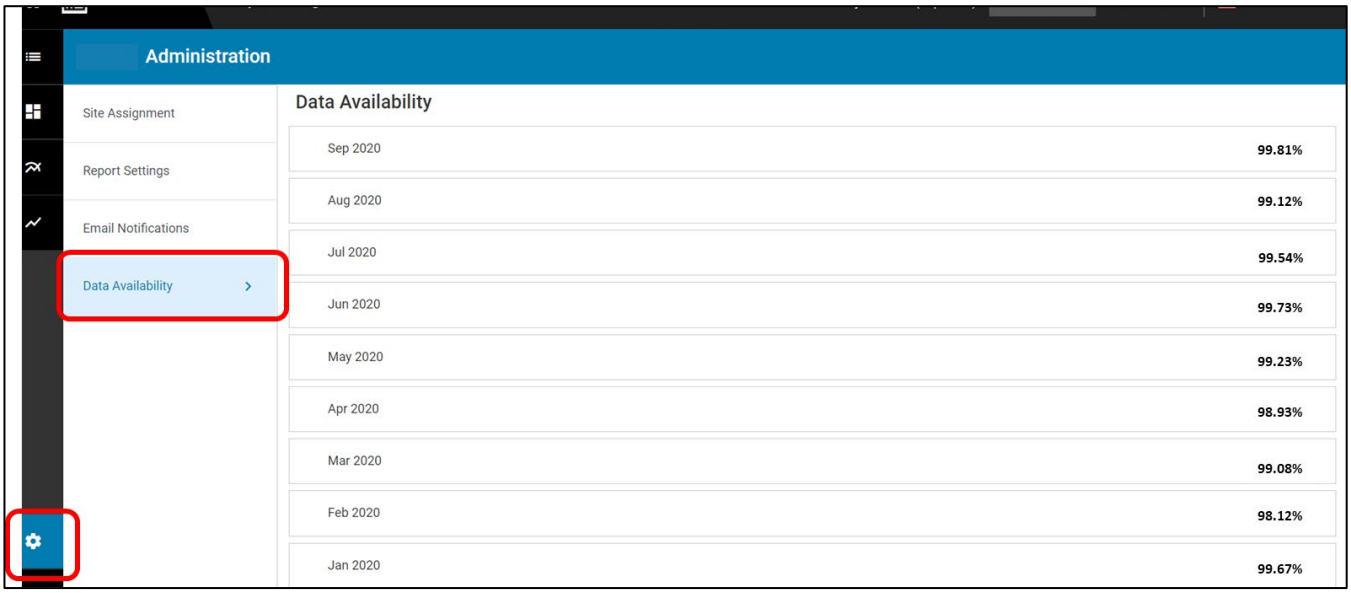
- Backlight on duration time
  You can also choose to include the backlight on duration time In the criteria. By default, the threshold value is set at 0 minutes, meaning a device is considered as “Utilized” if its backlight on time duration is at least 1 minute in any hour during the day.

  You must select at least 1 criterion for “Utilization Settings”, and they can select multiple criteria from the three parameters mentioned previously. When multiple criteria are selected, the “**OR**” logic will apply. That is, if any of the selected criteria is met for a device, then the device is considered as “Utilized”.

For printers, the length printed is used as the criterion to determine if a printer is utilized or not. The default value is 20 cm or 8 inches per user’s choice. So if a printer has printed at least 20 cm or 8 inches, then the printer is considered “Utilized”.

View Data Availability Performance Indicator

The Data Availability performance indicator shows the percentage of time that customer data is made available on time (9:30 am UTC) for the previous months.

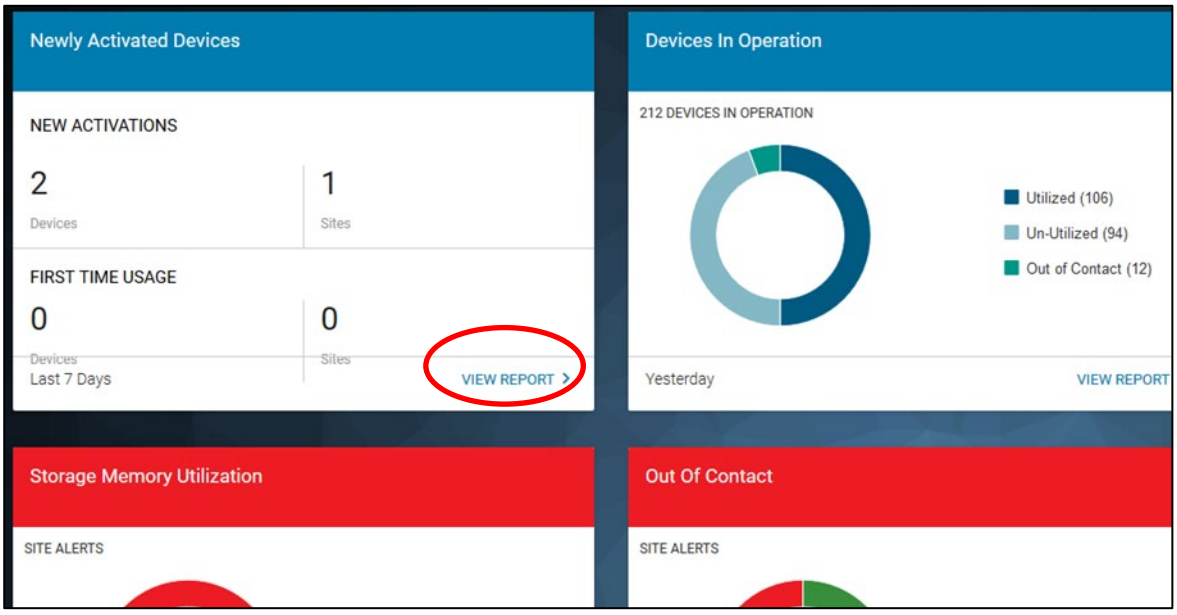


NOTE: A percentage will not display until the system acquires a full month of data for the previous calendar month.

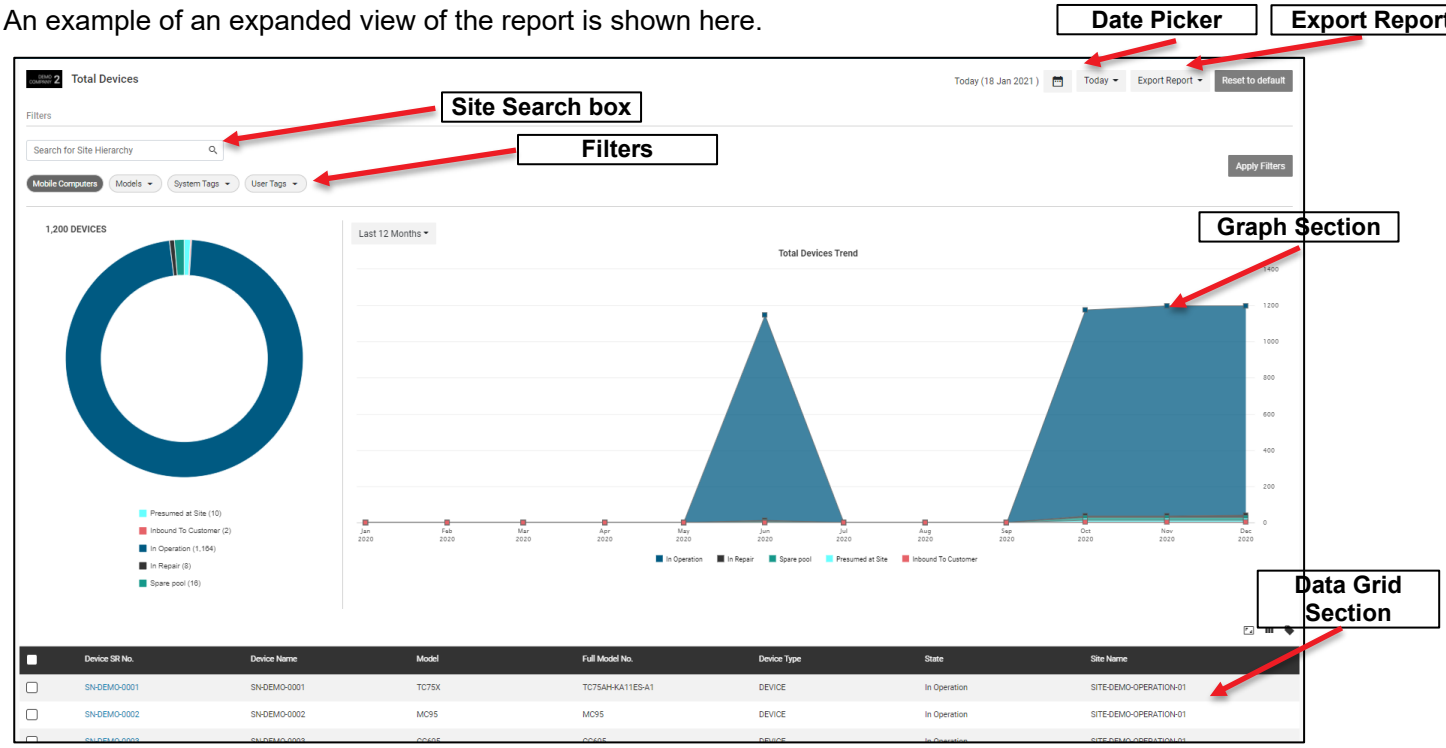
For Report Settings, refer to the report section below for more details.

Report Expanded View

Click **View Report** on a report tile or click a report from the left-hand side navigation bar to go to the expanded view of the report, as shown in this example.



An example of an expanded view of the report is shown here.



The following components are included in the expanded view of a report:

- Graph section: 1 or more graphs show the relevant insight in a report.
- Data grid section: info such as devices, site, and model to provide more details of device metrics.
- Site search box: search a specific site to view in the report.
- Filters: select any filter in the dropdown list of filters to view the report.
- Date picker: select a different time range to view the report.
- Report Export: export a report to Excel (data grid only) or PDF (graphs only).

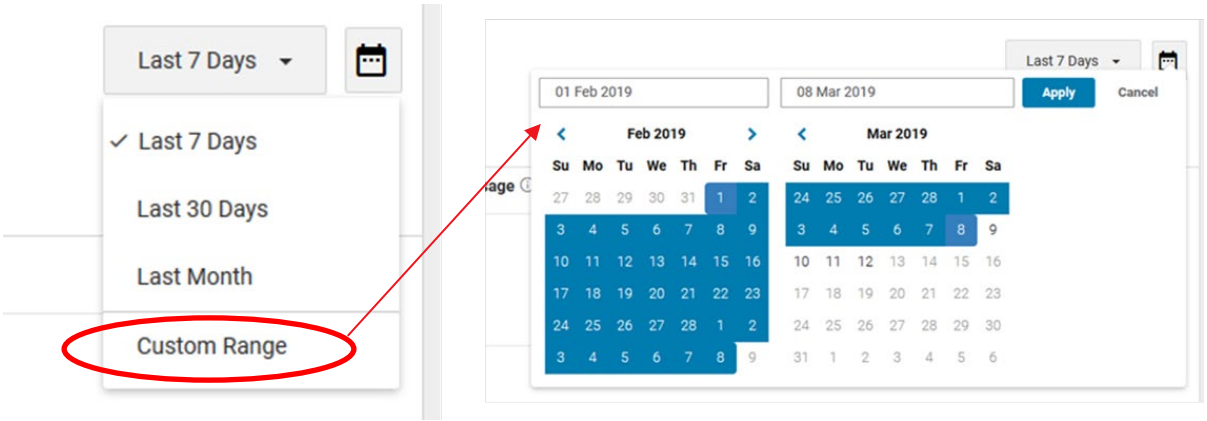
Preset Dates and Date Picker

In the report view, you can select different date ranges (if applicable to the report) through the *Preset Dates* and *Date Picker* icons located in the upper-right corner of the page.

Preset date ranges and date picker options are specific to each report. Not all reports have the same date ranges available to them.

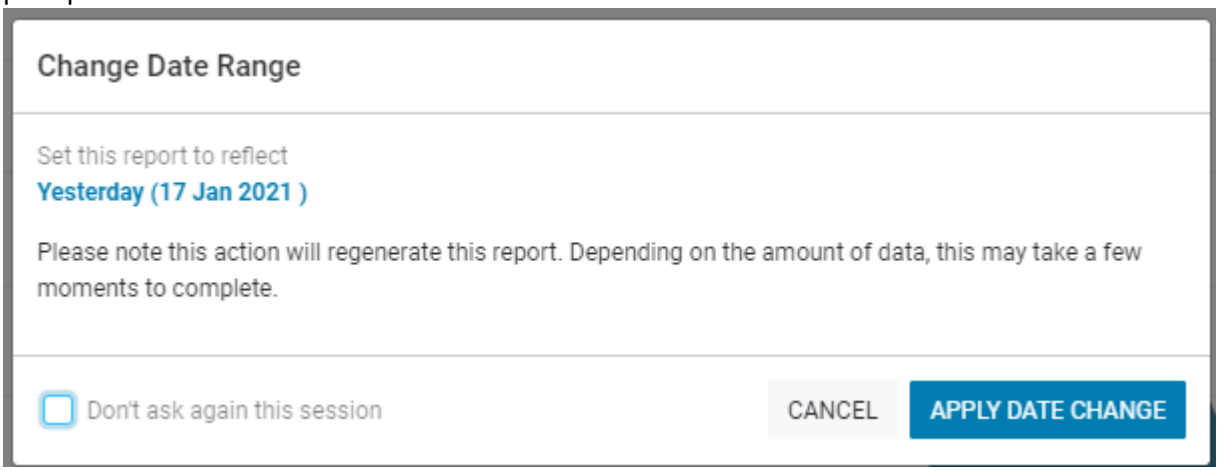
Preset Dates

The default date range varies by report



- You can select a preset date range from the drop-down list after clicking the Date Picker icon.
- You can also click “Custom Range” and then select the start and end dates from the pop-up calendar. Click “Apply” to set this custom data range.

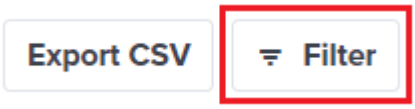
- All VisibilityIQ Foresight reports are refreshed on hourly basis, so you can select “Today” from date picker dropdown menu, if available, or select today’s date from the calendar by clicking on the “Custom Range” option, to view the most recent data.
- When you select a different date from the drop-down menu for the first time, a pop-up window prompts for confirmation:



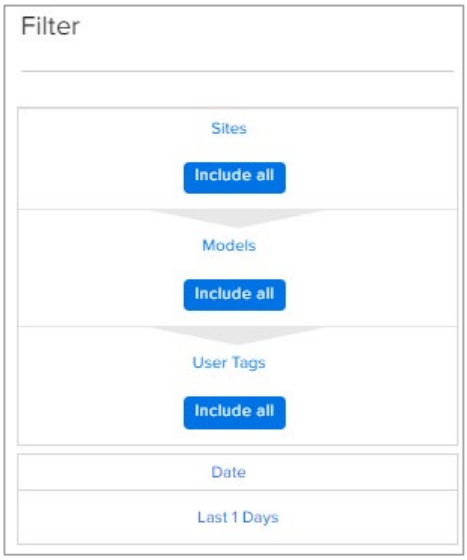
Select **Don’t ask again this session** to avoid having the pop-up window display every time you select a new date. Click **APPLY DATE CHANGE** to confirm the new date selection.

Date Picker

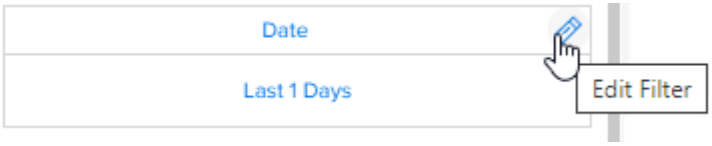
1. Click the filter to access the date picker.



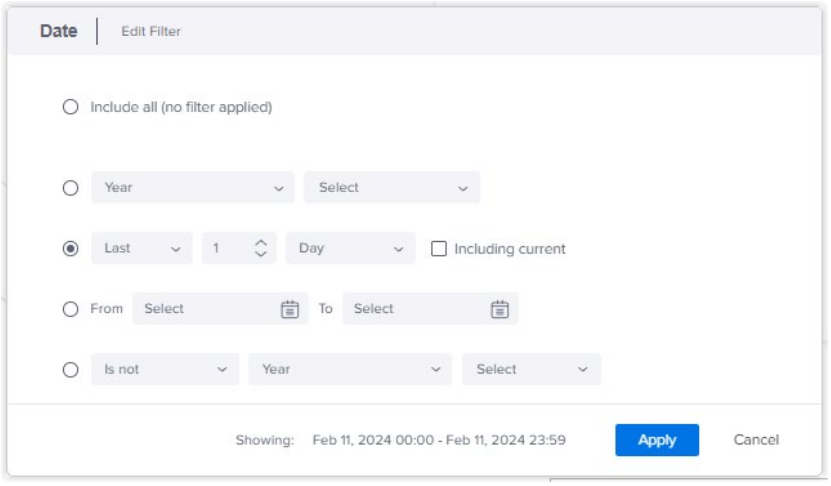
The filter options display.



2. Mouse over the upper-right corner of the date picker, and click the pencil to edit the dates.



3. Select the desired date options, and then click **Apply**.



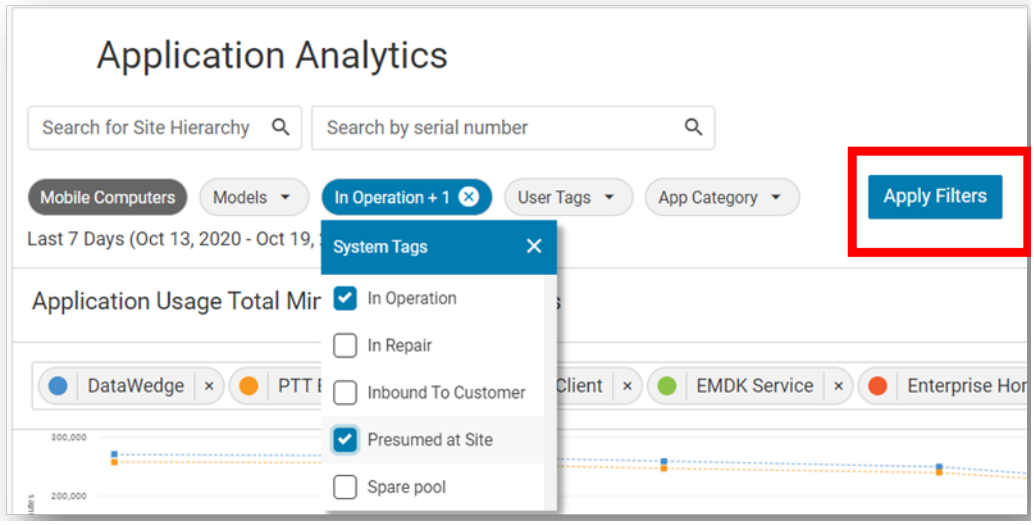
The date picker selections include:

- Year, Quarter, Month, Week, Day, Hour, or 15-Minute Period
- Last specified number of Years, Quarters, Months, Weeks, or Days
- This or Next Year, Quarter, Month, Week, or Day
- A specific date range
- NOT being part of a selected Year, Quarter, Month, Week, Day, Hour, or 15-Minute period
- Being within a specific number of Years, Quarters, Months, Weeks, or Days BEFORE or AFTER a specified date
- TOP or BOTTOM Year, Quarter, Month, Week, or Day

Process to apply and clear filters at top level and report level

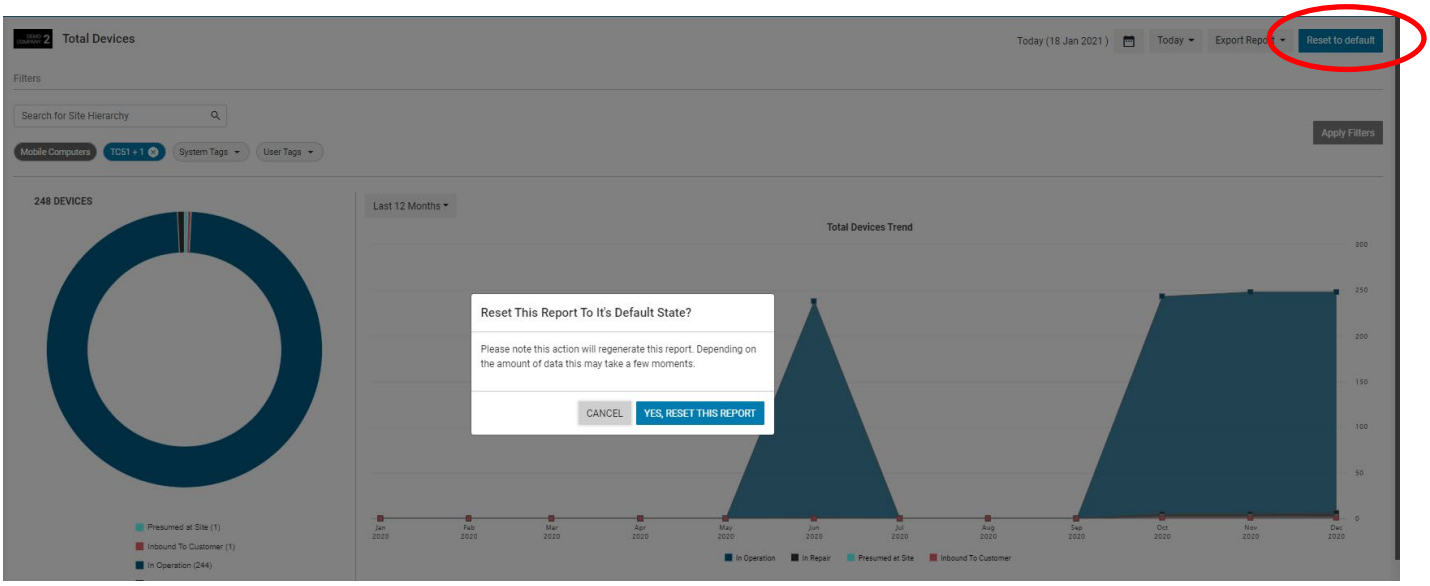
Starting from October 2020, when a user selects a global model preference or report filter (for example, site hierarchy, models, system tag, or user tag), the filter remains even after log-out. The “Apply Filter” button, - as shown in screenshot below, must be clicked after you have a selected a filter(s) or after you have cleared (or deselected) a filter(s).

A “Clear All” button will show up when at least 1 filter is selected, and you can click on this button and then “Apply Filters” button to clear all filters selected in the report.



Reset the report to default view

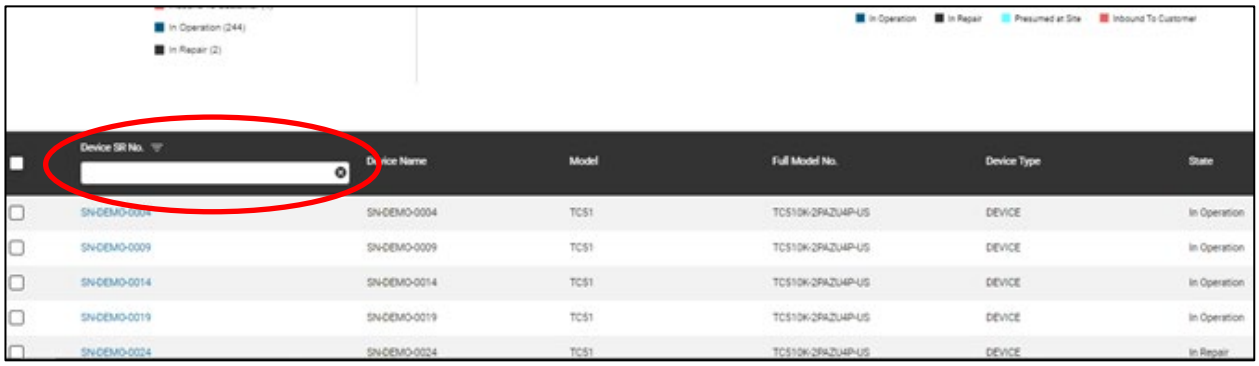
You can click on “Reset to default” button on top right corner to remove all filters in the filter section, the date picker as well as data grid filtering/sorting, so that the report will be reset to its default view after user click on “YES, RESET THIS REPORT” from the pop-up window as shown below.



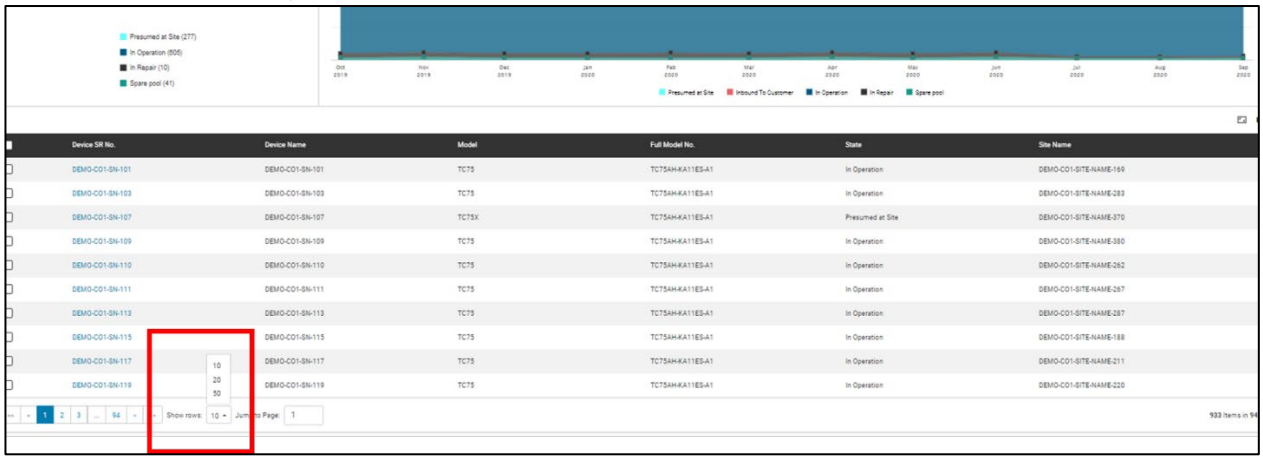
Data Grid

Each report will provide a data grid section on the bottom to provide more details to the user regarding the report. The data grid has multiple columns where you can view details such as serial numbers, model, and site.

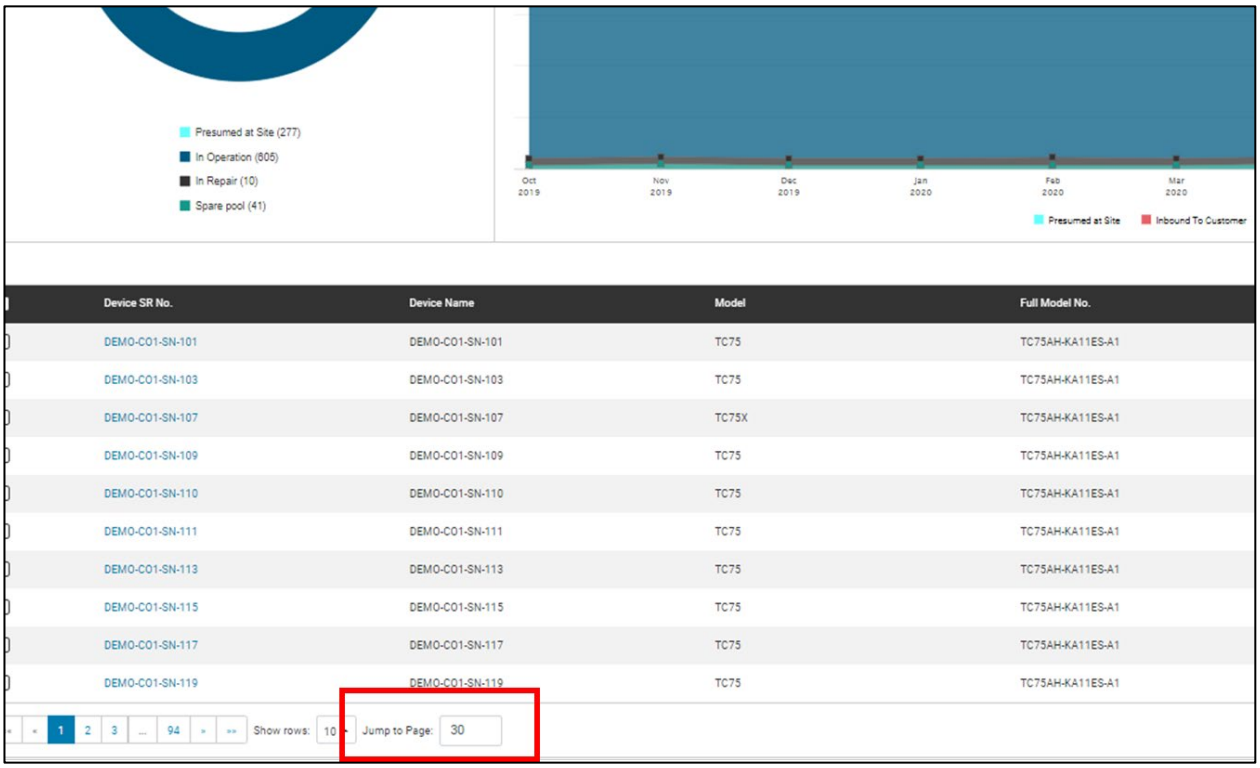
1. Data Grid Columns
   - All columns can sort in descending to ascending order or vice versa when user clicks on the column title.
   - All columns are searchable by activating the search box.



- If you enter a filter at a column header of the data grid in a report, the filter remains selected until you clear it.
- If you change the number of rows (10, 20, 50) of the data grid to display in current page, the selection remains until you select a different number.



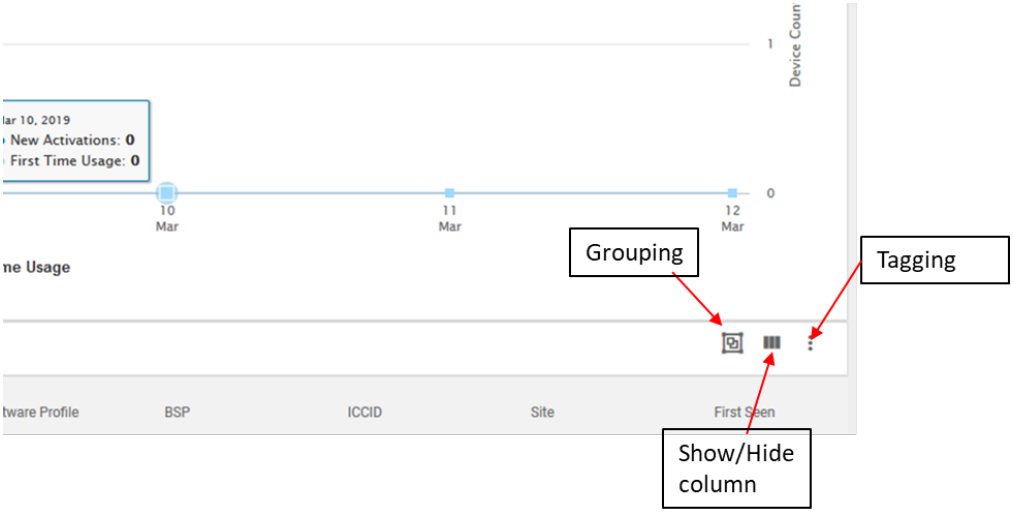
- For data grid with multiple pages, a user may now quickly view a specified page by typing the page number in the Jump to Page field and clicking enter. The page selection will remain until the user selects another page.



2. Data Grid functions

   There are 3 functions available in the right-hand corner of the data grid that affect how the data is presented on the data grid.

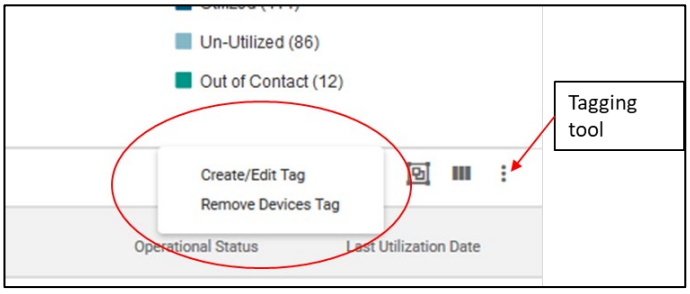
   - Grouping: allows User to aggregate the devices within the data grid by Site Name or Model. You can also sort the grouping result in ascending or descending order.
   - Ability to Show/Hide columns: allows the user to determine which columns they want visible in the data grid.
   - User Tagging: allows user to create, edit and assign tags to “slice and dice” devices per his/her specific needs, and remove tags from the devices when needed. Pls see below for details of “User Tagging” tool.



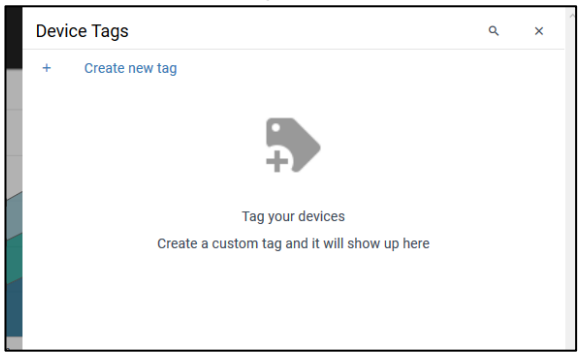
Tagging

If a user is assigned with the “User Tags” feature during onboarding, the user shall have access to the tagging tool above to create, edit and delete user tags, and associate or remove tags for the devices in his/her view.

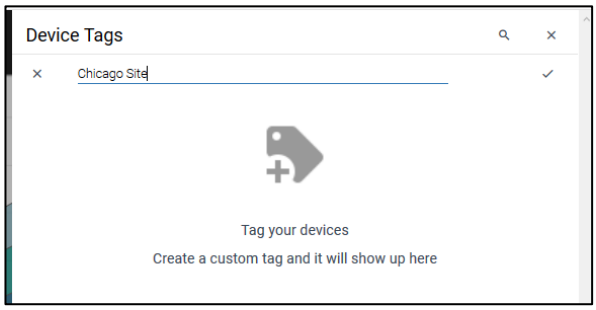
1. Access the tagging tool:
   - Click on tagging tool and a pop-up window will display with options as “Create/Edit Tag” and “Remove Devices Tag”.



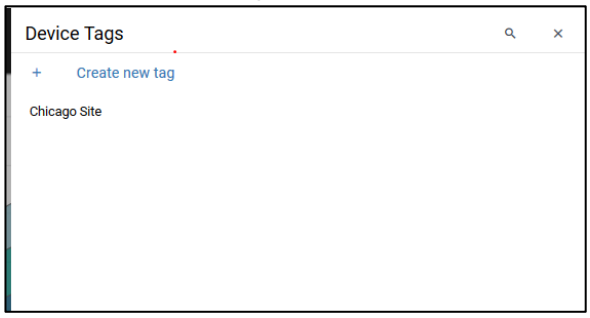
2. Create/Edit tags
   - Click “Create/Edit Tag” and a pop-up window shows on right side.



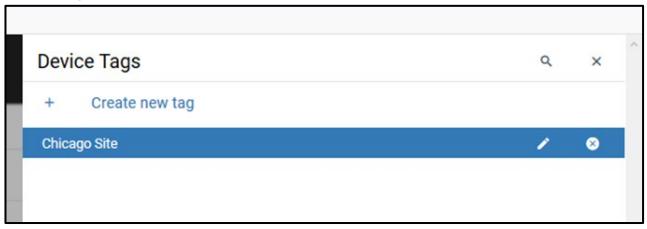
   - Click on “Create new tag” and enter the tag name in the field



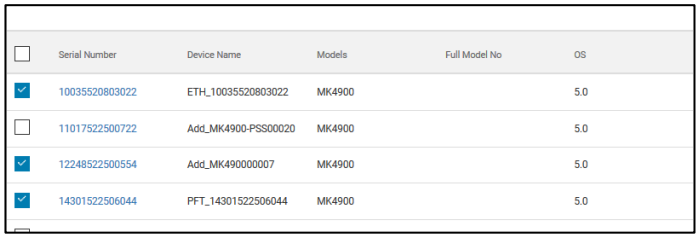
- Click "✓" and the tag is created.



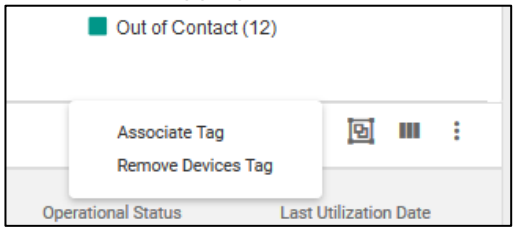
- Move the cursor to the tag listed and use the  icon to edit the tag, or use the  icon to delete the tag.



3. Associate tag to device(s)
   - On data grid, select all devices and some devices by checking the box on left.



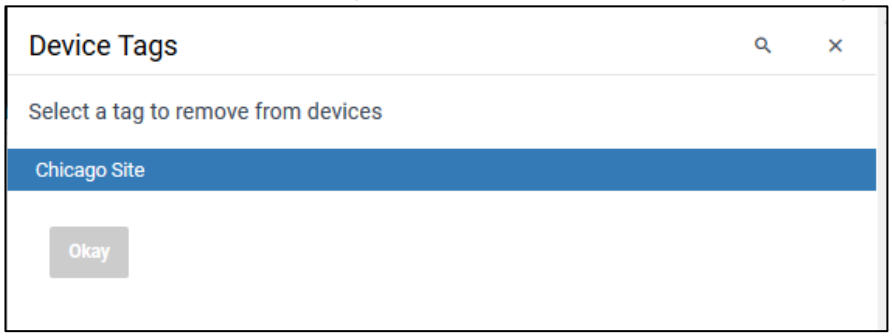
   - Click on the tagging tool and a pop-up window shows up with options.



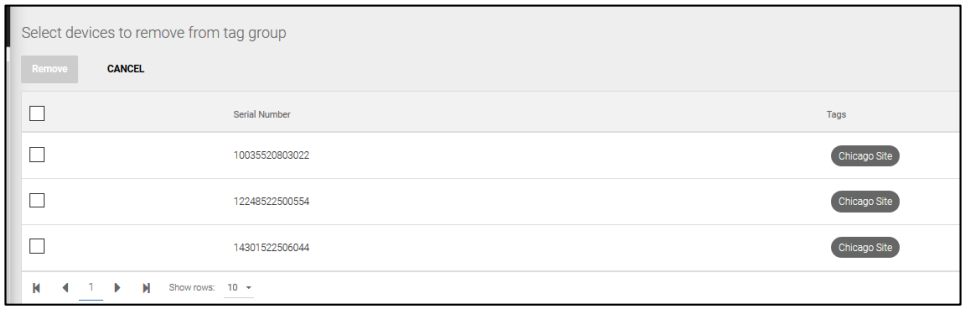
- Click on “Associate Tag” and a pop-up window shows on right side

- Hover over the tag to be associated and check the box on right
- Click on “APPLY” and the tags are associated to the devices selected

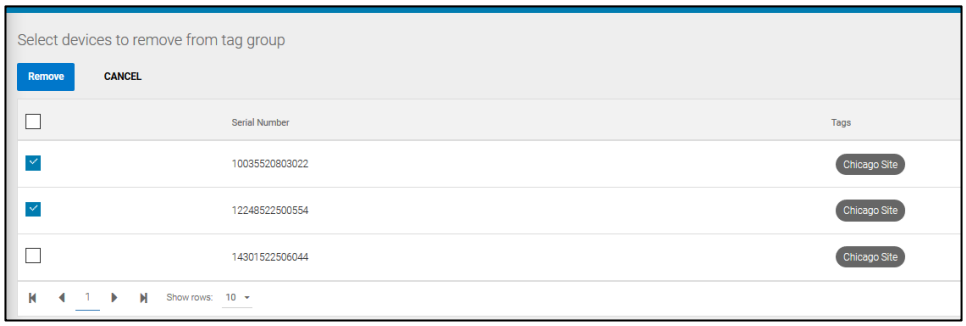
4. Remove tags from devices
   - Click on tagging tool
   - Select “Remove Devices Tag” and a pop-up window shows up on right



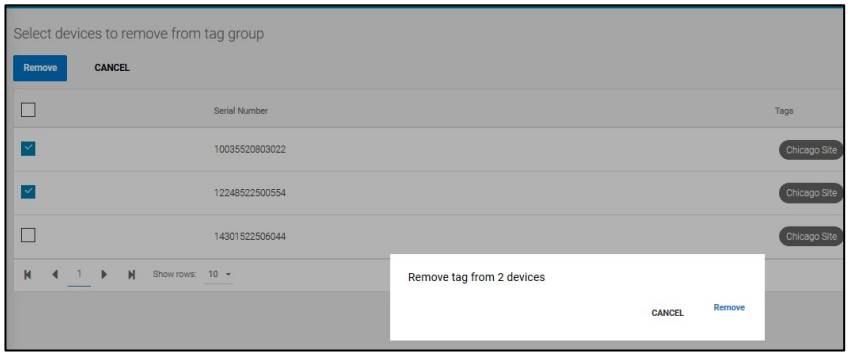
   - Click on the tag to remove and click on “Okay”
   - A pop-up window shows up as below



   - Select the devices and click “Remove”



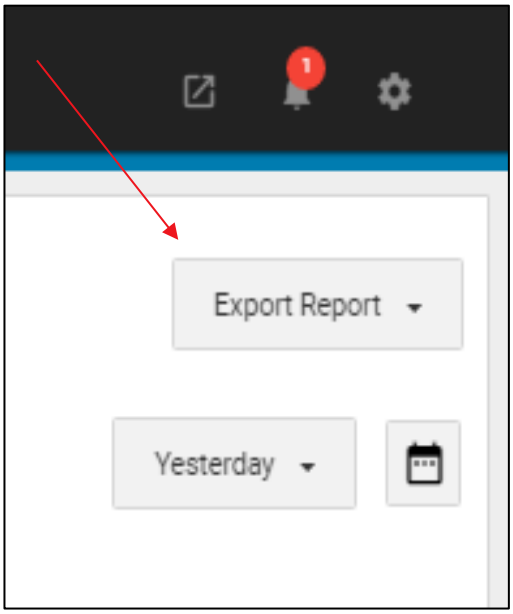
- Click “Remove” on the pop-up window to confirm and the tag will be removed from the selected devices

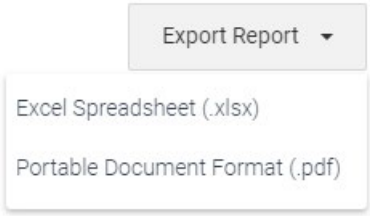


Report Export Function

The ‘Export’ button is a feature available within each report that allows the User to export page information to a PDF or Excel spreadsheet

1. Click on the drop-down arrow
2. Select ‘Excel Spreadsheet (.xls). This will export the data grid in the report to Excel, which allow large Excel file with up to 1 million rows.
3. Select Portable Document Format (.pdf). This will export the graph on the report to PDF.





Color Alerts / Indicators

Based on the threshold set by the administrator, the ‘Tile’ colors let you know for which ones you need to pay attention:

Red indicates Critical Status

Amber indicates Warning Status

Green indicates Normal Status

Pls refer to the report sections for the reports with their specific threshold settings.

Compatible Browsers

- Chrome 65.0.3325 and higher
- Firefox 59.0.2 and higher
- Internet Explorer 11.0.9600 and higher

Login Assistance / Support

Need help? Please contact Zebra OneCare help desk via the link below:

https://www.zebra.com/us/en/about-zebra/contact-zebra/contact-tech-support.html

OPERATIONAL REPORTS AND INSIGHT SUMMARY OVERVIEW

The 18 Operational reports available on the new VisibilityIQ Foresight Dashboard are listed below –

Category	Report Name	Description	What's New

Operational Reports	**Total Devices**	Provides an inventory view of customer's total devices. The info is derived from all onboarded contracts and MDM platform (if applicable). The report also indicates the device states in the operational environment and repair workflow	• Report available since May 2019
			• Available with Visibility Foresight
			• Data available for Mobile computers and Zebra Link-OS printers when applicable.
			• For printers
			  ○ Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
			  ○ Zebra Link-OS printers only
			• For scanners
			  ○ Requires Zebra IoT Connector enabled on Windows or Linux which must first be installed and running.
			  ○ Supports MP7000, DS36 and DS81 Series Scanners

	Devices in Operation	Provides information on all devices reported by MDM during the previous 24 hours. The devices are categorized into "Utilized" "Un-Utilized" and "Out of Contact"	• Report available since May 2019
			• Available with Visibility Foresight
			• Data available for Mobile computers and Zebra Link-OS printers when applicable.
			• For printers
			  ○ Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
			  ○ Zebra Link-OS printers only
			• For scanners
			  ○ Requires Zebra IoT Connector enabled on Windows or Linux which must first be installed and running.
			  ○ Supports MP7000, DS36 and DS81 Series Scanners

	Newly Activated Devices	Provides insights on newly activated devices and the sites at which the devices were newly activated during the time range specified. It also shows the first utilized devices and sites at which the devices were first utilized during the same time range.	• Report available since May 2019
			• Available with Visibility Foresight
			• Data available for Mobile computers and Zebra Link-OS printers when applicable.
			• For printers
			  ○ Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
			  ○ Zebra Link-OS printers only

	Out of Contact	Provides insights on the Out of Contact (OOC) devices and aging info to pin-point potential Lost/Stolen devices. The sites with high number of OOC devices are alerted.	• Report available since May 2019
			• Provides top sites with the most out of contact devices
			• Provides last know access point (AP) for out of contact devices.
			• Available with VisibilityIQ Foresight
			• Data available for Mobile computers and Zebra Link-OS printers when applicable.
			• For printers
			  ○ Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
			  ○ Zebra Link-OS printers only
			• For scanners
			  ○ Requires Zebra IoT Connector enabled on Windows or Linux which must first be installed and running.
			  ○ Supports MP7000, DS36 and DS81 Series Scanners

	Predictive States	Provides insights on the top categories of insights on issues that may happen to the devices based on analytics of historical data.	• Report available since May 2019 • Provides summary of issues identified and sites/devices impacted • Available with Visibility Foresight

	Critical Battery Events	Provides insights on number of critical battery events (battery level below 30%) associated with devices over last 30 days on dashboard and over data range as selected by user. The report will show if there are sites with too many devices with critical battery events	• Report available since May 2019 • Provide top sites with the most events reported • Available with Visibility Foresight • Data available for Mobile computers and Zebra Link-OS printers when applicable. • For printers o Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices. o Zebra Link-OS printers only
	Smart Battery Health	Provides insights on Smart battery inventory, health status and predicted remaining useful life of batteries. Also allows user to create a report for battery replenishment based on battery remaining useful life.	• Report available since January 2020 • Available with VisibilityIQ Foresight • For mobile Computers: o Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. o Zebra Android devices only • For printers o Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices. o Zebra Link-OS printers only
	Battery Swap	Provides insights on the aggregation of battery swaps at enterprise, site and device level during the time frame selected by user.	• Report available since January 2020 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Zebra Android devices only
	Battery Level	Provides insights on the average battery level reported by Site, Device Model and Individual Device for the specified date range.	• Report available since June 2020 • Data available for Mobile computers and Zebra Link-OS mobile printers when applicable. • For printers o Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS

			printers and Internet access from devices. ○ Zebra Link-OS printers only
	Battery Discharge Rate	Provides insights on the average battery hourly discharge rate reported by Site, Device Model and Individual Device for the specified date range.	• Report available since June 2020 • Available with VisibilityIQ Foresight • Data available for Mobile computers and Zebra Link-OS mobile printers when applicable. • For printers ○ Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices. ○ Zebra Link-OS printers only
	Physical Memory (RAM) Utilization	Provides insights on the top sites with high physical memory (RAM) utilization issues per user's settings. The report will provide color-coded alert on the report tile to indicate if there are sites with too many devices with physical memory issue.	• Report available since May 2019 • Alert on top sites with physical memory issue • Available with Visibility Foresight • Data available for Mobile computers and Zebra Link-OS mobile printers when applicable.
	Storage Memory Utilization	Provides insights on the top sites with storage memory issues per user's settings. The report will provide color-coded alert on the report tile to indicate if there are sites with too many devices with storage memory issue.	• Report available since May 2019 • Alert on top sites with storage memory issue • Data available for Mobile computers
	Utilization Rightsizing	Provides insights on top sites with least and most device utilizations per user's settings. The report will provide color-coded alert on the report tile to indicate if there are sites with too much or too little device utilization.	• Report available since May 2019 • Alert on sites with too much or too little device utilization • Data available for Mobile computers

	WLAN Signal	Provides insights on WLAN signal strength details at site and access point (AP) level. You can select any of the sites or APs on a site and view the signal strength reported from devices connected.	• Report available since May 2019 • Provide WLAN signal strength info at site level and AP level • You can upload friendly names for APs via report settings. • Data available for Mobile computers
	Application Analytics	Provides insights on the applications & versions installed on devices and tracks and compares total minutes used by each application.	• Report available since January 2020 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Zebra Android devices only
	Scan Metrics	Provides insights on the total number of scans, the number of successful scans, and compares the symbology from scans performed by Zebra Android mobile computers.	• Report available since January 2020 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Zebra Android devices only
	Device Disruptions	Provides insights on the number of device reboots (user or system initiate) and ANRs (Application Not Responding).	• Report available since January 2020 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Zebra Android devices only
	Printer Setting Changes	Provides insights on setting changes on printers at company, site, model and individual printer level.	• Report available since June 2021 • Available with VisibilityIQ Foresight • Data available for Zebra Link-OS printers. • Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
	Printer Alerts	Provides insight on alerts received from printers and whether the alerts are cleared within specified threshold time limit.	• Report available since June 2021 • Available with VisibilityIQ Foresight • Data available for Zebra Link-OS printers. • Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet

			access from devices.
	Printer Utilization	Provides insights on the utilization of printers in terms of length printed and label printed.	• Report available since June 2021 • Available with VisibilityIQ Foresight • Data available for Zebra Link-OS printers. • Requires Zebra Printer Connector (ZPC) visibility agent enabled on Zebra Link-OS printers and Internet access from devices.
	Geo Location	A Geo map shows the last known GPS location of devices.	• New feature, available since May 2020 • Available with VisibilityIQ Foresight • Requires devices to enable GPS function • Requires GPS collection and transmission from MDM for devices enrolled in MDM, or from Zebra Data Analytics (ZDS) agent on Zebra Android devices with Internet access.
	WWAN (Cellular) Utilization	Provides insights and recommendations based on last 90 days of cellular usage activity	• New feature, available since December 2023 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Zebra Android devices only
	Memory (RAM) Utilization by App	Provides insights and recommendations based on last 90 days of memory usage activity	• New feature, available since December 2023 • Available with VisibilityIQ Foresight • Requires Zebra Data Analytics (ZDS) agent enabled on Zebra Android devices and Internet access from devices. • Requires Proc Stats to be enabled. • Supports A11 and above and A10 with latest LifeGuard Analytics version • Zebra Android devices only
Operational Insight Summary View	**Smart Battery Overview**	This Overview page shows the summary insight of smart battery inventory and health status. It also allows user to remove batteries from the battery inventory, referred as “decommission” in VisibilityIQ.	• Available since June 2021 • Available with VisibilityIQ Foresight

		Quick links to individual battery reports are provided for user to drill down to next level details.	
	Printer Insight Summary	This summary page provides a one-page view with multiple insights derived from all relevant reports applicable to printers including inventory, utilization, alerts, setting changes, battery performance, etc., and presented in an easy-to-understand format with data visualization including numbers and graphs. Quick links to individual battery reports are provided for user to drill down to next level details	• Available since August 2021 • Available with VisibilityIQ Foresight

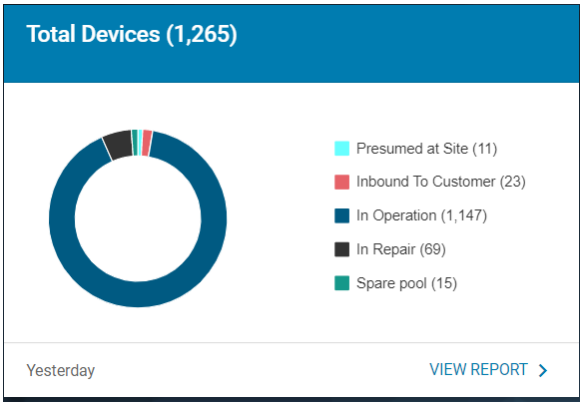
REPORT: TOTAL DEVICES

Description:

This report provides an inventory view of customer's total devices. The info is derived from all onboarded contracts and MDM platform. The report also indicates the devices states in the operational environment.

This report supports both mobile computer and Zebra Link-OS printers.

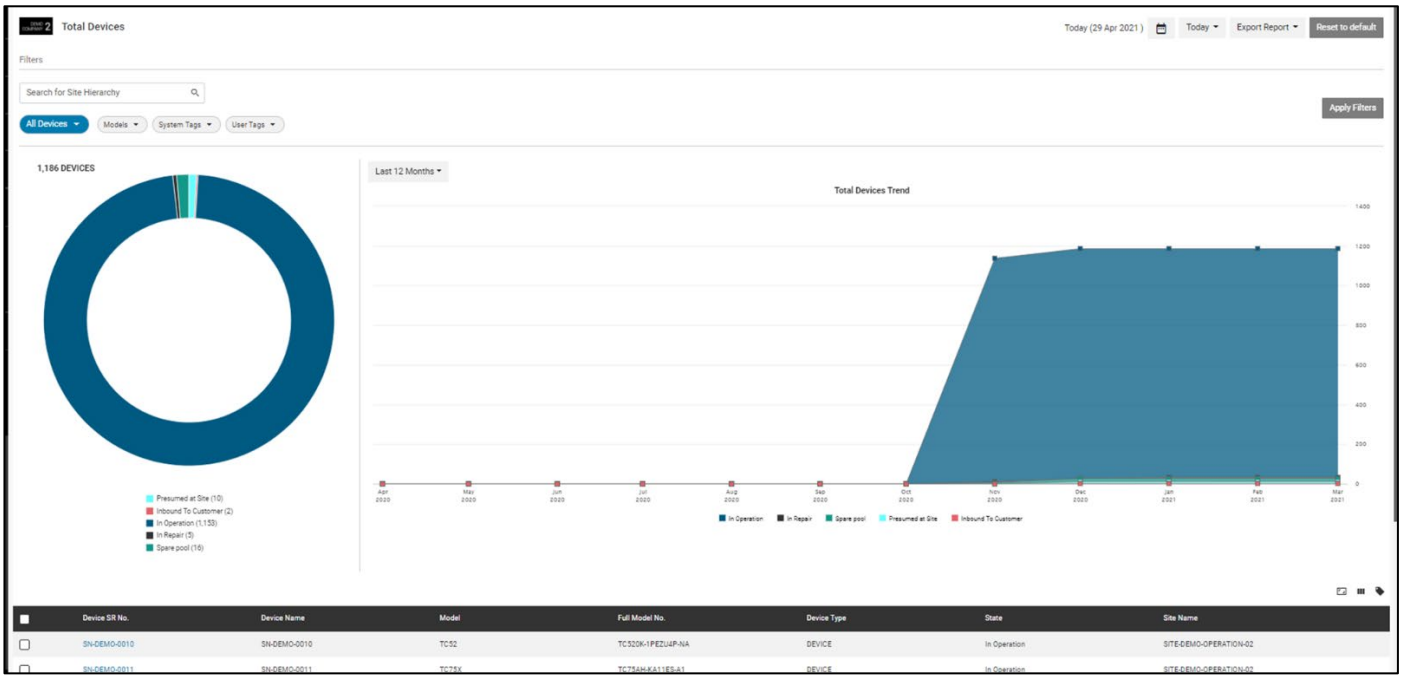
Tile View



The tile of this report provides a summary view of total devices for a customer and the device distribution in the following categories:

- Presumed at site: devices en route to customer's site after repair but not reported by MDM in operation yet, or devices in a contract but not enrolled in MDM neither showing in repair depot.
- Inbound to Customer: devices shipped to customer site after repair. The state will change to "Presumed at site" on the next day after the shipping date.
- In Operation: the devices that are enrolled and reported by the MDM.
- In Repairs: devices under repaired at Zebra repair depot.
- Spare pool: devices in the Zebra managed dedicated spare pool for the customer.

Expanded View



Graph

1. 12-Month Total Device Trend
   This graph shows the total number of devices of the customer in each month during the previous 12 months. Hover over the graph and view the number of devices in the different categories. Click the legends to turn them on/off, and the graph will change accordingly.

Data Grid Columns

All devices in this report are shown in the data grid with the following columns:

Device SR No., Device Name, Model, Full Model No., Device Type, State, Site Name, Phone Number (hidden by default), Access Point BSSID (hidden by default), IP address (hidden by default), GPS Coordinates (hidden by default), Hierarchy (hidden by default)

Date Range Options

Today (Default)

Yesterday

Custom Range

Use Case(s)

1. Inventory tracking - Understand how many devices you have in total on any day up to yesterday.
2. Understand how many devices are in different stages in operation (such as in operation, in repair, in sparepool).
3. Service Gap-Identify which devices are not under a repair contract

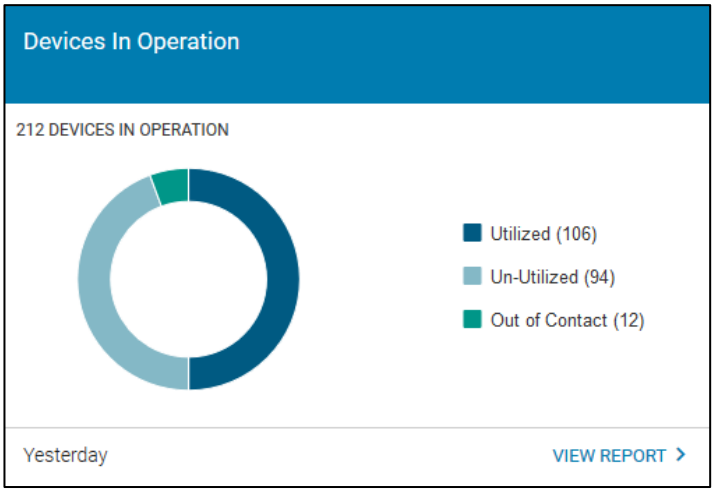
REPORT: DEVICES IN OPERATION

Description:

This report provides information on all devices reported by MDM during the previous 24 hours. The devices are categorized into “Utilized” “Un-Utilized” and “Out of Contact”

This report supports both mobile computer and Zebra Link-OS printers.

Tile View



The tile of this report provides a summary view of total devices in operation reported by MDM (for VisibilityIQ Foresight bundled and Connect offers), or the devices included in the contract (for VisibilityIQ Foresight IOT and Printer Offers), and the device count in Utilized, Unutilized, and Out of Contact categories.

- Utilized
  A Utilized device is a device that meets the criteria defined by user in the “Utilization Settings” section under Administration.
  By default, a device is considered as “Utilized” if at least one of the following is true:
  - Its battery discharge rate is over 2% for a device in any hour during the day.
  - It has at least 1 successful scan in any hour during the day .
  - Its backlight on duration time is over 1 minute in any hour during the day.

- Unutilized
  A unutilized device is an active device where data received from it, but the device does not meet the requirements defined for Utilized.

- Out of Contact
  No data were received from the device so far.

Expanded View

Graphs

1. Operational Device Trend
   This graph shows the number of devices in operation in different time duration that you can select. Hover over the graph and view the number of devices that are utilized, unutilized, or out of contact. Click the legends to turn them on/off, and the graph will change accordingly.

2. Summary View of devices in operation
   This graph shows the total devices in operation and the device count that are utilized, un-unutilized or out of contact. The legends can be turned on/off when clicked, and the graph will change accordingly. This graph is the same as shown in the tile view.

Data Grid Columns

- All devices in operation are shown in the data grid with the following columns:
  Device SR No, Device Name, Model, Full Model No., Device Type, OS, BSP, Operational Status, Last Utilization Date, Site Name, Hierarchy (hidden by default).

Date Range Options

Today

Yesterday

Custom Range

Use Case(s)

1. Understand how many devices are managed by MDM on any day up to yesterday.
2. Track device utilization

REPORT: OUT OF CONTACT

Description:

This report shows the Out of Contact (OOC) devices and aging info to pin-point potential Lost/Stolen devices. The sites with high number of OOC devices are alerted. It also provided the last known access point (AP) info to help users to locate and possibly retrieve OOC devices before lost.

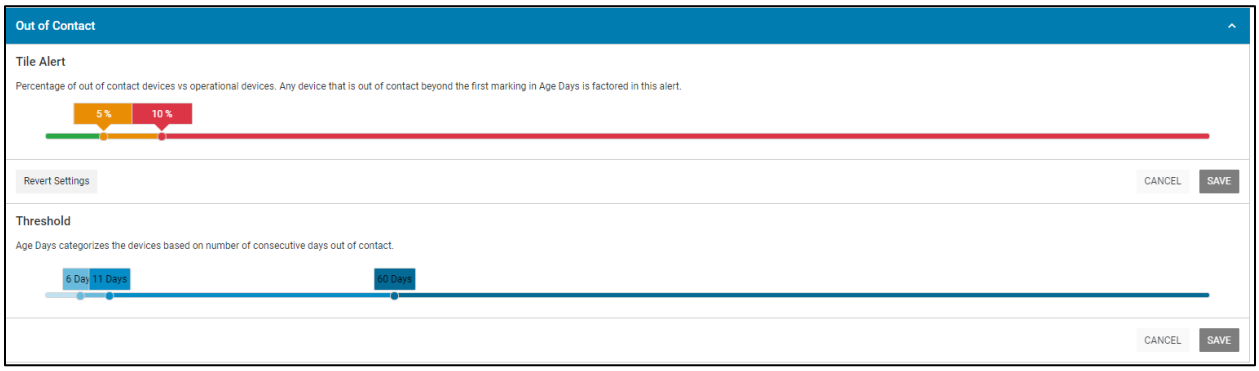
This report supports both mobile computer and Zebra Link-OS printers.

Tile View

The report tile shows the summary view of the OOC report and indicates the number of sites in each alert category and distribution. Pls note only sites with OOC devices identified are included in the report.

Tile Alert Threshold Settings

Administrators can access the “Administration” section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for Out of Contact reports are shown below



1. **Threshold** (for aging days)
   Administrators can set different aging buckets to categorize OOC devices with different aging days. The default settings for OOC devices are:
   - 1-5 days
   - 6 -10 days
   - 11 – 59 days
   - 60 days and above

   The aging bucket info will be shown on the expanded view of the report, so you can easily view the distribution of the OOC devices with different aging days.

   Also, the OOC aging bucket info will be used in determine the impact to the sites as shown in the tile alert.

2. **Tile Alert**

   Administrators can set the tile alert threshold using the percentage of OOC devices out of operational devices for a site. The default settings are:

   - Normal: site has less than 15% of OOC devices
   - Warning: site has 15% - 24% of OOC devices
   - Critical: site has more than 25% OOC devices

NOTE: The devices OOC for 6 days or longer are included in the calculation of the percentage.

Expanded View

Graphs

1. Overview: Top 10 sites impacted by OOC devices (OOC for 6 days or longer)
   This bar chart graph shows the top 10 sites that are most impacted by OOC devices ranked by the percentage of OOC devices out of all operational devices on the site. The bars on the graph also shows the distribution of OOC devices in different aging buckets.
   - Click on “View Absolute Values” tab on the graph to see top 10 sites with the most OOC devices.
   - Hover over the graph and view the percentage or number of devices in different aging buckets.
   - Click the legends to turn them on/off, and the graph will change accordingly.

2. 12-month trend of OOC devices
   - Click the “Overview” tab and select “12 Month Trend” to show this graph
   - Hover over the graph and view the number of OOC devices in different aging buckets.
   - Click the legends to turn them on/off, and the graph will change accordingly.
3. Site Alerts graph
   This graph is the same as shown in the tile view.

Data Grid Columns

Device SR No., Device Name, Model, Full Model No., Age, Last Seen Date, Last Connected Access Point BSSID, Access Point Friendly Name, Last Connected Date and Time to WLAN, OS, BSP, Manufacture Date, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today (Default)

Yesterday

Custom Range

USE CASE(S)

1. Identify and reduce lost/stolen devices
2. Track OOC devices to evaluate impact to operations and enforce processes
3. Leverage the last known access point (AP) info (BSSID, friendly name & last connected date and time) to locate and possibly retrieve the devices before lost.

REPORT: CRITICAL BATTERY EVENTS

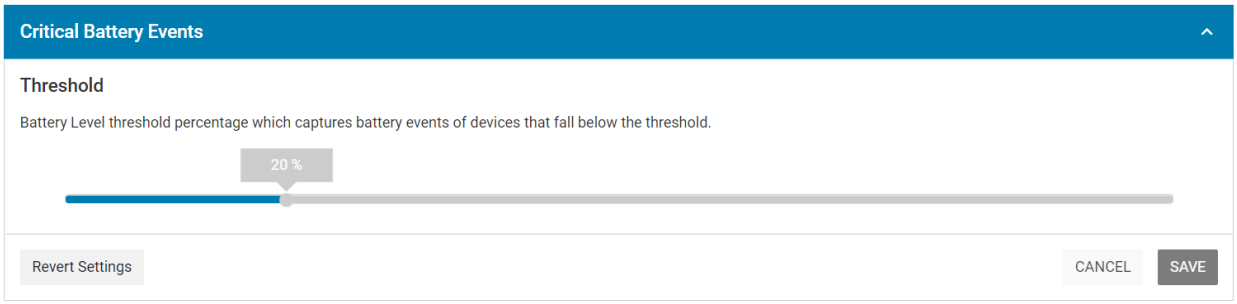
Description:

This report is to show number of critical battery events associated with devices over last 30 days on dashboard and over data range as selected by you. A critical battery event is defined as an incident when the battery level drops below certain level. The default value is 30% of the battery capacity but you can set to other values that are acceptable in your organization. The report will indicate if there are the sites with too many devices reporting critical battery events per your settings.

This report supports both mobile computer and Zebra Link-OS mobile printers.

Report Settings

Administrators can access the “Administration” section on the left-hand side bar on dashboard and click on “Critical Battery Events” to change the default value (30%) to the value they prefer.

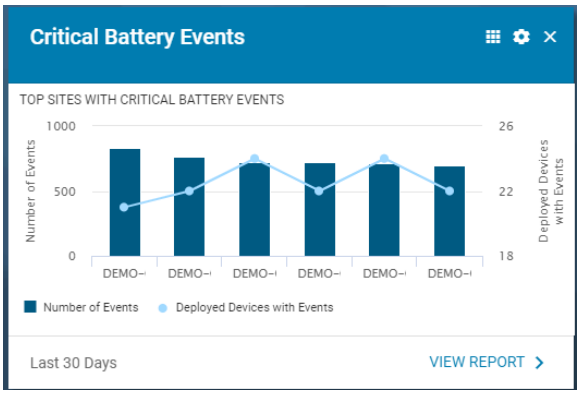


Click SAVE after the value is changed. To reset the value back to the default, click “Revert Settings.”

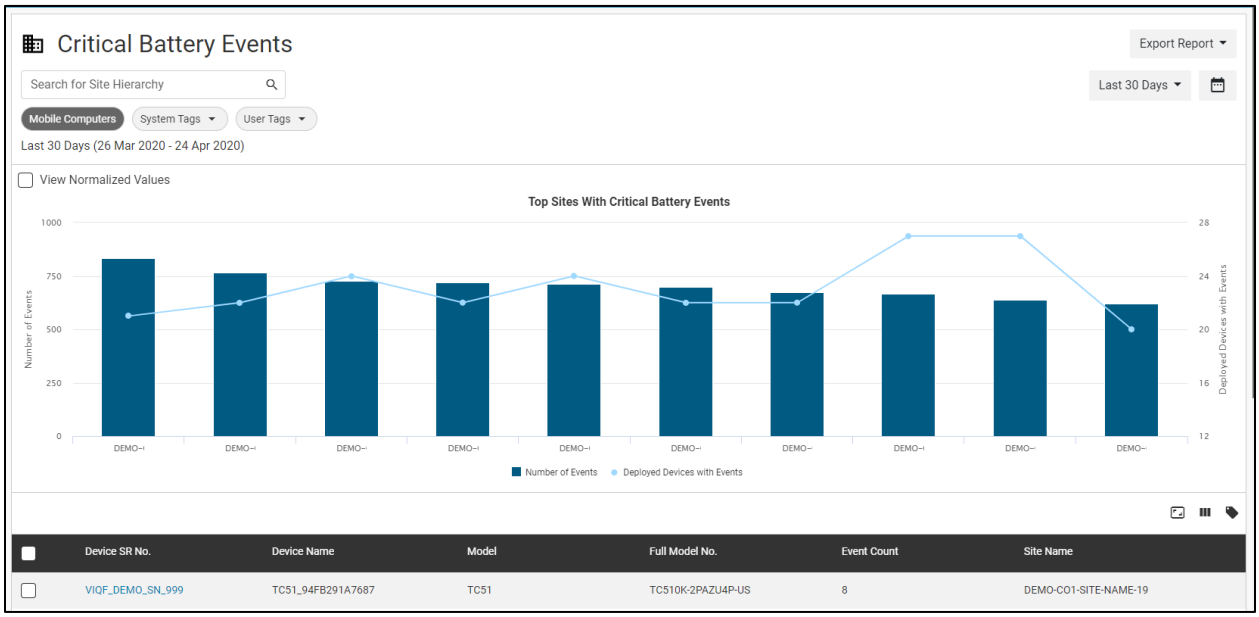
NOTE: T change will be picked up in the next data load, and the count of the critical battery events will be based on the new value. The historical data for critical battery events based on previous setting value(s) will not be changed.

Tile View

The tile view shows the summary of the top sites with critical battery events identified during the last 30 days.



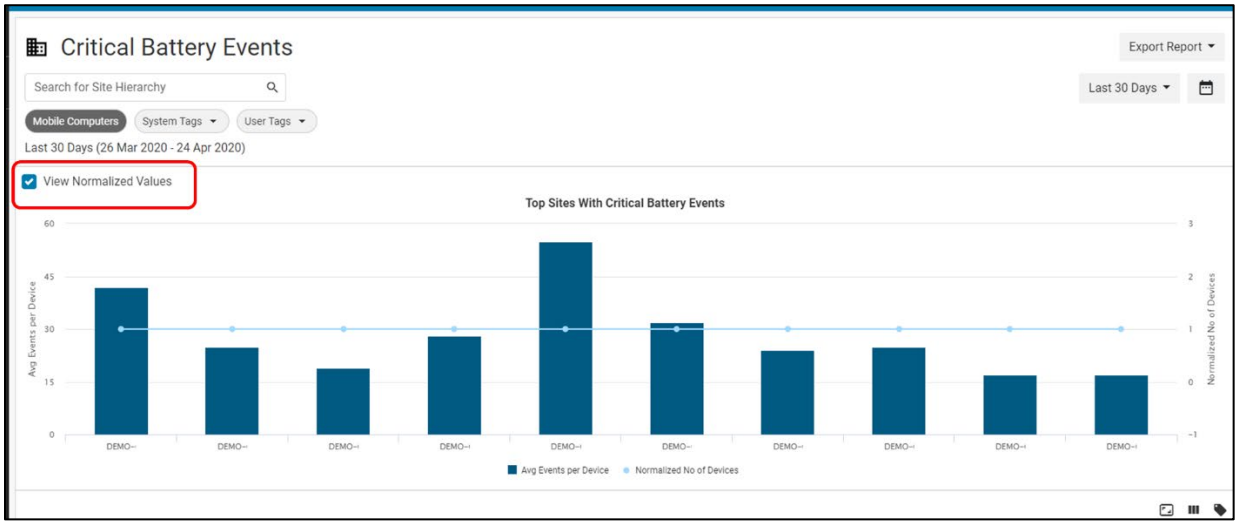
Expanded View



Graph

The graph shows the top sites with most critical battery events reported.

Select “View Normalized Values” to change the view of the graph to show sites with average events per device, and normalized number of devices reporting critical battery events, i.e. ratio of number of devices reporting events to total devices in operation on a specific site, as shown below.



Data Grid Columns

Device SR No., Device Name, Model, Full Model No., Device Type, Event Count, Site Name, Hierarchy (hidden by default).

Date Range Options

Today

Last 7 Days

Last 30 Days (Default)

Last 12 Months

Custom Range

Use Case(s)

Identify bad batteries or inappropriate battery charging behavior.

REPORT: WLAN SIGNAL STRENGTH

Description:

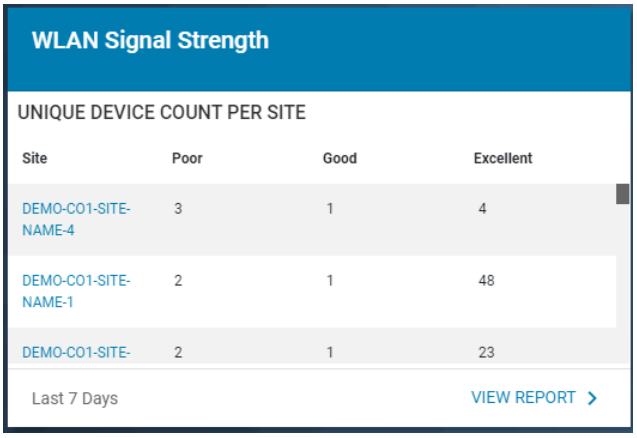
This report provides WLAN signal strength details at site and access point (AP) level. You can select any of the sites and view the signal strength reported from devices connecting to all APs on that site during the last 7 days, as well as select an AP to view the signal strength reported for that AP on any day during the last 7 days.

** ZDS Settings: WLAN is set at default of hourly collection from device connected AP (BSSID) and Signal Strength.*

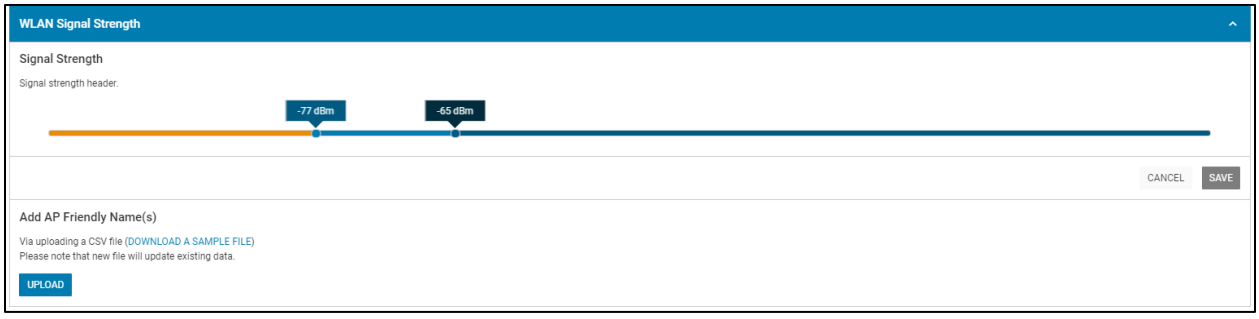
Tile View

The tile view shows the summary of WLAN signal strengths reported by devices on all sites. The numbers in unique devices reporting different levels of WLAN signal strengths on each site are displayed to indicate the WLAN network quality during the last 7 days.

Uses shall click on any site listed in the tile view to get to the expanded view of the report.



Administrators can access the “Administration” section on the left-hand side bar on dashboard and click on “WLAN Signal Strength” to perform settings for this report.



1. Signal Strength:

Slide the bar for Signal Strength to change the definition of Poor, Good, and Excellent signal strengths. Default values are:

- “Excellent” signal strength (signal strength >= 65dbm)
- “Good” signal strength (signal strength between -66 and -77dbm)
- “Poor” signal strength (signal strength <=78dbm)

2. Uploading friendly names for access points.

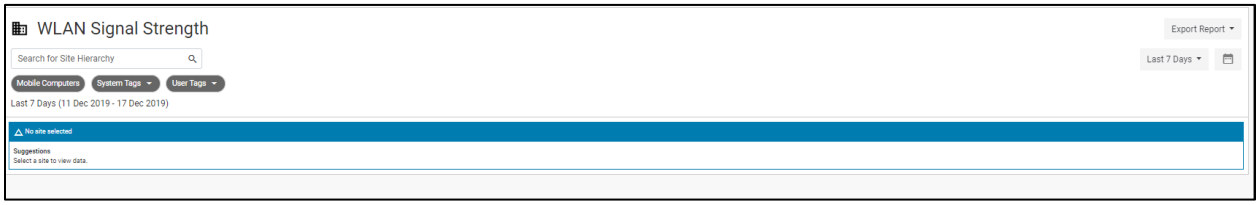
You can upload a .csv file to provide the friendly names for the access points to help the user to identify an access point easily. A sample file is available for download so the user can update to provide friendly names for the access points.

BSSID	AP Friendly Name
1a2b3c4d5e6f	Store Front Lobby
8f7e6d5c4b3a	Loading Dock
a4b6s4f5d54s	Main office

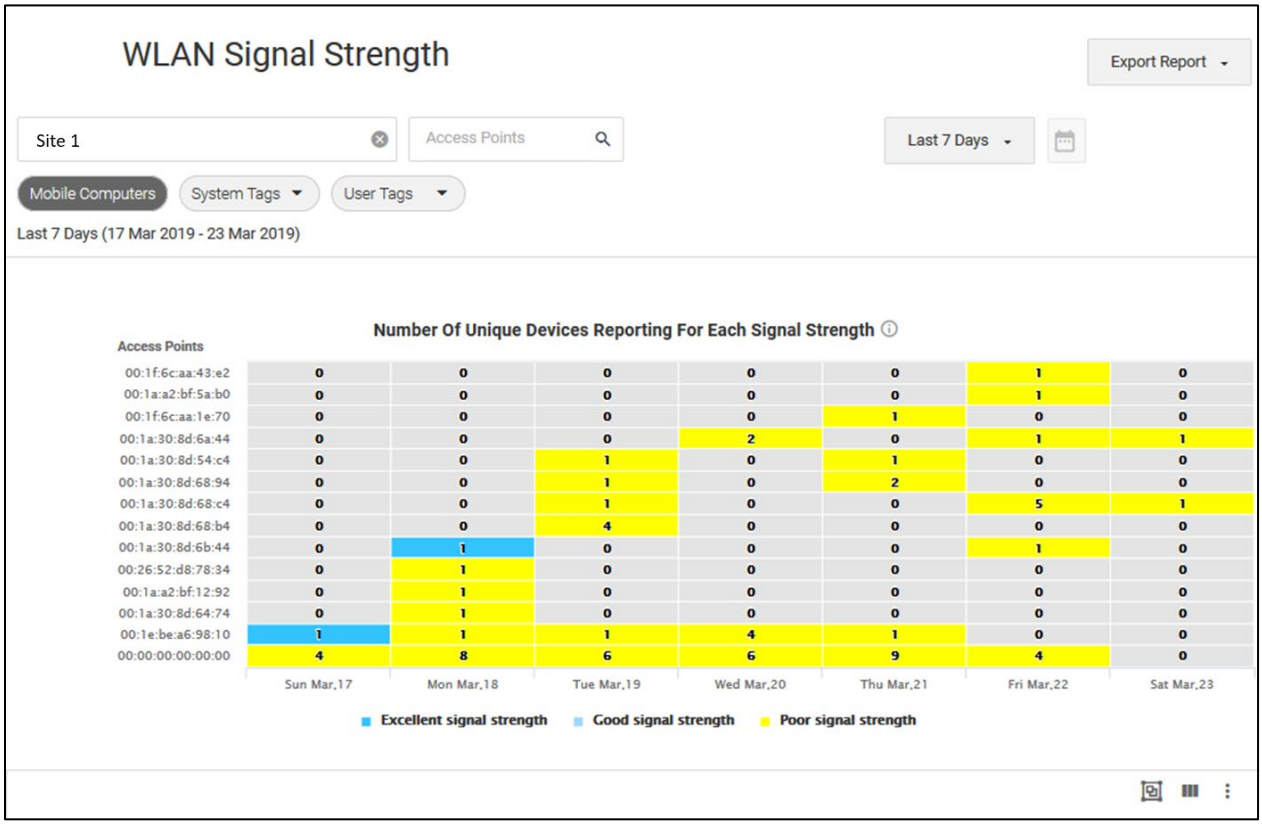
Follow the same format in the sample file so the friendly names can be applied correctly. After the file is uploaded, the friendly names will be reflected in this report and Out of Contact report after the next data load.

Expanded View

You can click on any site listed on the tile view to get to the expanded view of the report. If you did not select a site but click on the “View Reports” tab on the tile, the expanded view will not show any data but an error message saying” No site selected” and a suggestion to select a site to view data as below.



When you click on a site for the tile view, you will see the expanded report view as below.



Graph

1. Site/AP level graph (heatmap)
   - For a site selected, the heatmap graph shows all APs on this site with the number of unique devices on each AP reporting different level of signal strength during the last 7 days.
   - The level of signal strengths reported are displayed with color-coded indicators
     i. Blue: “Excellent” signal strength, i.e. signal strength >= 65dbm
     ii. Light blue: “Good” signal strength, i.e. signal strength between -66 and -77dbm
     iii. Yellow: “Poor” signal strength, i.e. signal strength <=78dbm
   - Select any AP from the search box to view the signal strength info reported on this AP only

2. Day view of a specific AP (scatter bubble chart)
   Click on the heatmap to display the day view of the signal strength info reported on a specific AP.

Data Grid Columns

Device SR No., Device Name, Model, Full Model No., BSSID, Access Point Friendly Name, Signal Strength Reported, Band (Excellent, Good, Poor), Device Type, Reported Date/Time, Site Name, Hierarchy (hidden by default)

Date Range Options

Last 7 Days (Default)

Use Case(s)

Identify possible WLAN coverage issues

REPORT: NEWLY ACTIVATED DEVICES

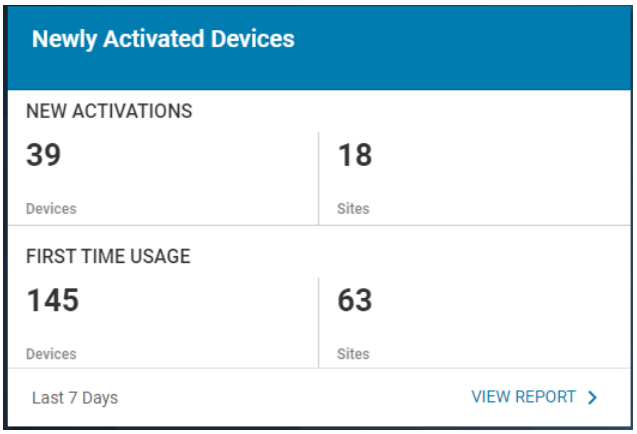
Description:

This report shows count of newly activated devices and the Count of number of sites at which the devices were newly activated during the time range specified. It also shows the count of first utilized devices and count of number of sites at which the devices were first utilized during the same time range. The report will help the user to verify if the device deployment is on track and ensure the utilization of the devices deployed.

This report supports both mobile computer and Zebra Link-OS printers.

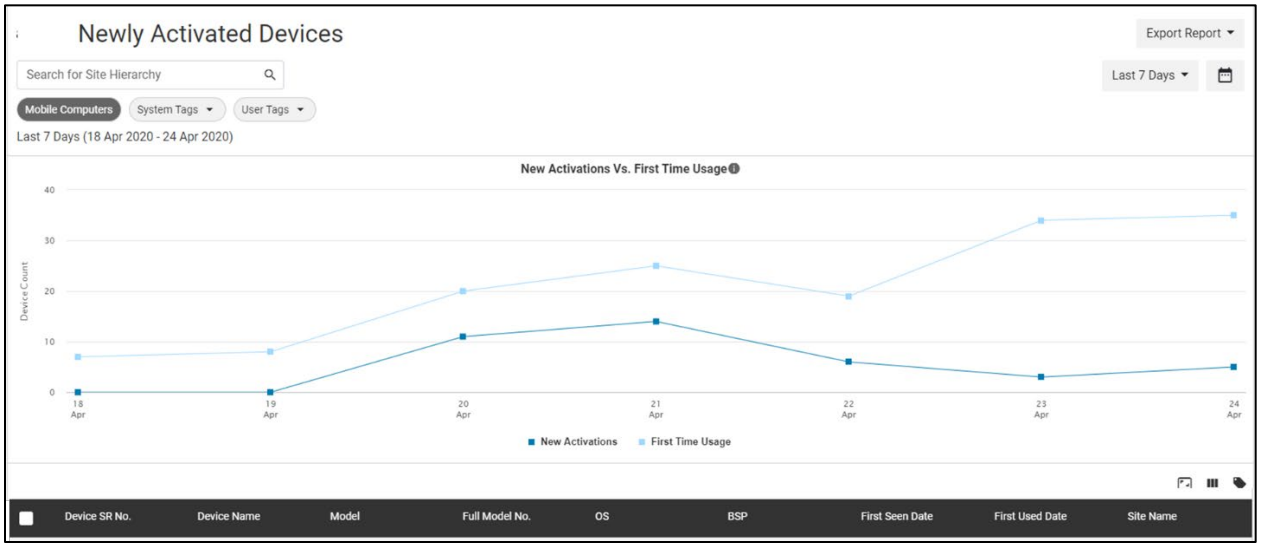
Tile View

The tile view shows the summary of number of newly activated devices and sites during the last 7 days. It also shows the number of devices that are being utilized in operation for the first time and sites during the last 7 days.



Expanded View

Click “VIEW REPORT” on the tile view to get to the expanded view of the report.



Graph

New Activations vs. First Time Usage

- The graph shows the number of new activated devices and the devices utilized for the first time during the default or user selected time range.

Data Grid Columns

Device SR No., Device Name, Model, Full Model No., Device Type, OS, BSP, First Seen Date, First Used Date, Site Name, Hierarchy (Hidden by default)

Date Range Options

Last 7 Days (Default)

Last 30 Days

Last Month

Custom Range

Use Case(s)

1. Verify if the device deployment is on track.
2. Ensure the utilization of the devices after deployment.

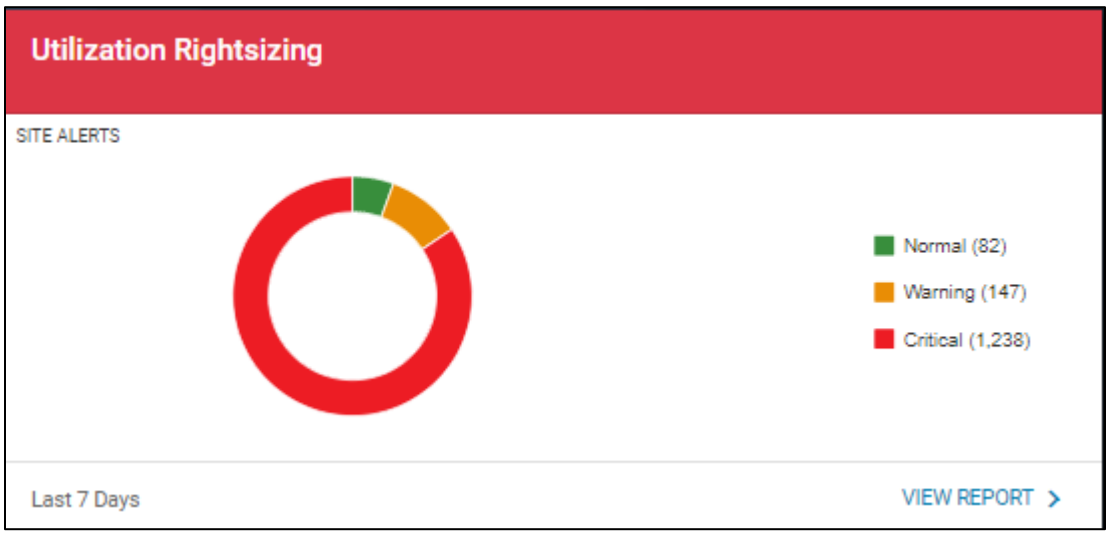
REPORT: UTILIZATION RIGHTSIZING

Description:

This report is to show the top sites with least and most device utilizations per user's settings. The report will provide color-coded alert on the report tile to indicate if there are the sites with too much or too little device utilization.

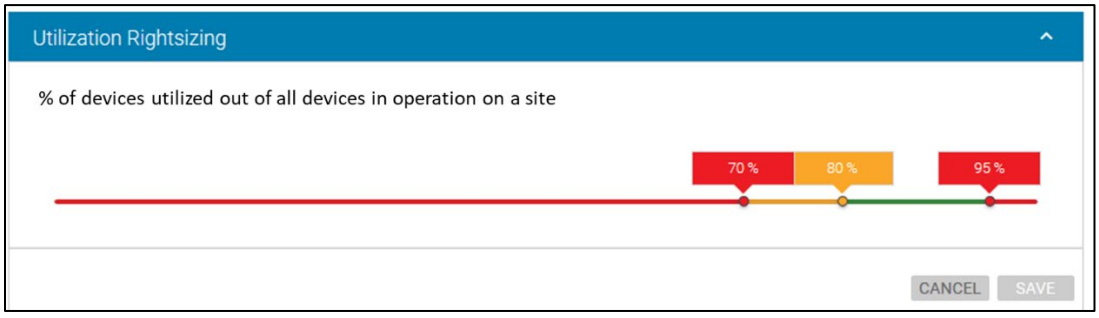
Tile View

The report tile shows the number of sites in each alert category and distribution during last 30 days.



Tile Alert Threshold Settings

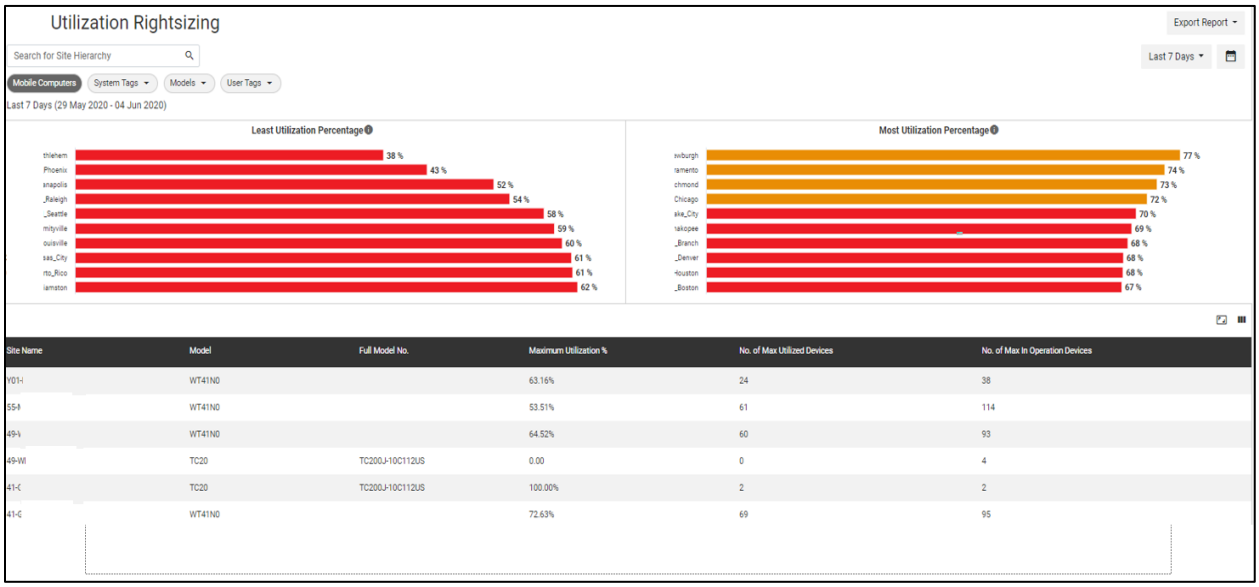
Administrators can access the “Administration” section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for this report are shown below



The default settings are:

- Red (under-utilized, critical): less than 70% of devices on a site are utilized on a site.
- Amber (under-utilized, warning): >=70 % and <80% of devices are utilized on a site.
- Green (utilized at right level): >=80 % and < 95% of devices are utilized on a site.
- Red (over-utilized, critical): >=95% of devices are utilized on a site

Expanded View



Graphs

1. Top Sites with Least Utilization
   This bar chart graph shows the top 10 sites that have the least utilization percentage of utilized devices out of the total devices in operation on a site.
2. Top Sites with Most Utilization
   This bar chart graph shows the top 10 sites that have the most utilization percentage of utilized devices out of the total devices in operation on a site.

Data Grid Columns

Site Name, Hierarchy (Hidden by default), Model, Full Model No., Maximum Utilization %, No. of Max Utilized Devices, No. of Max in Operation Devices

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last week

Last 30 Days

Last Month

Custom Range

USE CASE(S)

Identify sites with device utilization issues to right-size device distribution throughout sites to increase device utilization.

REPORT: STORAGE MEMORY UTILIZATION

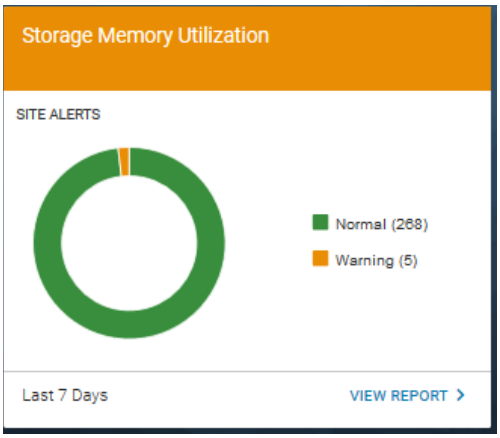
Description:

This report is to show the top sites with storage memory issues per user's settings. The report will provide color-coded alert on the report tile to indicate if there are the sites with too many devices with storage memory issue.

If a device's storage memory is utilized more than 90% of the total memory during a given hour, it'll be considered as a high storage memory utilization event.

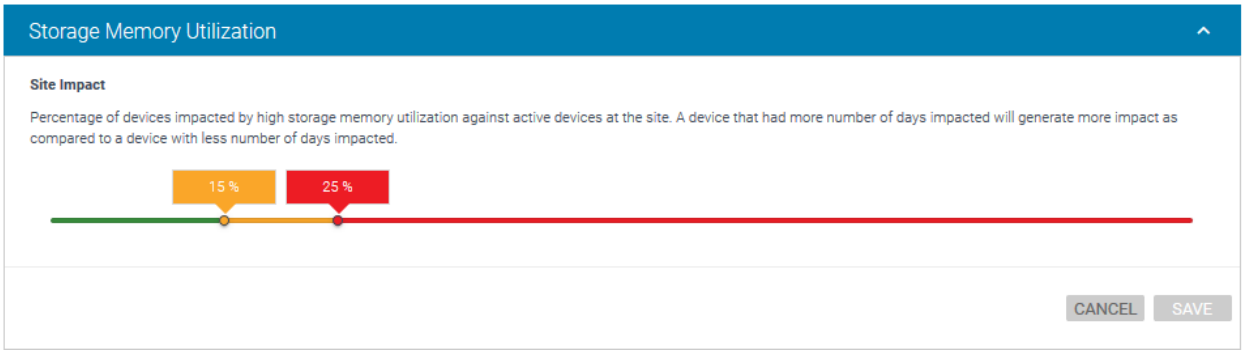
Tile View

The report tile shows the number of sites in each alert category and distribution. Pls note only sites with devices identified with physical memory issues are included in the report.



Tile Alert Threshold Settings

Administrators can access the "Administration" section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for this report are shown below

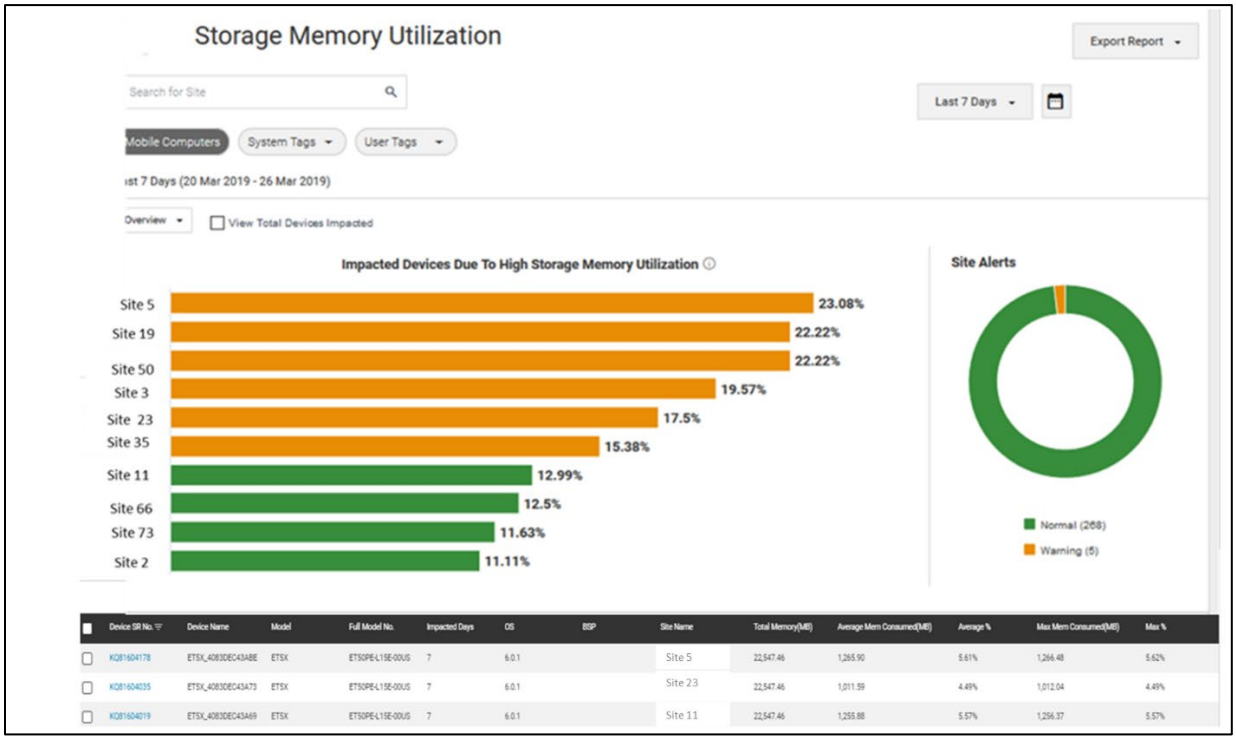


Site Impact for tile alert

Administrators can set the tile alert threshold using the percentage of impacted devices against active devices for a site. The default settings for site alert are

- Normal: less than 15% of devices impacted on the site
- Warning: 15% - 24% of devices impacted on the site
- Critical: 25% and above devices impacted on the site

Expanded View



Graphs

1. Overview:
    1. Graph of top 10 sites impacted - ranked by percentage
       This bar chart graph shows the top 10 sites that are most impacted by high storage memory utilization ranked by the percentage of impacted devices out of all active devices on the site.
    2. Graph of top 10 sites impacted - ranked by Total devices impacted
       Click “View Total Devices impacted” to view the top 10 sites that are most impacted by high storage memory utilization ranked by number of impacted devices on the site.

       The legends can be turned on/off when clicked, and the graph will change accordingly.

2. Total Impacted devices graph
    - Click the “Overview” tab and select “Impacted Devices” to show this graph.

    - Click “All devices” and select a specific model of devices to show the graph accordingly.
    - Hover over the graph and view the number of impacted devices and active devices on a specific day during the time range selected.
    - Click the legends to turn them on/off, and the graph will change accordingly.

3. Site Alerts graph

This pie chart is the same as shown in the tile view.

Data Grid Columns

Device SR No., Device Name, Model, Full Model No., Impacted Days, OS, BSP, Site Name, Hierarchy (hidden by default), Total Memory(MB), Average Mem Consumed(MB), Average %, Max Mem Consumed(MB), Max %

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last 30 Days

Month to Date

Year to Date

Last Month

Custom Range

USE CASE(S)

1. Proactively track sites and devices impacted by high storage memory utilization issue and assess impact to operations by such issues.

REPORT: PHYSICAL MEMORY (RAM) UTILIZATION

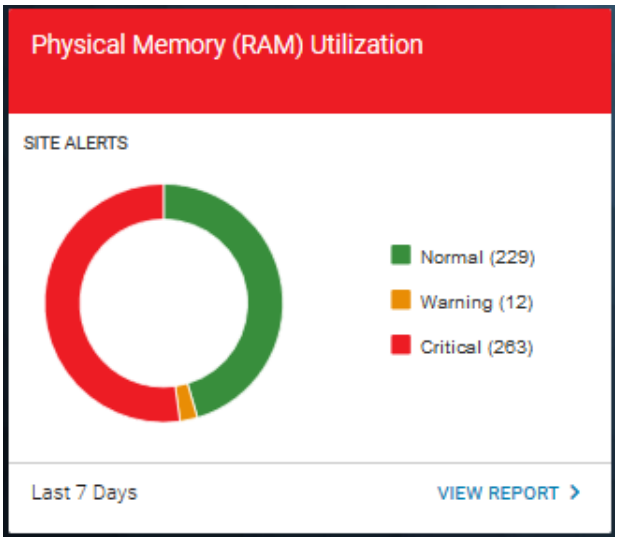
Description:

This report is to show the top sites with high physical memory (RAM) utilization issues per user's settings. The report will provide color-coded alert on the report tile to indicate if there are the sites with too many devices with physical memory issue.

If a device's physical memory is utilized more than 90% of the total memory during a given hour, it'll be considered as a high physical memory utilization event.

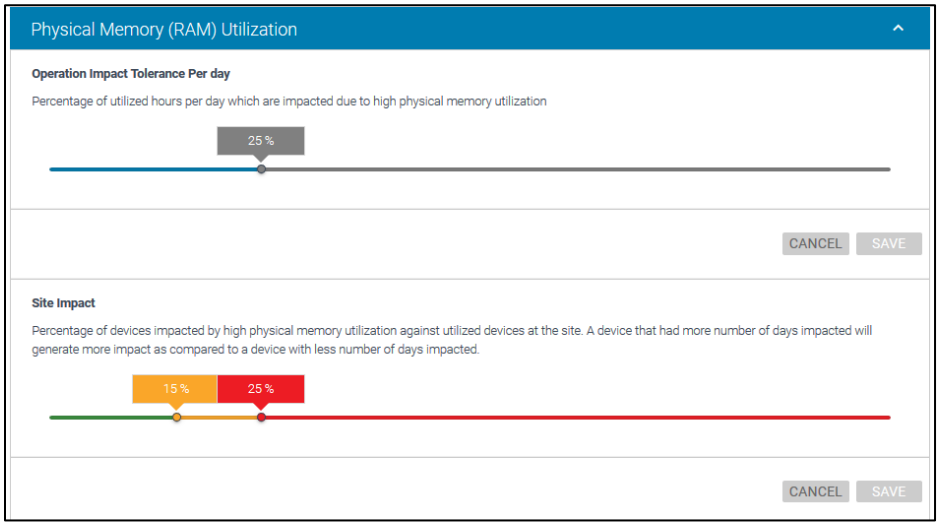
Tile View

The report tile shows the number of sites in each alert category and distribution. Pls note only sites with devices identified with physical memory issues are included in the report.



Tile Alert Threshold Settings

Administrators can access the “Administration” section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for this report are shown below

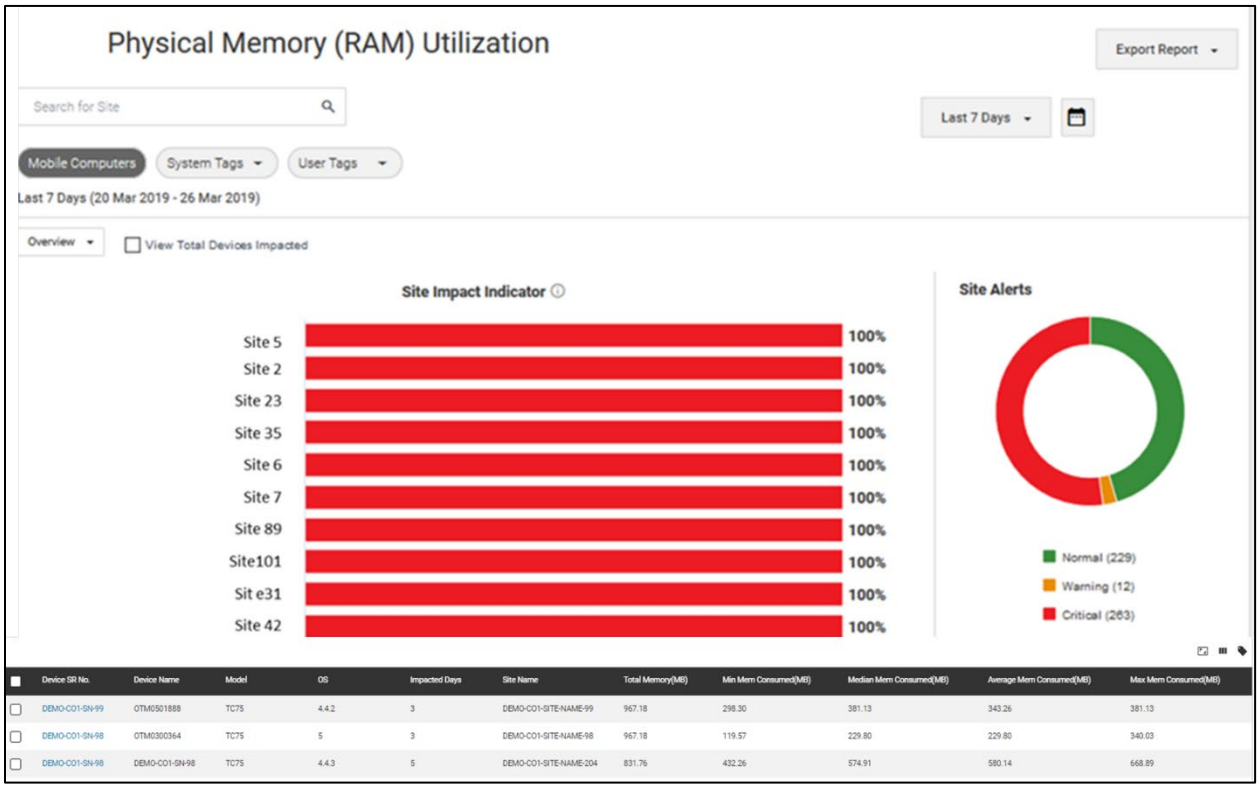


1. **Operation Impact Tolerance Per day**
   Percentage of utilized hours per day which are impacted due to high physical memory utilization. The default is 25%, so if a device is having high physical memory utilization for more than 25% of its utilized hours during a day, the whole day will be considered as an impacted day for this device.

.

2. **Site Impact for tile alert**
   Administrators can set the tile alert threshold using the percentage of impacted devices out of utilized devices for a site. The default settings for site alert are
   - Normal: less than 15% of devices impacted on the site
   - Warning: 15% - 24% of devices impacted on the site
   - Critical: 25% and above devices impacted on the site

Expanded View



Graphs

1. Overview:
    - Graph of top 10 sites impacted - ranked by percentage

      This bar chart graph shows the top 10 sites that are most impacted by high physical memory utilization ranked by the percentage of impacted devices out of all utilized devices on the site.

    - Graph of top 10 sites impacted - ranked by impacted devices
      Click “View Total Devices impacted” to view the top 10 sites that are most impacted by high physical memory utilization ranked by impacted devices on the site.
    - Hover over the graph and view the percentage or number of devices in different aging buckets.
    - Click the legends to turn them on/off, and the graph will change accordingly.

2. Total Impacted devices graph
    - Click the “Overview” tab and select “Impacted Devices” to show this graph

    - Click “All devices” and select specific model of devices to show the graph accordingly.
    - Hover over the graph to view the number of impacted devices and utilized devices on a specific day during the time range selected.
    - Click the legends to turn them on/off, and the graph will change accordingly.

3. Site Alerts graph
   This graph is the same as shown in the tile view.

Data Grid Columns

Device SR No., Device Name, Model, Full Model No., OS, BSP, Impacted Days, Site Name, Hierarchy (hidden by default), Total Memory(MB), Min Mem Consumed(MB), Median Mem Consumed(MB), Average Mem Consumed(MB), Max Mem Consumed(MB)

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last 30 Days

Month to Date

Year to Date

Last Month

Custom Range

USE CASE(S)

1. Proactively track sites and devices impacted by high physical memory utilization issue and assess the impact to operations by such issues.

REPORT: PREDICTIVE STATES

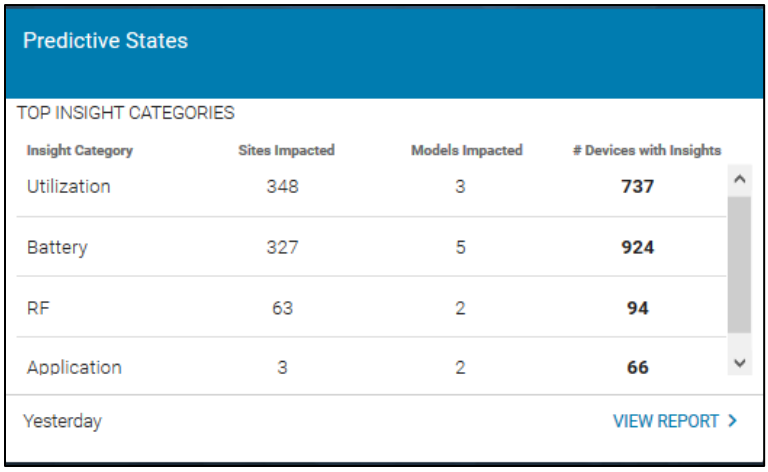
Description:

This report shows the top categories of insights on issues that may happen to the devices based on analytics of historical data. Information such as Issue details, actionable suggestions, number of sites and devices impacted, etc. will be provided to help users to proactively address issues beforehand and possibly reduce number of devices sent to repair.

This report supports both mobile computer and Zebra Link-OS printers.

Tile View

The report tile shows the top insight categories with number of sites, models and devices impacted.



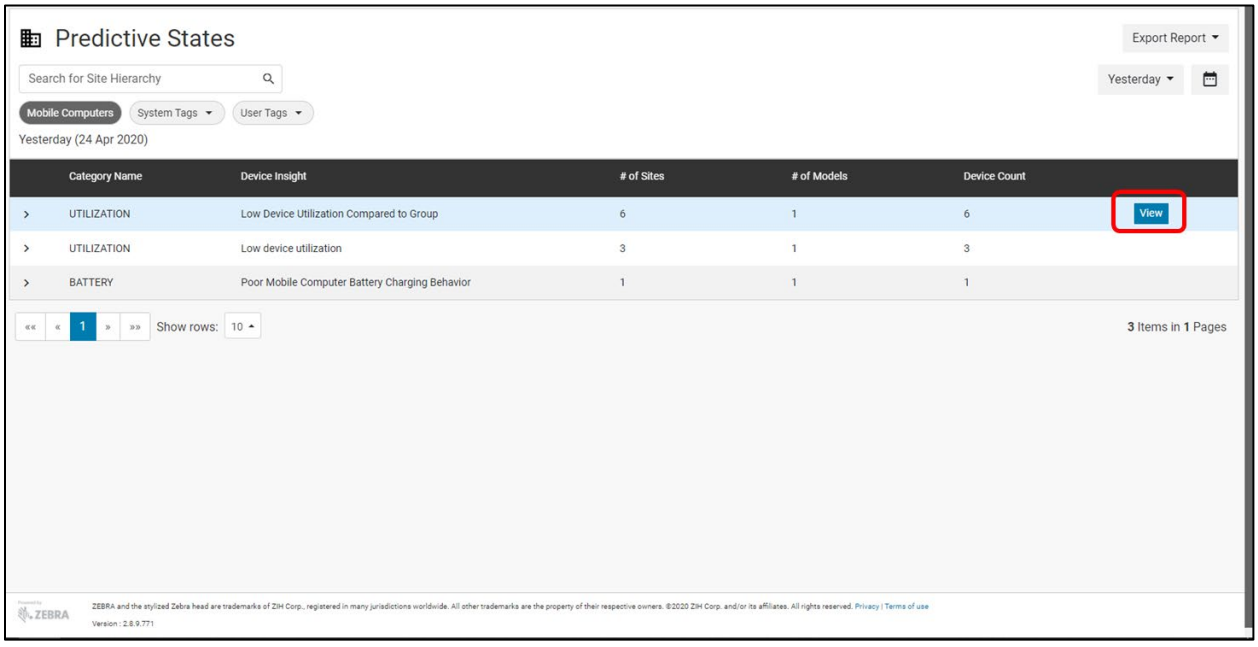
Expanded View

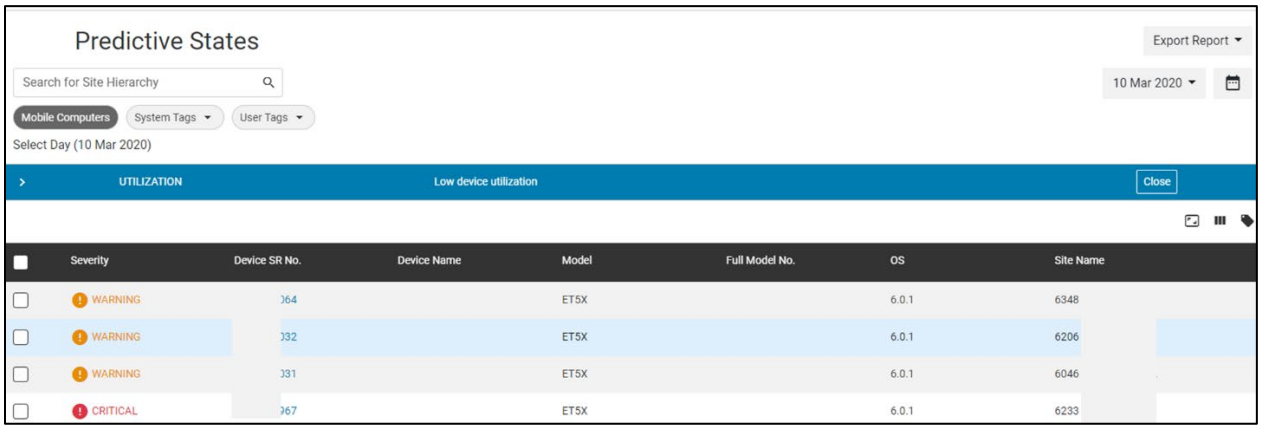
Data Grid Columns

Category Name, Device Insight, # of Sites, # of Models and Device Count

When each category is expanded, the Details and Recommended Action will be displayed for the specific issue described under the Insight column.

Hover over on each row and click on “View” tab to access the device list for the specific issue.





The device list contains the following columns depending on different category:

- Device list for “Battery” category:
  Severity, Device SR No., Device Name, Model, Full Model No., Battery SR No., Manufacture Date, Part No., OS, Site Name, Hierarchy (hidden by default)
- Device list for categories other than “Battery” (i.e. RF, Utilization, Application, etc.)
  Severity, Device SR No., Device Name, Model, Full Model No., OS, Site Name, Hierarchy (hidden by default)

Click “Close” to collapse the device list and go back to the category view.

DATE RANGE OPTIONS

Today

Yesterday (Default)

Custom Range

USE CASE(S)

1. Proactively address issues that may happen to the devices and possibly reduce number of devices sent to repair.

REPORT: SMART BATTERY OVERVIEW

Description:

The Smart Battery Overview page shows the summary insight of smart battery inventory and health status. It also allows user to remove batteries from the battery inventory, referred as “decommission”, if the batteries are disposed or gone with the devices sent to repair or sparepool. Shortcuts to individual battery report is provided for user to drill down the next level details regarding batteries.

The insight from the Smart Battery Overview helps customers to understand the battery inventory and health status immediately and be able to maintain clean battery inventory with up-to-date information.

The Smart Battery Overview supports smart batteries from both Zebra Android mobile computers and Zebra Link-OS printers.

Battery Remaining Useful Life (RUL) Algorithm

The Smart Battery Overview and Smart Battery Health report (in below section) leverage Zebra’s proprietary machine learning algorithm to calculate the remaining useful life of a battery based on the key parameters received from the battery, hence to provide valuable insight to battery health status in customer’s fleet.

A battery is considered “bad” when either it reaches the decommissioning threshold such as health percentage limit (for example, 80%) or a charge cycle count limit (for example, 500), - both may vary and depend on manufacture recommendations. Whichever threshold is reached first, at that threshold it can be recommended that the battery should be removed from usage or decommissioned.

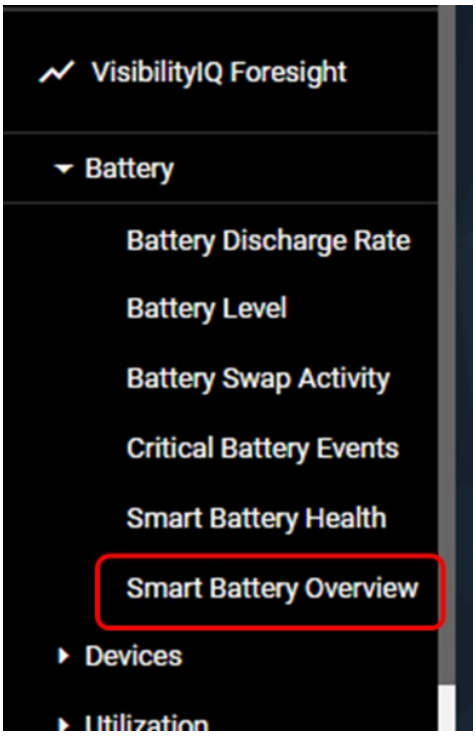
Remaining Useful Life or RUL is defined as the number of days before a battery reaching the recommended decommissioning threshold. The RUL algorithm has been deployed to predict the remaining useful life of the smart batteries in customers’ Zebra Android mobile computers leveraging machine learning technologies.

Please note the RUL in number of days is a predictive data from the RUL algorithm so it cannot be interpreted as exact days left in the life of a battery but rather a range of days. The confidence level is 95% with +-20 variance and 90% with +-15 variance.

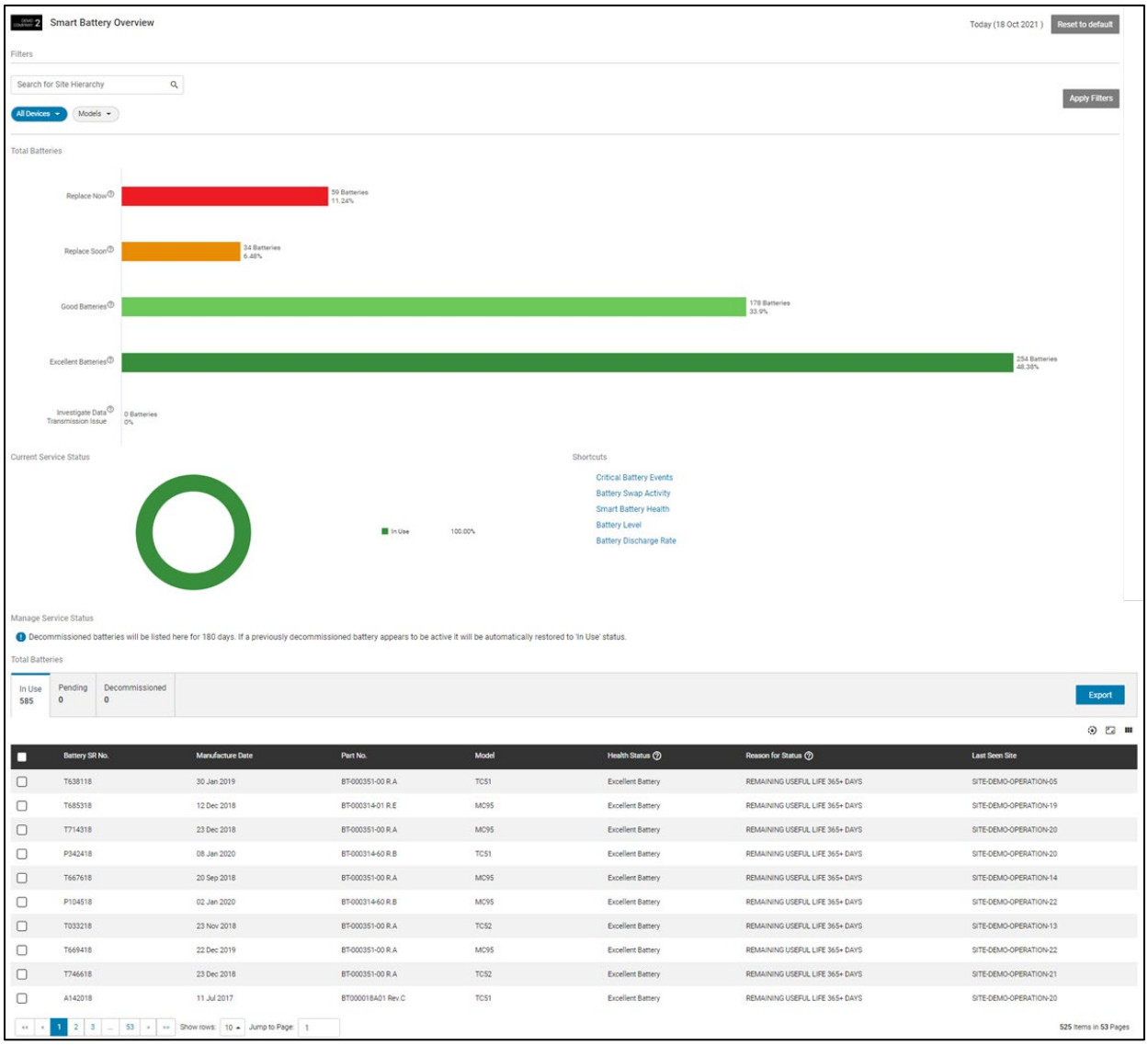
Zebra continues to refine the algorithm since 2019. The latest version of the algorithm (version 4) is implemented with VisibilityIQ Release 4.5 which rolls out in October 2021.

Access the Smart Battery Overview

There is no tile view for the Smart Battery Overview page. Access this page by clicking the “Smart Battery Overview” under “Battery” section on the left-hand side navigation bar.



Expanded View



Graphs

The battery inventory summary shows the following graphs:

1. Battery Health Status chart

The chart shows the number and percentage breakdown of batteries in different health category based on the RUL algorithm:

- **Replace Now**:
  - When the RUL of a battery is available

    If RUL days is less than 31 days, the battery will be considered as “Replace Now”.
  - When the RUL of a battery is not available

    If any of these criteria is met, then the battery will be labeled as “Replace Now”:
    - IF Manufacturing Date >= 5 years OR
    - IF Cycle count > Manufacture Recommended Cycle Count Threshold OR
    - IF Last Reported Health < Manufacture Recommended Health Threshold
- **Replace Soon**: battery’s RUL is 31 to 90 days.
- **Good Battery**: battery’s RUL is 91 to 365 days.
- **Excellent Battery**: battery’s RUL is more than 365 days.
- **Investigate Data Transmission**: battery’s RUL cannot be calculated due to insufficient data or erroneous data.

2. “Current Service Status” pie chart

The pie chart shows the percentage breakdown of batteries in different service status category:

- **In Use** – Batteries reported by active devices.
- **Pending** – Batteries in the process of being decommissioned (removed from the “In User” view) or reinstated (put back to the “In Use” view by the user).
- **Decommissioned** – batteries removed from the “In Use” view.

You can be assigned with “Battery Decommission” feature during onboarding hence you can perform battery decommissioning to maintain the battery inventory displayed in this view and other smart battery reports.

Go to “Total Batteries” Service Status for more details regarding how to perform battery decommissioning.

Shortcuts

This view provides the shortcuts to the 5 battery insight reports for users to get more detailed insights regarding the smart batteries with their devices. The reports include:

- Critical Battery Events report
- Battery Swap Activity report
- Smart Battery Health report
- Battery Level report
- Battery Discharge report

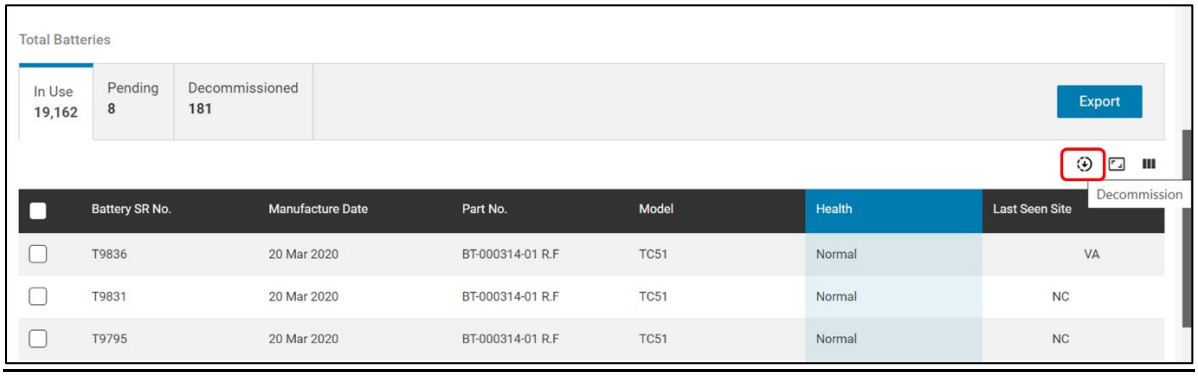
“Total Batteries” Service Status

The “Total Batteries” section provides the numbers of batteries in different service status categories. User with “Battery Decommission” permission can also maintain the battery inventory by removing batteries that are no longer with the devices.

You can also export the battery service status details to an excel spreadsheet for further analysis.

In Use Tab

This section shows the total number of batteries that are “In Use” (reported by active devices).



You can select the batteries from the data grid and click on the “decommission” icon indicated in the above screenshot to remove the batteries from the “In Use” view. A pop-up window will display for you to apply the action or cancel the request.

Please note when user checks the box on the data grid title row, it will select all batteries in the current page.

The batteries being decommissioned will display in the data grid under “Pending” tab.

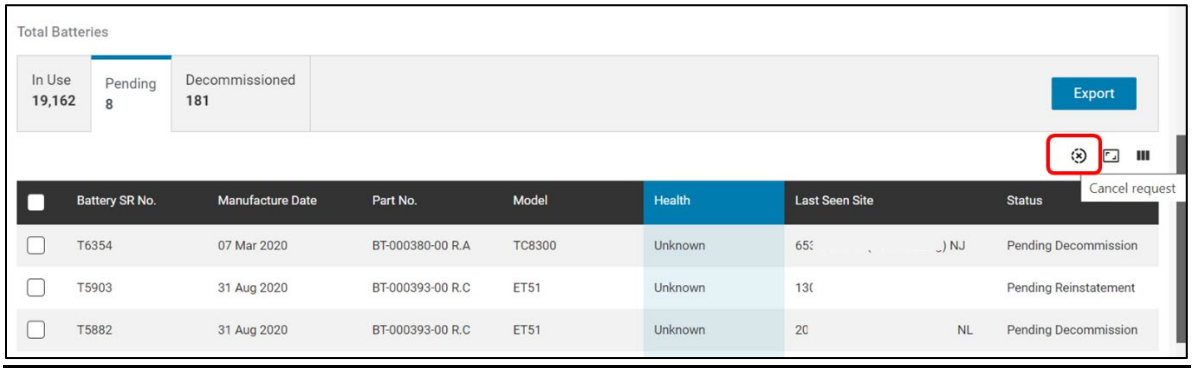
The change will be effective after the next data load, and you have the option to cancel the decommissioning before the next data load.

Data Grid Columns

Battery SR No., Manufacture Date, Part No., Model, Health Status, Last Seen Site

Pending Tab

This section shows the total number of batteries that are “Pending” (batteries being decommissioned or reinstated).



You can select the batteries from the data grid and click on the “Cancel request” icon indicated in the above screenshot to remove the batteries from the “Pending” view put them back into the previous service status. A pop-up window will display for user to apply the action or cancel the request.

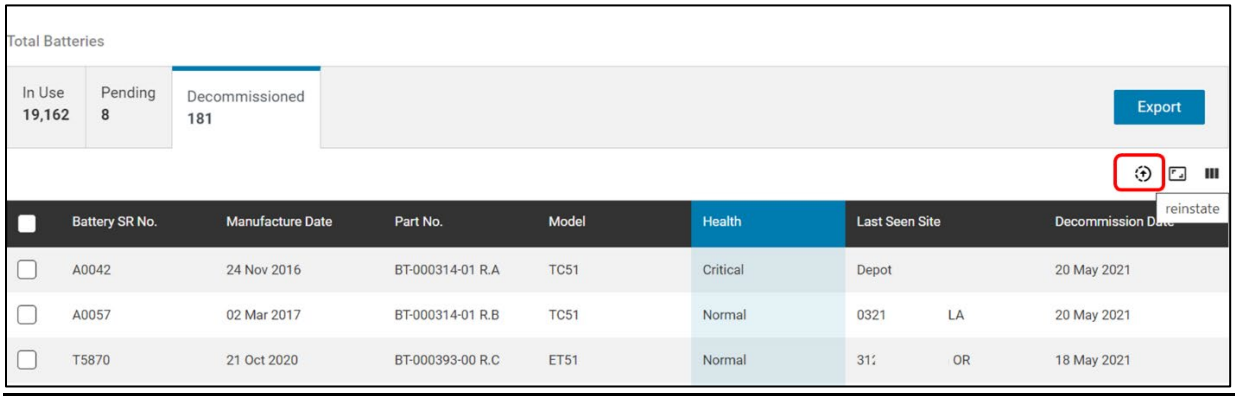
Please note when user checks the box on the data grid title row, it will select all batteries in the current page.

Data Grid Columns

Battery SR No., Manufacture Date, Part No., Model, Health Status, Last Seen Site, Status

Decommissioned Tab

This section shows the total number of batteries that are “Decommissioned”, i.e., removed from the “In User” view.



You can select the batteries from the data grid and click on the “reinstate” icon indicated in the above screenshot to put the batteries back to the “In Use” view. A pop-up window will display for you to apply the action or cancel the request.

Please note when user checks the box on the data grid title row, it will select all batteries in the current page.

The batteries being reinstated will display in the data grid under “Pending” tab.

The change will be effective after the next data load, and you have the option to cancel the decommissioning before the next data load.

The decommissioned batteries will be listed in this view for up to 180 days and removed afterwards.

Data Grid Columns

Battery SR No., Manufacture Date, Part No., Model, Health Status, Last Seen Site, Decommissioned Date

DATE RANGE OPTIONS

Today (Default)

Please note this view will not allow user to pick custom date due to the limitation of the algorithm used to generate the Remaining Useful Life for batteries. When there is no data available for today, the system will check if there’s data available during the past 3 days and will display the data from the most recent day during the past 3 days.

USE CASE(S)

1. Provide a summary view for smart batteries for user to quickly understand the battery inventory, operational status and health status.
2. Provide decommissioning/reinstating feature for user to maintain a clean battery inventory.
3. Allow user to drill down to next level details regarding smart batteries by accessing the detailed battery reports via shortcuts.

REPORT: SMART BATTERY HEALTH

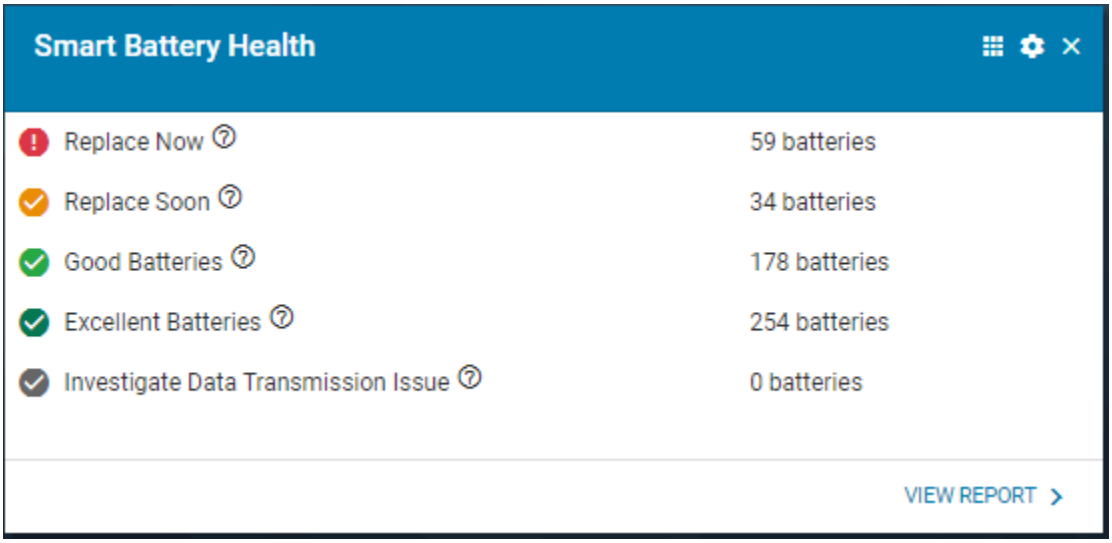
Description:

This report shows the smart battery inventory, health status and predicted remaining useful life of batteries. Also allows user to create a report for battery replenishment based on battery remaining useful life. The insight from the report helps customers to reduce risk of employee downtime by identifying batteries that are not holding a charge before the battery charge is depleted and devices become unusable.

This report supports smart batteries from both Zebra Android mobile computers and Zebra Link-OS printers.

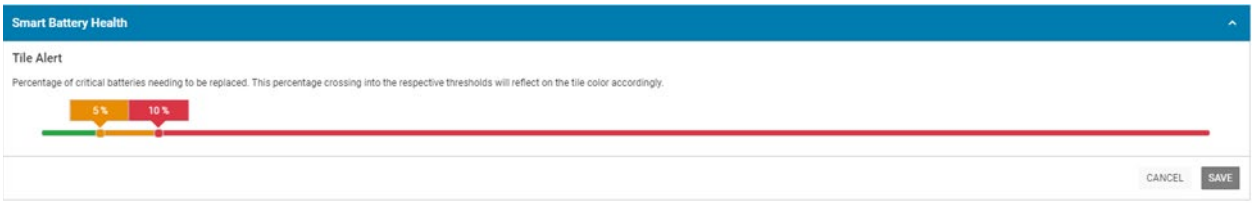
Tile View

The report tile shows smart battery report tile with inventory summary and visual alert.



Tile Alert Threshold Settings

Administrators can access the “Administration” section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for this report are shown below



The default values for the tile settings are shown as below:

1. Red: the number of batteries in “Replace Now” condition is over 10% of all batteries.
2. Amber: the number of batteries in “Replace Now” condition is between 5% - 10% of all batteries.

3. Green: the number of batteries in “Replace Now” condition is less than 5% of all batteries.

You can change the settings to your own standards.

Expanded View

Graphs

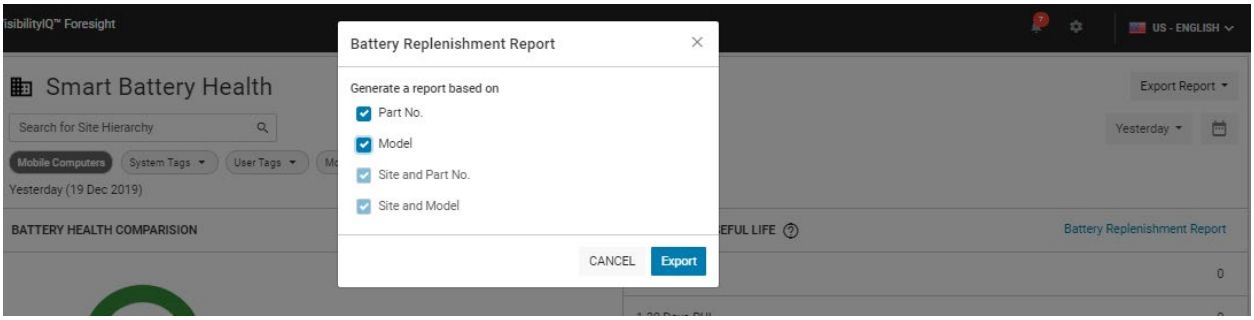
1. Battery Health Status chart – same as shown in report tile view

Analytics and functions

You can select the items on top right corner to do further analytics or to perform an action, such remove obsolete batteries from the view (referred as “Decommissioning a battery”).

1. Battery Replenish Report

You can request a Battery Replenish report in Excel format by clicking on “Battery Replenish Report” on the right top corner of the RUL chart. A pop-up window prompts for the data to include.



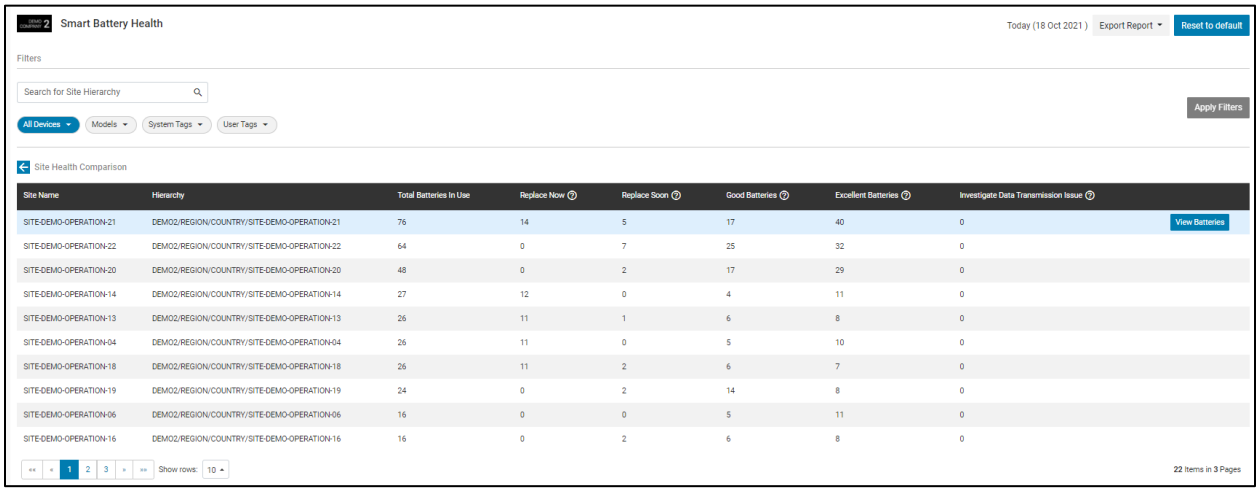
The Battery Replenishment report will show the RUL info of the batteries with details including part number, device model, site, etc. so the user can plan for battery replenishment accordingly. You can create a custom report based on part number or device model. The report will always include site information to help user to identify which site that the batteries should be replenished.

2. Manage Decommission of Batteries:

Select this option to manage the removal of obsolete batteries from the report and Smart Battery Overview page.

3. Site health comparison

Click “Compare Site Health” on the top right corner of the “Battery Health Comparison” graph to get into the view for site health comparison as shown in the following chart.



This view shows the total number of batteries as well as the number of batteries in each health status category on each site.

Hover on each row and click “View Batteries” to view battery info on this site.

Data Grid Columns

Battery SR No., Manufacture Date, Part No., State, Health Status, Reason for Status, Type, Cycle Count, Health % Indicator, RUL in Day, Last Seen Date, Last Seen Site, Device SR No., Model, Device Type, Status

DATE RANGE OPTIONS

Today (Default)

Please note this report will not allow user to pick custom date due to the limitation of the algorithm used to generate the Remaining Useful Life for batteries. When there is no data available for today, the system will check if there's data available during the past 3 days, and will display the data from the most recent day during the past 3 days.

USE CASE(S)

1. Track the changes in battery inventory and identify bad batteries to evaluate the impact to the operation due to bad batteries and take actions accordingly (disposing/replacing bad batteries, procuring new batteries, etc.).
2. Understand individual battery health status and take actions for batteries in warning or critical status
3. Remove bad or unneeded batteries from inventory to maintain a clean, updated battery inventory for battery tracking purpose.

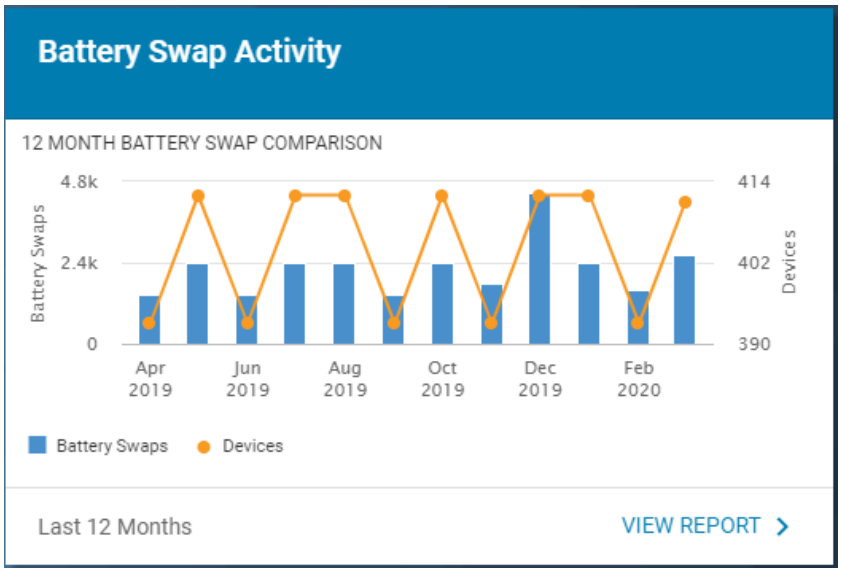
REPORT: BATTERY SWAP ACTIVITY

Description:

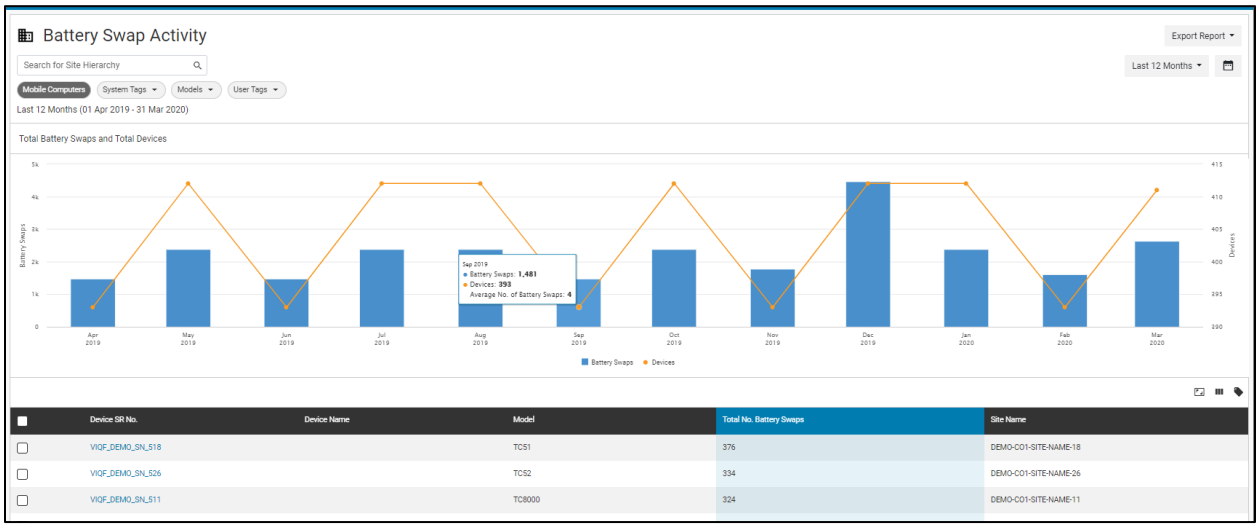
This report shows the aggregation of battery swaps at enterprise, site and device level during the time frame selected by user. The insight provided by this report reduces risk of device outage by identifying batteries that are not working optimally so customer can remove them from battery pool and/or acquire replacement batteries.

Tile View

The report tile shows the number of battery swaps and devices with battery swaps during the past 12 months.



Expanded View



Graph

The graph shows battery swap activities during the last 12 months as default. You can also select a range to show battery swap data accordingly.

Data Grid Columns

Device SR No., Device Name, Model, Total No. Battery Swaps, Site Name, Hierarchy (hidden by default).

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last 12 Months

Custom Range

USE CASE(S)

Understand if there are too many battery swaps possibly due to bad batteries, device issues, or environment related issues, and take the info to further analysis or investigation.

REPORT: BATTERY LEVEL

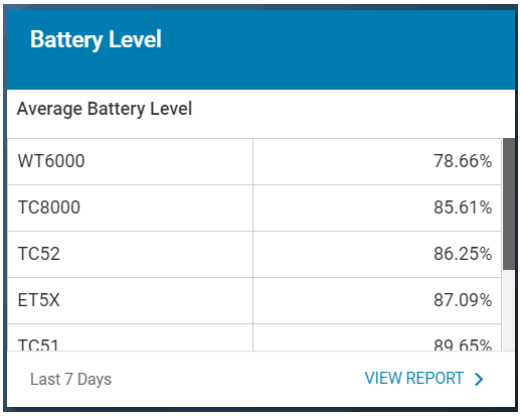
Description:

This report shows the average battery level at enterprise, site, device model and individual device level during the time frame selected by user. The insight provided by this report can help to identify issues with battery charging (for example, the device charging procedure was not followed or there are issues with charger/cradle) if lower than expected battery levels are observed.

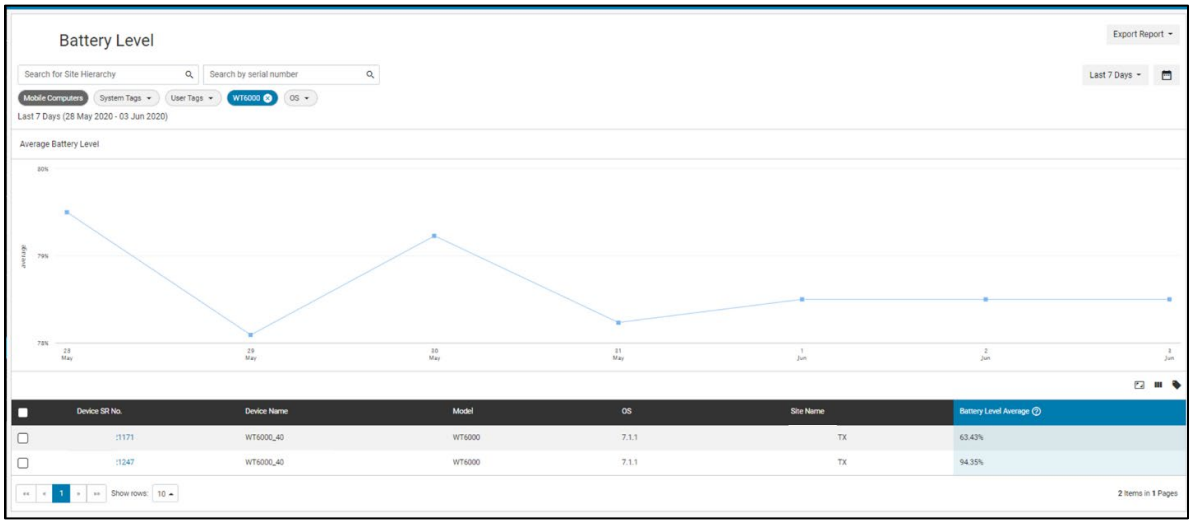
This report supports both mobile computer and Zebra Link-OS mobile printers.

Tile View

The report tile shows the average battery level for each of the device models the customer has during the last 7 days. Scroll down to view the battery level for more models, if any.



Expanded View



Graph

The graph shows the battery level of the device model with the lowest average battery level during the last 7 days as default.

You can deselect the default device model, and the graph will show the average battery level for all models at enterprise level. You can also select any other model from the model filter from. the “Models” tab to view the battery level data for the model selected.

You can use other filters including tags, OS, as well as site hierarchy info to filter out the devices and show the average battery level for these devices.

You can also select other date option or custom date range to show battery level data accordingly.

Data Grid Columns

Device SR No., Device Name, Device Type, Model, OS, Site Name, Hierarchy (hidden by default), Battery Level Average

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Custom Range

USE CASE(S)

Low average battery level can be good indicator of battery charging issue. For example, if user sees an average battery level less than expected for a device, it’s very likely the device wasn't charged to at least 90% before use, which may be caused by inappropriate charging behavior or issues with the charger / cradle.

REPORT: BATTERY DISCHARGE RATE

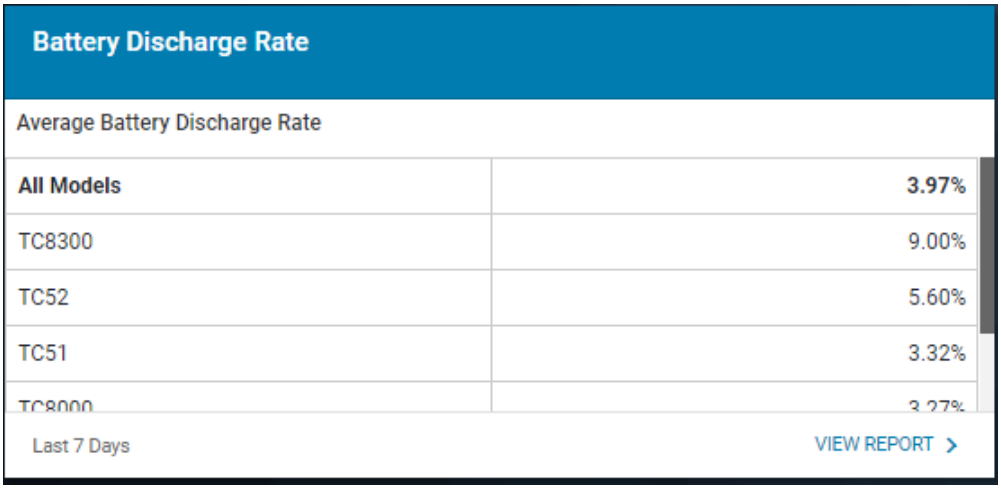
Description:

This report shows the average battery hourly discharge rate at enterprise, site, device model and individual device level during the time frame selected by user. The insight provided by this report can help to identify issues with bad batteries or issues with device utilization, if rising battery discharge rate is observed.

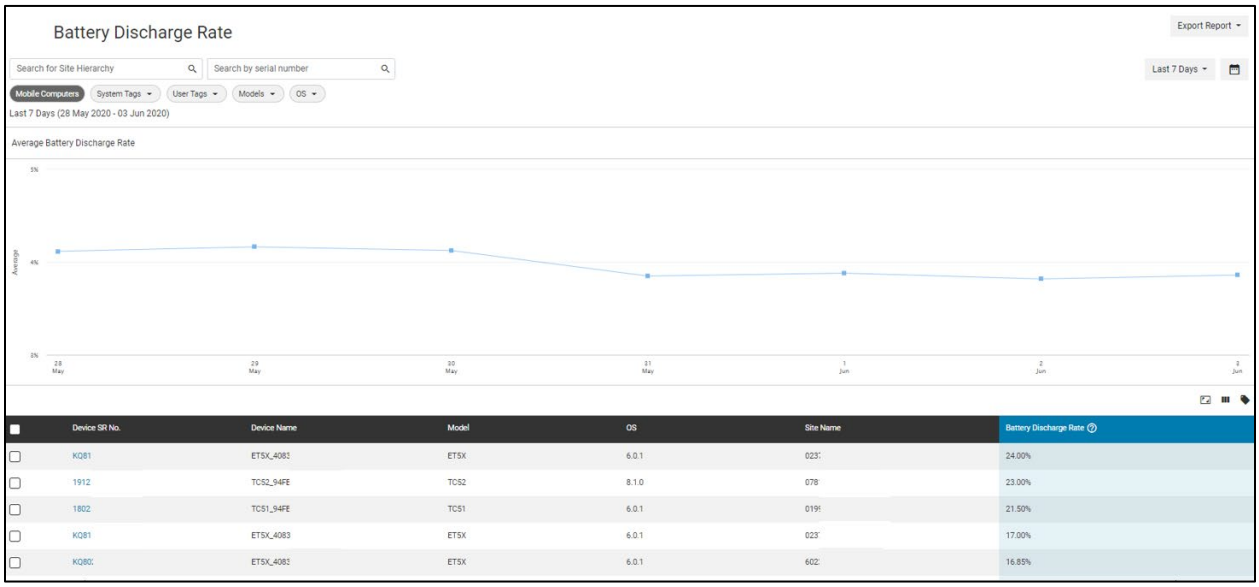
This report supports both mobile computer and Zebra Link-OS mobile printers.

Tile View

The report tile shows the average battery discharge rate across all device models as well as each device model the customer has during the last 7 days. You can scroll down to view the battery discharge rate data for more models, if any.



Expanded View



Graph

The graph shows the average battery hourly discharge rate of all device models during the last 7 days as default. You can select a range to show battery discharge rate data accordingly. You can also select any other model from the model filter to view the battery level data for the model selected.

You can use other filters including tags, OS, as well as site hierarchy info to filter out the devices and show the average battery discharge rate info for these devices.

Data Grid Columns

Device SR No., Device Name, Device Type, Model, OS, Site Name, Hierarchy (hidden by default), Battery Discharge Rate

DATE RANGE OPTIONS

Last 7 Days (Default)

Custom Range

USE CASE(S)

1. Identification of a possible bad battery in a device. For example, if the battery discharge rate for a device is much higher than other devices with the same model, then it's quite possible the battery is gone bad.
2. Indication of external impact to devices at site, model, or enterprise level. For example, if there's a sudden rise in battery discharge rate across a group of devices of same model or at same site after an application rollout/upgrade, then it's likely the application or the new version that causes the fast depletion of the batteries. Therefore, a rollback may need to be considered if the batteries cannot last for a full shift.

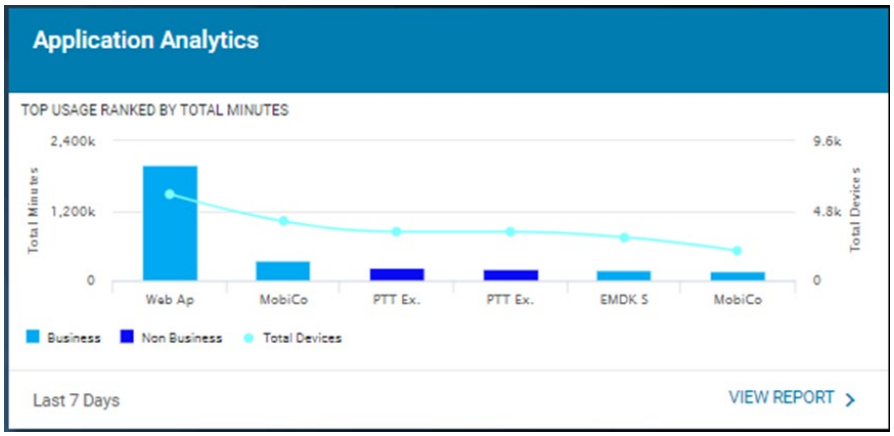
REPORT: APPLICATION ANALYTICS

Description:

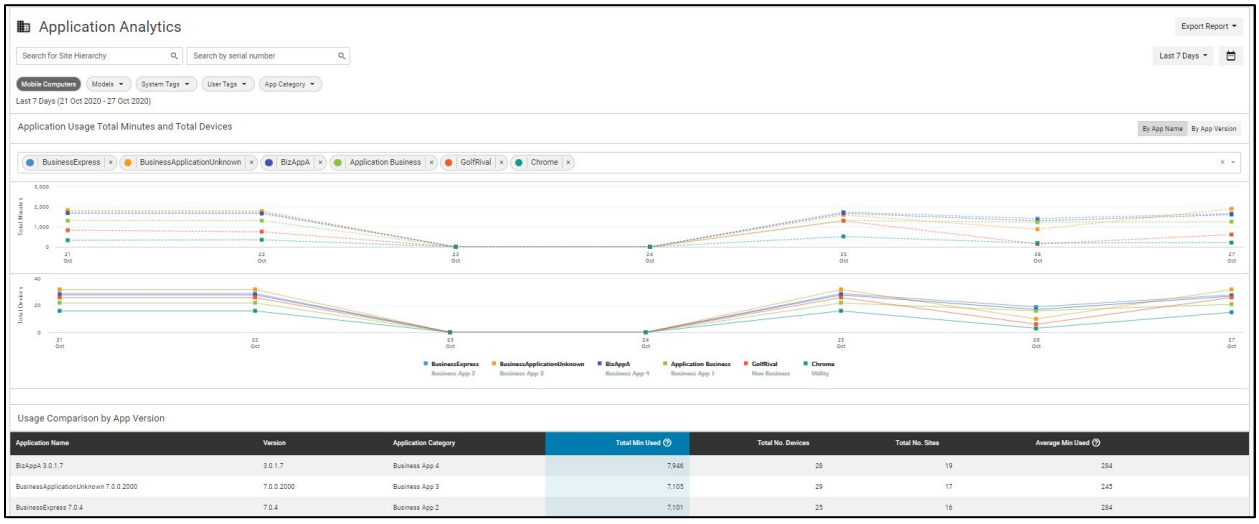
This report shows the applications & versions installed on devices and tracks and compares total minutes used by each application. The report provides productivity insights by informing the customer how employees are using Zebra devices. This application information includes company and personally installed applications.

Tile View

The report tile shows the top 6 mostly used applications and total number of related devices during the last 7 days. It also indicates the category of the applications (business or non-business).



Expanded View

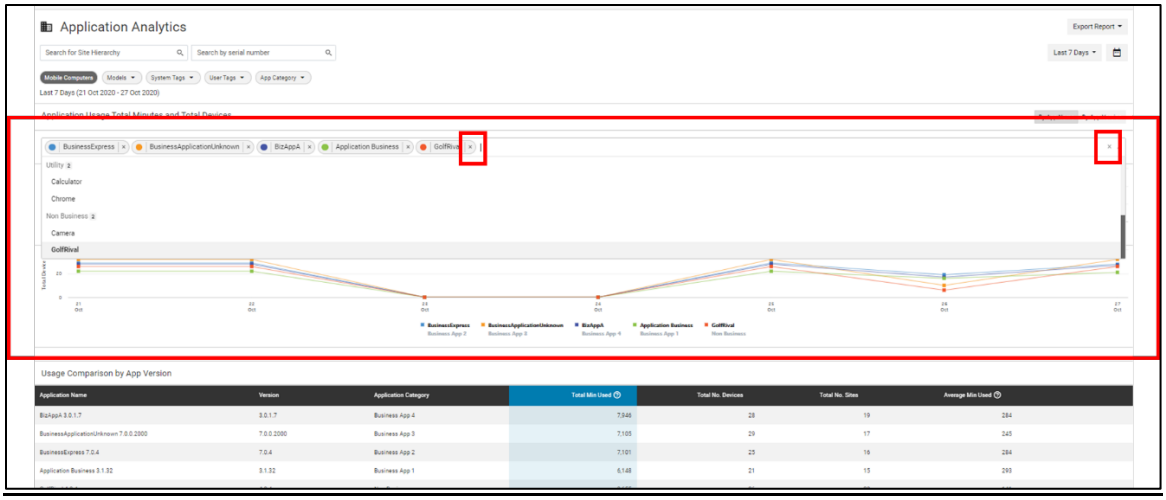


Graphs

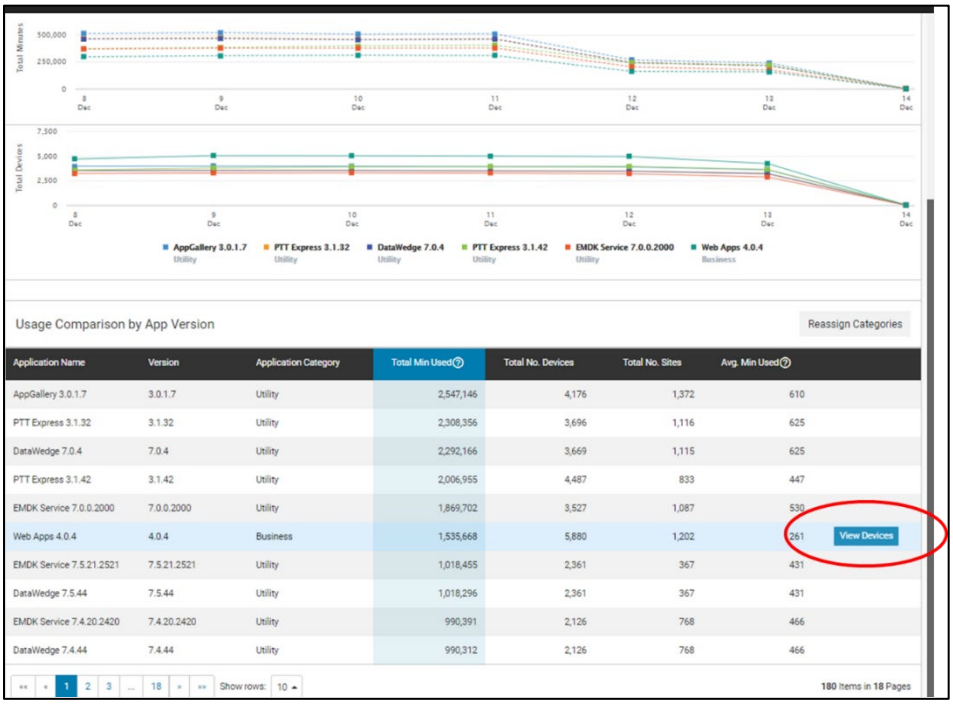
1. Application Usage Total Minutes and Total Devices graph –
   The graphs show the total used minutes of the top 6 mostly used applications, and number of devices using these apps during the time frame by default or specified by user.

   Select “By App Version” number to view the top 6 mostly used applications in the format of “App name + Version number”.

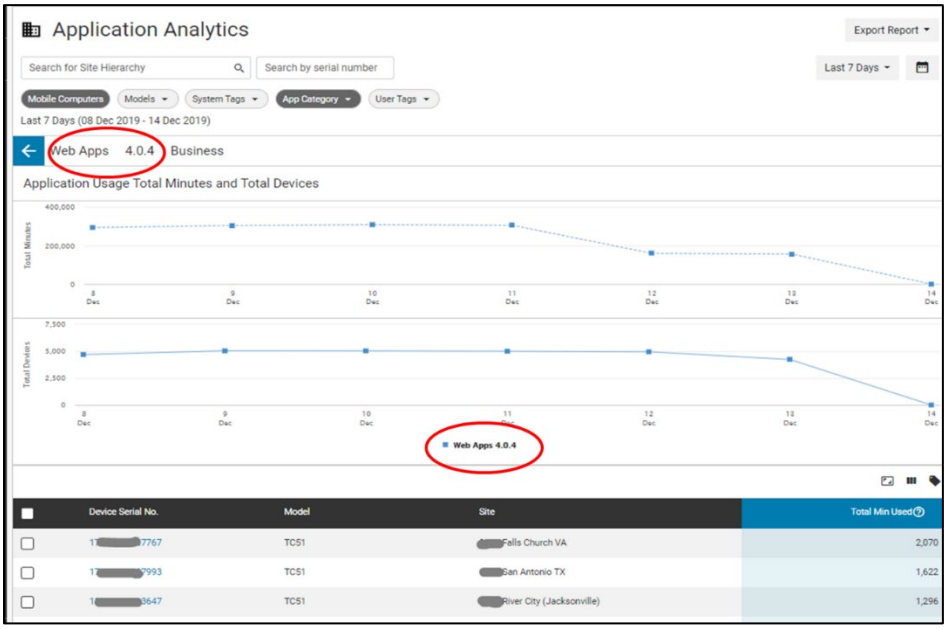
   Select up to 6 applications other than the mostly used ones to display the related data. When there are 6 apps displayed, user needs to remove one or more apps from the list by clicking on the “x” by the application name, then select other apps in the drop-down list shown below. All apps already shown in the graph are highlighted in the drop-down list.



2. Individual application usage and Total device graph
   Select an individual app to view the usage in minutes and devices reporting usage of the application by hovering over the application line on the data grid and clicking “View Devices”.



The graph and data grid for the specified application display:



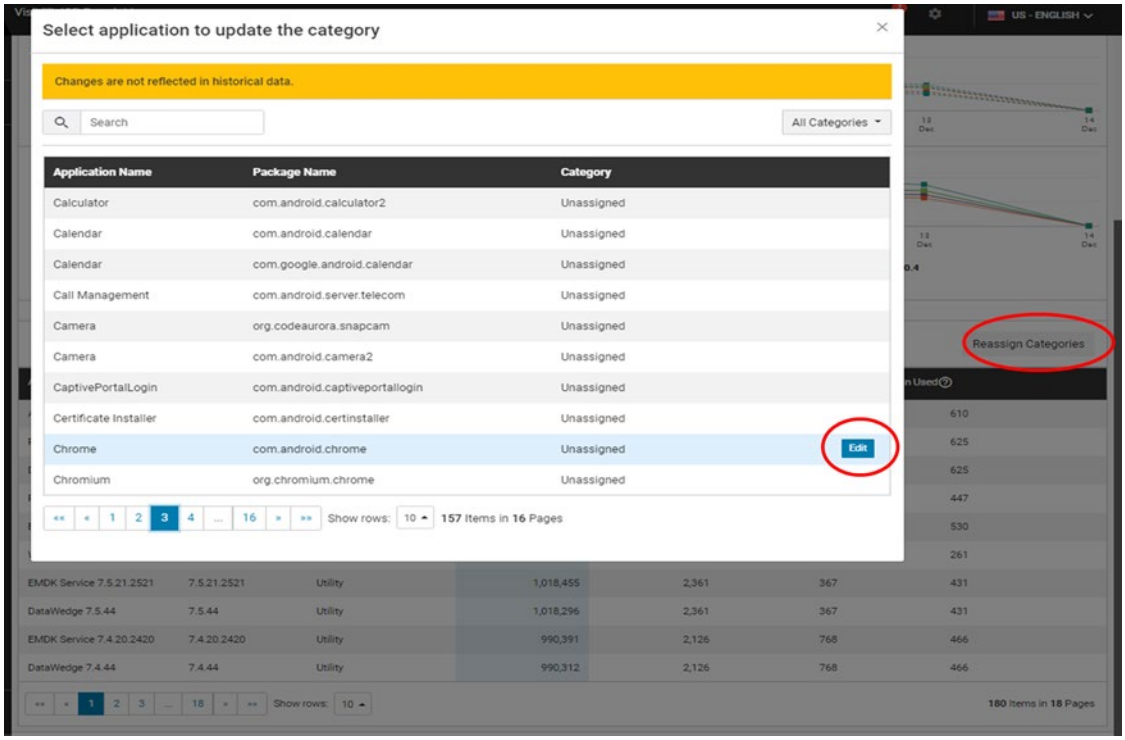
Click the back arrow to return to the previous view.

Data Grid Columns

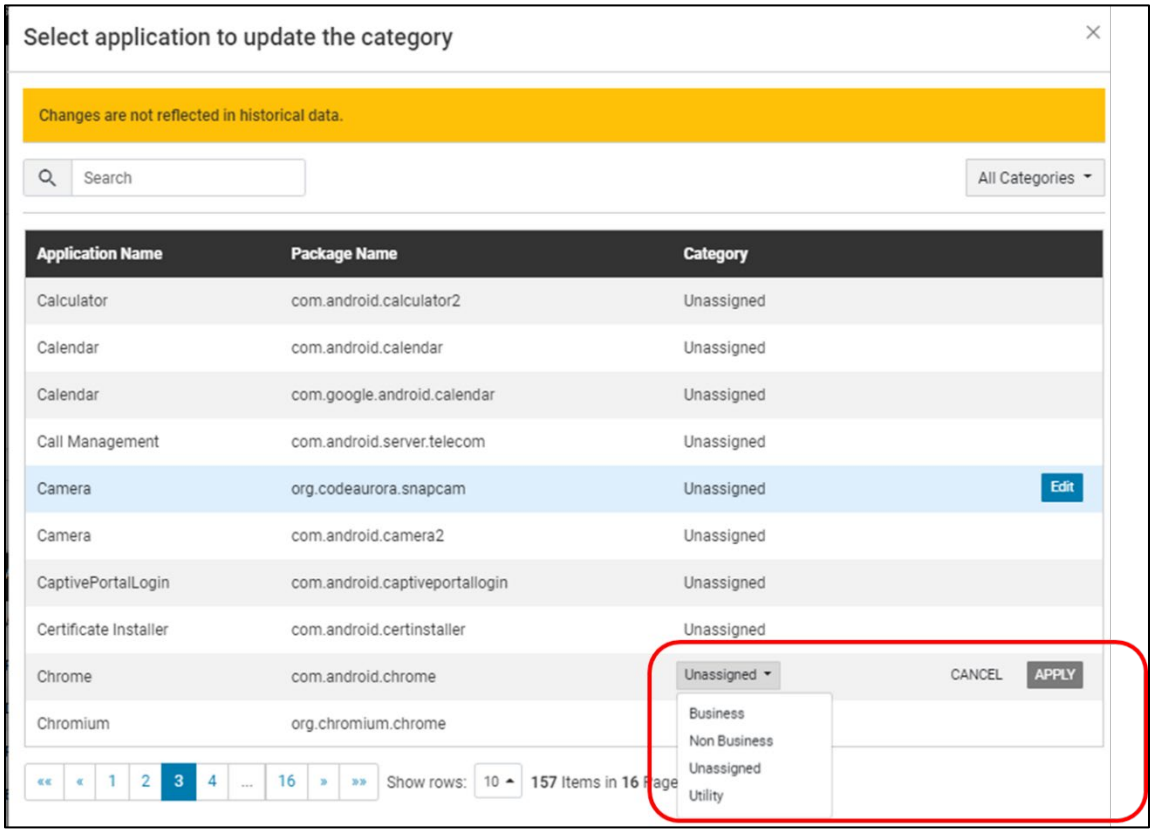
Application Name, Version, Application Category, Total Min Used, Total No. Devices, Total No. Sites, and Average Min Used.

- Application Category:
  Application Category is to help the user to identify if an application is business related or not so you can better assess the usage of device and applications. There are 4 available values for the application category:
  a. **Business**: the application is business related.
  b. **Non-Business**: the application is not business related.
  c. **Utility**: the application is a utility application such as App Manage or Battery Manager.
  d. **Unassigned**: the application category is not assigned due to lack of info or user intervention.

  The category can be predetermined per the info from Google Play and/or usage minutes from the devices. You can manually assign or update the category info through the "Reassign Categories" feature provided on dashboard by following these steps.
  1. Click "Reassign Categories" and the "Select application to update the category" pop-up window will display.
  2. On the pop-up window, select or search the application name to assign the category.
  3. Hover over the application and click "Edit."



4. Options for category assignment are available on the “Category” Column



5. Select the desired category option and click “Apply.”

   The newly assigned category info will be shown after the next data load.

DATE RANGE OPTIONS

Last 7 Days (Default)

Last Week

Month to Date

Last Month

Custom Range

USE CASE(S)

1. Track if the business applications are used as intended.
2. Identify if there are non-business applications installed on the devices and their usage to evaluate if the operation is impacted by too much usage of non-business applications.
3. Establish the processes to ensure appropriate user behavior in device utilization.

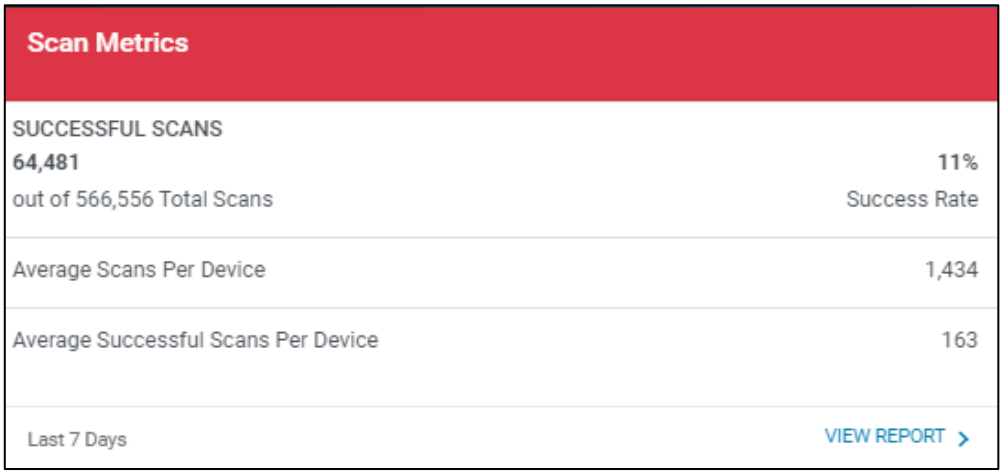
REPORT: SCAN METRICS

Description:

This report shows the total number of scans, the number of successful scans, and compares the symbology from scans performed by Zebra Android mobile computers. The insight provided by this report Improves operational productivity by tracking successful/ unsuccessful scans which allows customer to root cause troublesome areas of the business. Root cause could be user, poor quality bar codes, or device issues.

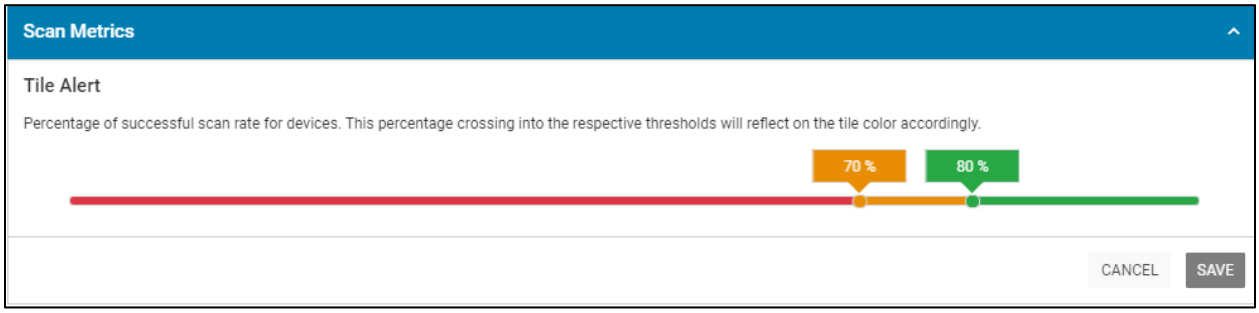
Tile View

The report tile shows the number of successful scans out of the total scans reported from all mobile computers and the success rate during the default time range. It also shows the average scans and average successful scans per device. The report tile will show visual alert based on the success rate threshold set by the user.

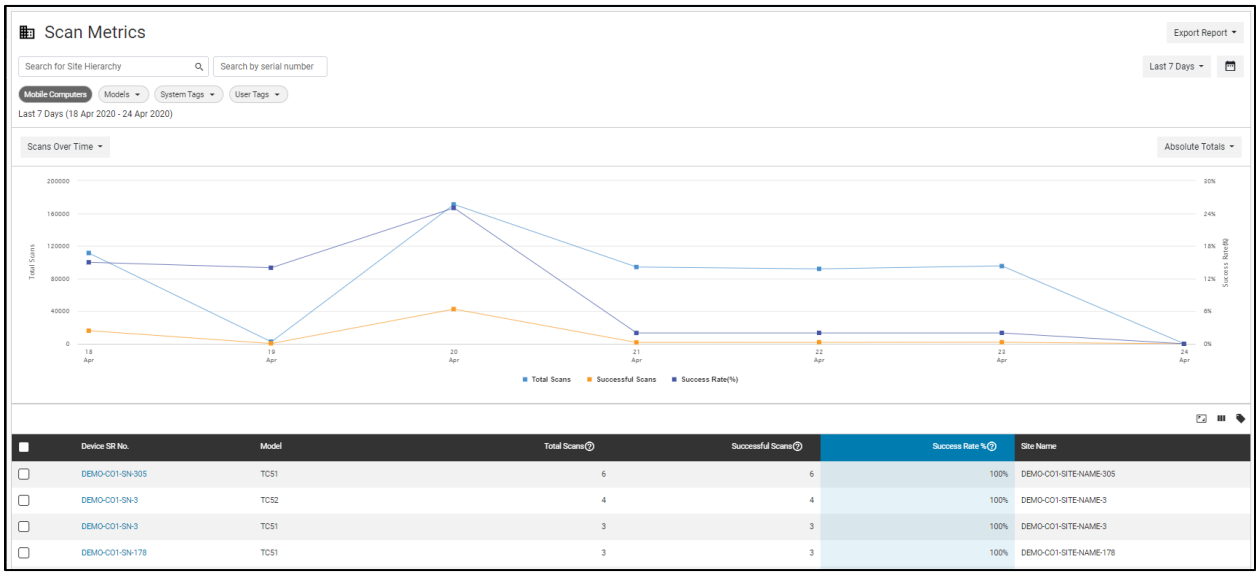


Tile Alert Threshold Settings

Administrators can access the “Administration” section on the left-hand side bar on dashboard to set the threshold for the report tile. The settings for this report are shown below:



Expanded View

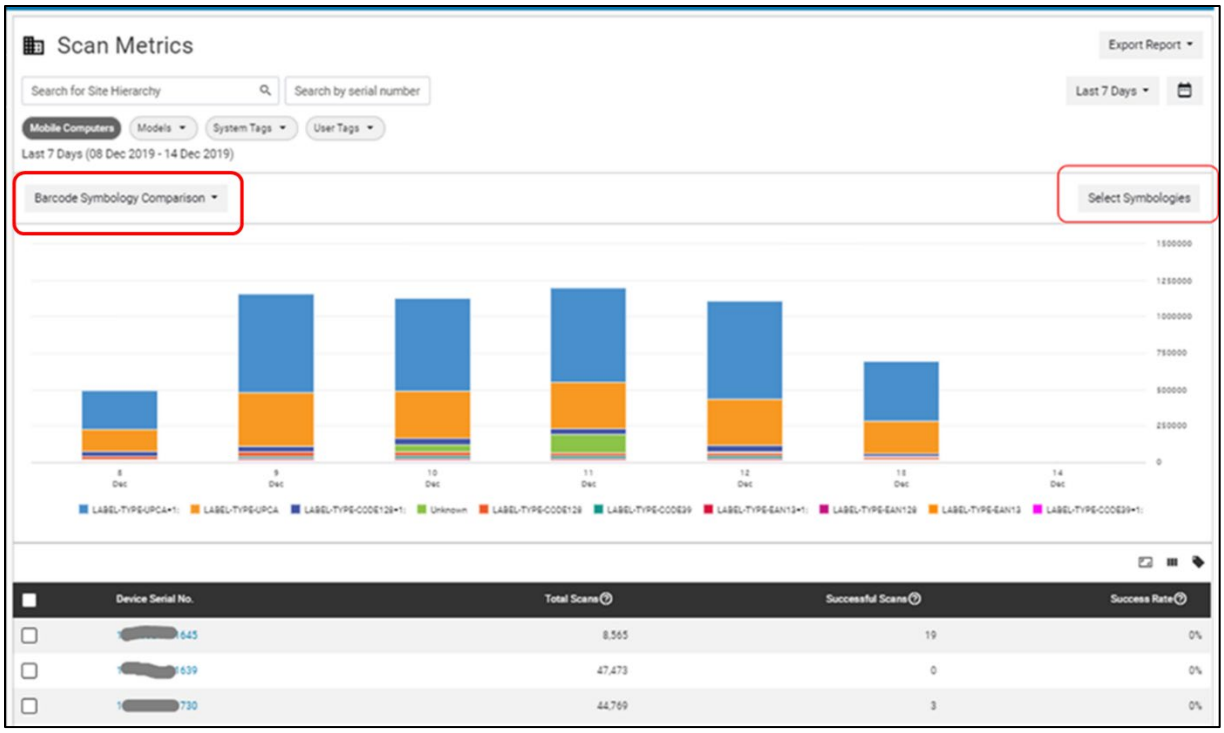


Graphs

1. Scan Metrics Overview (Absolute Totals):
   This graph shows the Total scans, successful scans and Success Rate (%) from all mobile computers performing scans during the last 7 days (default) or time range specified by the user.

2. Scan Metrics Overview (Normalized Totals):
   This graph shows the Total scans, successful scans and Success Rate (%) per device that performed scans during the last 7 days (default) or time range that you specified.

3. Barcode Symbology Comparison:
   This graph shows the top 10 most scanned symbology. You can select other symbology (up to 10) to display on the graph.



Data Grid Columns

Device SR No., Model (Hidden by default), Total Scans, Successful Scans, Success Rate, Site Name (hidden by default), Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last 30 Days

Last 12 Months

Custom Range

USE CASE(S)

1. Provide descriptive analytics and trending of total, successful scans and percent successful scans.

2. Identify potential problems with device by seeing change in utilization of device, reduced or low scan success rates, etc.

3. Identify problems with symbology by correlating symbology with high failed scans/low scan success rates

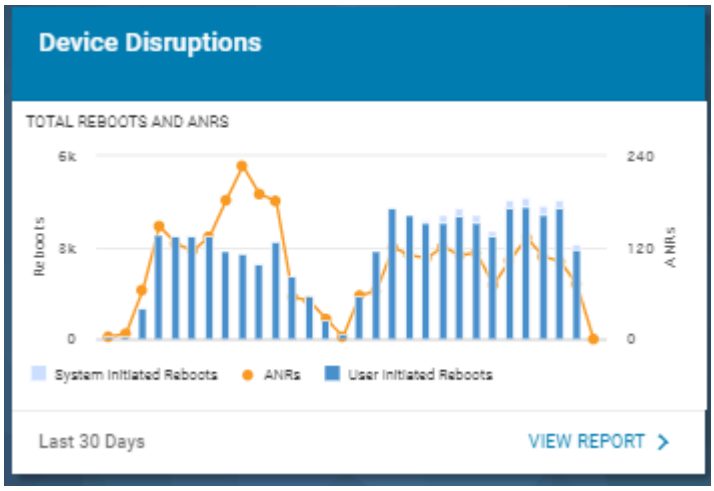
REPORT: DEVICE DISRUPTIONS

Description:

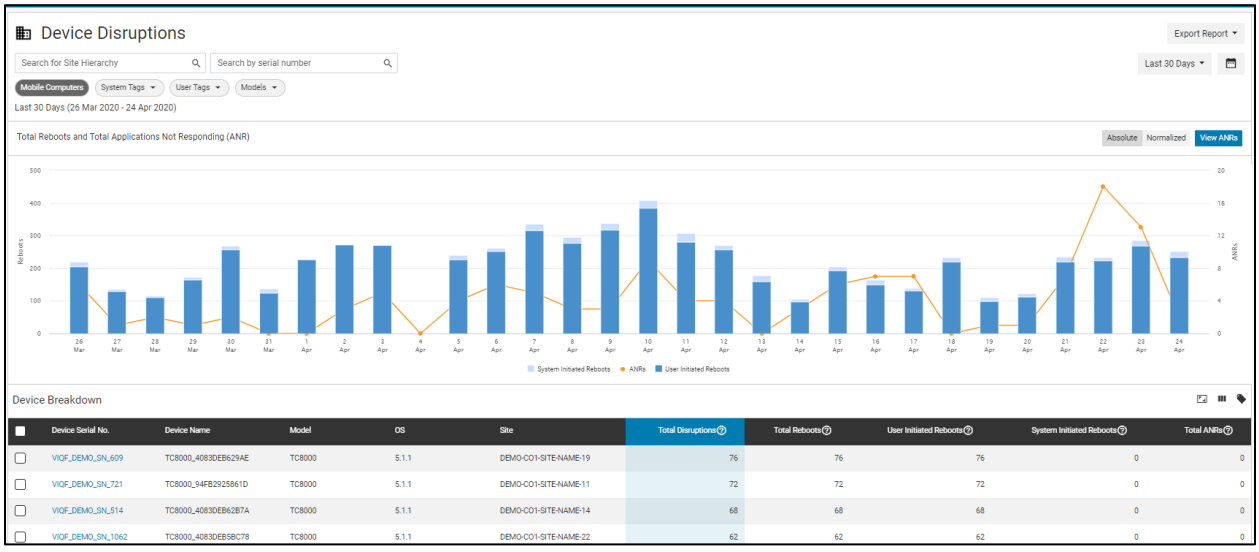
This report shows the number of device reboots (user or system initiate) and ANRs (Application Not Responding). The insight provided by this report improves operational productivity by identifying devices that are experiencing frequent reboots or being not responsive allowing customer to investigate, fix or replace poorly performing devices

Tile View

The report tile shows the number of device reboots (system initiated, and user initiated) and ANRs during the last 30 days.



Expanded View

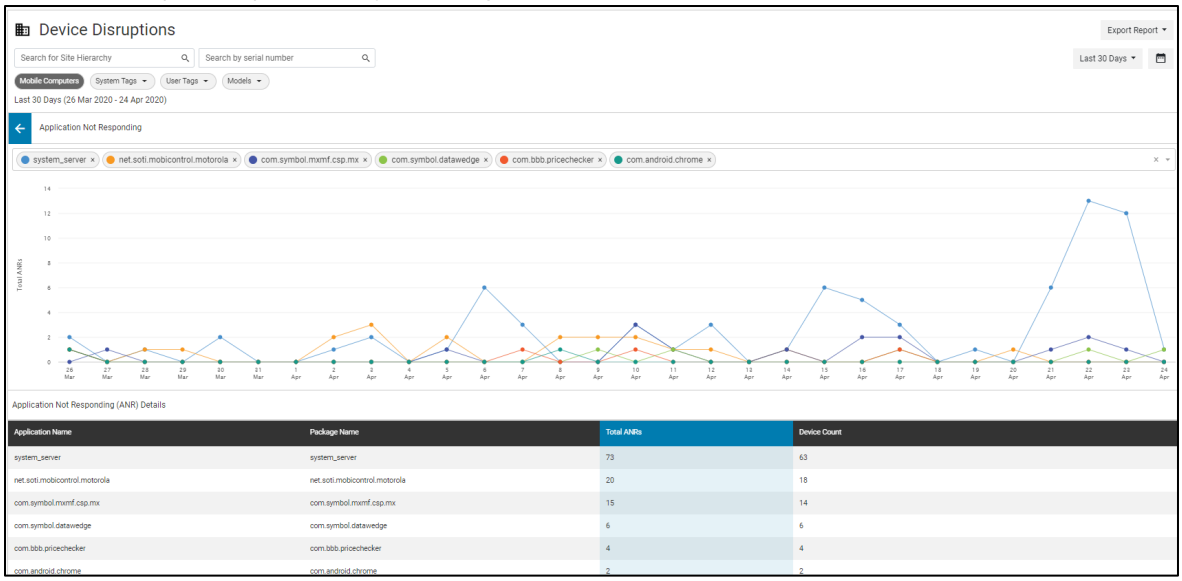


Graphs

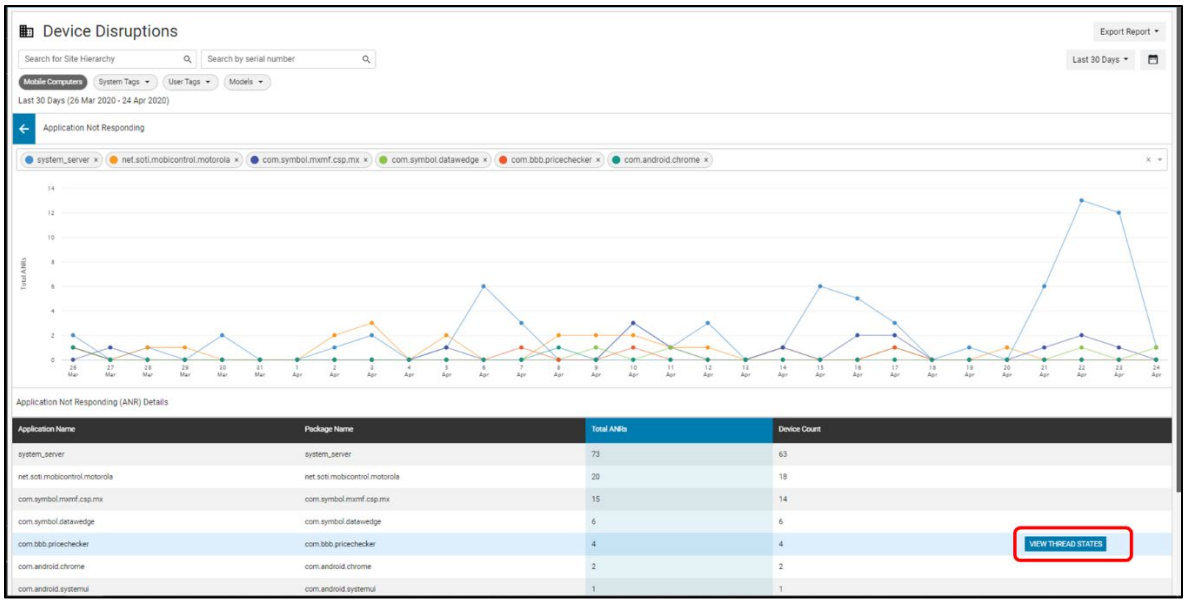
1. Total Reboots and ANRs Overview (Absolute Totals):
   This graph shows the total number of reboots (system initiated, and user initiated) and ANRs during the last 30 days (default) or time range specified by the user.

2. Total Reboots and ANRs Overview (Normalized Totals):
   This graph shows the total number of reboots (system initiated, and user initiated) and ANRs at per device level during the last 30 days (default) or time range specified by the user.

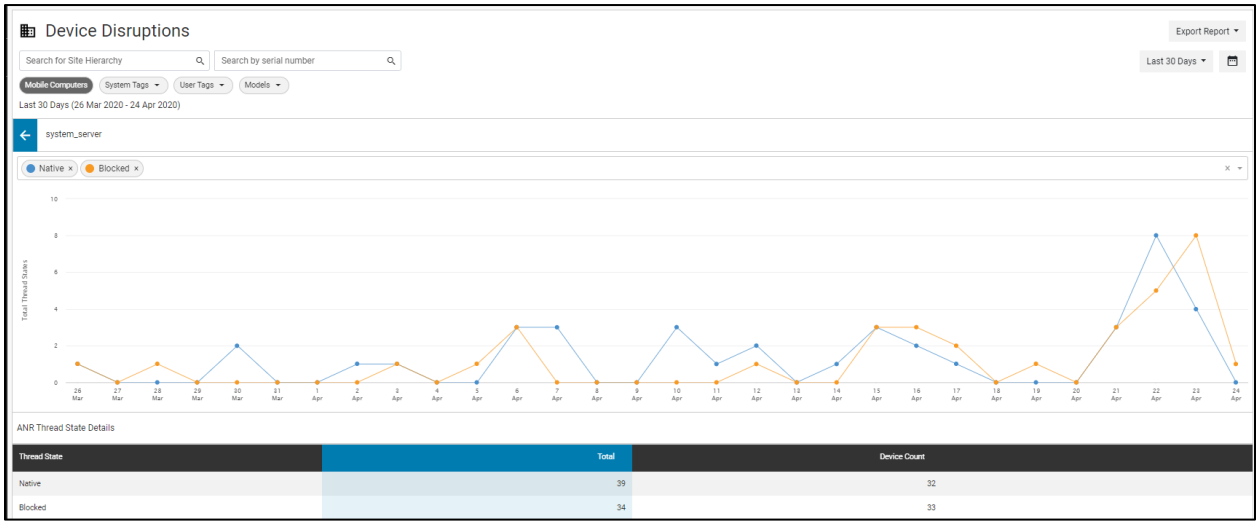
3. ANR & states Graph:
   This graph shows the top 6 applications reporting the most ANRs. You can select other applications (up to 6) to display on the graph.



On this graph, you can select any application to show the thread states info regarding the selected application:
1. Hover over on the application and click on “View Thread States”.



The application-specific view displays the thread state details.



Click the back arrow to return to previous view.

Data Grid Columns

Device SR No., Device Name, Model, OS, Total Disruptions, Total Reboots, User Initiated Reboots, System Initiated Reboots, Total ANRs, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

Last 30 Days (Default)

Last 12 Months

Custom Range

USE CASE(S)

1. Provide descriptive analytics and trending of number of total reboots, number user generated reboots and system generated reboots to help identify devices with performance issues.

2. Provide descriptive analytics of ANRs and related applications and possibly reason (thread states) for ANRs to enable indications of possible application issues and information to aid application development team to debug issues.

REPORT: WWAN (CELLULAR) UTILIZATION

Description:

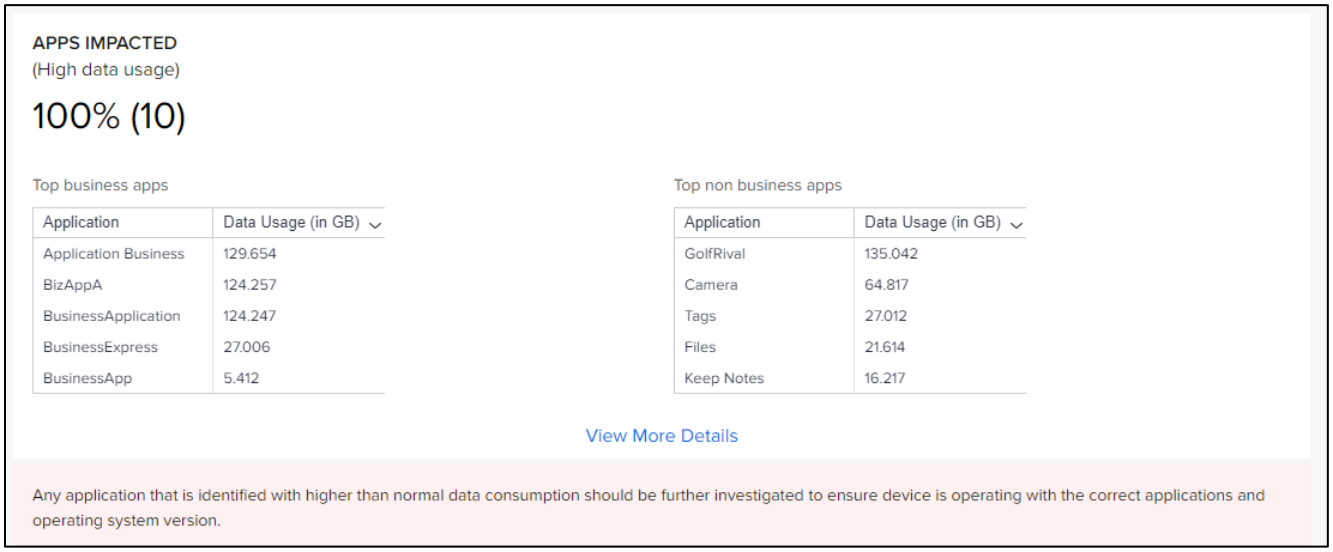
This report aggregates the last 90 days of WWAN (Cellular) usage activity to provide insight to high WWAN utilization.

- Total Device Data Usage
- High Cellular Data Usage by Applications – breaking down by top business apps and non-business apps
- High Cellular Data Usage by Devices – showing top devices sorted by highest data usage
- High Cellular Data Usage by Sites– showing top sites sorted by highest data usage

Tile View

Apps Impacted

The **Apps Impacted** tile provides insight to the applications on devices that have high WWAN usage based on filter selections. This tile also breaks out the applications into business and non-business applications. The bottom of the tile includes recommended actions that can be taken to mitigate the insights provided.

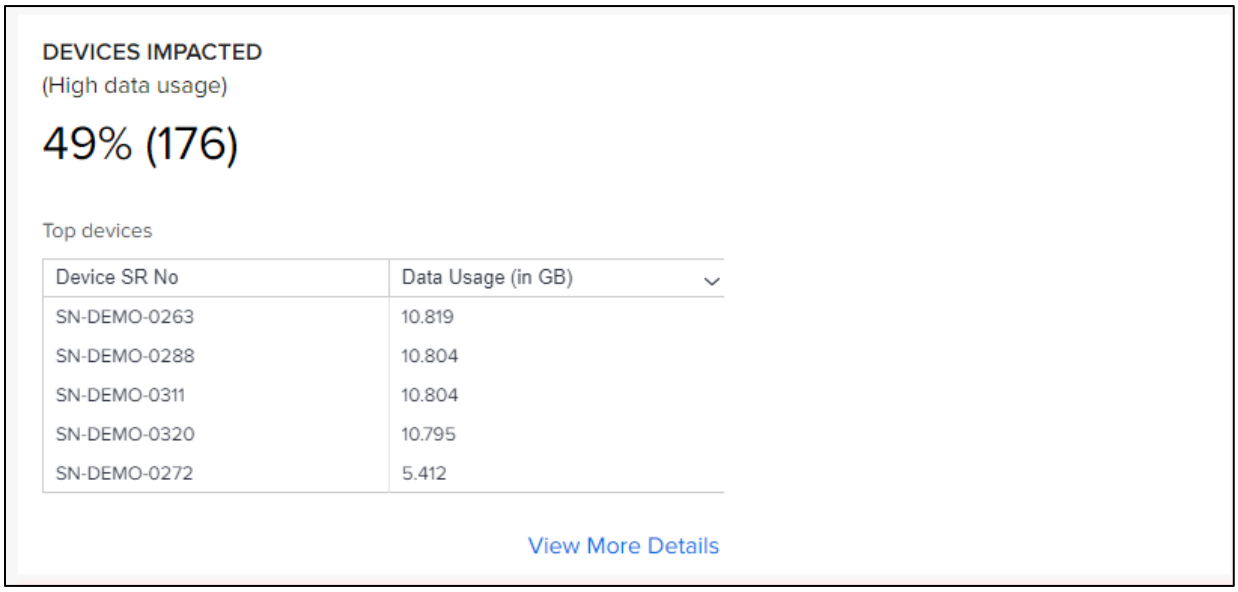


Clicking on **View More Details** within the tile provides a table of filtered records with the following fields:

- Application
- Version
- Application Category
- Device SR No
- Device Name
- Model
- Site
- Data Usage (in GB)

Devices Impacted

The **Devices Impacted** tile provides insight to devices that have high WWAN usage based on filter selections. This tile lists the top devices with high data usage. The bottom of the tile includes recommended actions that can be taken to mitigate the insights provided.



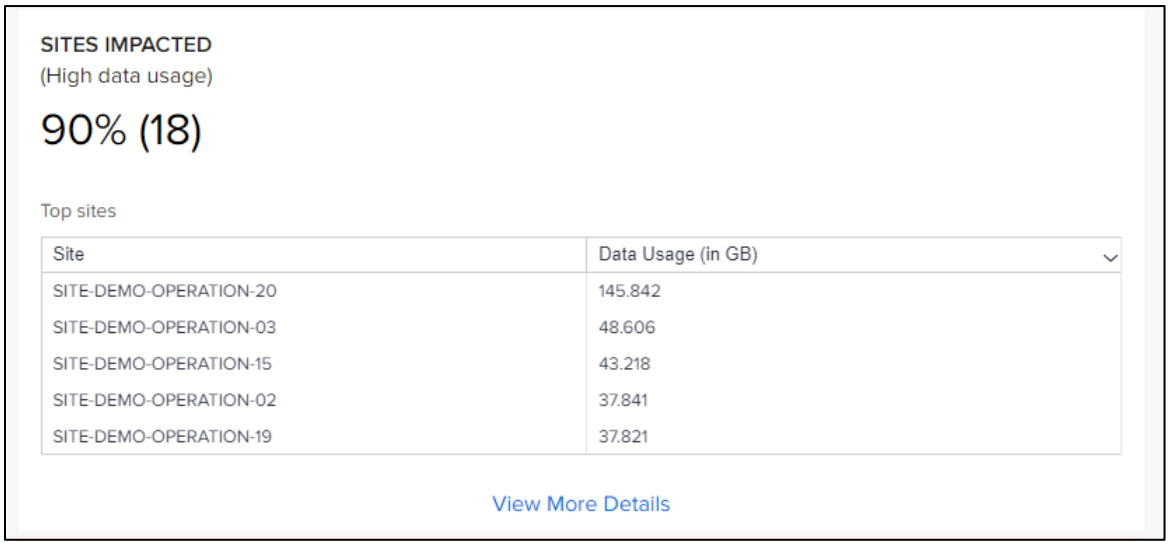
Any device or site that is identified with higher than normal data consumption should be further investigated to ensure device is operating with the correct applications and operating system version.

Clicking on **View More Details** within the tile provides a table of filtered records with the following fields:

- Device SR No
- Device Name
- Site
- Carrier
- Model
- Data Usage (in GB)

Sites Impacted

The **Sites Impacted** tile provides insight to the sites that have high WWAN usage based on filter selections. This tile lists the top sites with high data usage. The bottom of the tile includes recommended actions that can be taken to mitigate the insights provided.



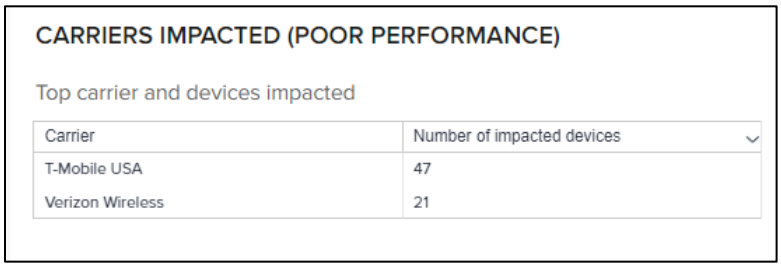
Any device or site that is identified with higher than normal data consumption should be further investigated to ensure device is operating with the correct applications and operating system version.

Clicking on **View More Details** within the tile provides a table of filtered records with the following fields:

- Device SR No
- Device Name
- Site
- Carrier
- Model

Carriers Impacted (Poor Performance)

The data in the **Carries Impacted (Poor Performance)** tile show carrier performance based on signal strength. If you are experiencing poor carrier performance, contact the carrier to discuss your plan's signal strength, or consider switching carriers (if applicable) in that specific location.



A map in this tile provides visual data. Zoom out to view regions affected, or zoom in to see details down to the street level.

Click **View More Details** within the tile provides a table of filtered records with the following fields:

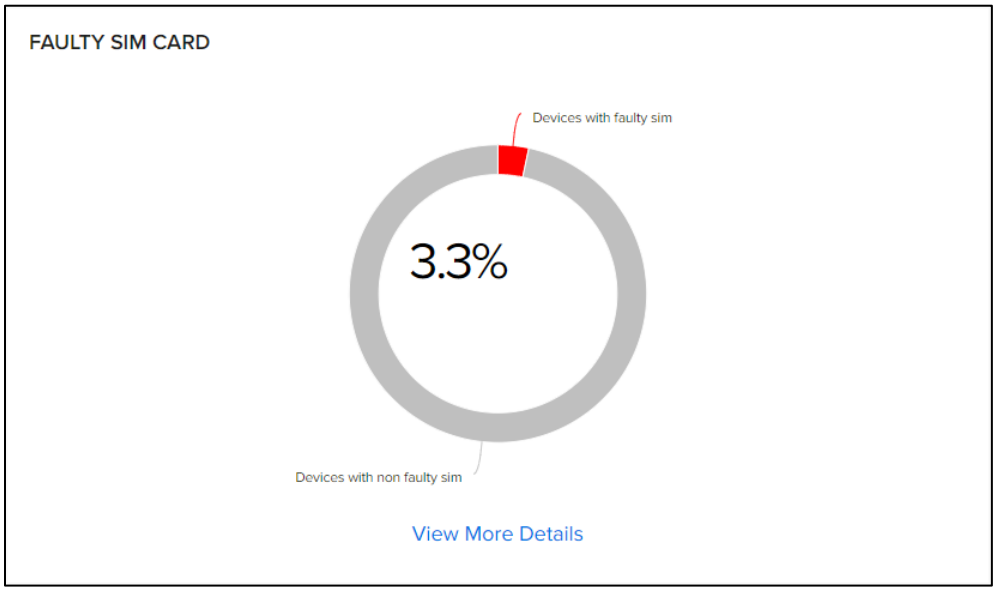
- Device SR No
- Device Name
- Carrier
- Generation
- Model
- Site
- Total Poor Signal Events
- Total Poor Connectivity Events

ADDITIONAL REQUIREMENTS

NOTE: This feature requires GPS Coordinates, which is disabled by default. For the feature to work, the configuration of the ZDS/ZPC agent, depending on the device type, needs to be updated by emailing mscustomeronboarding@zebra.com. Be sure to request “Enable GPS Coordinates” in your request.

Faulty SIM Card

The **Faulty SIM Card** tile shows the percentage of devices with a faulty SIM.

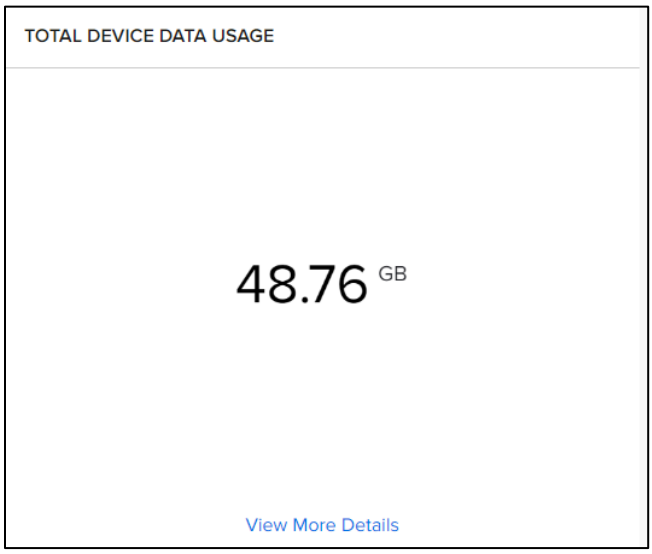


Clicking on **View More Details** within the tile provides a table of filtered records with the following fields:

- SIM Card Status
- Device SR No
- International Mobile Equipment Identity (IMEI)
- Device Name
- Model
- Site

Total Device Data Usage

The **Total Device Data Usage** tile provides insight to the total WWAN usage by all devices in the fleet based on filter selections.



Clicking on **View More Details** within the tile provides a table of filtered records with the following fields:

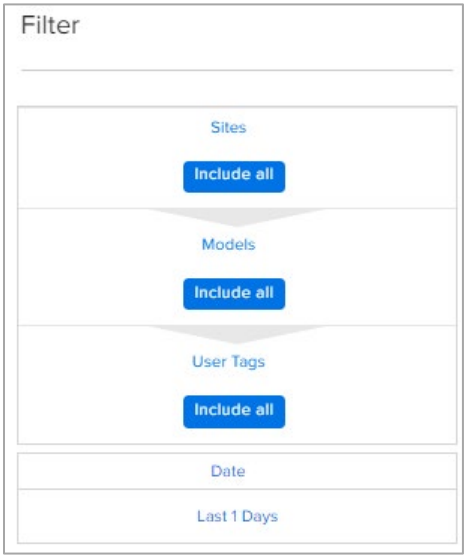
- Device SR No
- Data Usage (in GB)
- Carrier
- Device Name
- Site
- Model

Additional Options

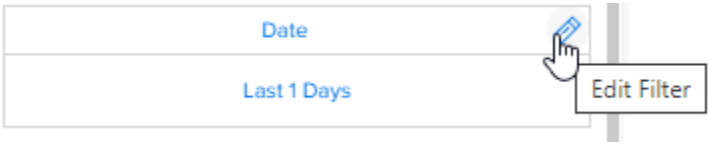
DATE RANGE OPTIONS

1. Click the filter to access the date picker.

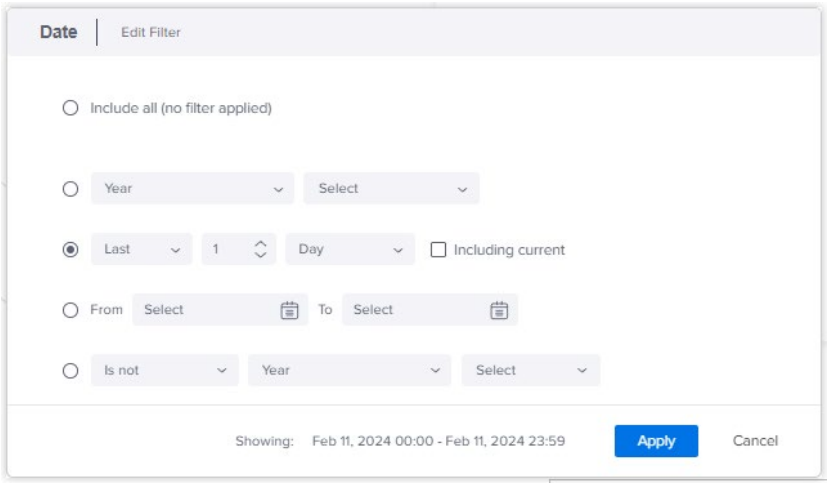
The filter options display.



2. Mouse over the upper-right corner of the date picker, and click the pencil to edit the dates.



3. Select the desired date options, and then click **Apply**.



The date picker selections include:

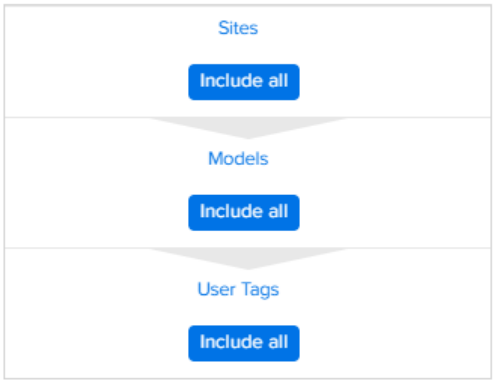
- Year, Quarter, Month, Week, Day, Hour, or 15-Minute Period
- Last specified number of Years, Quarters, Months, Weeks, or Days
- This or Next Year, Quarter, Month, Week, or Day
- A specific date range
- NOT being part of a selected Year, Quarter, Month, Week, Day, Hour, or 15-Minute period
- Being within a specific number of Years, Quarters, Months, Weeks, or Days BEFORE or AFTER a specified date
- TOP or BOTTOM Year, Quarter, Month, Week, or Day

EXPORT PDF

A PDF can be created on demand that contains the same information as the dashboard.

FILTER

Use this option to further filter down the selection. Note that the filters are dependent from the top down.



LANGUAGES SUPPORTED

English

ADDITIONAL REQUIREMENTS

Please email mscustomeronboarding@zebra.com to request this insight. Include “Enable WWAN Utilization Insight” in your request.

REPORT: MEMORY (RAM) UTILIZATION BY APP

Description:

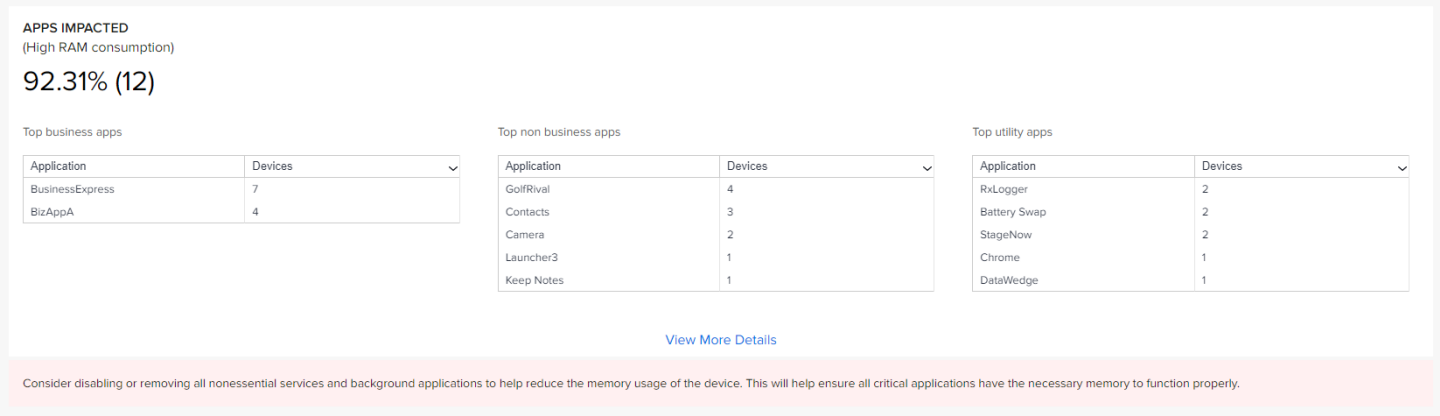
This report aggregates the last 90 days of Memory (RAM) usage activity to provide insight to high Memory utilization by applications.

- High RAM consumption by top business applications.
- High RAM consumption by top non-business applications.
- High RAM consumption by top utility applications.

Tile View

Apps Impacted (High RAM Consumption)

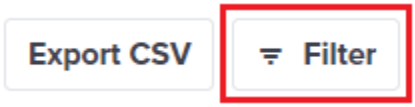
The **Apps Impacted** tile provides insight to the total RAM usage by all applications in the devices based on filter selections. The bottom of the tile includes recommended actions that can be taken to mitigate the insights provided.



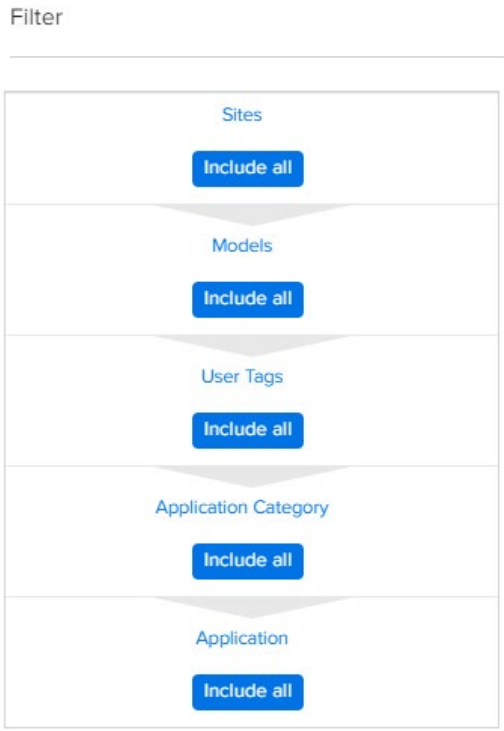
Click **View More Details** within the tile to view a table of filtered records with the following field sortable by ascending or descending order by clicking on the carat (^) on the header records:

- Application
- Device SR No
- Device Name
- Application Category
- Model
- RAM Usage (in MB)
- Site

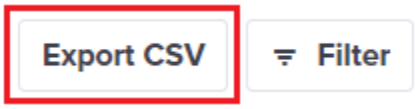
The data table can be further filtered using the below dependent filters.



Each filter option is dependent on the filter option above it.



The data table can be exported to csv.

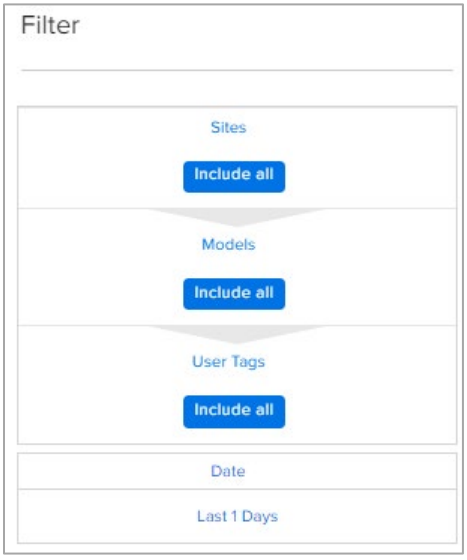


Additional Options

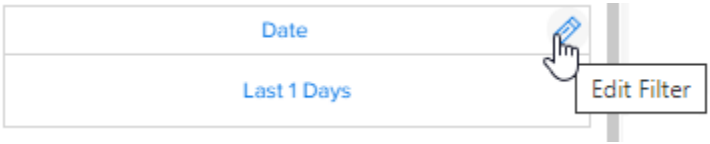
DATE RANGE OPTIONS

1. Click the filter to access the date picker.

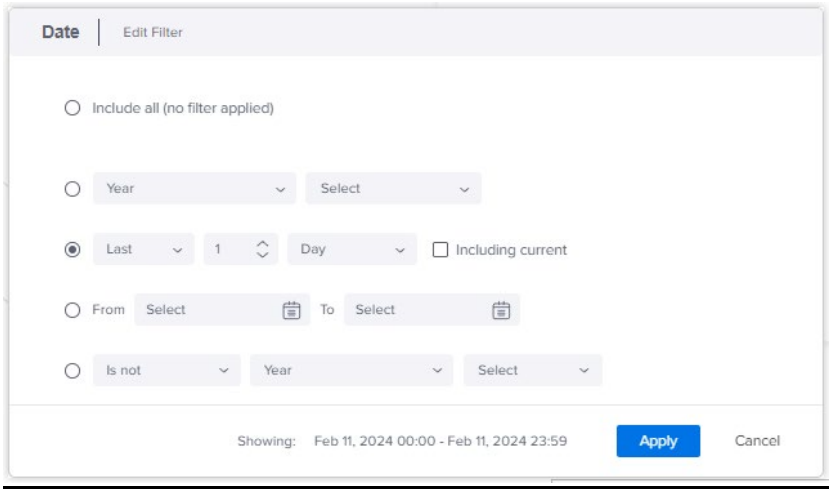
The filter options display.



2. Mouse over the upper-right corner of the date picker, and click the pencil to edit the dates.



3. Select the desired date options, and then click **Apply**.



The date picker selections include:

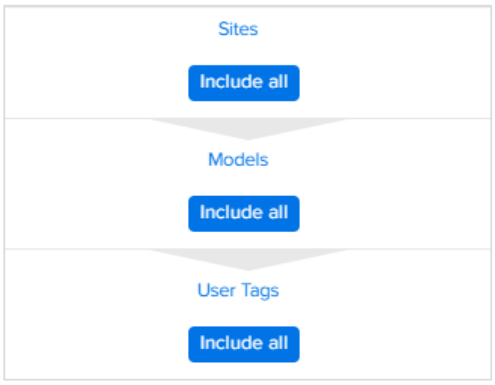
- Year, Quarter, Month, Week, Day, Hour, or 15-Minute Period
- Last specified number of Years, Quarters, Months, Weeks, or Days
- This or Next Year, Quarter, Month, Week, or Day
- A specific date range
- NOT being part of a selected Year, Quarter, Month, Week, Day, Hour, or 15-Minute period
- Being within a specific number of Years, Quarters, Months, Weeks, or Days BEFORE or AFTER a specified date
- TOP or BOTTOM Year, Quarter, Month, Week, or Day

EXPORT PDF

A PDF can be created on demand that contains the same information as the dashboard.

FILTER

Use this option to further filter down the selection. Note that the filters are dependent from the top down.



LANGUAGES SUPPORTED

English

ADDITIONAL REQUIREMENTS

Please note this feature requires RAM information, which is disabled by default. For the feature to work, the configuration of the ZDS/ZPC agent, depending on the device type, needs to be updated by emailing mscustomeronboarding@zebra.com. Be sure to request “Enable Proc Stats for Memory by App Utilization Insight” in your request.

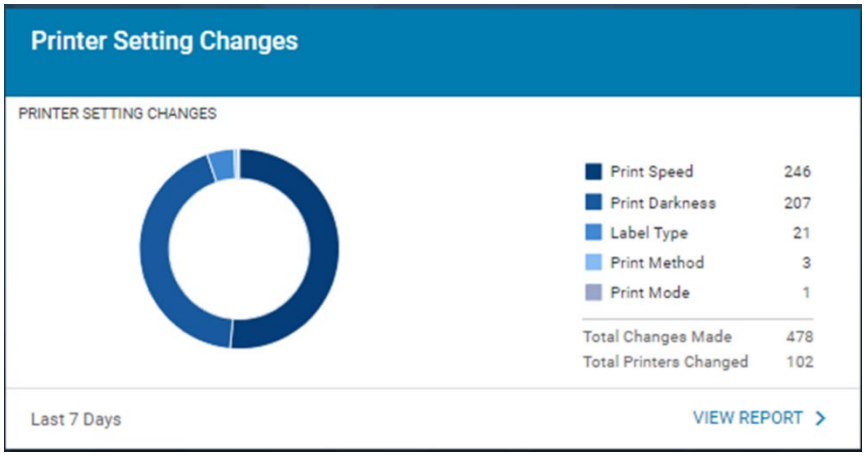
REPORT: PRINTER SETTING CHANGES

Description:

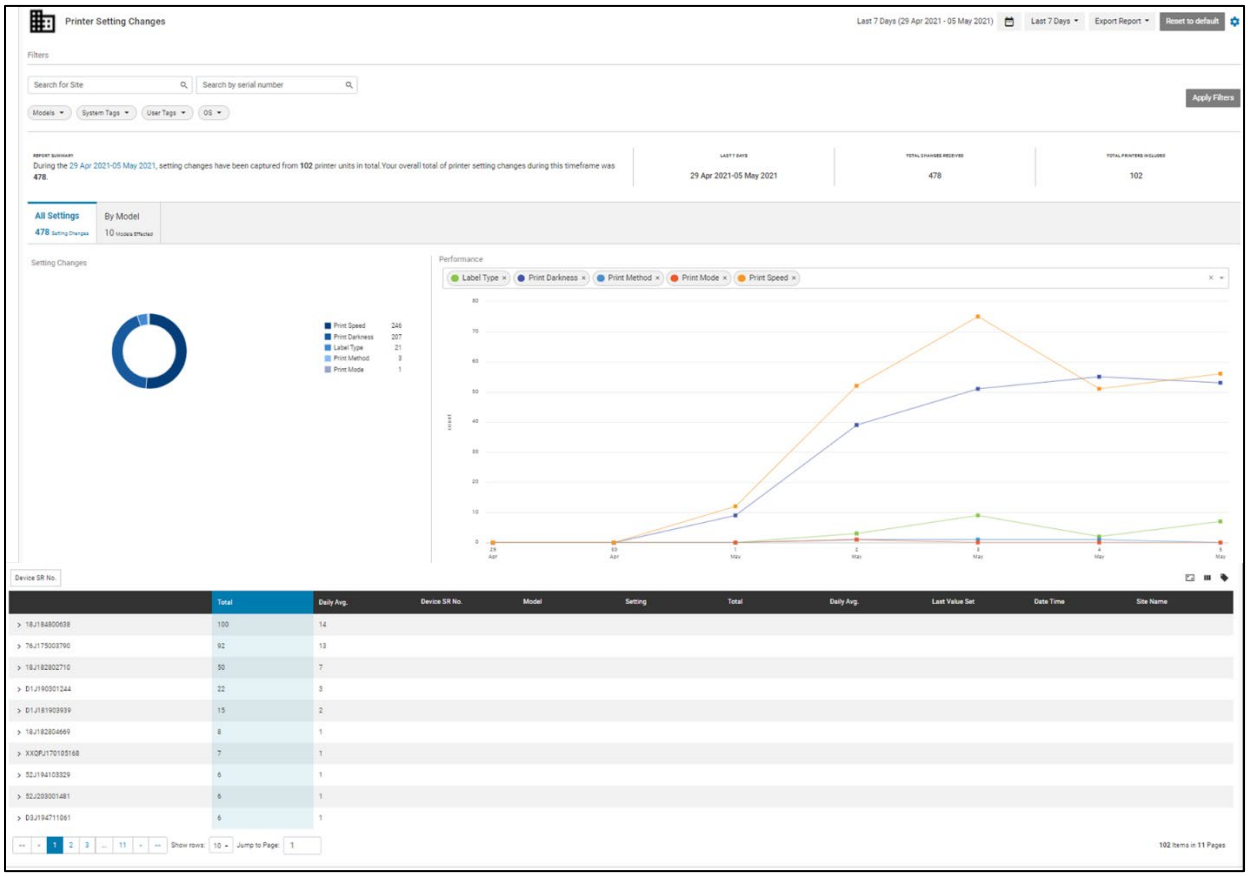
This report provides the insight of setting changes from customer's printers. It shows printer settings changes from all printers in the fleet, so that customer can identify printer settings that may be outside their normal patterns hence impacting the performance of the printers or the consumption of media.

Tile View

The report tile shows an overview pie chart with number of changes for each printer setting type, the total number of changes, and the total number of printers with setting changes during the last 7 days.



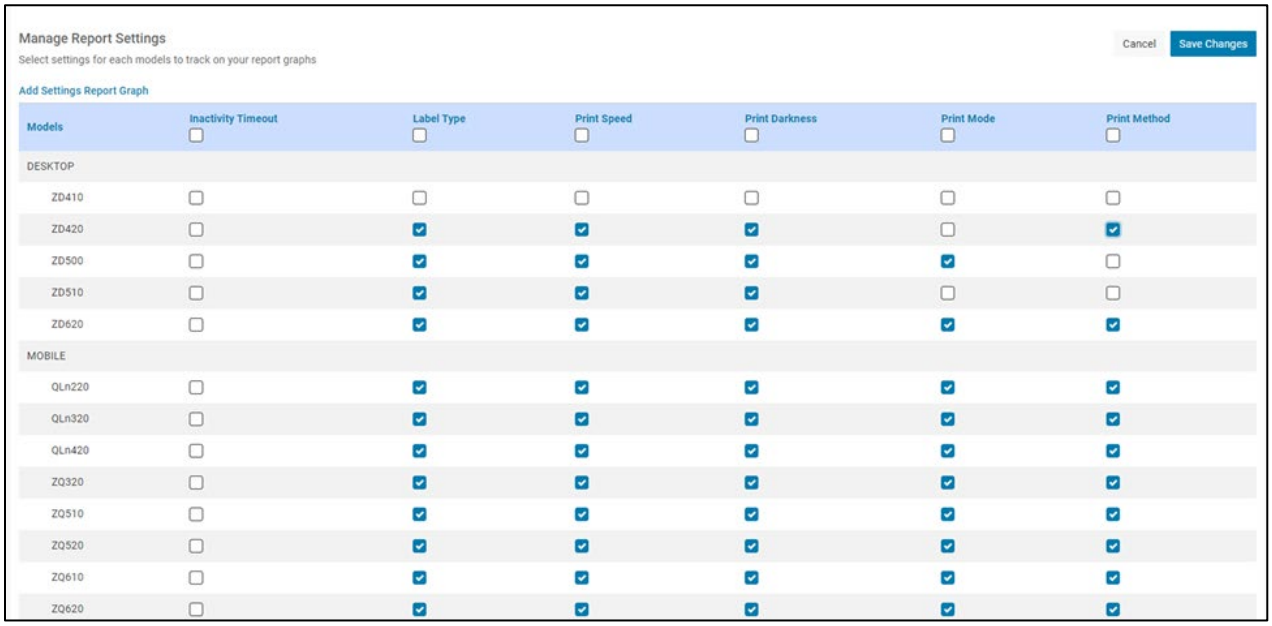
Expanded View



Report Settings

Click the gear icon on the top right corner in the expended view to access the setting page for this report.

When the setting page shows up, select any model and any type of printer settings to monitor.



"All Settings" Tab

The "All Settings' tab is shown by default when user accesses the expanded view of this report. This tab shows all setting changes received from all printers in customer's device fleet.

Graphs

1. "Setting Changes" pie chart
   The same pie chart as in tile view is also shown here, with the number of changes in each setting type during the default date range or user specified date range.

2. "Performance" line chart
   This graph shows the number of changes in each setting type during the default date range or date range specified by the user. The graph will show
   - Monthly view if user selects a date range more than 3 months or
   - Daily view if user selects a date range less than 3 months and more than 3 days or
   - Hourly view if user selects a date range within 3 days.

   You can select up to 6 settings to be displayed in the graph. You can also hover over the chart and show the number of setting changes on the selected date/time.

Data Grid Columns

Device SR No., Total, Daily Avg. (please note the data grid is grouped by the device serial number)

You can also select another grouping criteria and apply to the data grid. Then the following columns will show data when the user clicks on the serial number from the grouping result:

Device SR No., Model, Setting, Total, Daily Avg. (rounded up value), Last Value Set, Date/Time, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last Month

Custom Range

"By Model" Tab

Click the "By Model" tab to show all setting changes received from all printers but categorized by printer models.

Graphs

1. "Setting Changes" pie chart
   For each model with setting changes, this graph will show with number of changes in each setting type during the default date range or user specified date range.

2. "Performance" line chart
   For each model with setting changes, this graph shows the number of changes in each setting type during the default date range or date range specified by the user. The graph will show
   - Monthly view if user selects a date range more than 3 months or
   - Daily view if user selects a date range less than 3 months and more than 3 days or
   - Hourly view if user selects a date range within 3 days.

   You can select up to 6 settings to be displayed in the graph. You can also hover over the chart and show the number of setting changes on the selected date/time.

The printer models are categorized into 4 groups:

- Desktop
- Mobile
- RFID
- Tabletop

Depending on what printer model(s) the customer has, the first group will show the expanded view by default, and other groups are collapsed. You can click each of them to access the expanded views.

Data Grid Columns

Device SR No., Total, Daily Avg. (pls note the data grid is grouped by the device serial number)

You can also select another grouping criteria and apply to the data grid. Then the following columns will show data when the user clicks on the serial number from the grouping result:

Device SR No., Model, Setting, Total, Daily Avg. (rounded up value), Last Value Set, Date/Time, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last Month

Custom Range

USE CASE(S)

This report provides descriptive analytics from comprehensive view, model view or individual printer view, as well as trending of number of setting changes in total and by setting types to help identify if the settings are changed too often or outside the normal range, hence help customers to identify printer performance issues, user behavior issues and/or impact to media consumption due to setting changes.

REPORT: PRINTER ALERTS

Description:

The Printer Alerts report provides number of alerts received from customer's printers, as well as the insight on whether the time to clear an alert is exceeding the threshold values by default or set by users. The insight from this report will help customers to identify printers' issues from the number of alerts and alert types, and also identify printer user behavior or process issues if the clearing of alerts is taking longer than expected.

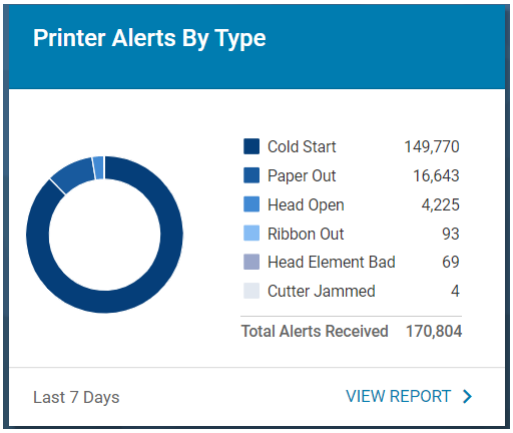
Currently there are 9 alert types reported from the printer dataset available hence to be shown in this report:

- Cutter Jammed
- Head Cold
- Head Element Bad
- Head Open
- Head Too Hot
- Paper Out
- Ribbon Out
- Supply Too Hot
- Cold start (no clear message)

Tile View

This report provides the following 3 tiles for user to add to their dashboard per their needs. Each of the 3 tiles is corresponding to each of the 3 tabs in this report:

Printer Alerts by type

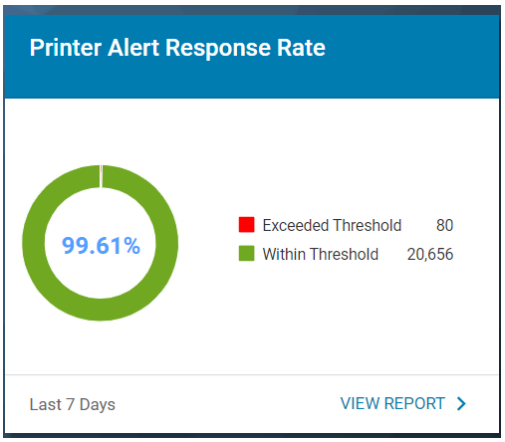


This tile shows an overview pie chart of all alerts received from the printers in customer's device fleet. The top 6 alert types with the number of alerts received will be displayed for each, and the rest will be aggregated into "+*X* more" category with the total number of alerts displayed during the last 7 days. Here "*X*" represents the number of alert types beyond the top 6 alert types.

Printer Alerts Response Rate

Definition of Response Rate:

Percentage of alerts cleared within threshold time limits by default or set by user.

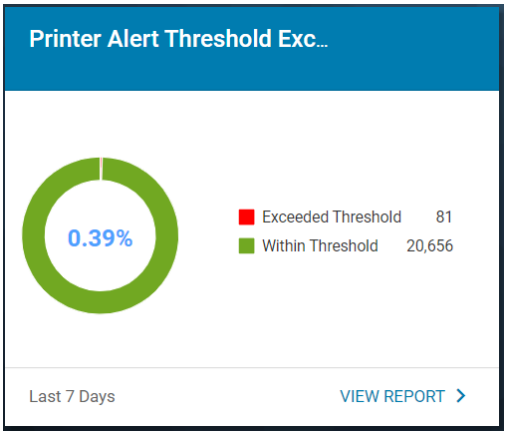


This tile shows a pie chart to indicate, during the last 7 days, the percentage of alerts that are cleared within the threshold time limit by default or set by user. The number of alerts cleared within or exceeding the threshold are also displayed.

Printer Alerts Threshold Exceptions

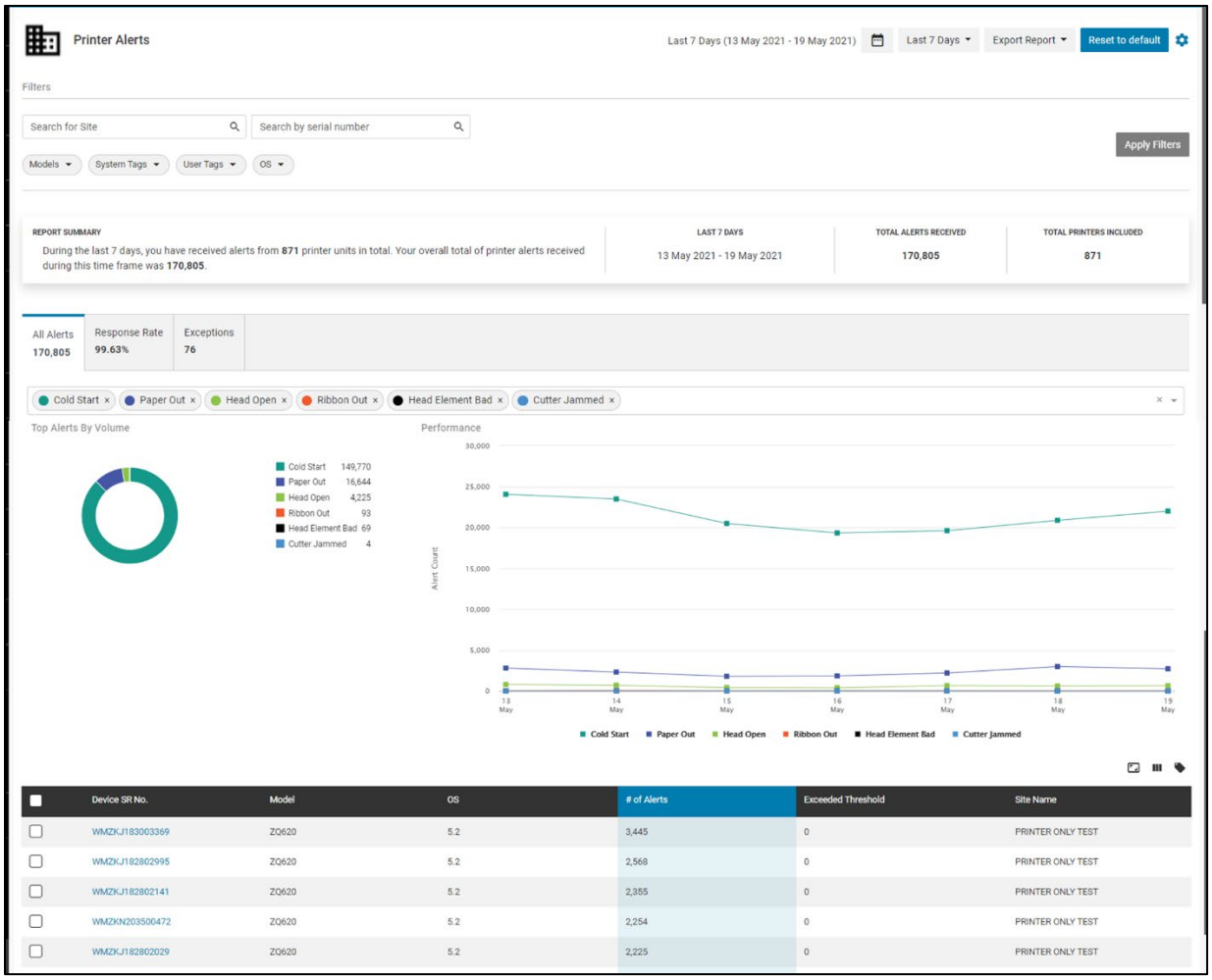
Definition of Threshold Exceptions:

Percentage of alerts cleared exceeding threshold time limits by default or set by user.



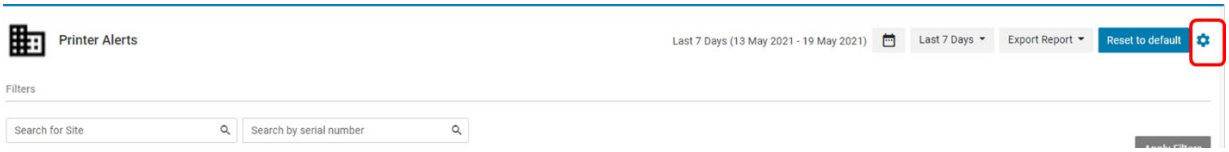
This tile shows a pie chart to indicate, during the last 7 days, the percentage of alerts that are cleared beyond the threshold time limit by default or set by user. The number of alerts cleared within or exceeding the threshold are also displayed.

Expanded View



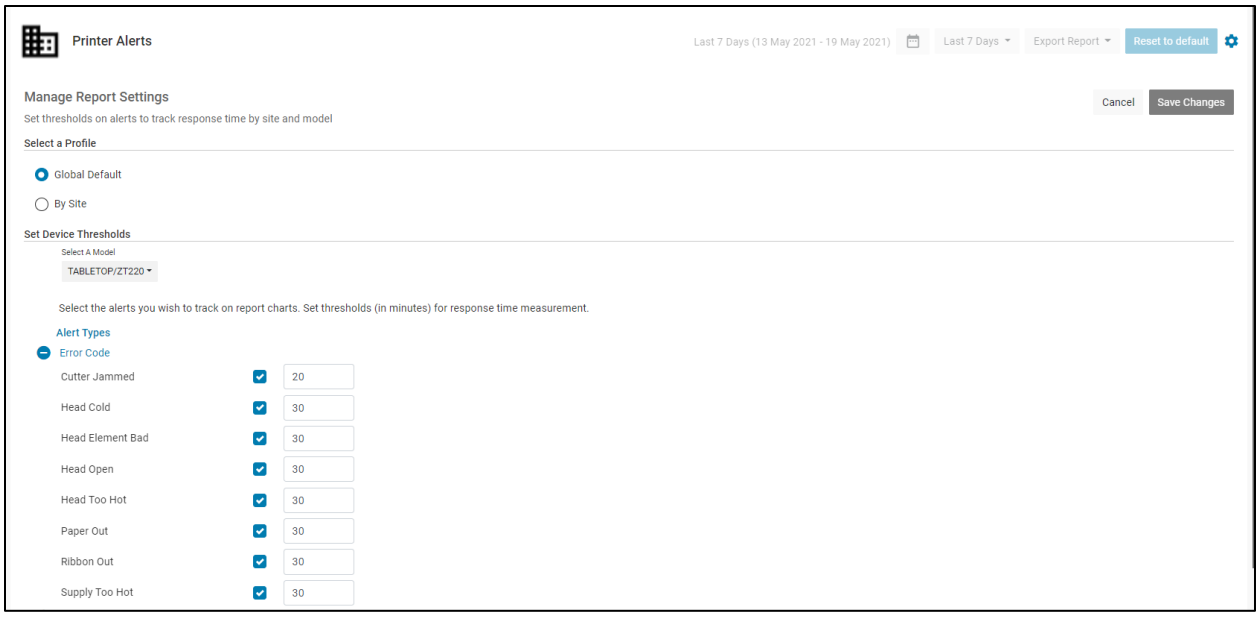
Report Settings

Click the gear icon on the top right corner in the expended view to access the setting page for this report.



When the setting page shows up, select any model and any alert type to monitor and display in this report. You can also enter the threshold value in minutes for each alert type selected to specify the threshold time limit for an alert to be cleared.

The selection can be applied at the company level (“Global default”) or at the site level (“By Site”). When you select “By Site”, the settings apply to the sites selected.



The default threshold value for all alerts is set as 30 minutes.

NOTE: The threshold time limit for alert type “Cold Start” cannot be changed.

“All Alerts” Tab

The “All Settings’ tab is shown by default when you access the expanded view of this report from left hand navigation bar or from the “Printer Alerts by Type” tile. This tab shows all alerts received from all printers in a customer’s device fleet.

Graphs

You can select up to 6 alerts to be displayed in the graphs.

1. “Total Alerts by Volume” pie chart
   This pie chart shows the top 6 alert types (by default) or up to 6 alert types (user selected) received during the default date range or user specified date range.

2. “Performance” line chart
   This graph shows the number of the top 6 alert types (by default) or up to 6 alert types (user selected) during the default date range or date range specified by the user. The graph will show
   - Monthly view if user selects a date range more than 3 months or
   - Daily view if user selects a date range less than 3 months and more than 3 days or
   - Hourly view if user selects a date range within 3 days.

   Hover over the chart to show the number of setting changes on the selected date/time.

Data Grid Columns

Device SR No., Model, OS, # of Alerts, Exceeded Threshold, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

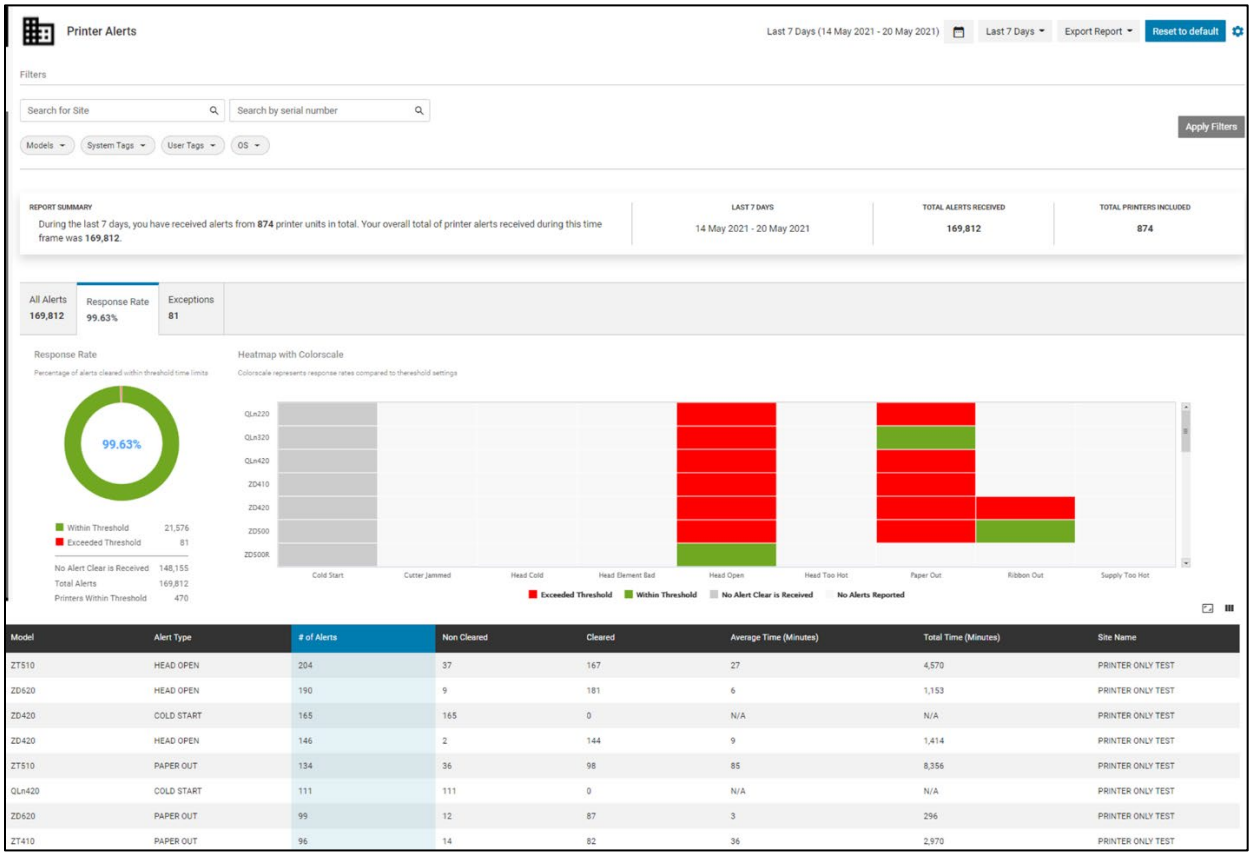
Last 7 Days (Default)

Last Month

Custom Range

"Response Rate" Tab

Click the "Response Rate" tab in the expanded view or from the "Printer Alerts Response Rate" tile to show the insight of alerts that are cleared within or exceeding the threshold time limit.



Graphs

1. “Response Rate” pie chart
   The pie chart shows the percentage of alerts that are cleared within the threshold time limit. Also, numbers of alerts cleared within or exceeding the threshold are displayed together with alerts with no clear message received, total number of alerts and number of printers that clear alerts within the threshold.

2. Heatmap with color scale.
   For each model of printers, this heatmap graph shows the following insight with each alert type during the default date range or date range specified by the user.
   - Each block represents a model and an alert type
   - If all alerts for an alert type with a model are cleared within the threshold time limit, the corresponding block will show **GREEN**
   - If at least 1 alert for an alert type with a model is not cleared within the threshold time limit, the corresponding block will show **RED**
   - If no clear message received for an alert type with a model, the corresponding block will show **DARK GREY**.
   - If no alert for an alert type with a model is received, the corresponding block will show **LIGHT GREY.**

Data Grid Columns

Model, Alert Type, # of Alerts, Non Cleared, Cleared, Average Time (Minutes), Total Time (Minutes) Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

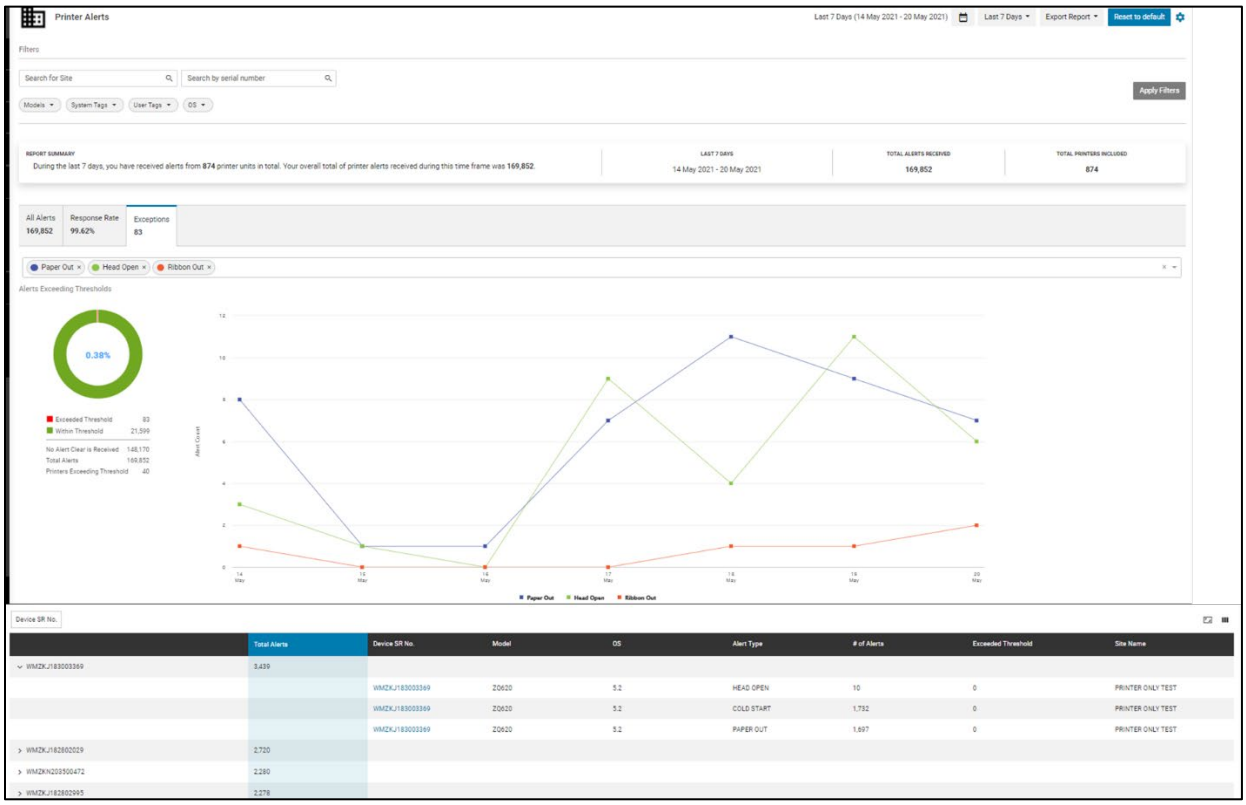
Last 7 Days (Default)

Last Month

Custom Range

“Exceptions” Tab

Click the “Exceptions” tab in the expanded view or from the “Printer Alerts Exceptions” tile to show the insight of alerts that are cleared within or exceeding the threshold time limit.



Graphs

Select up to 6 alerts to be displayed in the graphs.

1. “Alert Exceeding Thresholds” pie chart
   The pie chart shows the percentage of alerts that are not cleared within the threshold time limit. Also, numbers of alerts cleared within or exceeding the threshold are displayed together with alerts with no clear message received, total number of alerts and number of printers that clear alerts within the threshold.

2. “Performance” line chart
   This graph shows the number of the top 6 alert types (by default) or up to 6 alert types (user selected) during the default date range or date range specified by the user. The graph will show
   - Monthly view if user selects a date range more than 3 months or
   - Daily view if user selects a date range less than 3 months and more than 3 days or
   - Hourly view if user selects a date range within 3 days.

   Hover over the chart and show the number of setting changes on the selected date/time.

Data Grid Columns

Device SR No., Total Alerts. (please note the data grid is grouped by the device serial number)

You can also select another grouping criteria (model or site) and apply to the data grid. Then the following columns will show data when the user clicks on the serial number from the grouping result:

Device SR No., Model, OS, Alert Type, # of Alerts, Exceeded Threshold, Site Name, Hierarchy (hidden by default)

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last Month

Custom Range

USE CASE(S)

The report provides descriptive analytics insight to printer alerts at different levels including company, site, individual printer, etc. It also provide the insight on whether the alerts are cleared within preset threshold time limit. Hence help customers to identify printer issues, and/or user behavior issues that may impact the performance and utilization of printers.

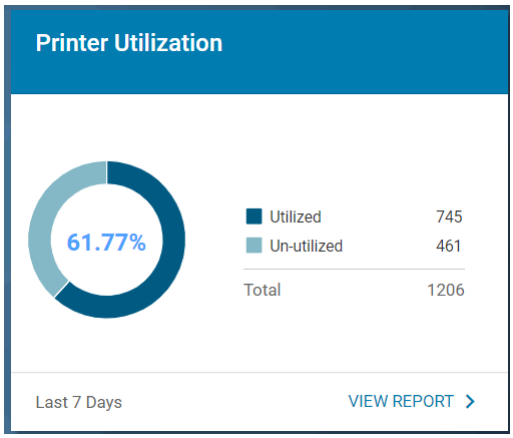
REPORT: PRINTER UTILIZATION

Description:

The Printer Utilization report provides printer utilization insight including the length printed and the number of labels printed from printers in customer's device fleet. The insight helps customers to understand the utilization status of their printers.

Tile View

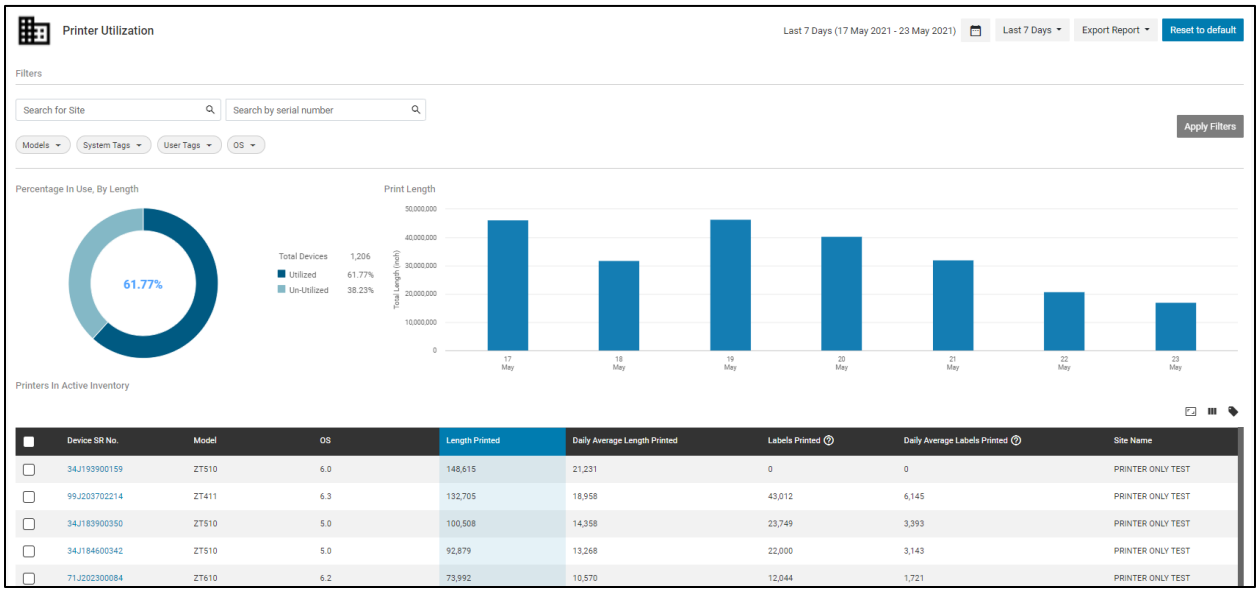
The report tile shows an overview pie chart with the percentage of printers utilized during the last 7 days. And the total number of printers utilized vs. unutilized are also displayed.



"Utilized" printer definition:

A "Utilized" printer is a printer that prints at least 20 cm (8 in.) length during any hour of the day. Otherwise, the printer is considered "unutilized".

Expanded View



Graphs

1. "Setting Changes" pie chart
   The same pie chart as in tile view is also shown here, with the percentage of utilized printers as well as the numbers of utilized and unutilized printers displayed during the default date range or user specified date range.

2. "Print Length" bar chart
   This graph shows the number of total lengths printed during the default date range or date range specified by the user. The graph will show
   - Monthly view if user selects a date range more than 3 months or
   - Daily view if user selects a date range less than 3 months and more than 3 days or
   - Hourly view if user selects a date range within 3 days.

Data Grid Columns

Device SR No., Model, OS, Length Printed, Daily Average Length Printed, Labels Printed, Daily Average Labels Printed Date/Time, Site Name, Hierarchy (hidden by default)

Please note: There are 2 known issues with this report:

1. Inconsistency between Length printed data and Labels printed data:
   Currently the Length printed data is reported hourly from printers, but the labels printed data is only reported once a day. Therefore user may see inconsistencies between the two data points.
2. High value in length printed due to printers with duplicate serial number:
   It's identified there are very rare cases that 2 printers may have the same serial number due to MLB board replacement in repair, which may cause abnormally high length printed value. User may want to check if they have printers with duplicate serial number in their fleet when they observe such behavior in this report.

DATE RANGE OPTIONS

Today

Last 7 Days (Default)

Last Month

Custom Range

USE CASE(S)

This report provides utilization insight at different level, as well as the trending of printer utilization to help customer to better understand if the printers are utilized as expected, and also plan for media replenishment based on the utilization data in this report.

PRINTER INSIGHTS SUMMARY

Description:

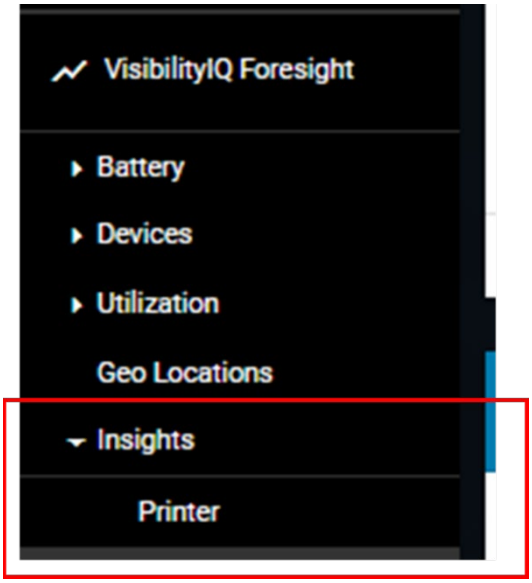
The Printer Insight summary provides a one-page view with multiple key insights derived from all relevant reports applicable to printers including inventory, utilization, alerts, setting changes, battery performance, etc., and presented in an easy-to-understand format with data visualization including numbers and graphs. This view helps users to understand the key operational aspects of their device fleet across the entire enterprise or at different grouping levels (such as site or model), and evaluate criteria for comparison.

You can access this view from left hand side navigation bar, and drill down the next level details by following the link or clicking on each metrics widget to individual insight report applicable to printers.

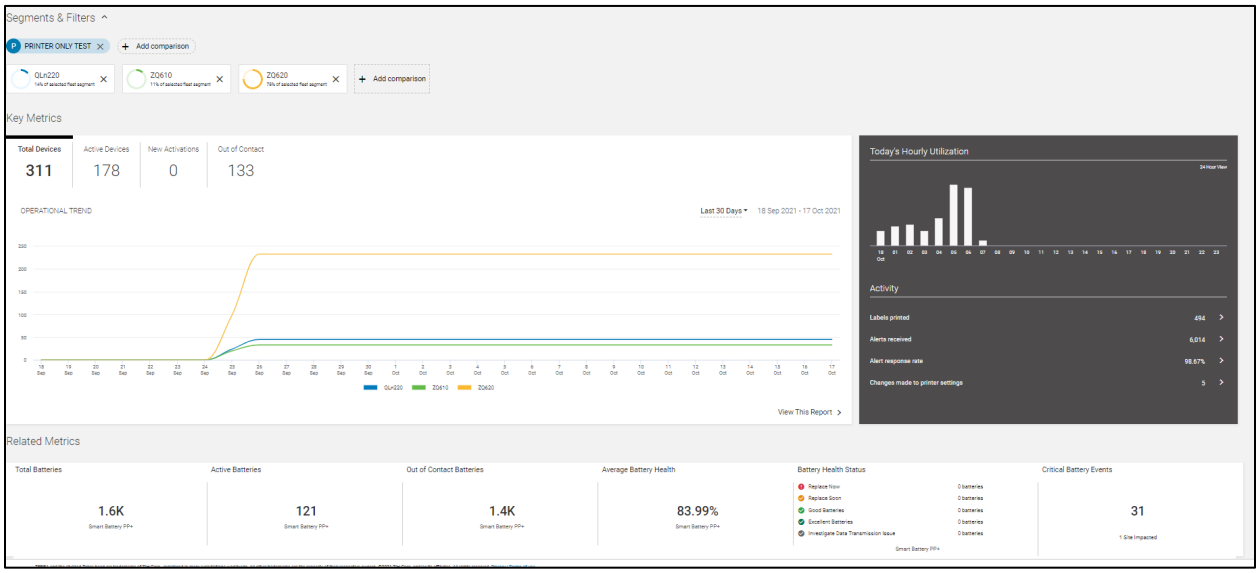
The printer Insight summary view empowers both technical and non-technical users to understand and leverage business intelligence for printers to make more informed decisions.

Access the Printer Insights Summary

There is no tile view for the Printer Insights Summary page. Access this page by clicking **Insights -> Printer** under the VisibilityIQ Foresight section on the left-hand side navigation bar.



Expanded View

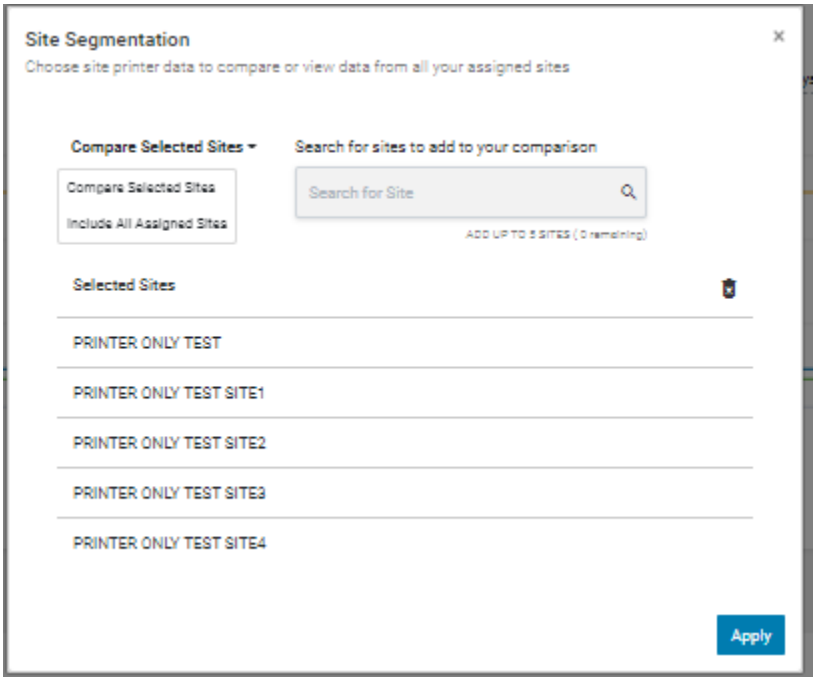


The expanded view of the printer insights summary shows a snapshot of printer insights on the day when user visits the dashboard. It contains 4 sections as described below –

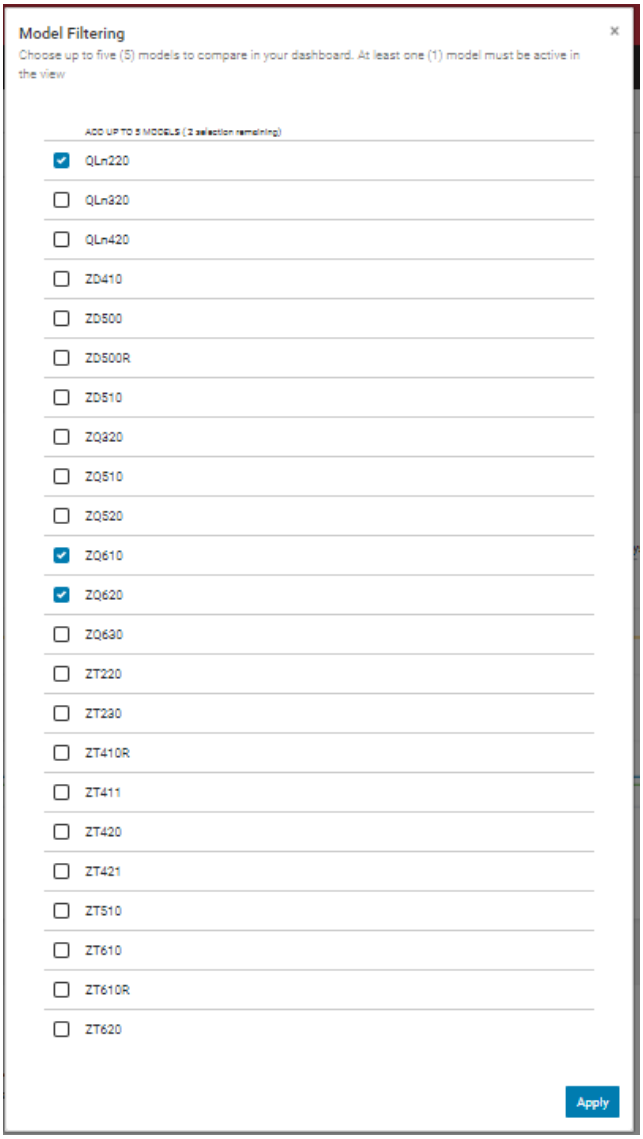
Segments & Filters section:

This section allows user to select specific site(s) and model(s) to show the related insights and compare them per the selected printers.

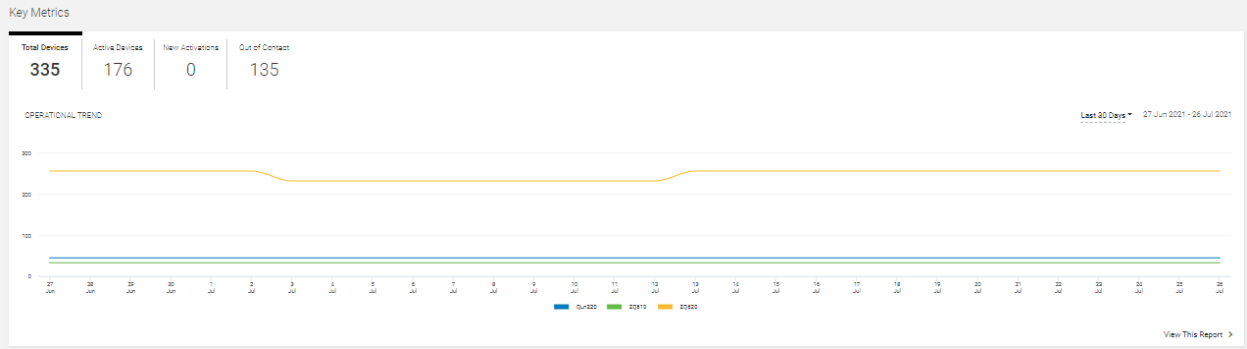
A user may select up to 5 sites as well as all sites for view the data accordingly.



Similarly, a user may select up to 5 models to view the printer data accordingly



Key Metrics section:



This section shows the inventory related insights for printers with the following tabs per user's selection on sites and models –

- Total printers
- Active printers (utilized or un-utilized)
- Newly activated printers
- Out of contact printers

Trending charts and/or breakdown pie charts are also provided under each insight tab. You can also click on "View This Report" in each tab to access the individual report for the corresponding insight.

Utilization section

This section shows the utilization related insights for printers per user selected sites and models. The insights include:

- Today's Hourly Utilization chart to show the percentage of printers being utilized each hour up to the hour when user visits this view.
- Activity:
  - Labels printed
  - Alerts received
  - Alerts response rate (alerts cleared within the threshold by default or set by user)
  - Changes made to printer settings.

  Click on each item under "Activity" will bring the user to the individual report.

Related Metrics section

This section shows the insight related to batteries for mobile printers including –

- Total batteries
- Active batteries
- Out of contact batteries
- Average Battery health (the percentage of normal batteries out of total batteries)
- Remaining useful life breakdown pie chart
- Critical battery events

NOTE: The battery insights displayed here are for PowerPrecisionPlus (PP+) batteries only.

You can also click on each section to access the individual report including Smart Battery Health report and Critical Battery Events report.

Please note when user accesses the individual report from this view, the selected sites and models are automatically applied in the report view and the data in report will be displayed accordingly.

DATE RANGE OPTIONS

Today (Default)

Please note this view does not allow user to pick custom date in this view.

USE CASE(S)

1. Provide a summary view for printers in customer's fleet for user to quickly understand the operational insights for those printers
2. Allow user to select and compare between sites and models
3. Allow user to drill down to next level details by accessing the detailed printer reports via shortcuts.

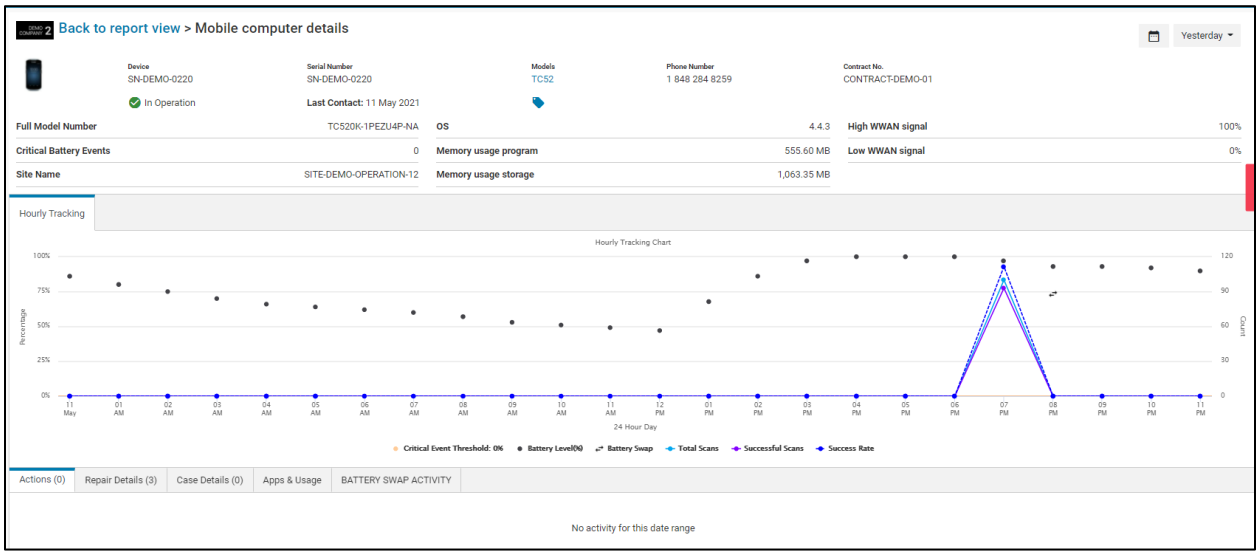
DEVICE DETAILS PAGE – MOBILE COMPUTERS

Description:

The device details page for mobile computers provides device insight at individual device level.

From any report with mobile computer data, click on the serial number from the data grid whenever there's a hyperlink and access the device details page.

Device Details Page View



In this view, you can access the data and insight of a specific mobile computer including

- Device details such as serial number, model, phone number (if the device has a SIM card), Contract number, operational status, last contact date and tagging.
- Device system info, such as OS version, site info, memory, or network.

The "Hourly Tracking" chart will show the insight in a daily view including:

- Battery level
- Battery swap
- Total scans
- Successful scans
- Scan success rate

There are also five tabs that you can view the following insight:

- "Actions" tab:
  This tab shows the recommended actions and rationale for this device based on the predictive analytics

- “Repair Details” tab:
  This tab shows the repair history data for this device
- “Case Details” tab:
  This tab shows the data of all cases opened for this device.

- “Application & Usage” tab:
  This tab shows the applications installed on this device and the usage in minutes of each application used.

- “Battery Swap Activities” tab:
  This tab shows the details of each battery swap occurred with this device.

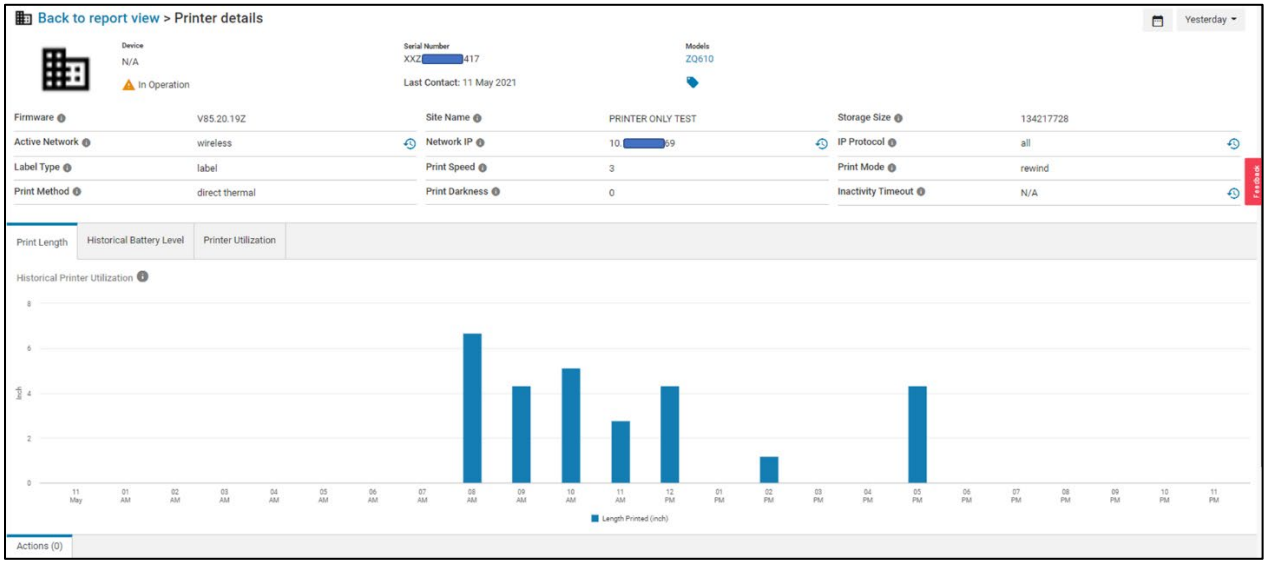
PRINTER DETAILS PAGE

Description:

The printer details page provides printer insight at individual printer level.

From any report with printer data, click on the printer serial number from the data grid whenever there's a hyperlink and access the printer details page.

Printer Details Page View



In this view, you can access the data and insight of a specific printer including

- Printer details such as serial number, model, operational status, last contact date and tagging.
- Printer system info such as firmware version, site info, memory, network, etc.
- Printer setting info such as Label type, print speed, printer mode, etc.

Click on each of the following three tabs to view the charts and insights:

- "Printer Length" tab:
  This tab includes a chart to show the printed length during the date range specified in the date picker to help you to understand the utilization status of the printer.
- "Historical Battery Level" tab:
  This tab shows a chart to display the battery level if the printer is a mobile printer.
- "Printer Utilization" tab:
  This tab will show the statistics on printer utilization of the last day during the selected date range vs. the average over the selected date range.

You can access the following tab at the bottom of this page for recommended actions:

- "Actions" tab:
  This tab shows the recommended actions and rationale for this device based on the predictive analytics.

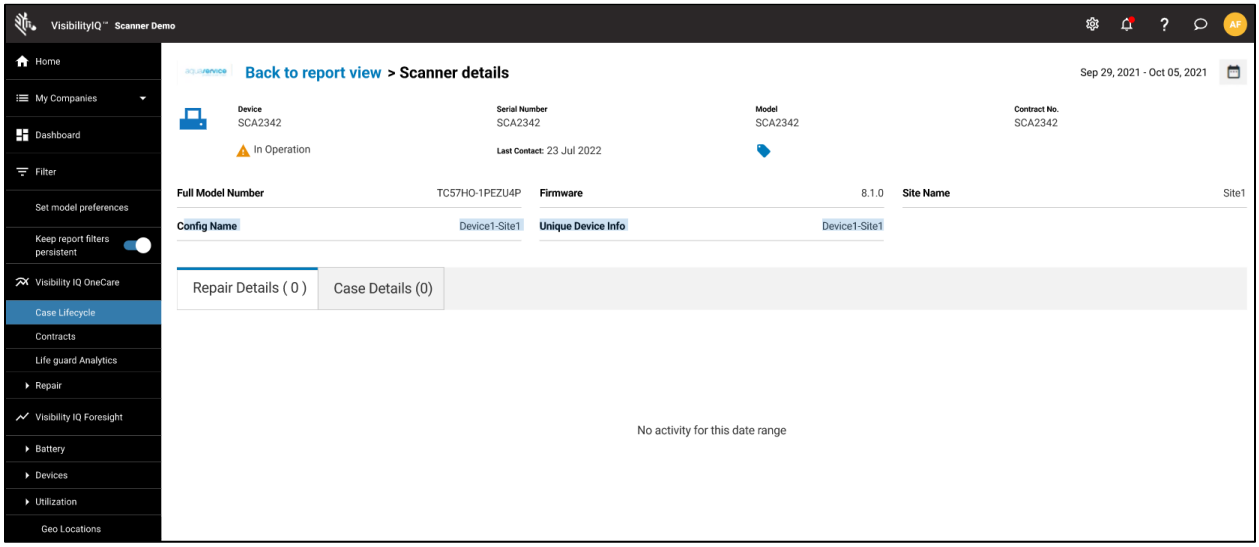
SCANNER DETAILS PAGE

Description:

The scanner details page provides scanner insight at individual scanner level.

From any report with scanner data, click on the scanner serial number from the data grid whenever there's a hyperlink and access the printer details page.

Scanner Details Page View



In this view, you can access the data and insight of a specific scanner including:

- Scanner details such as serial number, model, contract number and last contact date.
- Scanner system info such as full model number, firmware version, site name, config name, unique device info, etc.

Where relevant, you can access the tabs at the bottom of this page for repair and case details.

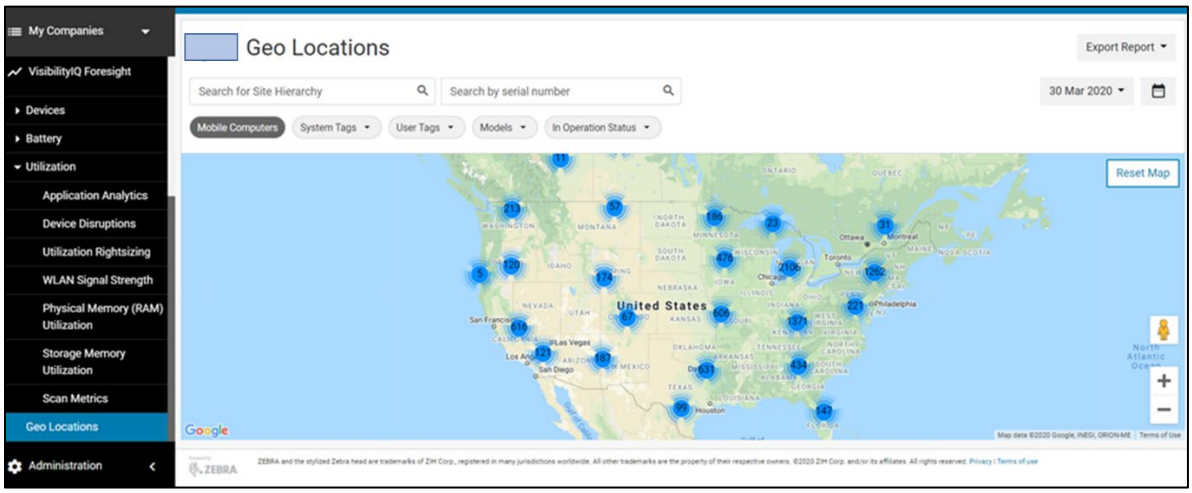
GEO LOCATIONS MAP

Description:

This feature provides a geographic map to show the last known GPS location of the devices. You can track the devices' geo location if the devices have GPS enabled, or use the info to locate a device if the device is not seen in operation.

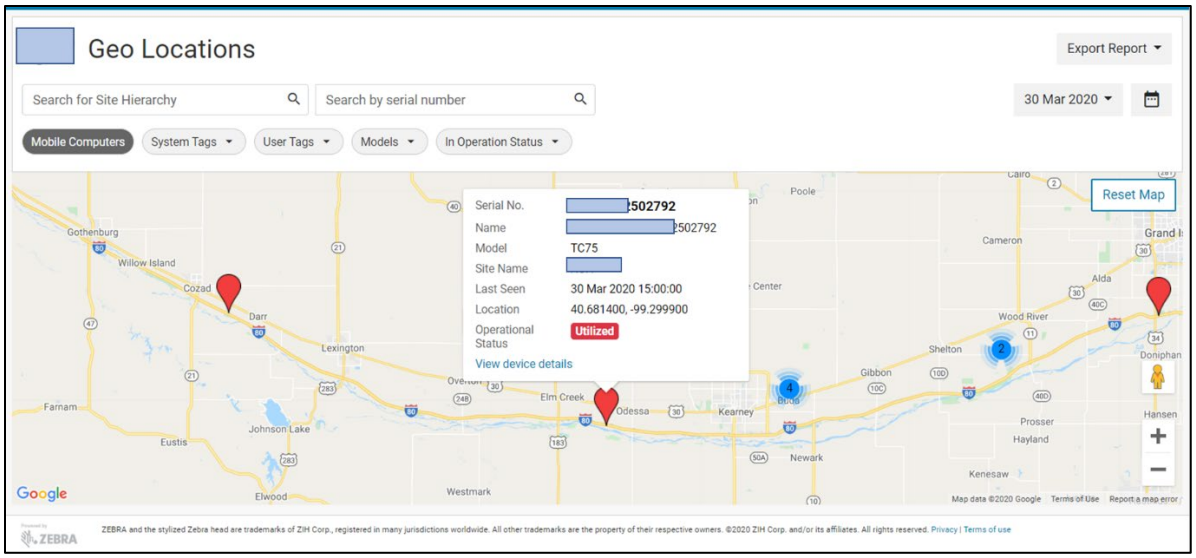
The Geo Locations map can be accessed from left hand side navigation bar by clicking on "Geo Locations".

Map View



On the map, you can see all devices reporting GPS locations in clusters. And they can drill down to show the location of an individual device by zoom in the map or clicking on the cluster of devices.

Click on an individual device to get to a pop-up window to show the details of devices including device serial number, device name, model, Site, last seen date/time and location (latitude, Longitude). You can also click on "View Device Details" to get to the device details page.



Click “Reset Map” to go back to the default map view.

NOTE: Tthis feature requires GPS collection and transmission enabled from MDM for devices enrolled in MDM, or from Zebra Data Analytics (ZDS) agent on Zebra Android devices with Internet access.

DATE RANGE OPTIONS

Today (Default)

Yesterday

Custom Range

USE CASE(S)

Provide last known GPS location of devices so you can track device location or locate the devices if they are found not in operation or out of contact.

ONECARE SUPPORT REPORTS OVERVIEW

The OneCare Support reports available on the VisibilityIQ Foresight Dashboard are listed here.

Category	Report Name	Description	What's New
Repair/Support Reports	**Repair Lifecycle Report**	Combines previous Repair Queue & Repair Resolutions Reports into one Lifecycle report. Includes visual representation of RMA tracking trends.	Replaces Repair Queue, Repair Resolutions, and Advanced Exchange reports. New Columns: Customer Reference #, Exchange Type, Customer Due Date, Date of Manufacture, Expected Device Serial#, Received Device Serial#, Inbound Airway Bill, Outbound Tracking #, Salesforce Case #, Repeat Repair, Repair Details Page, Search for Repair. Available with Visibility Foresight
	Case Lifecycle Report	Reports information related to technical and non-technical cases from the point they were opened, until the time they were closed.	Replaces Case Queue & Case Resolutions reports. New Columns: Repair Number Available with Visibility Foresight
	Contract	Provides contract level details - expiring and to be renewed, as well as contract details related to the customer's "total devices."	Replaces Repair Contracts Report. This report will have two tabs: Contracts and Contracts Details Available with Visibility Foresight
	Lifeguard Analytics	Insight into the BSP/patch levels for Android devices.	New Report. Identifies devices with recommended updates, devices that are currently up to date, and provides a list of all devices. Available with Visibility Foresight
	On Time Delivery	Service performance related reporting showing the month-to-month on time delivery metrics for shipped devices.	Available with Visibility Foresight
	Repair Repeat Rate	Service performance related reporting on the percent of devices that have been sent in for repair within 30 days of their last repair. This is also referred to as "bounce" rate.	Available with Visibility Foresight

	Repair Return Rate	Service performance related reporting on the return rate of devices coming in for repair including categorizing those repairs into physical damage, NTF and failures.	Available with Visibility Foresight
	Top Repair Metrics	Diagnostics related report that provides an easy way to access Top 10 repair information in a graphical format: such as Sites with Repairs, Problems, Faults, Faults on Damage Units, Repeat Repair Problems, Repeat Repair Faults	Available with Visibility Foresight

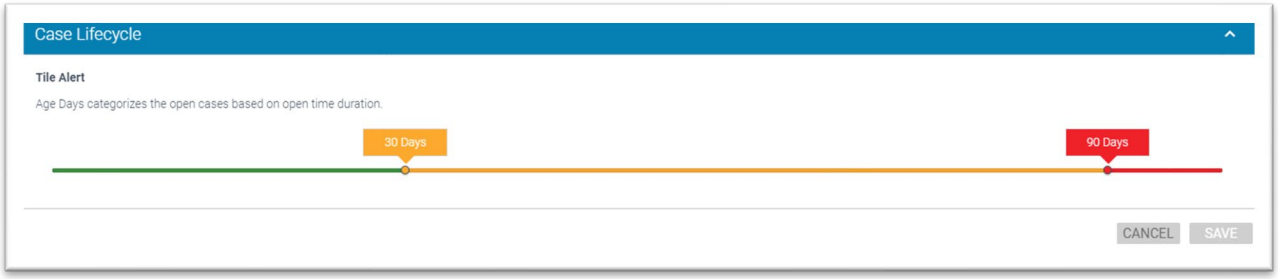
ONECARE REPORT SETTINGS

Description

Based on defined thresholds, the dashboard tile colors change to let you know which reports you need to pay attention to. When a threshold is crossed, the tile will turn amber or red, indicating the severity of the issue. Each report comes with thresholds set at default levels, but most can be changed by an administrator.

Alert Thresholds

CASE LIFECYCLE

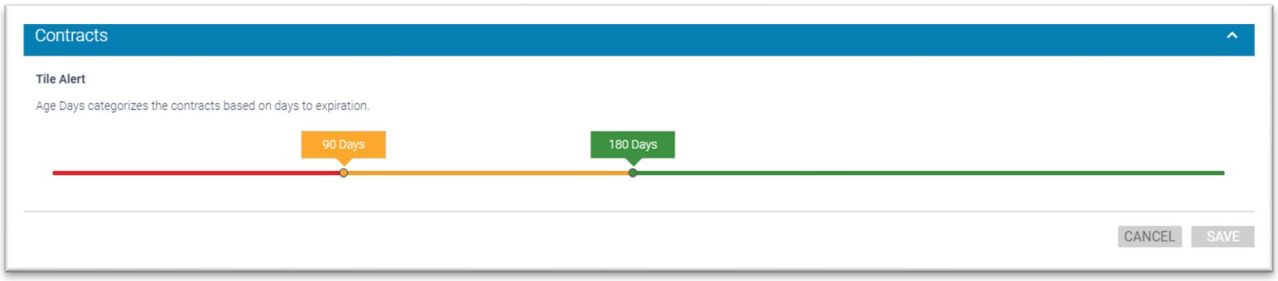


If support cases for your devices are not resolved in a timely manner, the Case Lifecycle tile on the dashboard will turn amber or red. By default, if cases are still open at 30 days, the tile will turn amber. If cases are still open at 60 days, the tile will turn red.

Use the slider to set the duration of open days that should be considered Critical, Warning, Normal.

Default: Critical=90 days or more, Warning=30 to 89 days, Normal=29 days or less

CONTRACTS

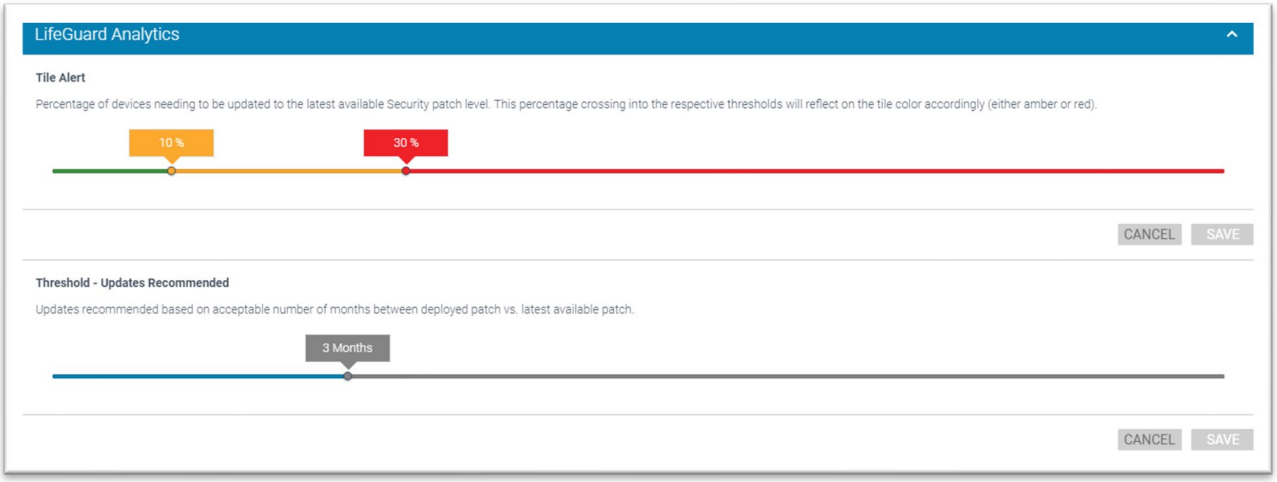


The Contracts report shows you when the service contracts for your devices will expire. As the expiration dates approach, the tile on the dashboard will turn amber or red. By default, the tile turns amber when there are 179 days until expiration and red when there are 89 days until expiration.

Use the slider to set days to contract expiration that should be considered Critical, Warning, Normal.

Default: Critical=89 days or less, Warning=179 to 89 days, Normal=180 days or more

LIFEGUARD ANALYTICS



For Tile Alert

When a certain percentage of your devices need to have a security patch installed, the LifeGuard Analytics tile on the dashboard will turn amber or red. By default, when 10 percent of your devices need an update, the tile will turn amber. When 30 percent of your devices need an update, the tile will turn red.

Use the slider to set the percentage of devices that have updates recommend that should be considered Critical, Warning, Normal.

Default is Critical=30% or more devices with updates recommended, Warning=10% to 29%, Normal=9% or less devices with updates recommended.

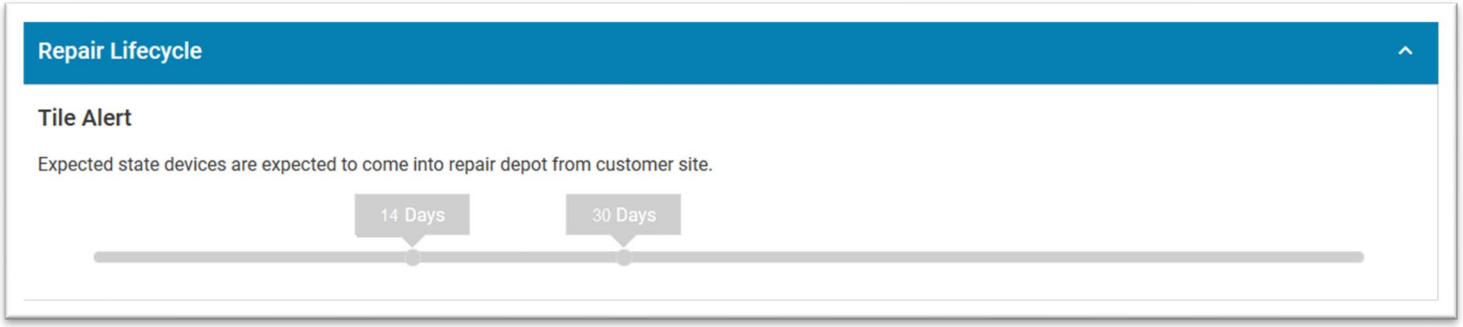
For Threshold-Updates Recommended

You can also define what it means to “need an update.” By default, the tile will not change color until three months have passed between your last deployed patch and the availability of a new one. You can change this threshold to the number of months you prefer from 0 to 12.

Use the slider to set the amount of time in months for “need an update” duration.

Default: 3 months

REPAIR LIFECYCLE



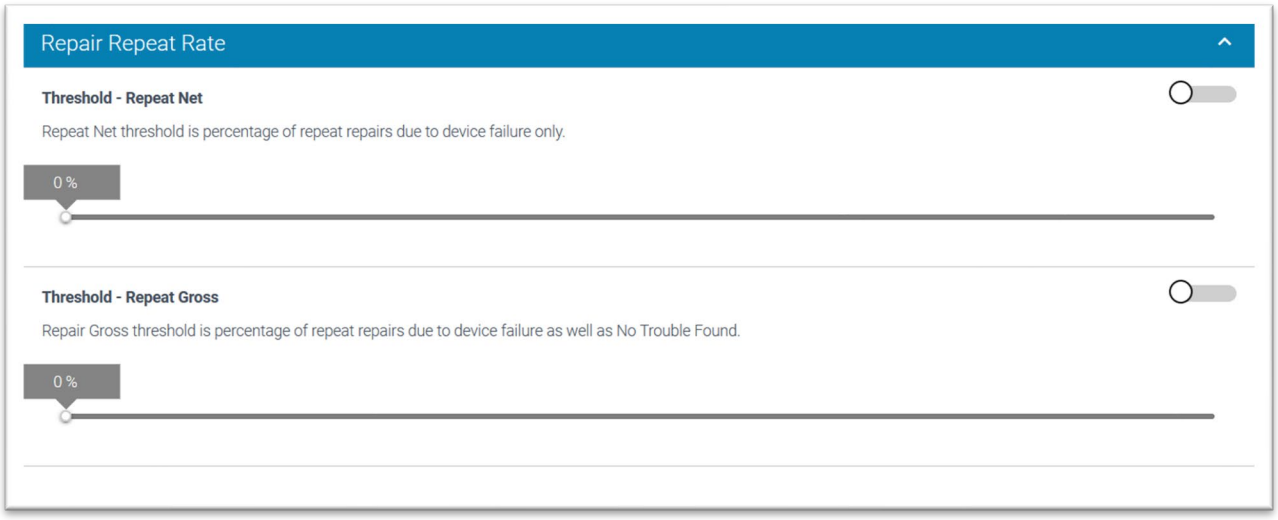
When a repair ticket it generated, the repair depot knows the customer will be sending a defective device. If the defective device does not arrive in a timely manner, the Repair Lifecycle tile will turn amber or red. By default, for Repair and Return exchange types, the tile will turn amber if defective devices do not arrive in 14 days. For exchange type Advance Exchange, the tile will turn red if they don’t arrive in 30 days.

These thresholds are only applied to the devices in the Expected tab of the report. They do not apply to devices that have been received and are being reported on the other tabs in the report, such as “In Repair” or “Repaired.”

Default: Critical=30 days or more, Warning=14-29 days

NOTE: These thresholds are hard-coded and cannot be adjusted

REPAIR REPEAT RATE



The Repair Repeat Rate report has two thresholds, both of which are optional. To the right of each threshold name is an on/off slider. By default, both are off. You can tell because the on/off sliders are gray. If you wish to use the threshold, click the slider to turn it on. It will turn blue.

Threshold – Repeat Net

Repeat Net are units returned for repair within 30 days since its last repair; excluding physically damaged units and units with NFF (No Fault Found). Only genuine failures.

Use the slider to set the percentage of repairs classified as Repeat Net that should be considered Critical or Normal.

No default is set.

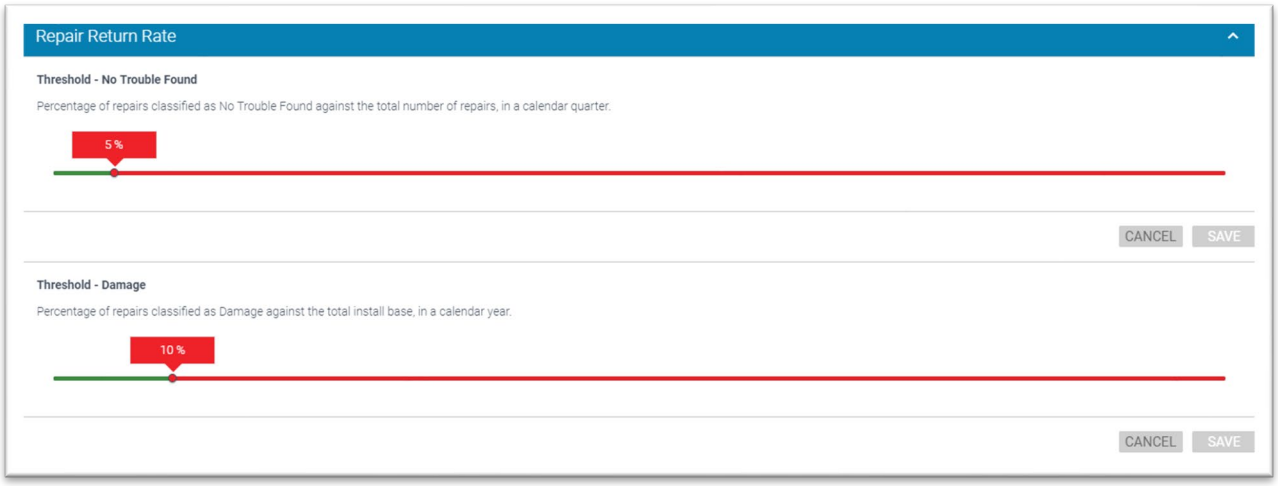
Threshold – Repeat Gross

Units returned for repair within 30 days since its last repair; excluding physically damaged units

Use the slider to set the percentage of repairs classified as Repeat Gross that should be considered Critical or Normal.

No default is set

REPAIR RETURN RATE



The Repair Return Rate report currently has one threshold which is optional. To the right of the threshold name is an on/off slider. By default, it is on. You can tell this because the on/off slider is blue. If you do not wish to use the threshold, click the slider to turn it off. It will turn gray.

Threshold – No Trouble Found

The tile on the dashboard will turn red if a certain percentage of the devices sent for repair are classified as No Trouble Found (NTF). The percentage is calculated per calendar quarter.

Use the slider to set the percentage of repairs classified as No Trouble Found (NTF) that should be considered Critical or Normal.

Default is Critical=5% or more, Normal=4% or less

Threshold – Damage

The tile on the dashboard will turn red if a certain percentage of the devices sent for repair are classified as Damage. The percentage is calculated per calendar year.

Use the slider to set the percentage of repairs classified as Damage that should be considered Critical or Normal.

Default is Critical=10% or more, Normal=9% or less

SITE ASSIGNMENT

Description

Site Assignment feature allows data associated with the site name to show in the dashboard for specific users. Sources that site names come from:

Siebel

Contracts (Siebel)

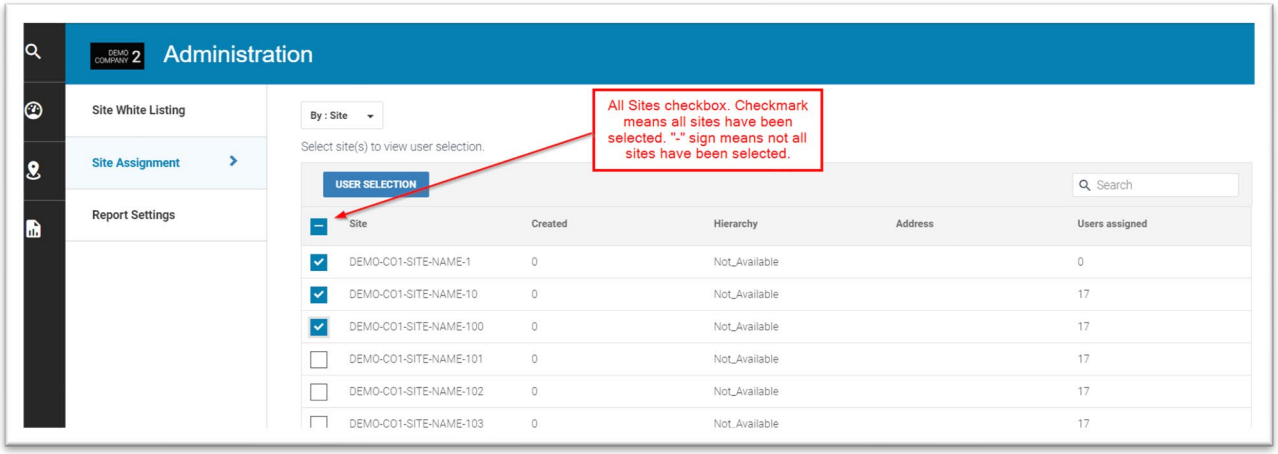
SFDC

MDM (These sites are created in the MDM hierarch and will always be passed through to the customer dashboard) – VisibilityIQ Foresight ONLY

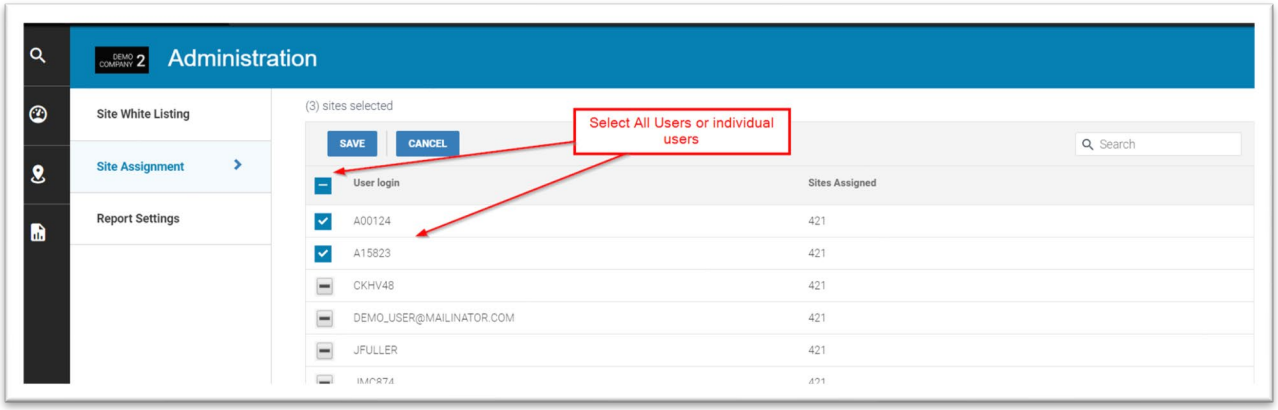
Assigning Sites

To assign all sites to all users, follow this procedure:

1. Go into customer dashboard.
2. In left side navigation bar, go to Administration.
3. Click on Site Assignment tab.
4. Click the all sites checkbox.



5. Click User Selection.



6. Choose the users to apply the sites to.
7. Click Save.

Assigning Sites to a Specific User or Subset of Users

IMPORTANT: Following this process, any site that is not selected, will not be assigned to the user. So be sure to only select the sites you wish to add and leave the others as-is.

1. Go into customer dashboard.
2. In left side navigation bar, go to Administration.
3. Click on Site Assignment tab.
4. Select By: User view.
5. Select the User(s) that you wish to assign sites to.
6. Click on Site Selection.
7. Select the site you wish to add to the user(s). This should have an unmarked checkbox for the site(s) you which to add.
8. Click Save.

Unassigning/Removing Site(s) from a User

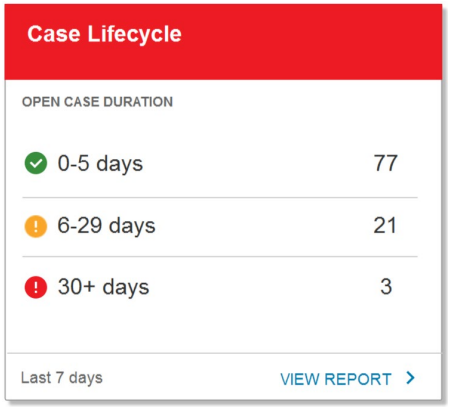
1. Go into customer dashboard.
2. In left side navigation bar, go to Administration.
3. Click on Site Assignment tab.
4. Select User Selection.
5. Select the User(s) that you wish to remove sites for.
6. Click Save.
7. Click on Site Selection.
8. Remove the checkmark from the site(s) you which to remove.
9. Click Save.

REPORT: CASE LIFECYCLE

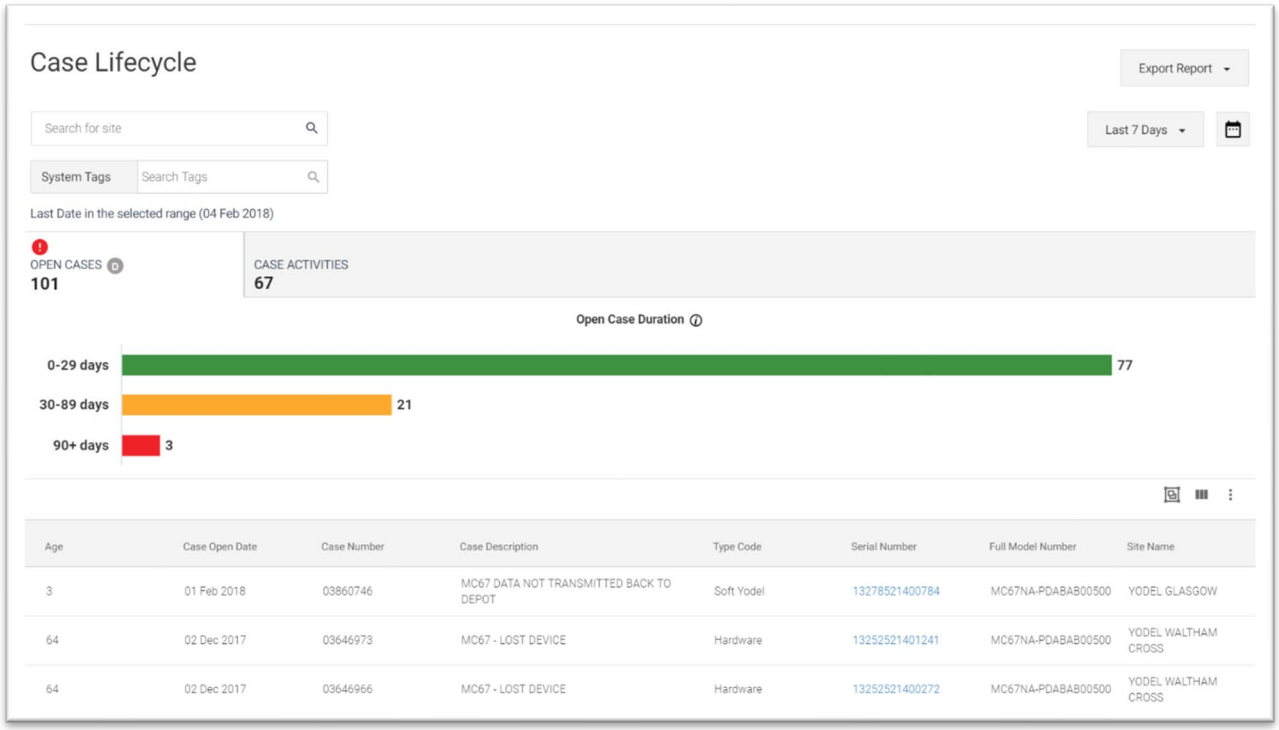
Description

Provides information on all Technical and non-Technical Cases with respect to open cases aging and case activity.

Tile View



Expanded View



Open Cases Tab

Description

This tab gives information about technical/non-technical cases that are currently in open status. The graph shows breakdown of the number of cases by age, 0-20, 30-89, 90+ days. The data grid provides details about each open case.

Data Grid Columns

Age, Case Open Date, Case Number, Repair Number, Repair Reference, Case Description, Type Code, Serial Number, Model, Full Model Number, Site Name

Case Activities Tab

Description

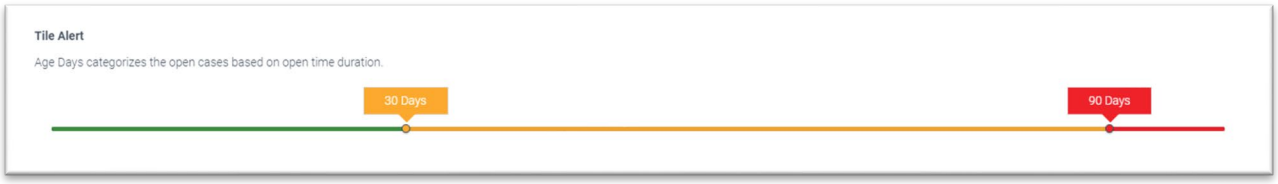
This tab gives information about technical/non-technical cases that have opened or closed during the selected date range. With this tab the user can determine the number of cases opened during the selected date range or the number of cases closed during the selected date range. The data grid provides details about each open case.

Data Grid Columns

Case Close Date, Case Open Date, Age, Case Number, Repair Number, Repair Reference, Case Description, Type Code, Resolution Text, Serial Number, Full Model Number, Model Number, Site Name

Tile Alert Threshold

Age Days categorizes the open cases based on how many days the case has been in open status. By using the slider, you can adjust the number of days required to trigger the report alert. The default is set to 90 days or more for Red, 31 to 89 days for Amber, and less than 30 days for Green.



Date Range Options

Last 7 Days

Custom Range

Use Case(s)

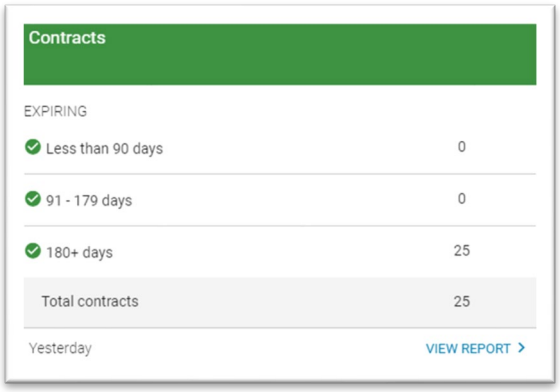
- Determine how long my cases have been open
- Determine how many cases I open/close monthly
- Identify cases that resulted in a repair being created

REPORT: CONTRACTS

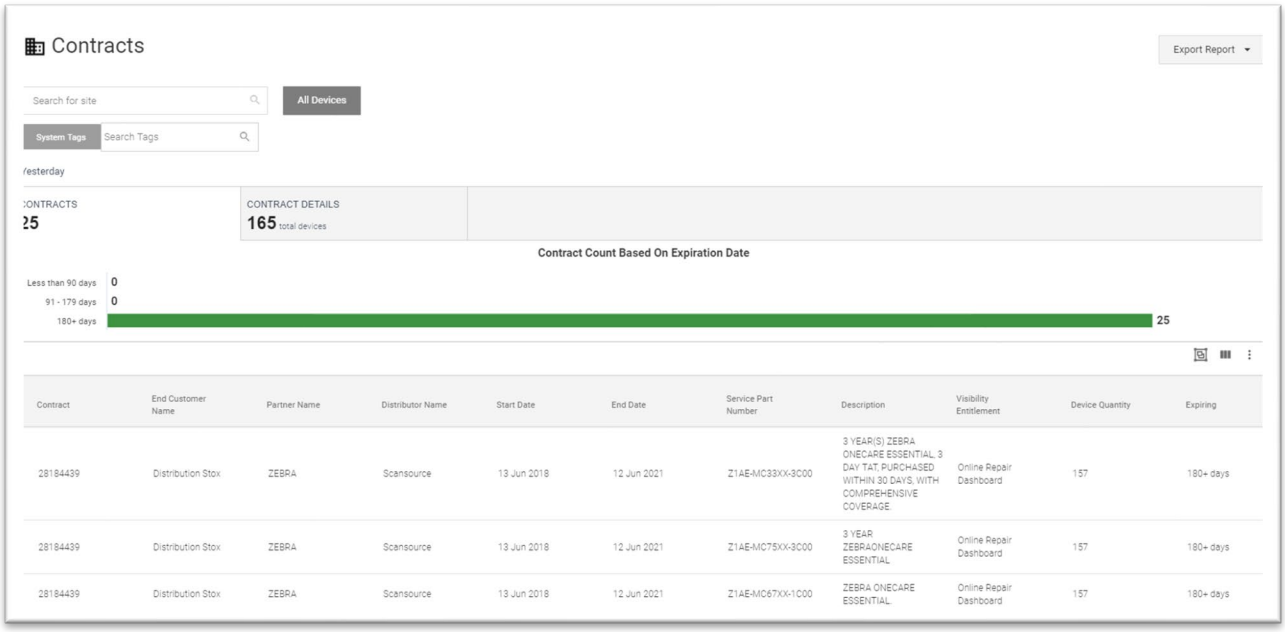
Description

Provides contract level details to the user and points out the contracts that are expiring and which should be renewed, as well as serial number details related to the onboarded contracts of the customer.

Tile View



Expanded View



Contracts Tab

Description

This tab gives summary information about Zebra OneCare active contracts that have been onboarded in the dashboard. The grid shows an entry for each service part number available on the contract along with the details of the part number. However, the count displayed on the tab is a count of unique contract numbers. Consequently, you could have more entries in the grid than the count displays because one contract could have multiple part numbers. A graph is displayed showing the age of the contract in relation to the days until expiration.

Data Grid Columns

Contract, End Customer Name, Partner Name, Distributor Name, Start Date, End Date, Service Part Number, Description, Visibility Entitlement, Device Quantity

Contracts Details Tab

Description

This tab gives detailed information at the serial number level for devices presently in the onboarded contract.

Data Grid Columns

Serial Number, Model, Full Model Number, Contract, Date of Manufacture, Device Start Date, Device End Date, Converge Status, Visibility Entitlement

Tile Alert Threshold

Age Days categorizes the contracts based on days to expiration. By using the slider, you can adjust the number of days required to trigger the report alert. The default is set to 89 days or less for Red, 90 to 179 days for Amber, and 180 days or greater for Green.

Date Range Options

As of day

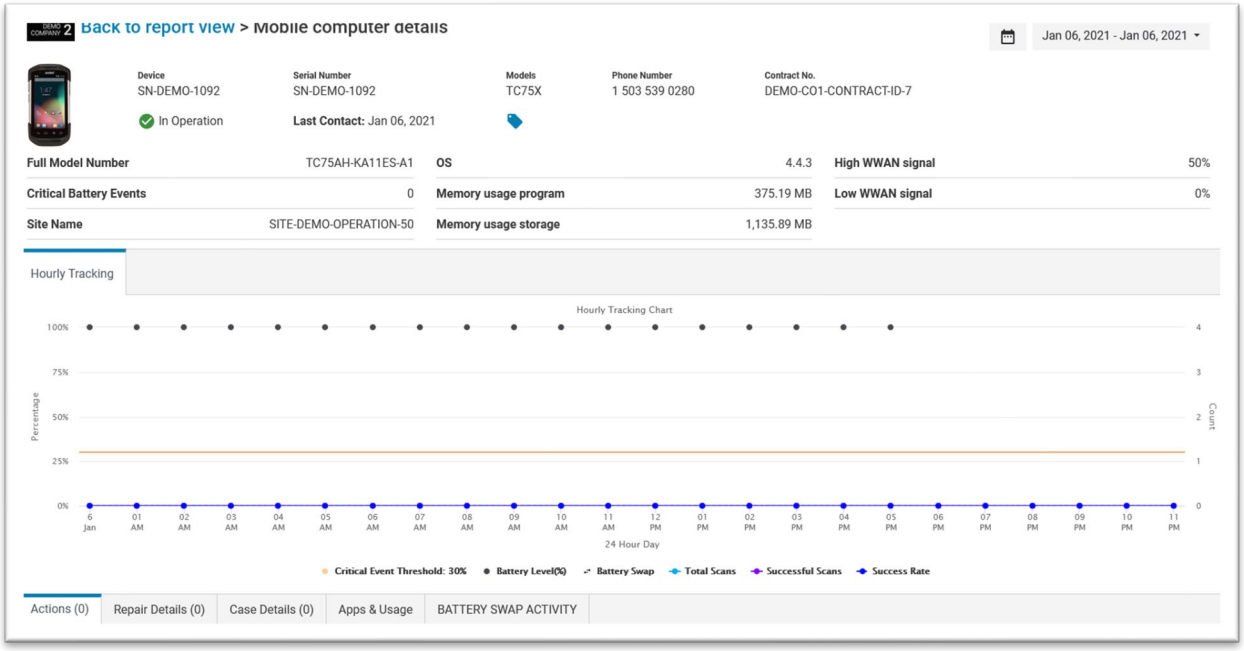
Use Case(s)

- Identify upcoming contracts for renewal.

DEVICE DETAIL PAGE

Description

The Device Detail page is a summary of information related to a specific device. It reflects data for the last day of the date range you have selected in your report. Based on whether you have VisibilityIQ OneCare or VisibilityIQ Foresight, the VIQ level will determine the amount of information that is populated on this page. This page is accessed any time you click on a serial number within a report data grid.



The Header provides information about the device such as Device name (Foresight Only), Serial Number, **Model (with clickable hyperlink to Zebra Product Support page)**, Phone Number (Foresight Only), Contract Number, Status Indicator, Last Contact date (Foresight Only), and Tags Applied indicator. Additionally, for Foresight dashboards, the header will include readouts on Full Model Number, OS, High WWAN Signal, Critical Battery Events, Memory usage program, Low WWAN Signal, Site Name and Memory usage storage

For Foresight dashboards, the Graph will provide device data points over a 24-hour period related to Critical Events Threshold (30%), Battery Level (%), Batter Swaps, Total Scans, Successful Scans and Successful Scan Rate for the individual date selected.

Additional information in the bottom section is broken into 5 tabs.

Actions (Foresight Only): Shows actions to be take based on Predictive States algorithm

Repair Details: Shows repair history for the selected device

Case Details: Shows tech case history for the selected device

Apps & Usage (Foresight Only): Shows application name, version, category and usage (in minutes)

Battery Swap Activity (Foresight Only): Shows the battery serial number with the first and last reading dates, plus temperature and battery level

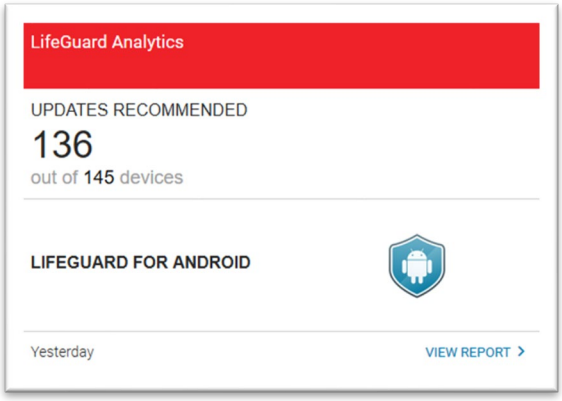
REPORT: LIFEGUARD ANALYTICS

Description

Lifeguard for Android extends the lifecycle of Zebra Android enterprise mobile computers.

The LifeGuard Analytics report is designed to help customers stay current with Android security updates for their devices. It allows the customer to see how many devices have a recommended security update and how many devices are up to date with their security software. Customers can download the report to get a list of the device serial numbers requiring an update. It also contains a link where the customer can go to the Lifeguard download page on Zebra.com to download the most current security update.

Tile View



Expanded View

Updates Recommended Tab

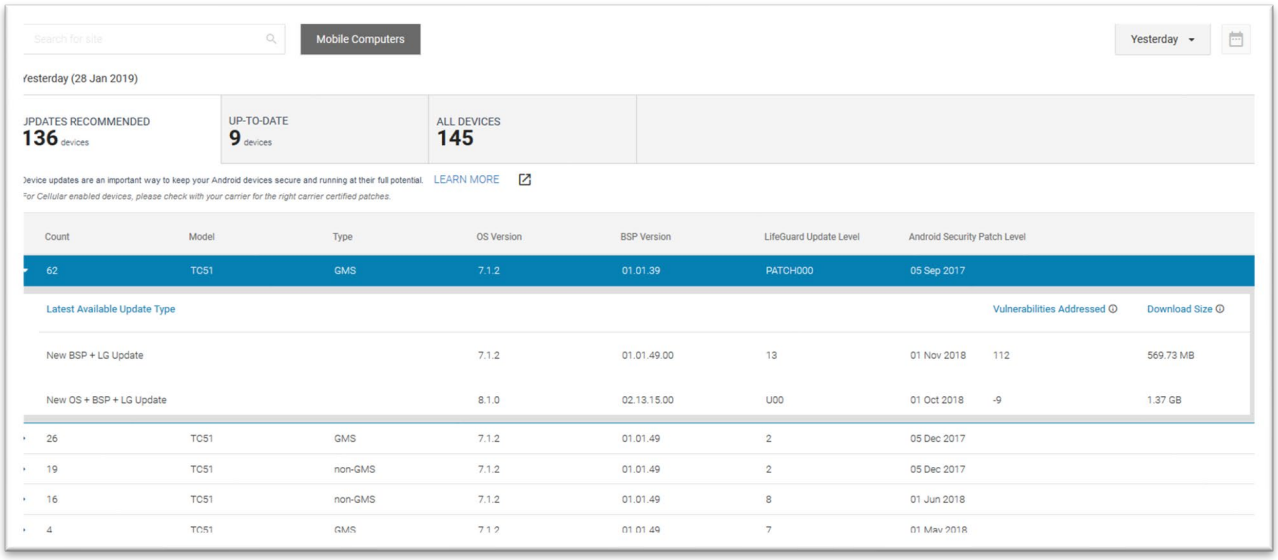
Description

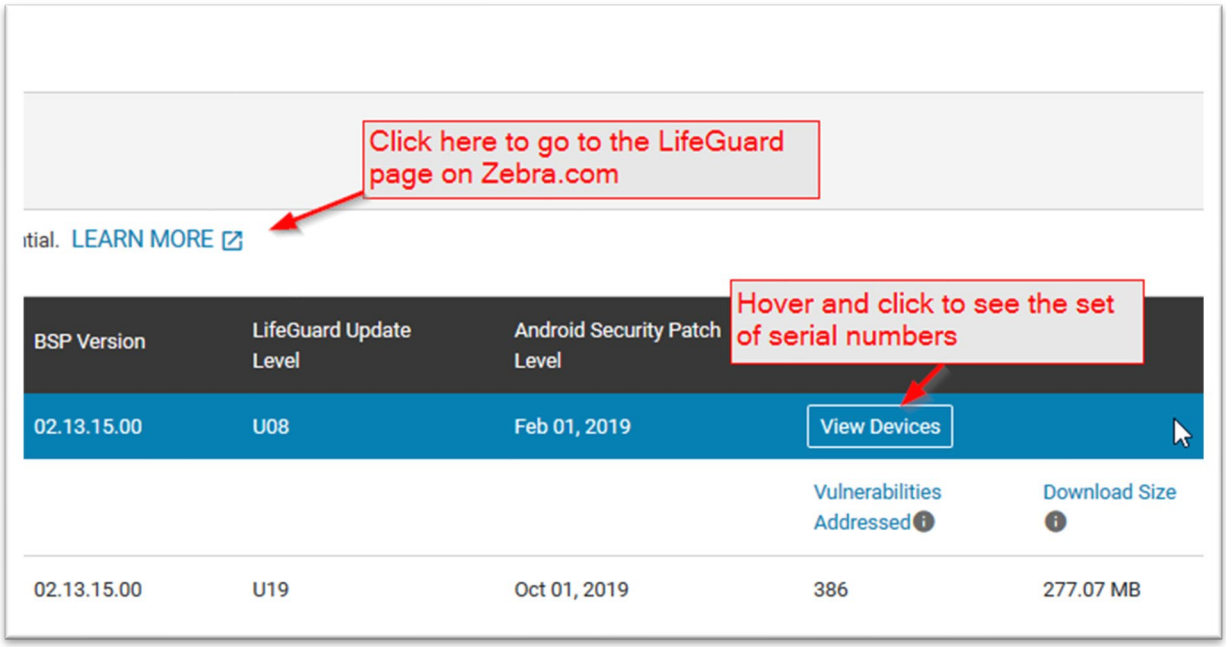
Displays all device profiles for which a security software update is available along with the vulnerabilities addressed and the download size for each update. When you hover over the right side of a row, you can click on View Devices button to see the set of devices that need to have the particular patch applied and can export this list of serial numbers from here.

Data Grid Columns

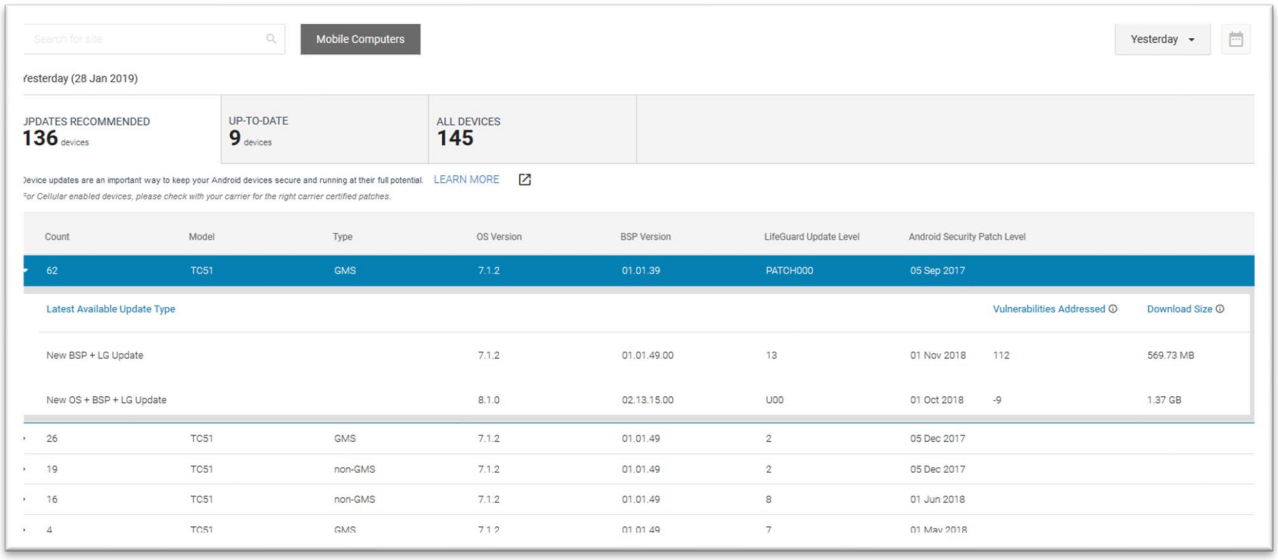
Count (devices), Models, Type, OS Version, BSP Version, LifeGuard Update Level, Android Security Patch Level.

Expanding Row adds: Latest Available Update Type, Vulnerabilities Addressed (Quantity), Download Size (in MB)


Search for site
Mobile Computers
Yesterday
/esterday (28 Jan 2019)
JPDATES RECOMMENDED
136 devices
UP-TO-DATE
9 devices
ALL DEVICES
145
)evice updates are an important way to keep your Android devices secure and running at their full potential. LEARN MORE
For Cellular enabled devices, please check with your carrier for the right carrier certified patches.
Count
Model
Type
OS Version
BSP Version
LifeGuard Update Level
Android Security Patch Level
62
TC51
GMS
7.1.2
01.01.39
PATCH000
05 Sep 2017
Latest Available Update Type
Vulnerabilities Addressed
Download Size
New BSP + LG Update
7.1.2
01.01.49.00
13
01 Nov 2018
112
569.73 MB
New OS + BSP + LG Update
8.1.0
02.13.15.00
U00
01 Oct 2018
-9
1.37 GB
26
TC51
GMS
7.1.2
01.01.49
2
05 Dec 2017
19
TC51
non-GMS
7.1.2
01.01.49
2
05 Dec 2017
16
TC51
non-GMS
7.1.2
01.01.49
8
01 Jun 2018
4
TC51
GMS
7.1.2
01.01.49
7
01 May 2018


Click here to go to the LifeGuard page on Zebra.com
itial. LEARN MORE
Hover and click to see the set of serial numbers
BSP Version
LifeGuard Update Level
Android Security Patch Level
02.13.15.00
U08
Feb 01, 2019
View Devices
Vulnerabilities Addressed
Download Size
02.13.15.00
U19
Oct 01, 2019
386
277.07 MB

Up-To-Date Tab



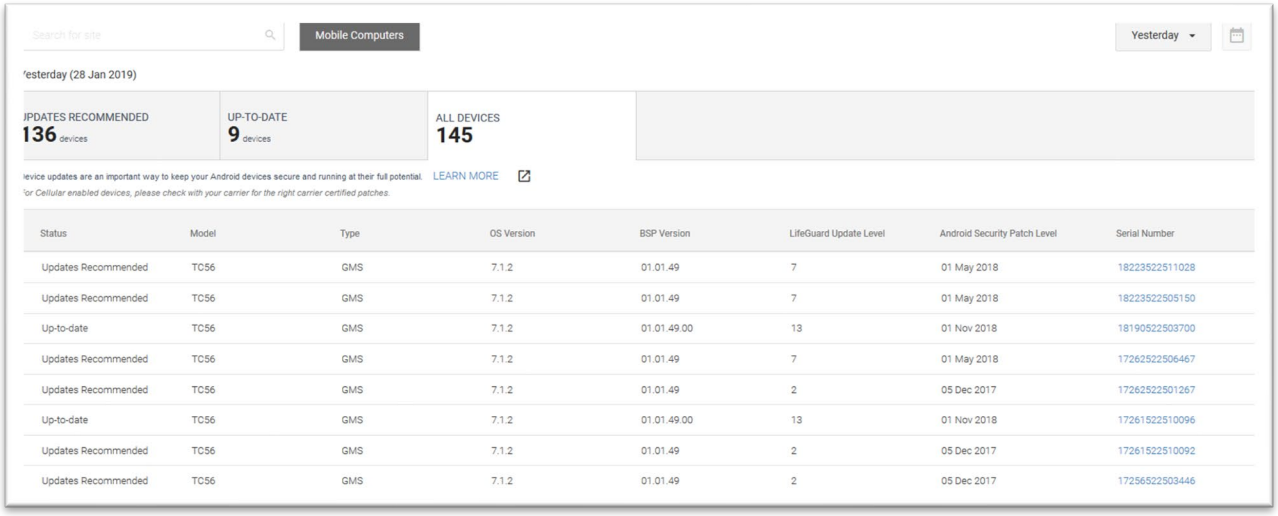
Description

Displays all device profiles which have up to date security software

Data Grid Columns

Count (devices), Model, Type, OS Version, BSP Version, LifeGuard Update Level, Android Security Patch Level

All Devices Tab



Description

Displays all devices which are LifeGuard enabled and their software security version details.

Data Grid Columns

Status, Model, Type, OS Version, BSP Version, LifeGuard Update Level, Android Security Patch Level, Serial Number

Requirements

For LifeGuard data to be visible in the dashboard, the Android device must have OS of Android Nougat (7.0) or better and Zebra Device Agent (ZDS) Version 3.x enabled.

- OS = Nougat (7.0) and above
- platforms/devices support is available:
  - **8956 :** TC51/ TC56/ TC70/ TC75
  - **Intel :** ET50/ ET55
- BSP version **01.21.04.1.**
- Devices should be part of a support contract.
- Requires internet access with firewall opened on port 443

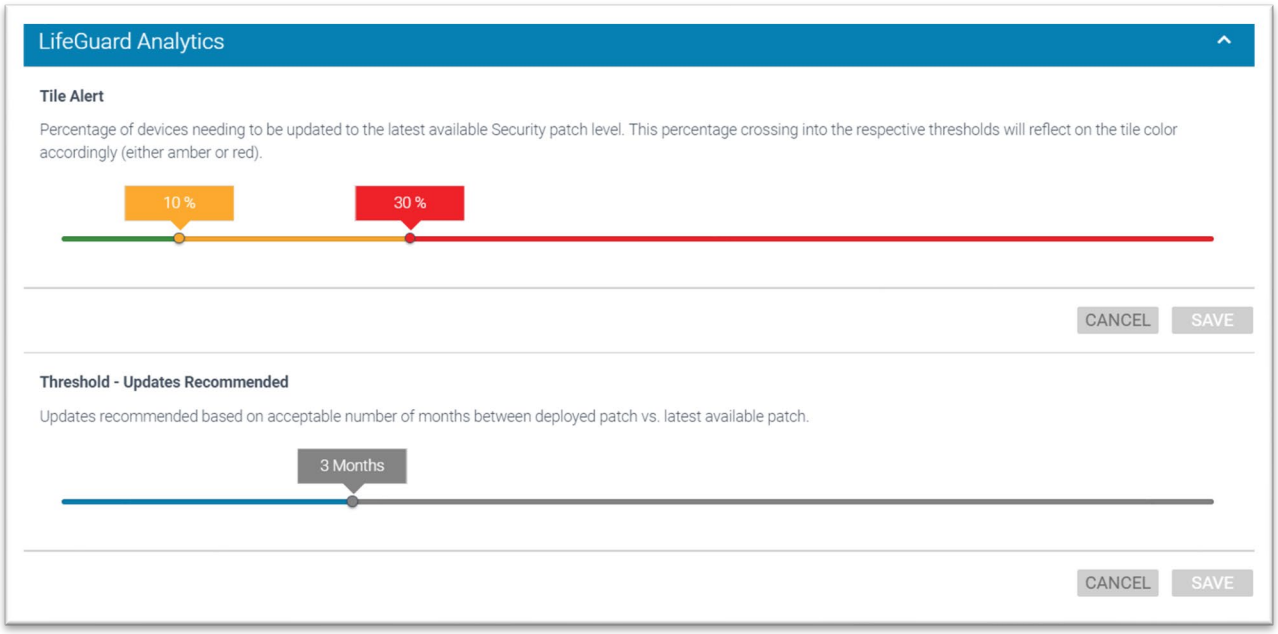
Additional Features

Report contains a Learn More link to the LifeGuard for Android Updates page on Zebra.com where customer can download the appropriate updates for their devices.

Tile Alert Thresholds

Percent of Devices: This threshold set a percentage for which the tile color will change when a percentage of devices needing updates is exceeded.

Monthly Tolerance: This threshold shows devices for which a time interval has been exceeded since the current security version was implemented.



Date Range Options

As of Day

Use Case(s)

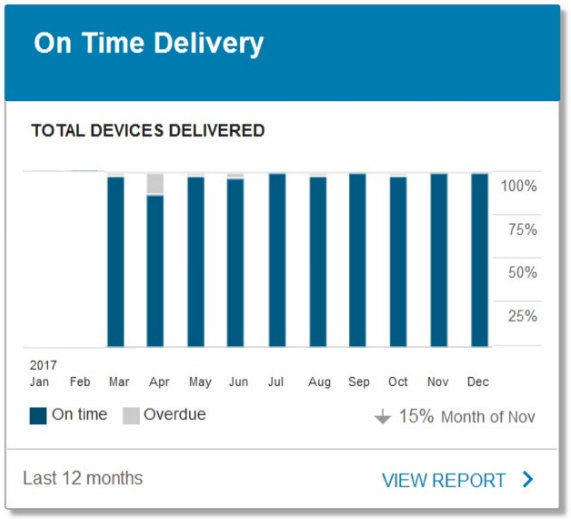
- Identify possible Android security vulnerabilities. Utilize the percentage of Android devices that are not up to date with their security patches to identify needed patches and address potential vulnerabilities. Export a list of serial numbers with updates available to utilize in a deployment plan.

REPORT: ON TIME DELIVERY

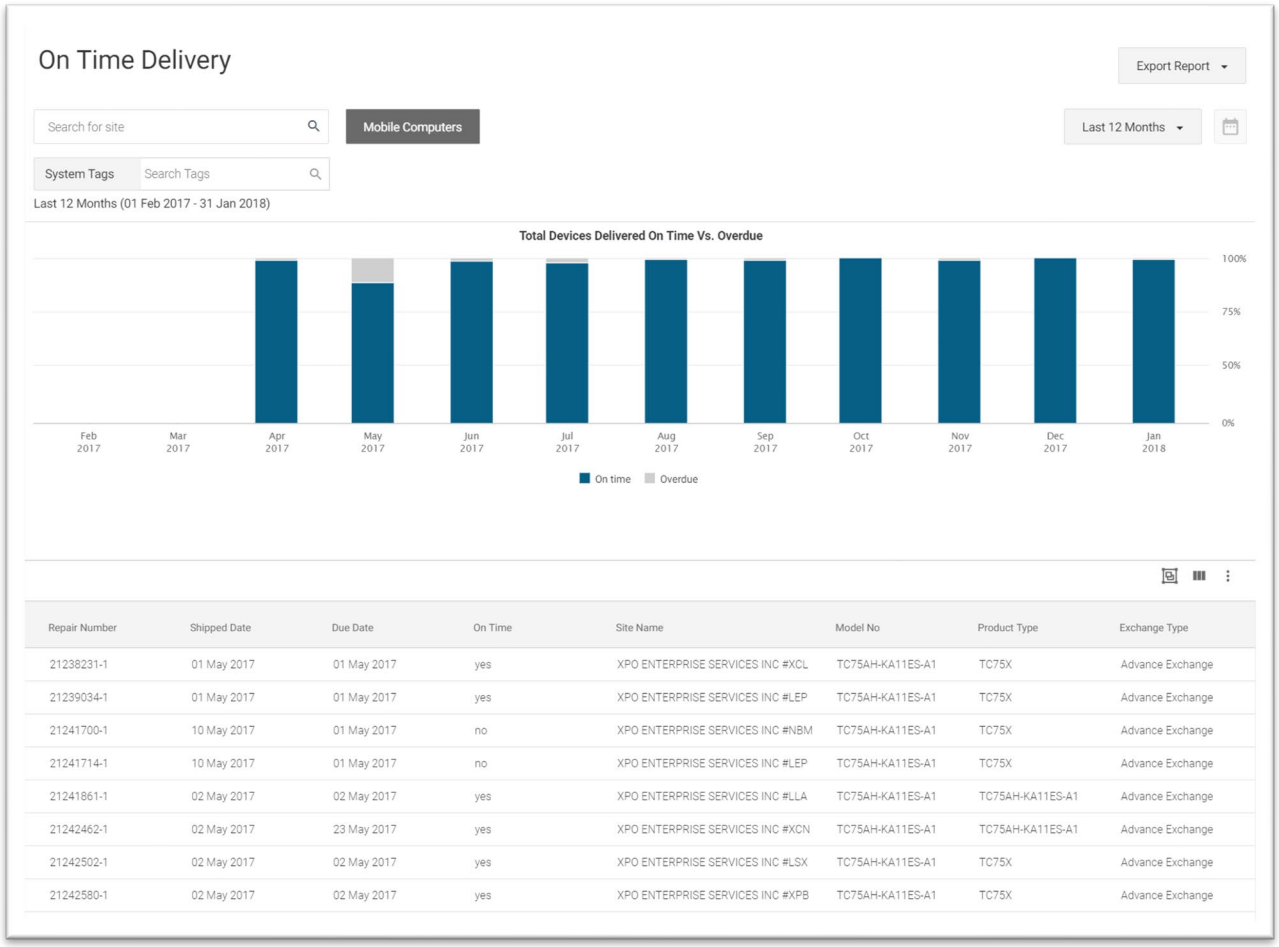
Description

On Time Delivery shows the month to month on time delivery metrics for shipped devices vs customer due date.

Tile View



Expanded View



Data Grid Columns

Repair Number, Shipped Date, Due Date, On Time, Site Name, Model Number, Product Type, Exchange Type

Date Range Options

Last 12 Months (Default), Last 3 Months, Last 6 Months

Use Case(s)

Track monthly SLAs for delivery timeliness

Available Filters

Sites, System Tags, User Tags

Tile Alert Thresholds

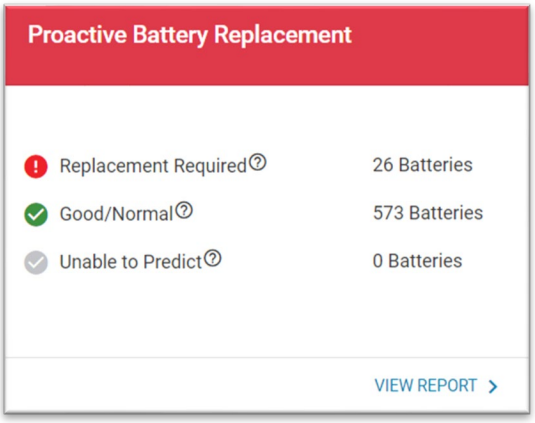
None

REPORT: PROACTIVE BATTERY REPLACEMENT

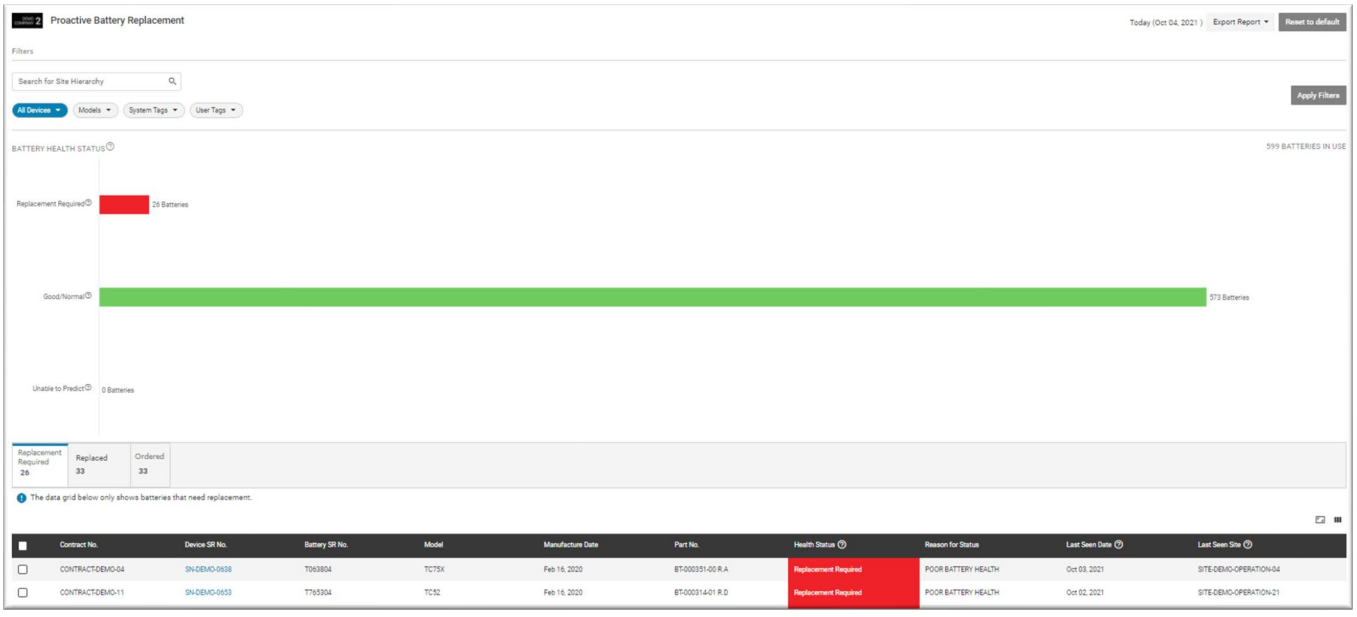
Description

This report is available only to customers who have purchased the Proactive Battery Replacement service with their Zebra One Care contract. By enabling Zebra's ZDS agent on eligible devices and utilizing Zebra's proprietary Remaining Useful Life algorithm, we can identify batteries that reached the end of their life span or are quickly approaching the end of their life span and need to be replaced. The tile shows all the batteries reporting data and whether they require replacement, are in good working condition, or are unable to predict RUL due to other variables. This is an As of Day report.

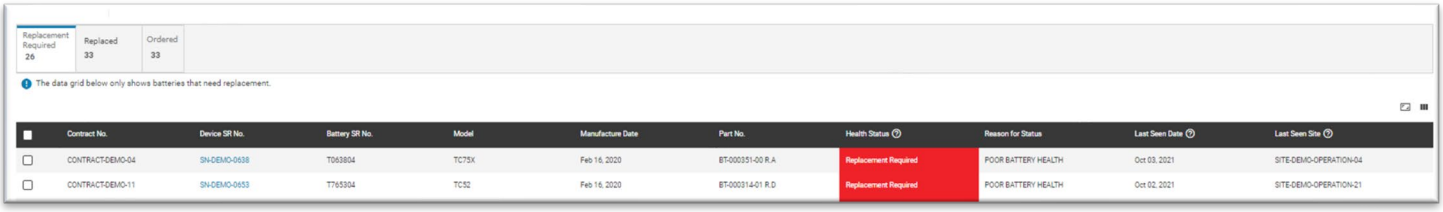
Tile View



Expanded View



Replacement Required Tab



Description

The Replacement Required tab shows how many batteries require replacement and indicates that a replacement order should be made. Batteries without a site address will not be submitted for replacement and will remain in the Replacement Required tab until the site address can be updated. This is an As of Day report.

Data Grid Columns

Contract No., Device SR No., Device Name, Model, Battery SR No., Manufacture Date, Part No., Orderable Battery Part No. (hidden by default), Health Status, Reason for Status, Last Seen Date, Last Seen Site, Hierarchy (hidden by default), Site Address (hidden by default)

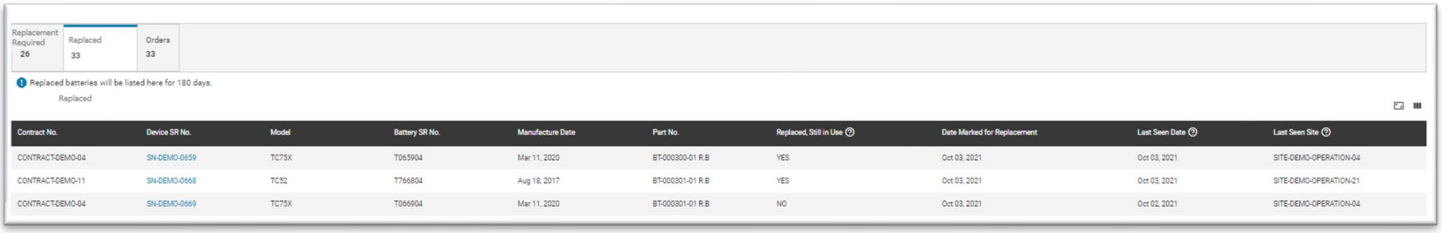
Sorting

No sorting is applied.

Use Case(s)

- Used to understand batteries that are of a poor health and sites they reside, such that they require immediate replacement.

Replaced Tab



Description

The Replaced tab shows batteries that have been submitted for replacement along with the date they were marked for replacement in order to track and accurately monitor the batteries for which shipment orders have been placed. Battery information will remain for 180 days. This is an As of Day report.

Data Grid Columns

Contract No., Device SR No., Device Name, Model, Battery SR No., Manufacture Date, Part No., Orderable Battery Part No. (hidden by default), Replaced Still in Use, Date Marked for Replacement, Last Seen Date, Last Seen Site, Hierarchy (hidden by default), Ship to Address (hidden by default)

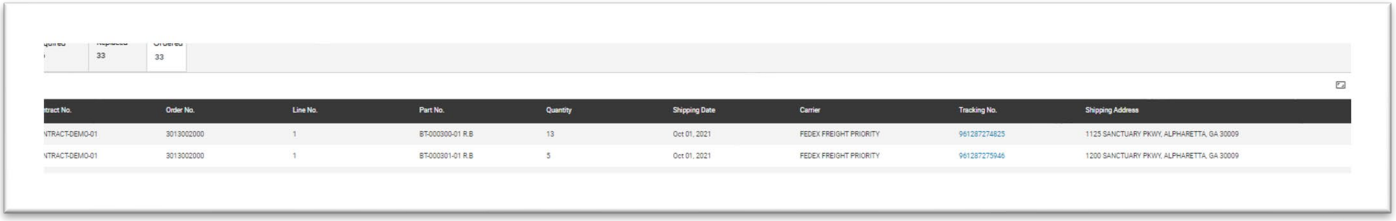
Sorting

Default sorting is based on Date Marked for Replacement

Use Case(s)

- Provides an easy way to track the batteries that have been replaced against the quantity of replacements that have been provided.
- “Replaced, Still In Use” column enables customers to see batteries for which a replacement has been sent, but the batteries are still being used and should have been decommissioned from service.

Ordered Tab



Description

The Ordered tab shows orders of replacement batteries and the quantities sent to a specific site. It provides carrier tracking numbers for order traceability. Order Status reports on replacement batteries that have shipped or are beyond 15 days since the order was placed. If the battery has not shipped within 15 days of the order being placed, the status will reflect “Delayed” until it has shipped. Order information will remain for 180 days. This is an As of Day report.

Data Grid Columns

Contract No., Order No., Line No., Orderable Battery Part No., Quantity, Order Status. Shipping Date, Carrier, Tracking No., Site Name (hidden by default), Hierarchy (hidden by default), Shipping Address

Sorting

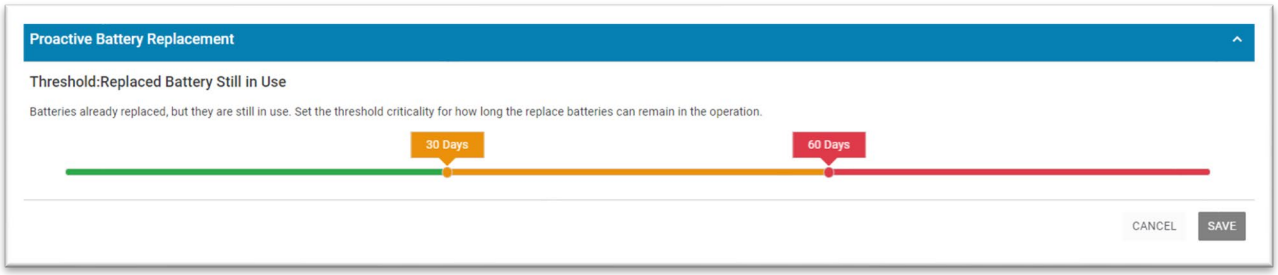
Default sorting is based on Shipped Date

Use Case(s)

- Allows for tracking of the battery orders that were shipped and the sites they were shipped to.

Tile Alert Thresholds

Replace Battery Still in Use alerts user to bad batteries for which a replacement battery has been sent but continue to show as “In Use” and have not yet been disposed of within the given thresholds. This threshold default is set to 30 days (Amber) since the order was placed, and 60 days (Red) since the order was placed.

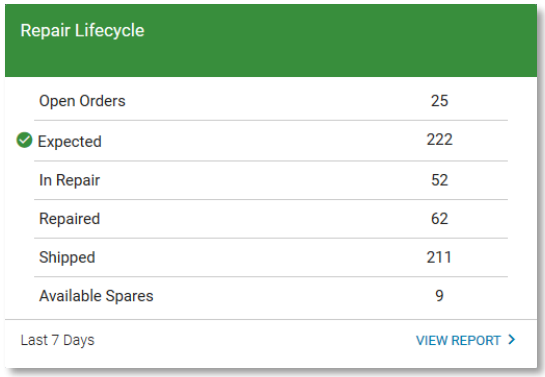


REPORT: REPAIR LIFECYCLE

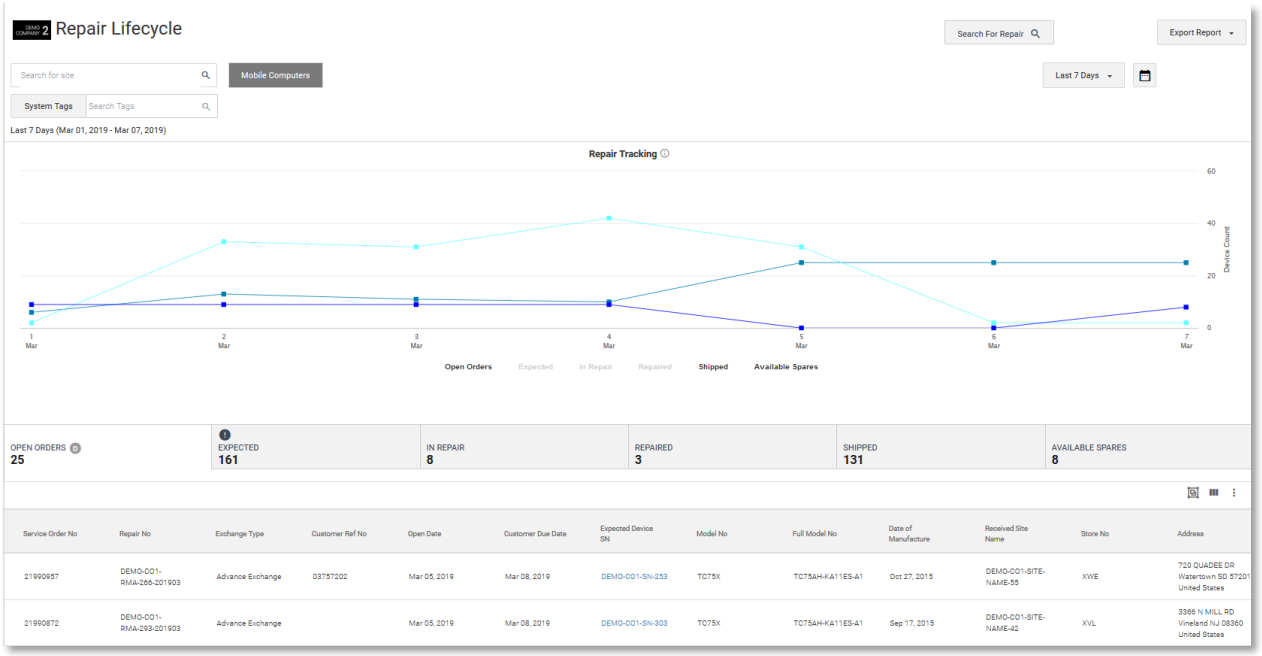
Description

Shows repair logistics related to all repairs for a customer and categorizes them as Open, Expected, In Repair, Repaired, Shipped and Available Spares (customer owned spare pools only) as they move through the repair process.

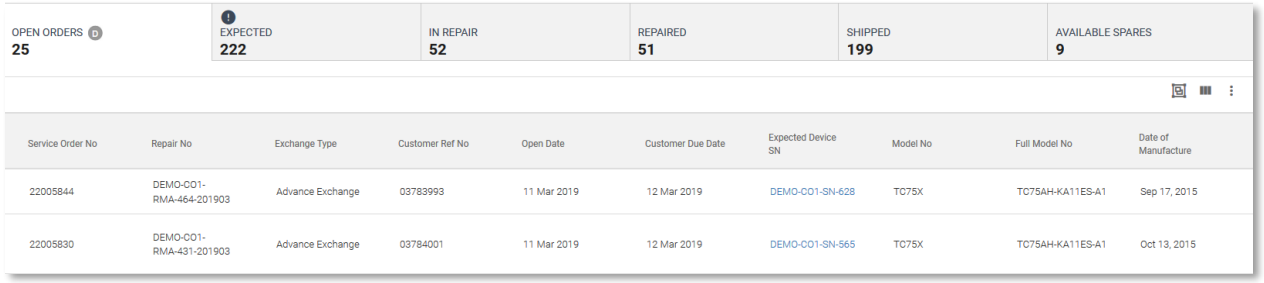
Tile View



Expanded View



Open Orders Tab



Description

The Open Orders tab shows how many devices are due to be shipped to the customer in the form of replaced devices or repaired devices. This indicates an action that needs to be taken by Zebra. This is an As of Day report.

This tab is not mutually exclusive with Expected devices or In Repair devices.

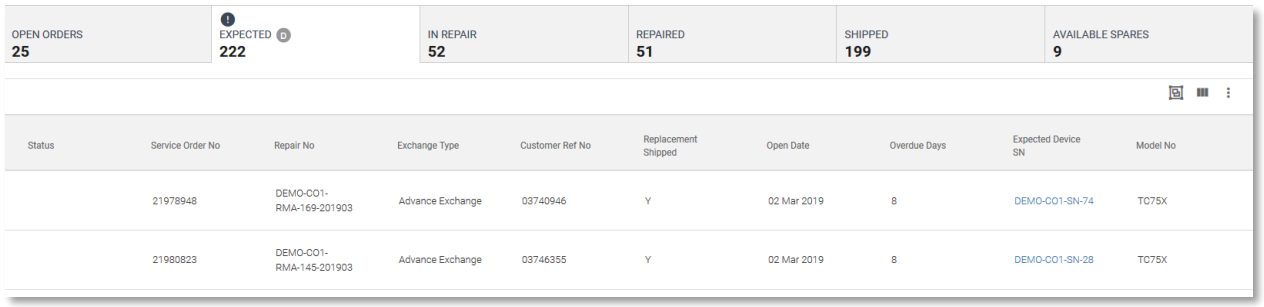
Data Grid Columns

Service Order No, Repair No, Exchange Type, Customer Ref No, Open Date, Due Date, Expected Device SR No., Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Problem Code 1, Problem Code 2, Inbound Airway Bill No, SFDC Case No, Repair Type (hidden)

Use Case(s)

- Understand how many repaired/replacement devices are due to be shipped back to you. This is viewed in the Open Orders tab.

Expected Tab



Description

The Expected tab shows how many devices Zebra is waiting to receive from the customer to the repair depot for which Repair Orders have been created. This indicates an action that needs to be taken on the part of the customer/partner.

An amber icon will be shown to indicate that it has been 15 days since the repair order has been opened and Zebra has not received the defective device. This is an As of Day report.

For Advanced Exchange devices, a red icon will be shown to indicate that it has been 30 days since the repair order has been opened and Zebra has not received the defective device.

This tab is not mutually exclusive with Open Order devices.

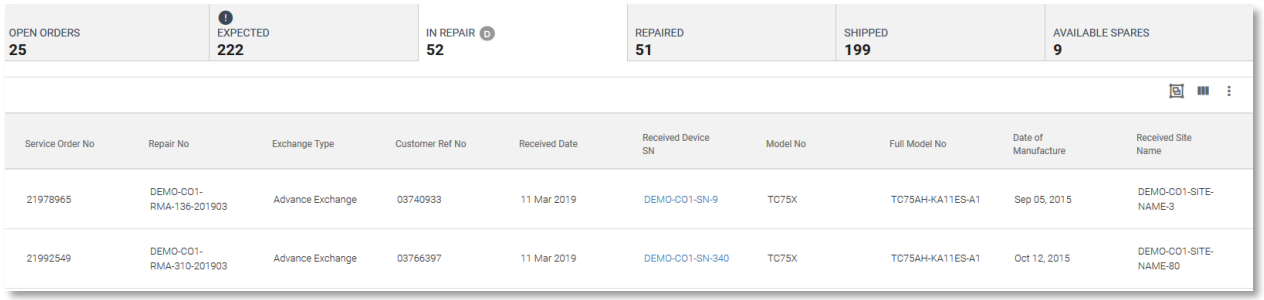
Data Grid Columns

Status, Service Order No, Repair No, Exchange Type, Customer Reference No, Replacement Shipped, Open Date, Overdue Days, Expected Device SR No., Shipped Device SR No., Shipped Date, Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Problem Code 1, Problem Code 2, Inbound Airway Bill No, SFDC Case No

Use Case(s)

- Track defective devices that have not been sent into the repair deport. Too many Expected devices, may cause depletion of customer dedicated spare pools.

In Repair Tab



Description

The In Repair tab shows the devices which have been received at the depot and are currently being worked on. This is an As of Day report.

This tab may overlap with Open Orders for Advanced Exchange repairs.

This tab is not mutually exclusive with Open Order devices.

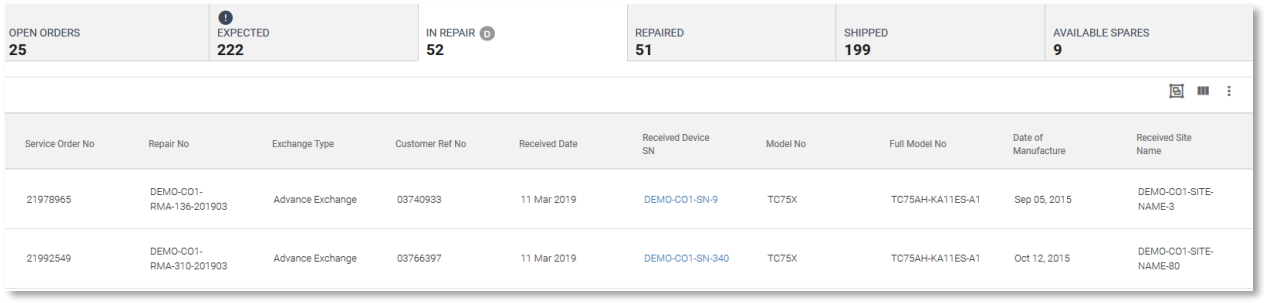
Data Grid Columns

Service Order No, Repair No, Exchange Type, Customer Reference No, Received Date, Received Device SR No., Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Problem Code 1, Problem Code 2, Inbound Tracking No, Inbound Airway Bill No, Age, SFDC Case No, Receive Only, Unexpected Receipt, Repair Type (hidden)

Use Case(s)

- Identify which repairs are actively being worked on.

Repaired Tab



Description

The Repaired tab shows how many repairs were completed on the customers' devices over a specified date range, as well as what the fault/resolution was associated with each repair.

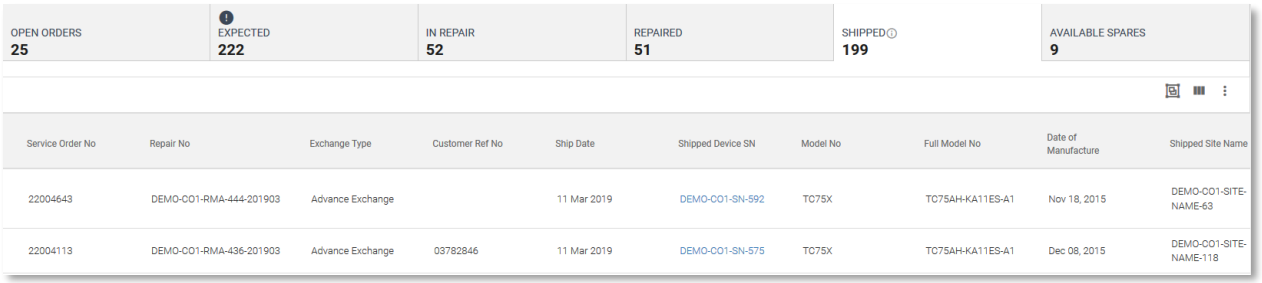
Data Grid Columns

Service Order No, Repair No, Exchange Type, Customer Reference No, Repaired Date, Received Device SR No., Installed SR No. (hidden), Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Inbound Tracking No, Problem Code 1, Problem Code 2, Fault, Action, Remedy, Repair Classification, 30 Day Repeat, SFDC Case No, Repair Type (hidden)

Use Case(s)

- Understand issues that were found on repaired devices and how the repair was classified (NTF, Damage, Failure)

Shipped Tab



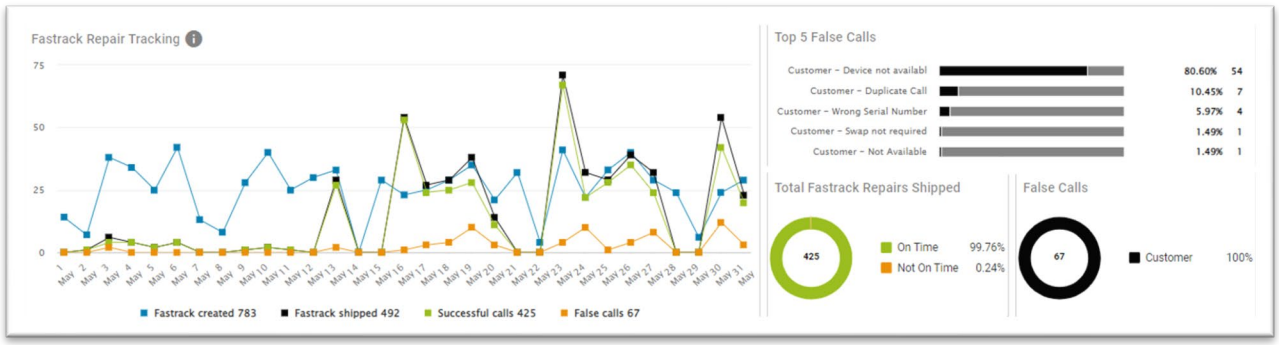
Description

The Shipped tab shows devices that have been shipped back to the customer over a specified date range. For Advanced Exchange customers, this will be a replacement device. For Repair and Return devices, this will be the original device that was sent in for repair (unless otherwise specified).

Data Grid Columns

Service Order No, Repair No, Exchange Type, Customer Reference No, Ship Date, Shipped Device SR No., Open Date, Expected Device SR No., Receive Date, Received Device SR No., Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Outbound Tracking Number, Carrier, On Time, SFDC Case No

Fastrack Tab (Only available with Fastrack contract)



Description

The Fastrack tab is a focused view of repairs that have been submitted specifically with the Fastrack service. It will only show for those customers that have an onboarded Fastrack contract. The tab provides the user with visibility into how many Fastrack repairs have been created and shipped over a period of time. They can also see how many of the calls were determined to be successful calls or false calls. Graphs show a trend of calls made over the time period, the top 5 False Call Reasons, the shipping timeliness of Successful Calls and a breakdown by reason code of the False Calls.

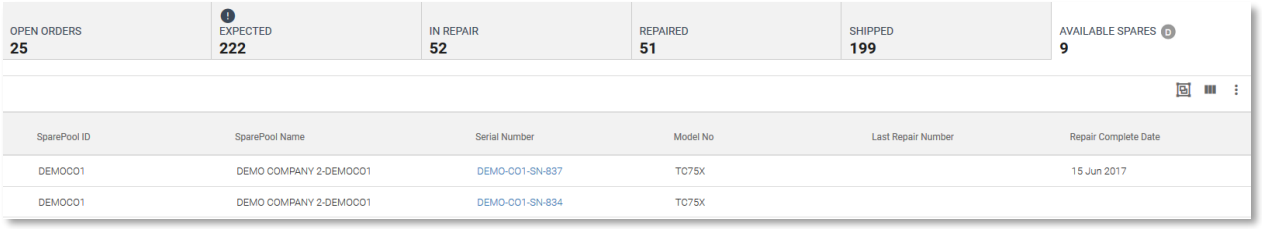
Data Grid Columns

Service Order No, Repair No, Exchange Type, Customer Reference No, Open Date, Expected Device SR No., Due Date, Ship Date, Receive Date, Received Device SR No., Repaired Date, Model, Full Model No, Manufacture Date, Shipped Site Name, Store No, Address, Outbound Tracking Number, Carrier, False Calls, False Calls Reason, On Time, SFDC Case No

Use Case(s)

- Understand how many Fastrack repairs shipped on time, how many were false calls, and the reason for the false calls.

Available Spares Tab



Description

Available Spares tab displays the number of spare devices residing in a customer owned spare pool.

This is an As of Day report.

Data Grid Columns

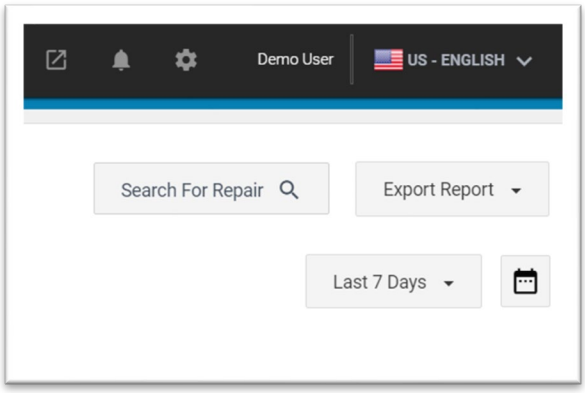
Spare Pool ID, Spare Pool Name, Device SR No., Model, Last Repair No, Repair Complete Date

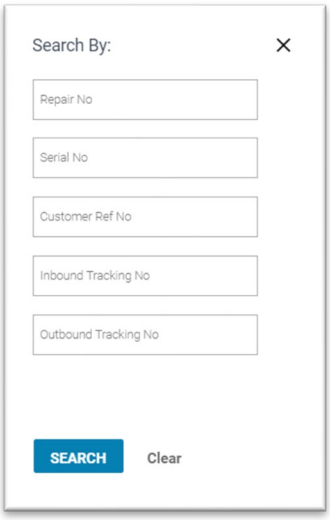
Use Case(s)

- Monitor the health of your customer owned spare pool and the quantity of devices available
- By viewing the last repaired date, you can get an understanding of how spares are being circulated through the spare pool

Additional Features

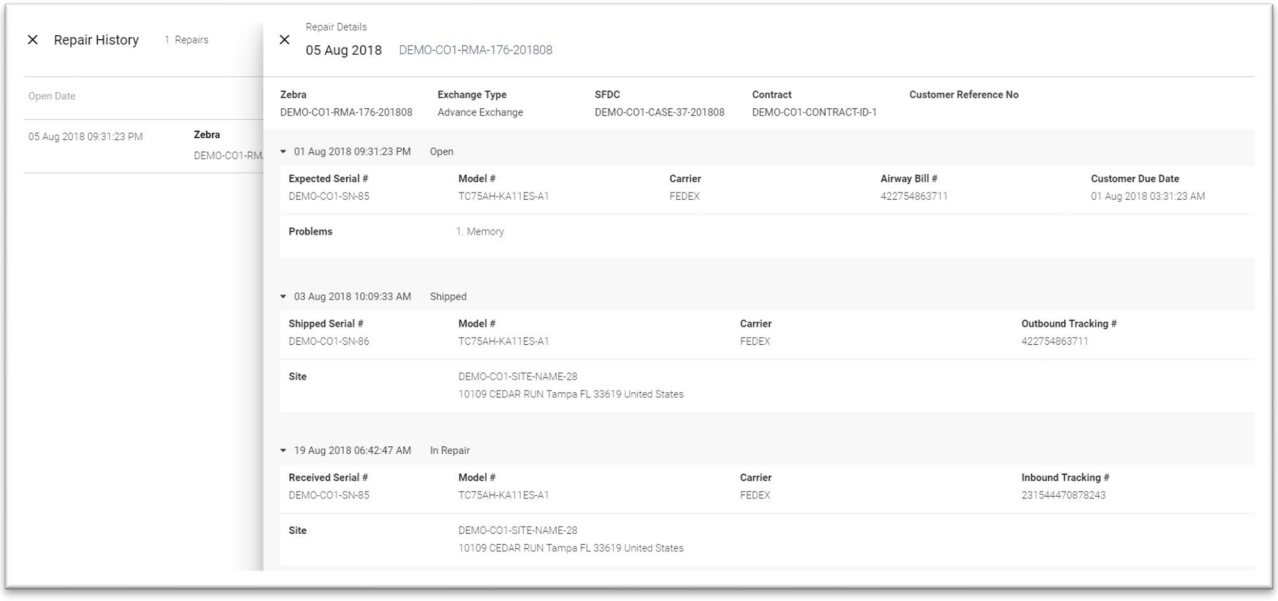
Search for Repair





Description

Allows you to search for repairs that are in the dashboard by repair no, serial number, customer reference number, inbound tracking no and outbound tracking no. The search returns the repairs associated to the data used for the search. Each repair state can be expanded to show repair details for that state.

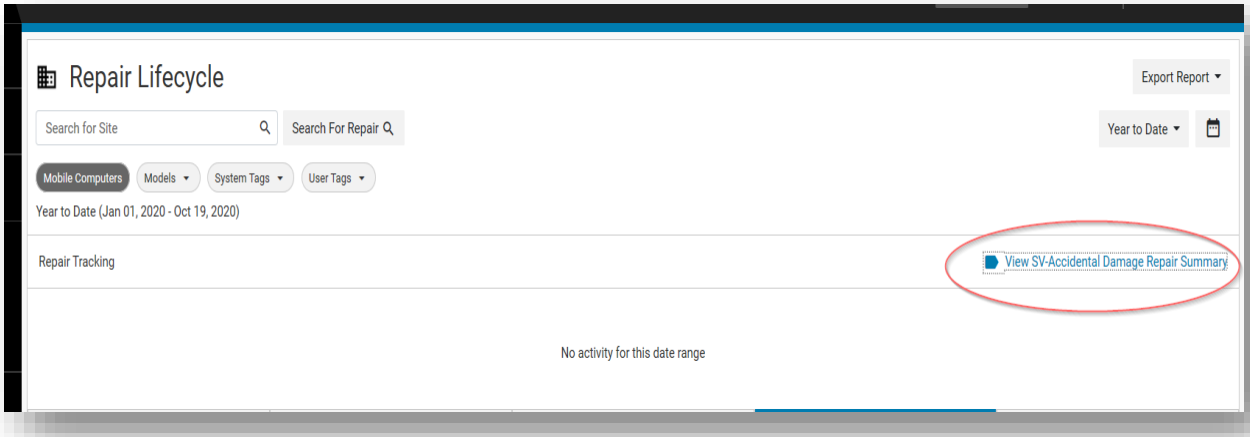


SV + Accidental Damage Feature

Description

Allows a user who has a contract with Zebra OneCare SV with Accidental Damage entitlement bundle to have visibility into quantity of repairs they are entitled to, the quantity of repairs they have used and the quantity of repairs they have remaining by contract.

Clicking on the “View SV-Accidental Damage Report Summary” link will provide the user with a summary of their contracts with this this specific offer.

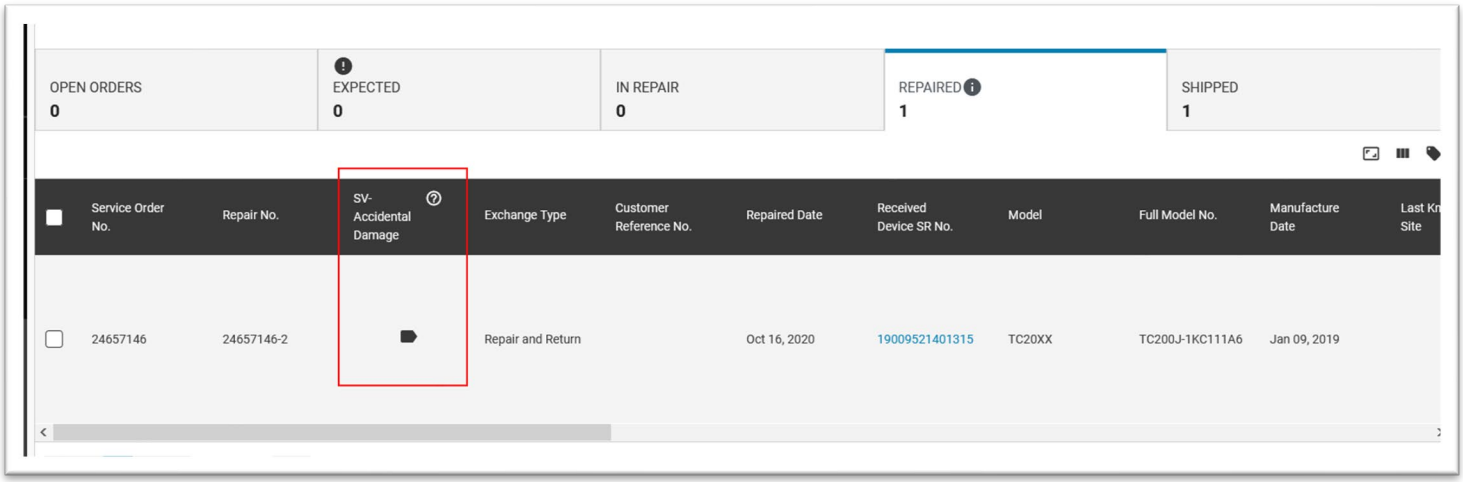


SV+Accidental Damage Summary

Contract	SKU	Start Date	End Date	Repairs Entitled	Repairs Used	Repairs Remaining
28478564	Z1AV-TC2020-3000	Apr 13, 2020	Apr 12, 2023	25	0	25
28481356	Z1AV-TC2020-3000	Jun 23, 2019	Jun 22, 2022	64	10	54
28481914	Z1AV-TC2020-3000	Mar 26, 2019	Mar 25, 2022	32	0	32

*Specific SV Repair information can be found by filtering the SV+Accidental Damage column on the Repaired tab in the Repair Lifecycle report

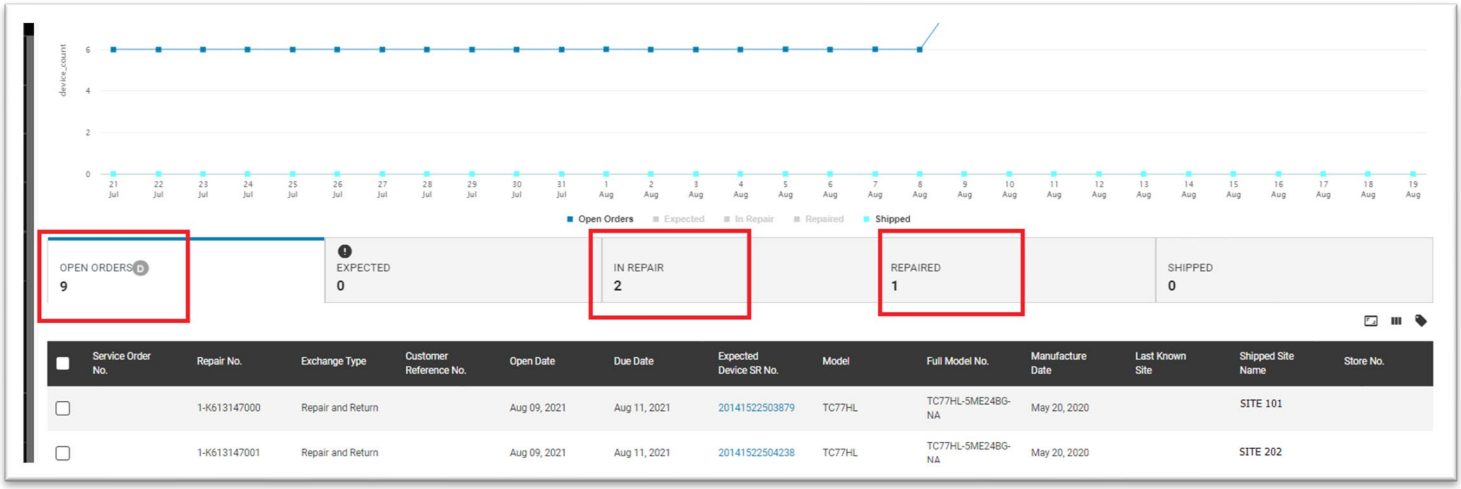
Additionally, the Repaired tab will have a new column specific to repairs done under the SV+Accidental Damage bungle SKU, as designate by an icon for easy sorting and identification.



On-Site Repair Data

Description

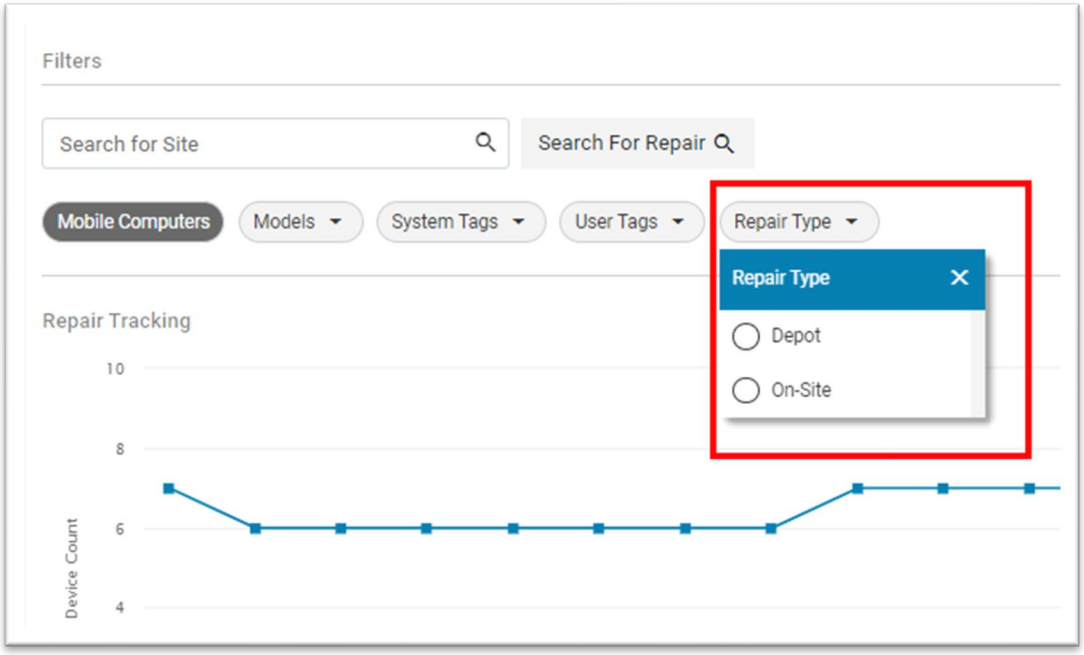
Repairs created via Zebra OneCare Central OnSite service are visible in the **Repair Lifecycle** report. Users that subscribe to this service can view the stages of the OnSite repair in the Open Orders tab, In Repair tab and Repaired tab of the report.



Open Orders and In Repair have a column for Repair Type that is hidden by default but can be enabled by the user. This column distinguishes a Depot repair (where the defective device is sent to Zebra for repair) from an OnSite repair (where the Zebra technician goes to the customer site to repair the device).

In addition to the Repair Type column, the Shipped tab also has the Installed SR No. column hidden. This field will typically so the serial number of the replaced device, in the event that the defective device could not be repaired.

A high-level filter exists to filter the entire report to show Depot only repairs, Onsite only repairs, or both (default).



Tile Alert Threshold

Expected state devices are expected to come into repair depot from customer site. This threshold default is set to 15 days red for Advanced Exchange devices, or 30 days for Repair and Return devices. This threshold cannot be adjusted.

Date Range Options

Last 7 Days, Last 30 Days, Month to date, Year to date, Last month, Custom Range

Other Use Case(s)

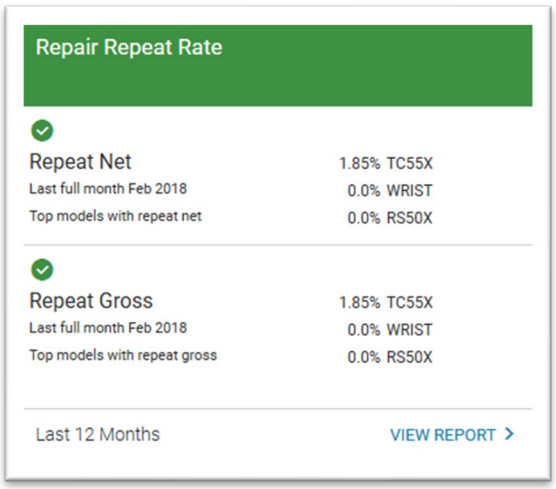
- End to end tracking of the progression of RMAs through repair process.

REPORT: REPAIR REPEAT RATE

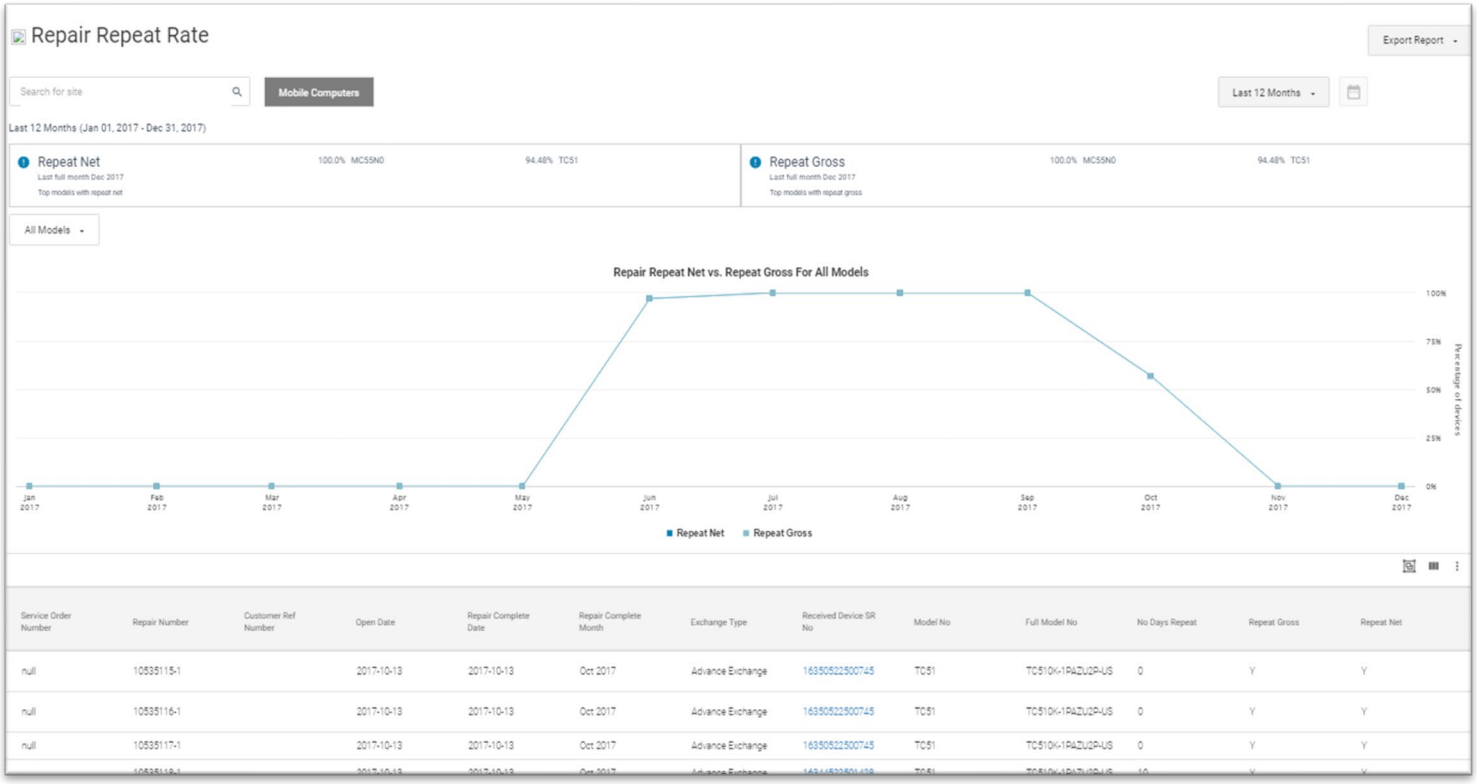
Description

Shows the percent of devices that have been sent in for repair within 30 days of their last repair, both gross and net. It displays the top models with the highest repair repeat net rate and repair repeat gross. Data is also presented in a monthly graph of Repeat Net (excluding physically damaged units and NTF units) vs Repeat Gross (excluding physically damaged units).

Tile View



Expanded View



Data Grid Columns

Service Order Number, Repair Number, Customer Ref Number, Open Date, Repair Complete Date, Repair Complete Month, Exchange Type, Received Device SR No, Model No, Full Model No, No Days Repeat, Repeat Gross, Repeat Net, MDM Site or Received from Site Name

Key Terms

Repeat Gross

Units returned for repair within 30 days since its last repair; excluding physically damaged units

Repeat Net

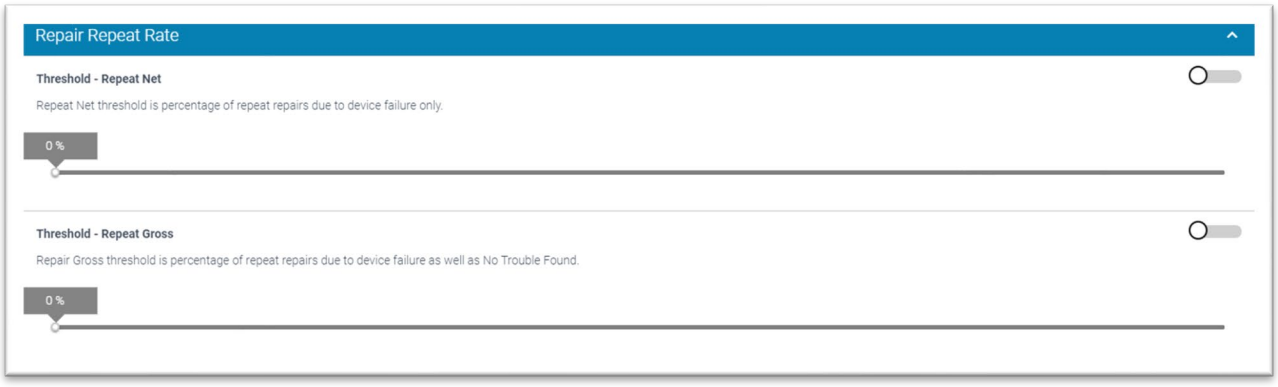
Units returned for repair within 30 days since its last repair; excluding physically damaged units and units with NTF (No Trouble Found). Only genuine failures

Available Filters

Sites, System Tags, User Tags

Tile Alert Threshold

Repair Return rate has two thresholds that can be set. One is based on the percentage of repeat repairs classified as Repeat Net (device failure only). The other is bases on the percentage of repairs classified as Repeat Gross (Failure + NTF). By using the slider, you can adjust the percentage for what rate should be considered acceptable. By default, both of these thresholds are turned off.



Date Range Options

Last 12 Months (default), Last 3 Months, Last 6 Months, Last 9 Months

Use Case(s)

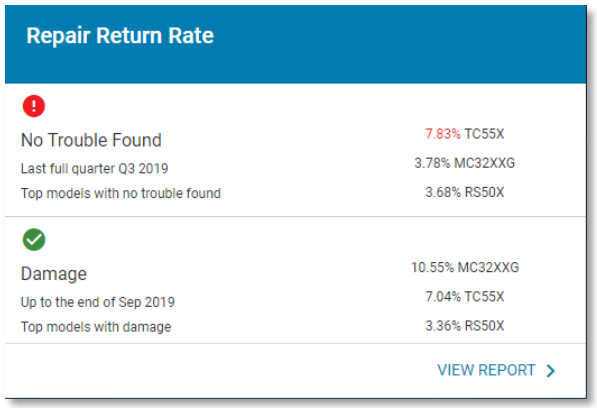
- Understand what devices are being sent back within a 30-day period from being repaired. This could indicate an issue with the repair depot.
- Aide customers in understanding their triage practices
- Report highlight devices that may have chronic performance issues

REPORT: REPAIR RETURN RATE

Description

Repair Return Rate reports on the return rate of devices coming in for repair including categorizing those repairs into Physical Damage, No Trouble Found, (NTF) or Failures.

Tile View



Expanded View

Summary View

Description

Summary view presents a graph of monthly total devices returned with fault classifications (Damage, NTF and Failures) over the last 12 months. Report can be viewed as for total devices returned or percentage of total returns.

Data Grid Columns

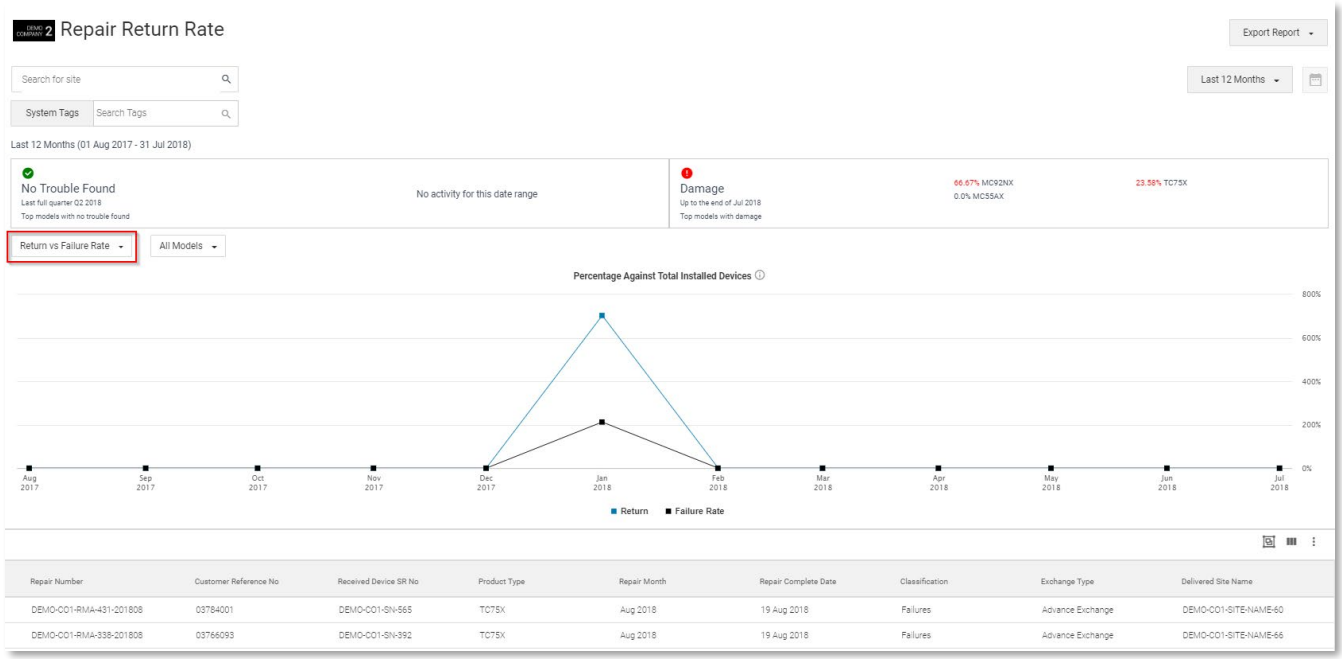
Repair Number, Customer Reference No, Received Device SR No, Product Type, Repair Month, Repair Complete Date, Classification, Exchange Type, Site Name

Use Case(s)

Understand the percentage makeup of your repairs, for Damage, NTF, and Failures

Drill down to site level to isolate the repair trends for that site.

Return vs Failure Rate View



Description

Return vs Failure Rate view presents a graph of the monthly Return Rate percentage vs the Failure Rate percentage over the last 12 months. This view allows the customer to compare their failure rate for a particular model against the overall return rate as a whole or by product model.

Data Grid Columns

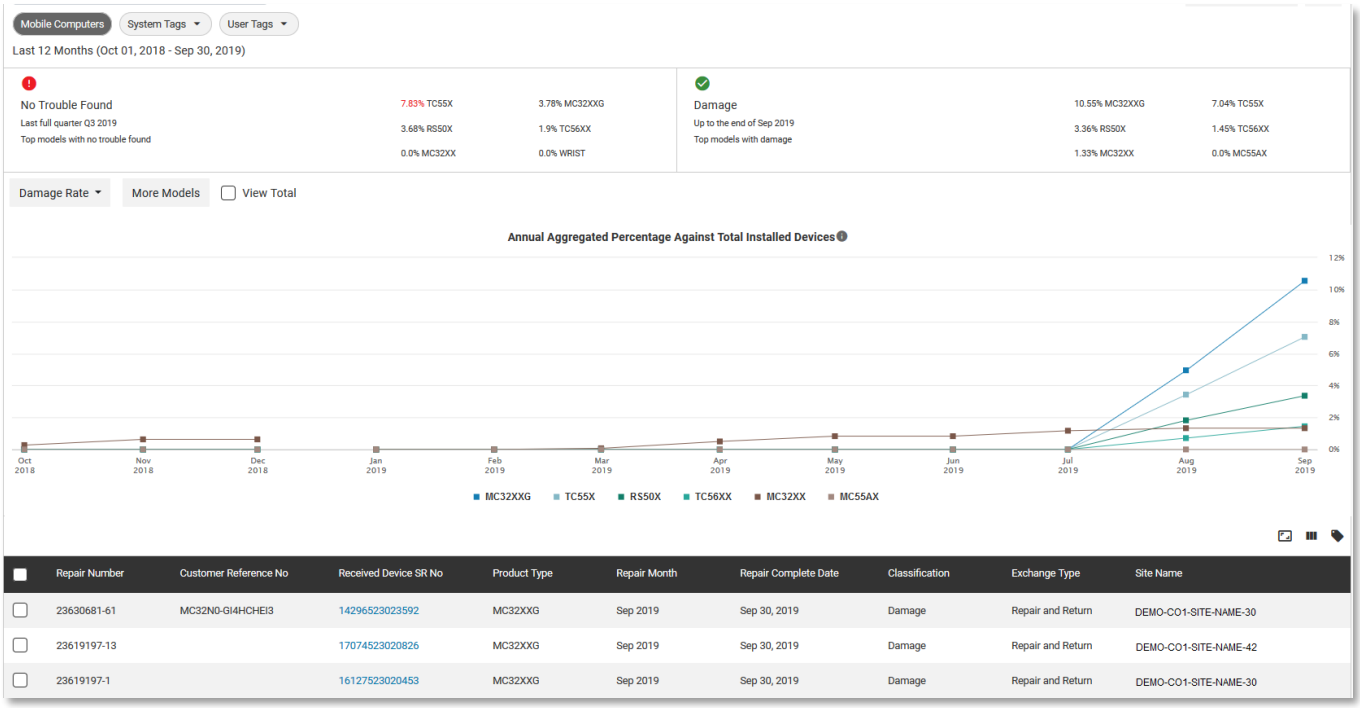
Repair Number, Customer Reference No, Received Device SR No, Product Type, Repair Month, Repair Complete Date, Classification, Exchange Type, Delivered Site Name

Use Case(s)

Allow the user to see if the failure rate of a particular product model is trending at a higher or lower rate than overall returns.

Visually shows the gap due to Damage rate and NTF rate and whether it is increasing or decreasing

Damage Rate View



Description

Damage Rate view presents a graph of the progressive monthly Damage Rate percentage over the last 12 months by model. Report can be viewed for up to 6 models at a time and as a percentage view or total devices view. Damage Rate builds from January through December, and then resets for the next January.

Data Grid Columns

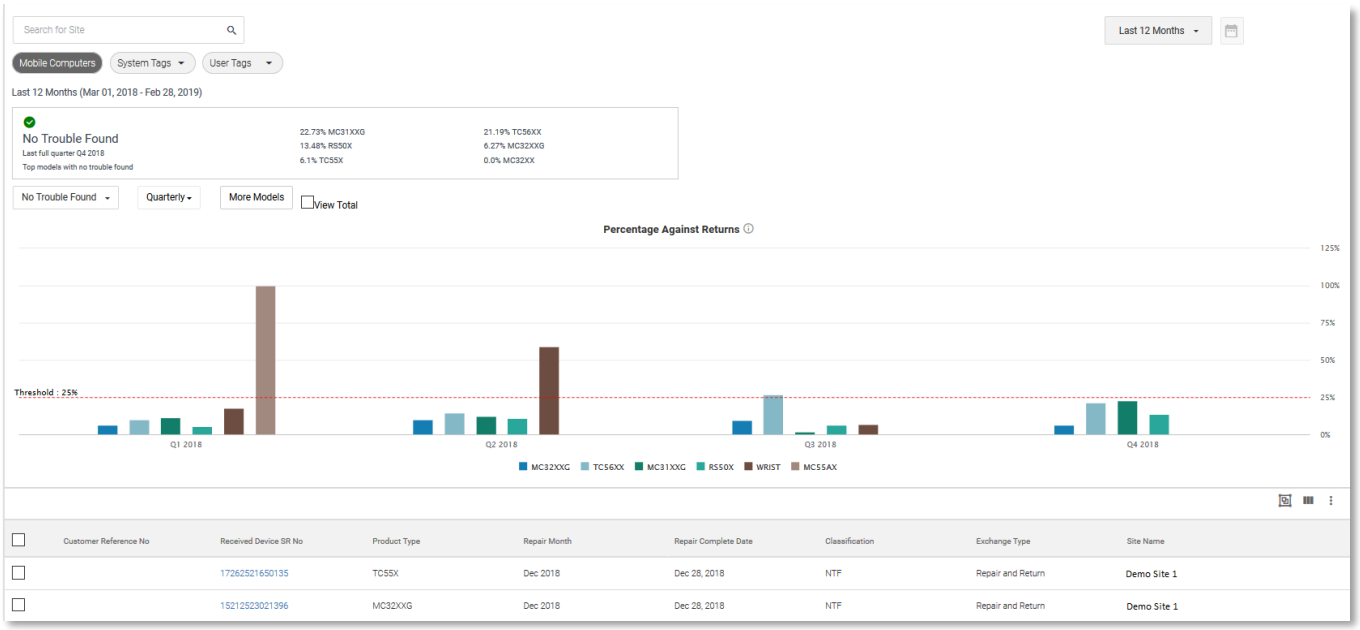
Repair Number, Customer Reference No, Received Device SR No, Product Type, Repair Month, Repair Complete Date, Classification, Exchange Type, Delivered Site Name

Use Case(s)

Measure the damage rate for a particular product model and compare the damage rate to other models.

Identify the sites with the highest contribution to a model's damage rate.

No Trouble Found (NTF) View



Description

No Trouble Found view presents a graph of the quarterly NTF Rate percentage over the last 4 quarters by model calculated against the total devices returned. Report can be viewed for up to 6 models at a time and as a percentage view or total devices view. NTF Rate builds quarterly from January through March, and then resets for the next calendar quarter. NTF can also be viewed in a monthly format.

Data Grid Columns

Repair Number, Customer Reference No, Received Device SR No, Product Type, Repair Month, Repair Complete Date, Classification, Exchange Type, Delivered Site Name

Use Case(s)

Understand which models are trending towards an NTF rate of 5% or higher by quarter

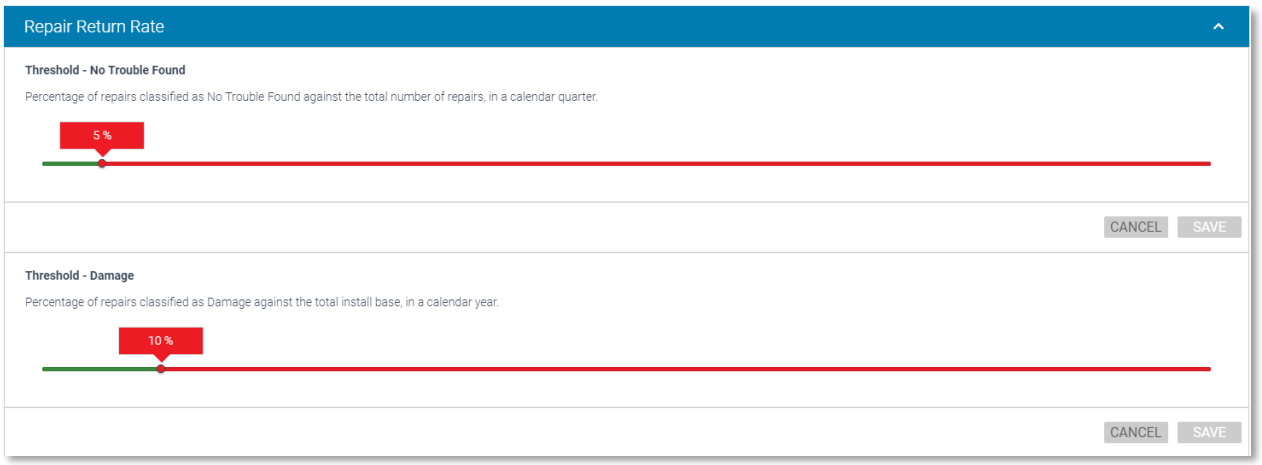
Understand where training opportunities may exist, or procedural changes are needed to reduce NTFs at a particular site.

Available Filters

Sites, System Tags, User Tags

Tile Alert Threshold

Repair Return rate has two thresholds that can be set. One is based on the percentage of repairs classified as NTF (No Trouble Found). The other is bases on the percentage of repairs classified as Damage. By using the slider, you can adjust the percentage for what rate is considered acceptable. NTF will be set to a default of 5%. Damage will be set to a default of 10%. Exceeding those percentages will cause the tile to turn Red and the models on the tile to turn red. Otherwise, the tile is Green.



DATE RANGE OPTIONS

Last 12 Months (default), Last Year(s) (Calendar)

REPORT: TOP REPAIR METRICS

Description

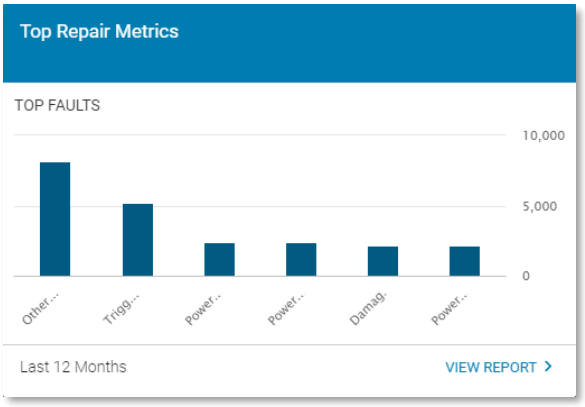
Provides a pareto bar chart ranking of repairs for the Top Sites, Top Problems, Top Faults, Top Faults on Damaged Units, Top Repeat Problems and Top Repeat Faults. Tile will show top 6 repair faults. Full report will show top 10 for each repair category.

This report is helpful for understanding repair trends and identifying potential problem areas to address. Data is presented graphically and ranked for customer repair data which can be filtered by site, model, system tags or exchange type. Graphs can be presented online or exported to PDF for use in other report formats.

Data Grid Columns

No data grid is available for this report.

Tile View

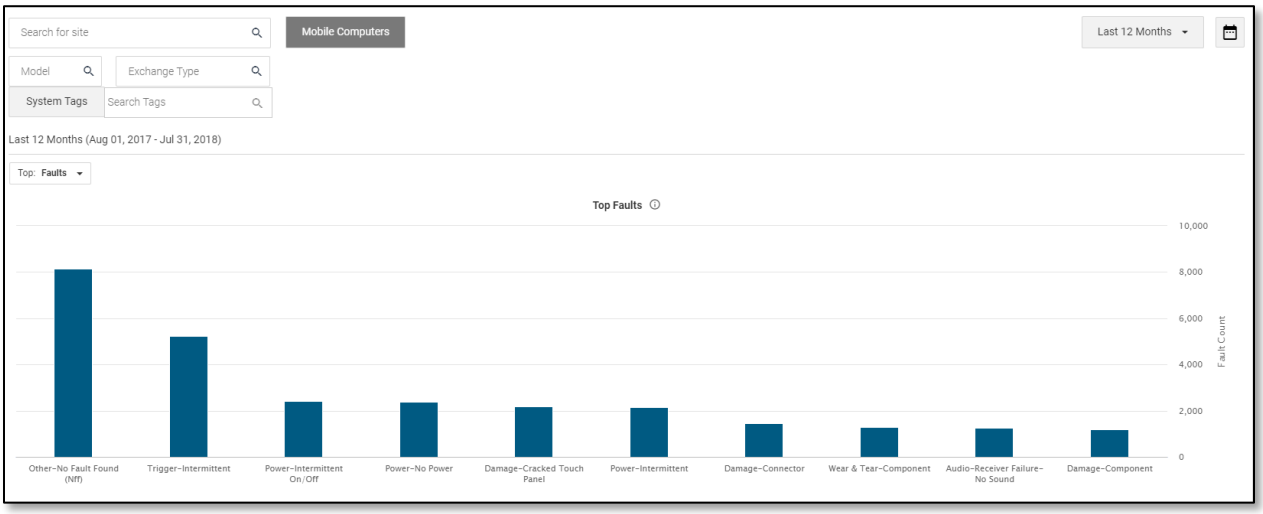


Expanded View

Top Faults

Description

Provides a pareto bar chart ranking of Top Faults for repairs done during the selected date range.



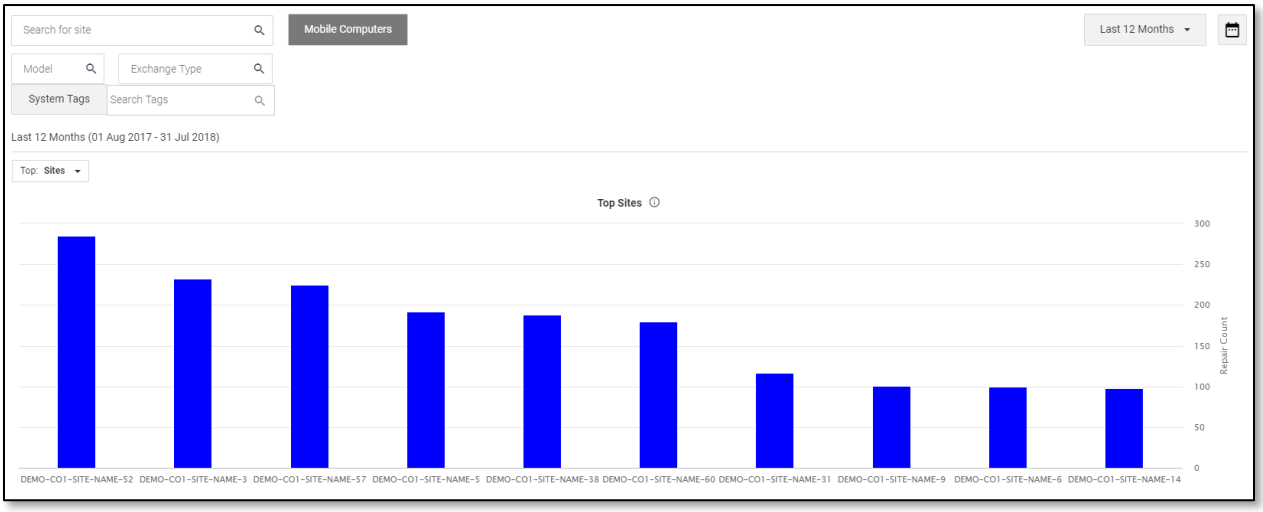
Use Case(s)

- Identify which faults are occurring most frequently over the selected date range. By filtering to Model or Exchange Type you can identify if a certain device model or Exchange Type has a tendency to particular issues.

Top Sites

Description

Provides a pareto bar chart ranking of Top Sites with repairs completed during the selected date range.



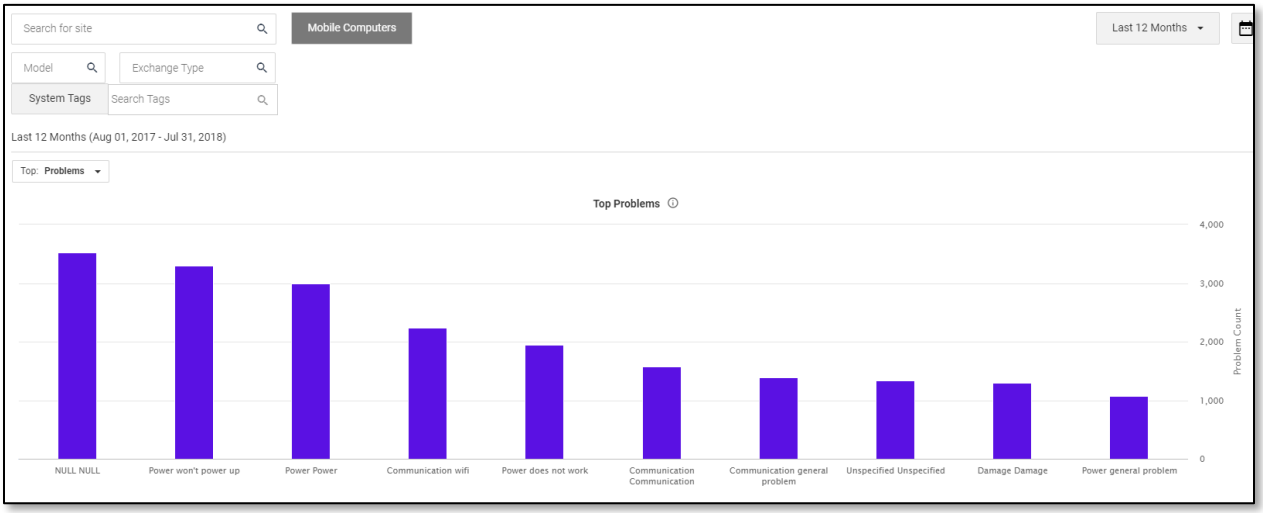
Use Case(s)

- Identify which sites are generating the most repairs. This could point to potential issue with process handling or a training opportunity needed at a particular site.

Top Problems

Description

Provides a pareto bar chart ranking of Top Problems identified for repairs completed during the selected date range.



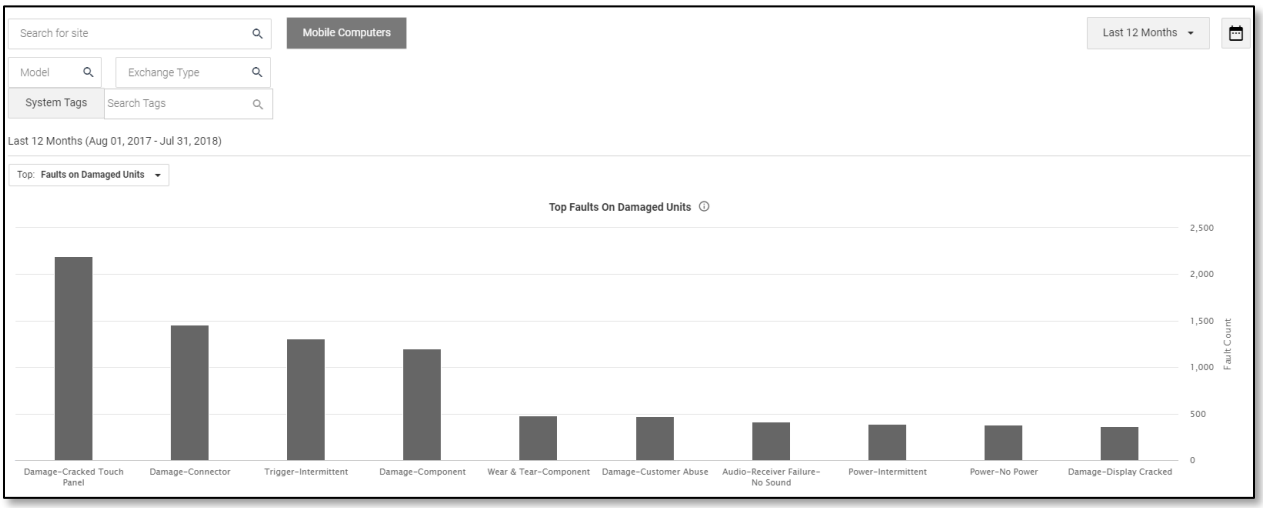
Use Case(s)

- By reviewing the top problems for repairs, potential handling issues may be identified, for example if there is a predominance of Damage related problems.
- Identify improvements for triaging devices to better understand how the problem identified compares to the fault found at the repair depot.

Top Faults on Damage Units

Description

Provides a pareto bar chart ranking of Top Faults on Damage Units identified for repairs completed during the selected date range.



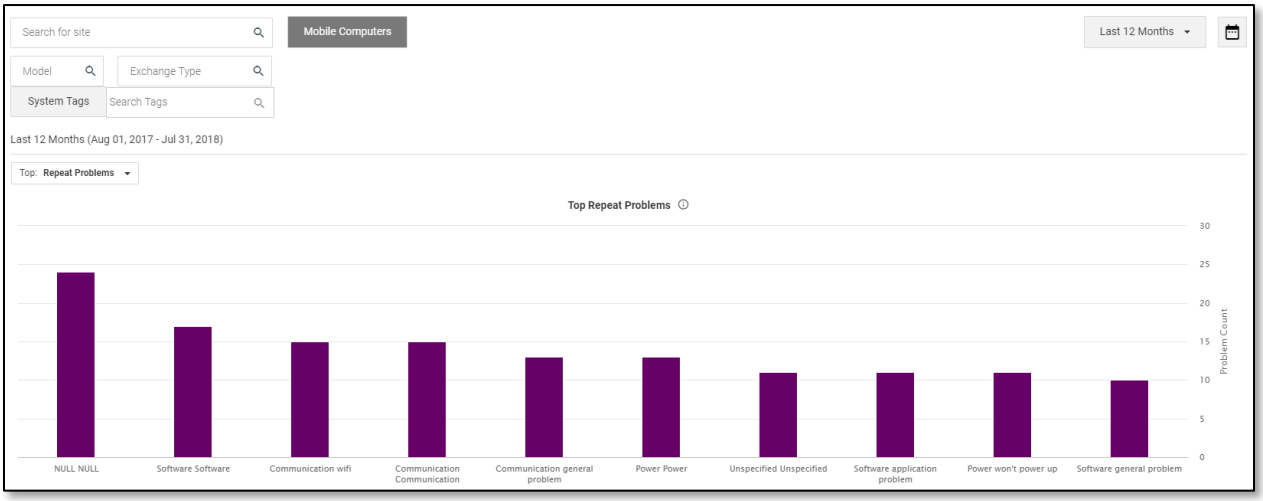
Use Case(s)

- By reviewing the top faults on damage units, potential handling issues may be identified. For example, if there is a predominance of a particular damage fault occurring vs other damage faults. This could also point to the wrong device being used in the wrong environment.

Top Repeat Problems

Description

Provides a pareto bar chart ranking of Top Problems identified for repeat repairs completed during the selected date range.



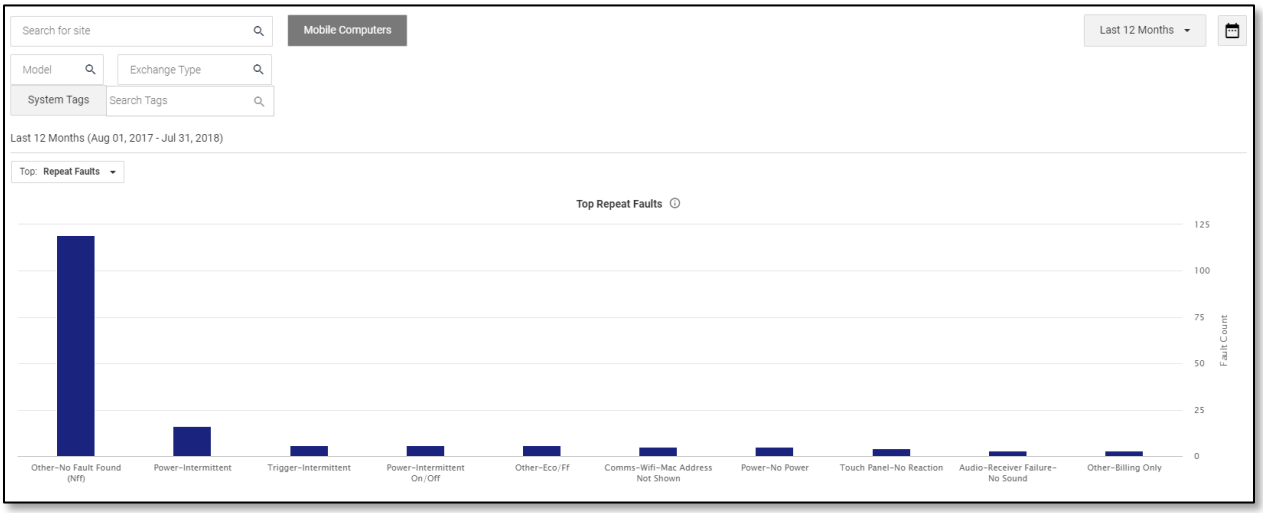
Use Case(s)

- Identify how many times the same problem occurs for a previously repaired device. This could point to a bad device that should be replaced.

Top Repeat Faults

Description

Provides a pareto bar chart ranking of Top Faults identified for repeat repairs completed during the selected date range.



Use Case(s)

- Identify how many times the same fault occurs for a previously repaired device. This could point to a bad device that should be replaced or that a particular model is being used for the wrong environment.

Date Range Options

Last 12 Months (Default), Last 3 Months, Last 6 Months, Custom Date Range

Available Filters

Sites, Models, System Tags, Exchange Type

Tile Alert Threshold

There are no alert thresholds available for the Top Repair Metrics report.

MANAGE SITES - INTRODUCTION

The Manage Sites user Interface is provided to users who are assigned with the capability to implement site/device auto relocation rules to determine devices' locations. The users are required to upload or enter a list of sites that represent the organization's physical sites for where the devices are located at, and, in the case of a dashboard with IOT setup, the corresponding IP range(s) for each site. For an IOT dashboard, when a device reports an IP address that falls into the IP range(s) for a specific site, the device will be allocated to that site automatically within the dashboard. For IOT or MDM setup, detailed shipping addresses for each site are also required. This allows the site address to fulfill battery replacement for customers that have purchased the Proactive Battery Replacement service, ensuring replacement batteries to be sent to the right location.

Site management can be done in both the onboarding phase and the run phase for VisibilityIQ Foresight and for the Proactive Battery Replacement service.

Please note the auto relocation feature applies only to a VIQ IOT setup and requires the device to report the WLAN information, which is disabled by default to protect customers' privacy. For the feature to work, the configuration of the ZDS/ZPC agent, depending on the device type, needs to be updated to enable the WLAN reporting from the device.

Site Upload

Site Upload can be done through the Upload template which allows sites to be uploaded in bulk format or individually using the Manual site entry process.

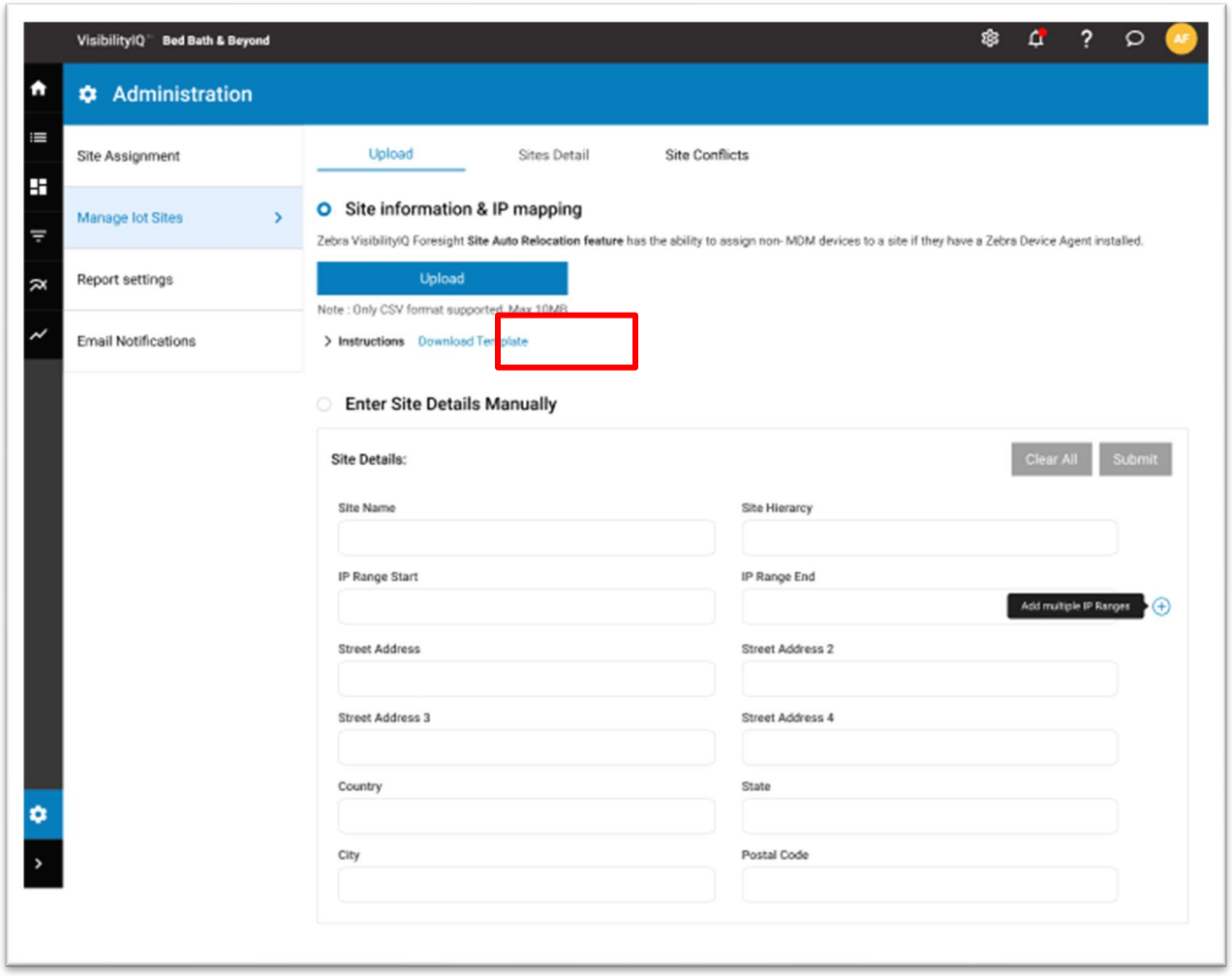
Upload Sites Using Template

Upload Process – IOT or MDM Sites

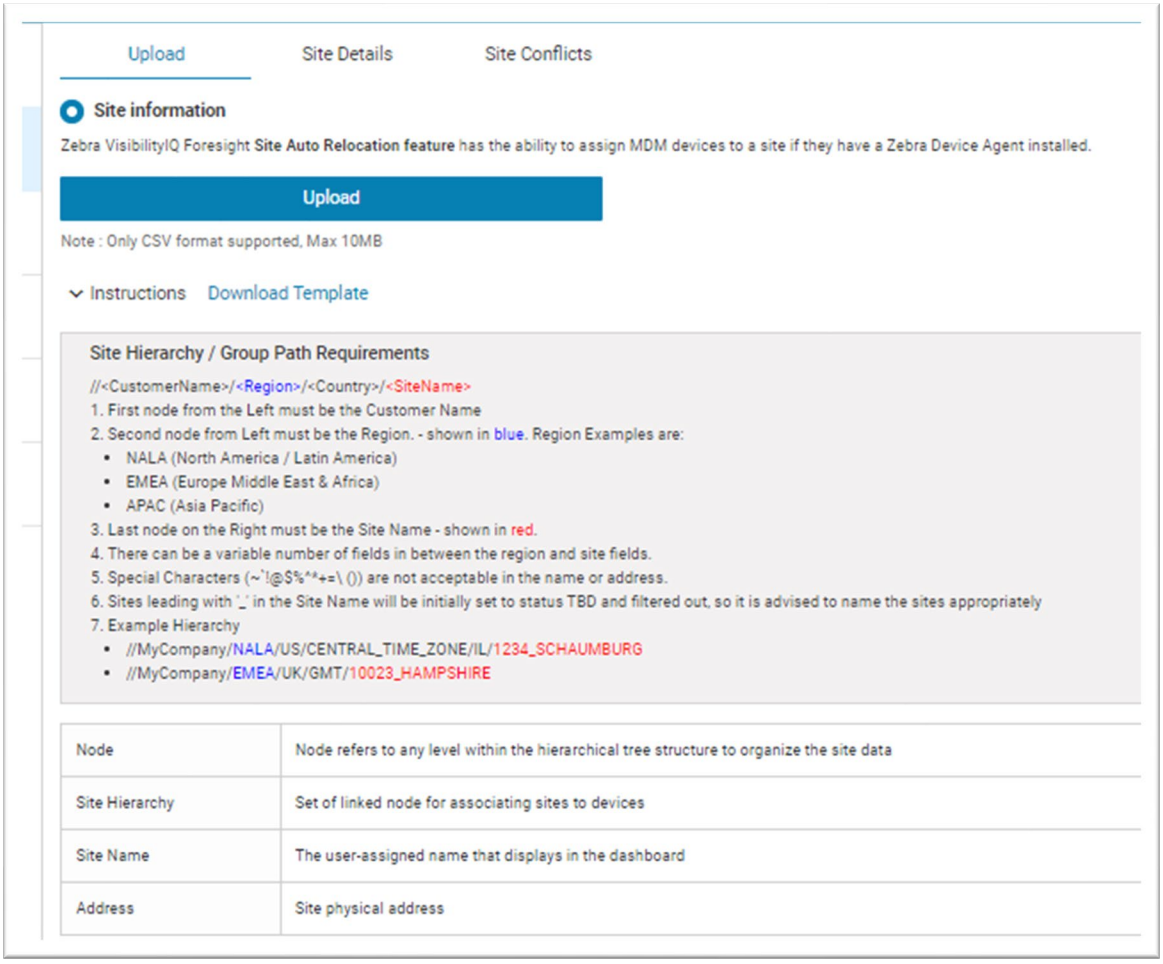
Users that have been assigned the Manage Sites feature can upload site information in bulk via a template.

1. Navigate to the site management screen by clicking on "Administration" from the dashboard Home page, then click on "Manage Sites".

2. Click “Download Template”.
   Depending on the dashboard setup, you will download an IOT-specific template or an MDM template.

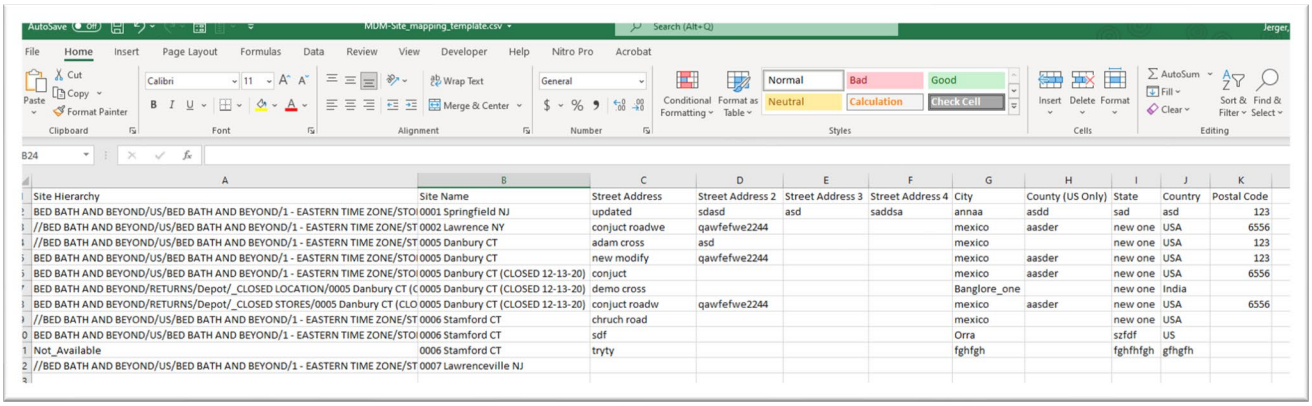


3. Follow the instructions provided in VIQ regarding the format of the template.



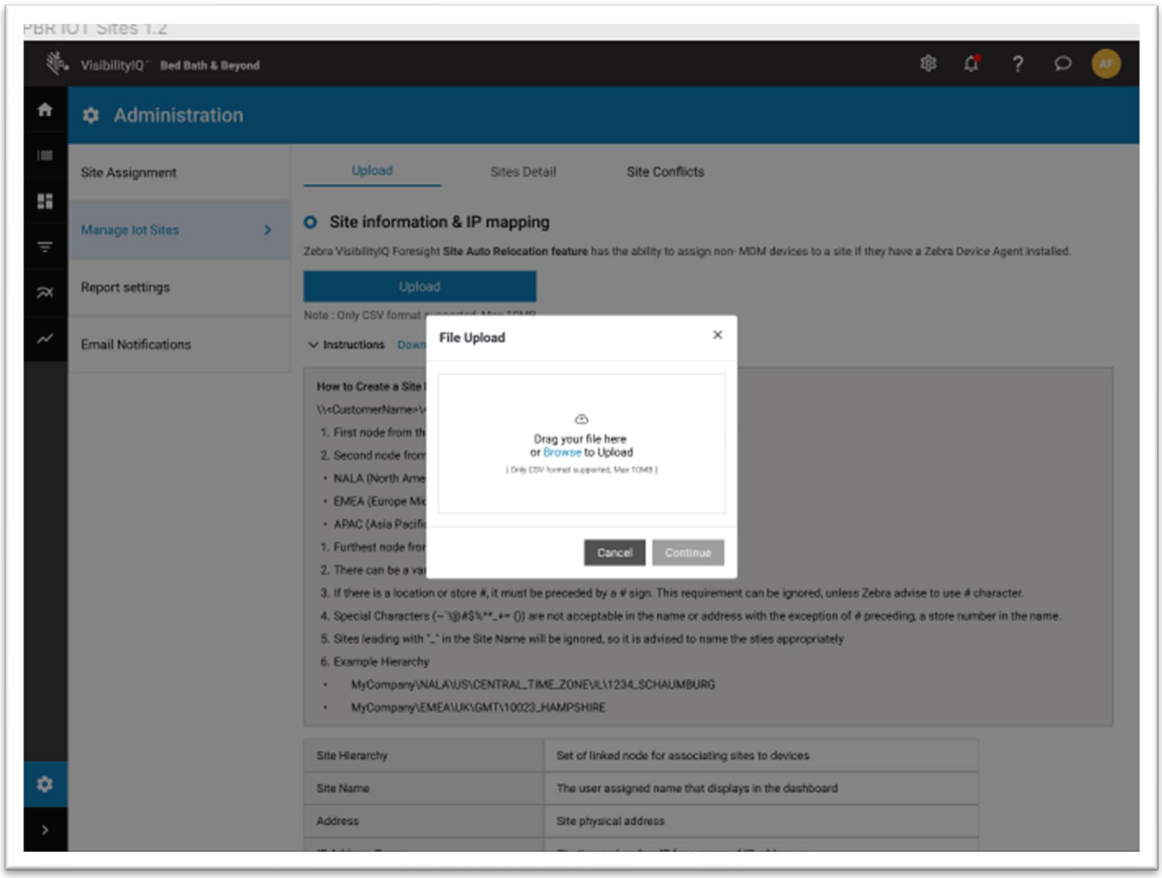
Enter site information including Site Hierarchy, Site Name, Address, City, County (US Only), State, Country, Postal Code, and IP range(s) (IOT only) for each site.

- IP Range is not required for MDM template.
- For MDM, initial template will get pre-populated with Site Hierarchy and Site Name

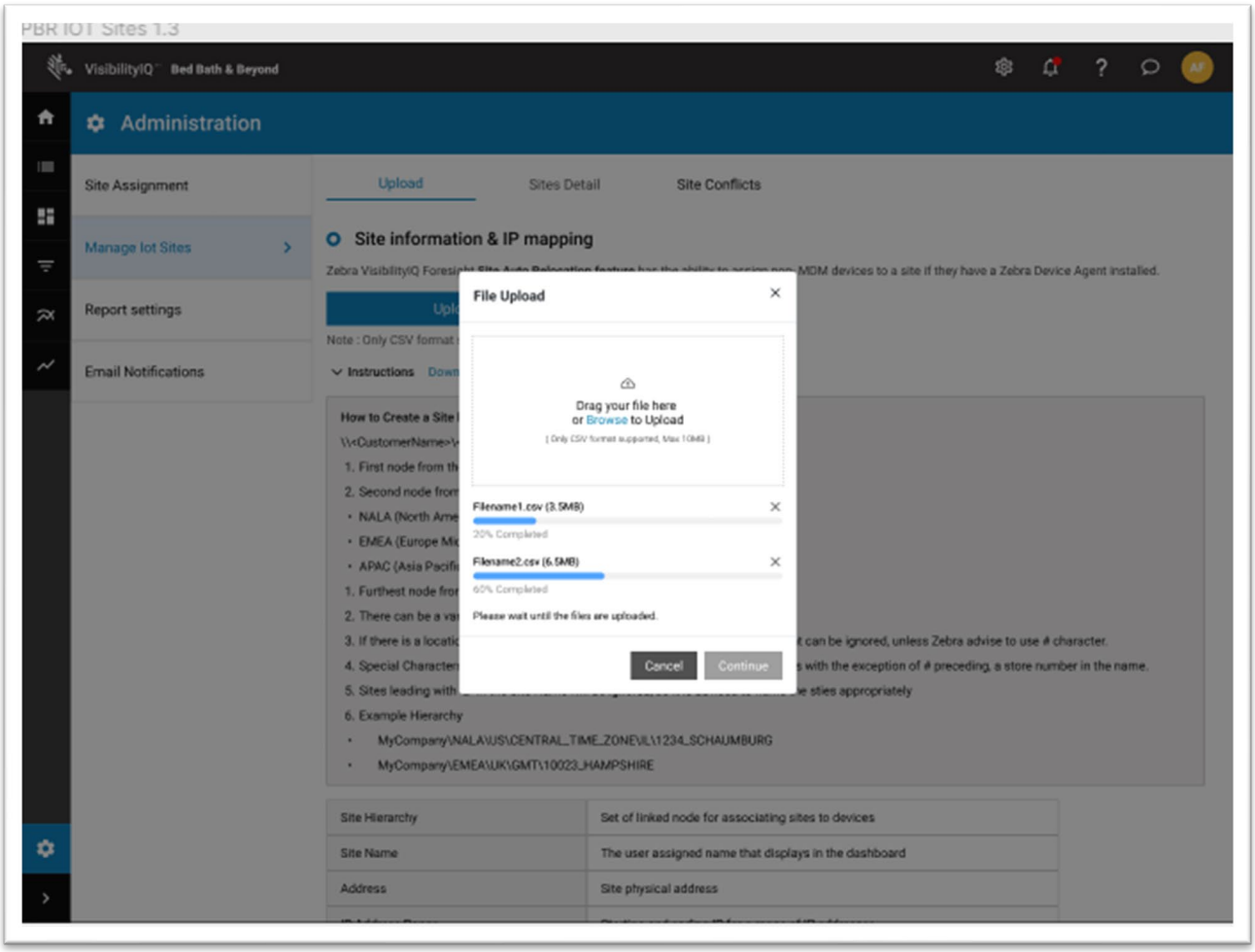


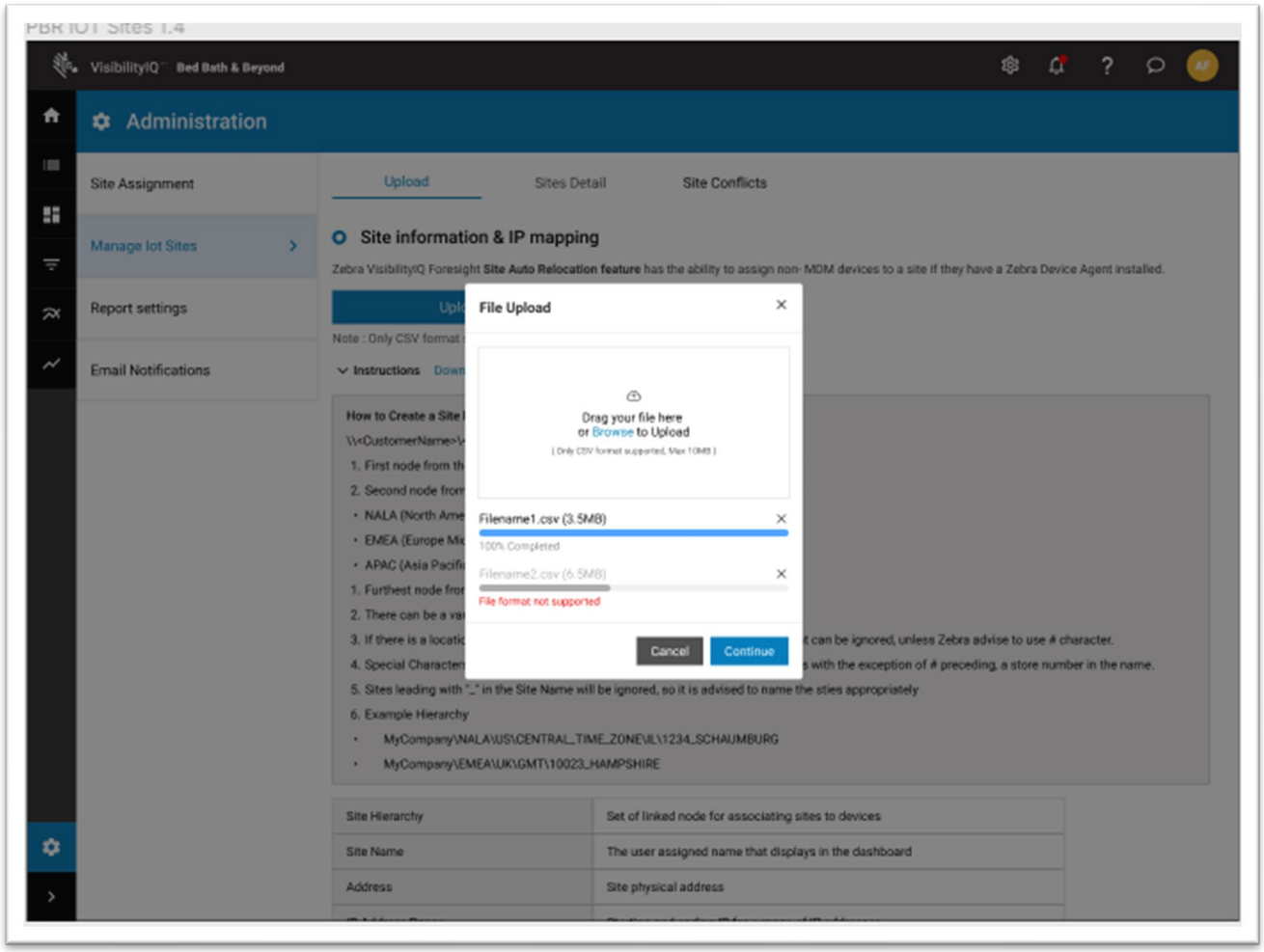
Site Hierarchy	Site Name	Street Address	Street Address 2	Street Address 3	Street Address 4	City	County (US Only)	State	Country	Postal Code
BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/STO	0001 Springfield NJ	updated	sdasd	asd	saddsa	annaa	asdd	sad	asd	123
//BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/ST	0002 Lawrence NY	conjuct roadwe	qawfefwe2244			mexico	aasder	new one	USA	6556
//BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/ST	0005 Danbury CT	adam cross	asd			mexico		new one	USA	123
BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/STO	0005 Danbury CT	new modify	qawfefwe2244			mexico	aasder	new one	USA	123
BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/STO	0005 Danbury CT (CLOSED 12-13-20)	conjuct				mexico	aasder	new one	USA	6556
BED BATH AND BEYOND/RETURNS/Depot/_CLOSED LOCATION/0005 Danbury CT (C	0005 Danbury CT (CLOSED 12-13-20)	demo cross				Banglore_one		new one	India	
BED BATH AND BEYOND/RETURNS/Depot/_CLOSED STORES/0005 Danbury CT (CLO	0005 Danbury CT (CLOSED 12-13-20)	conjuct roadw	qawfefwe2244			mexico	aasder	new one	USA	6556
//BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/ST	0006 Stamford CT	chruch road				mexico		new one	USA	
BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/STO	0006 Stamford CT	sdf				Orra		szfdf	US	
Not_Available	0006 Stamford CT	tryty				fghfgh		fghfhfgh	gfhgfh	
//BED BATH AND BEYOND/US/BED BATH AND BEYOND/1 - EASTERN TIME ZONE/ST	0007 Lawrenceville NJ									

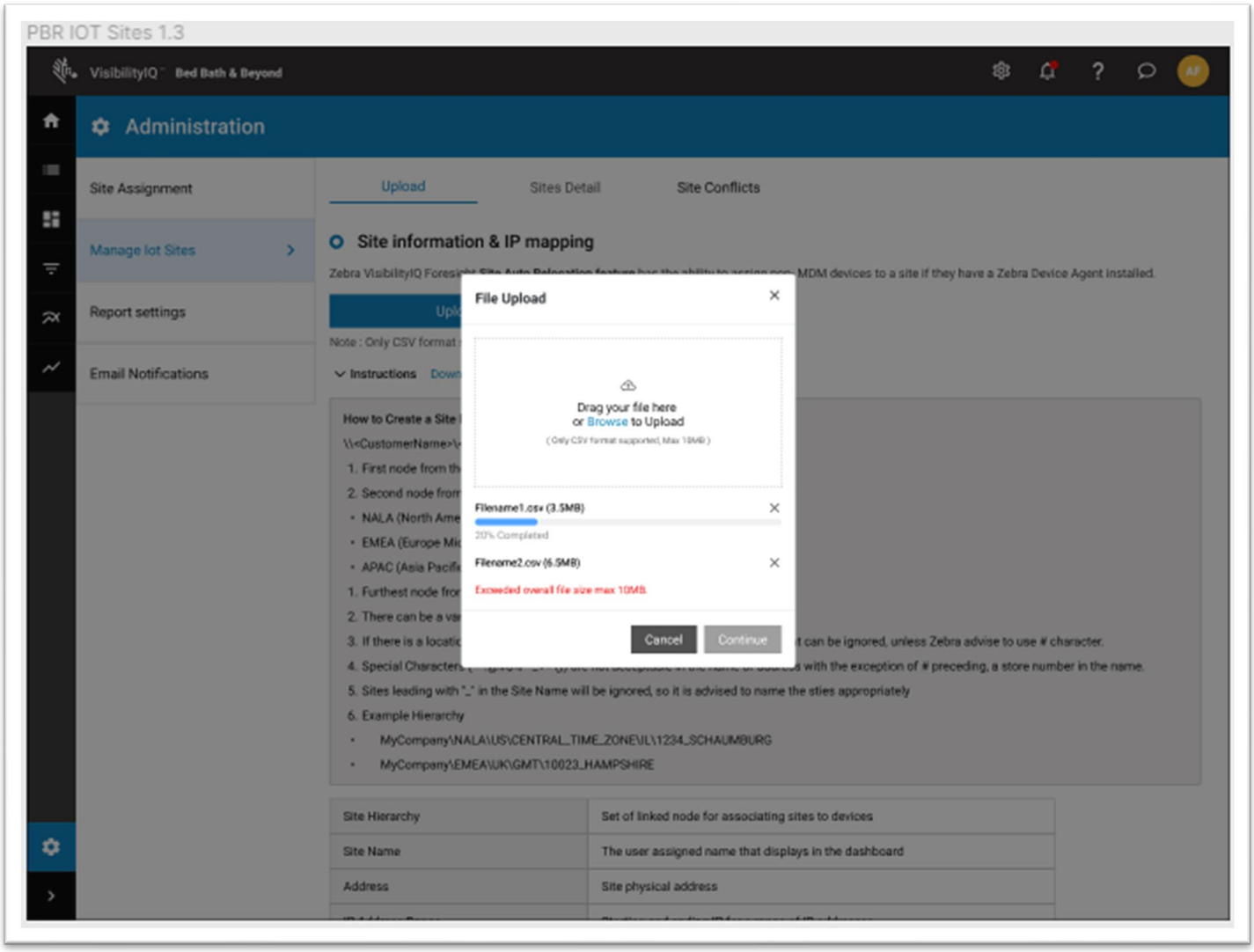
4. After site info is entered in the template and saved to your computer, click “Upload” and a pop-up window displays.
5. Drag the completed template or browse your computer for the file to upload. The status of uploading will display.



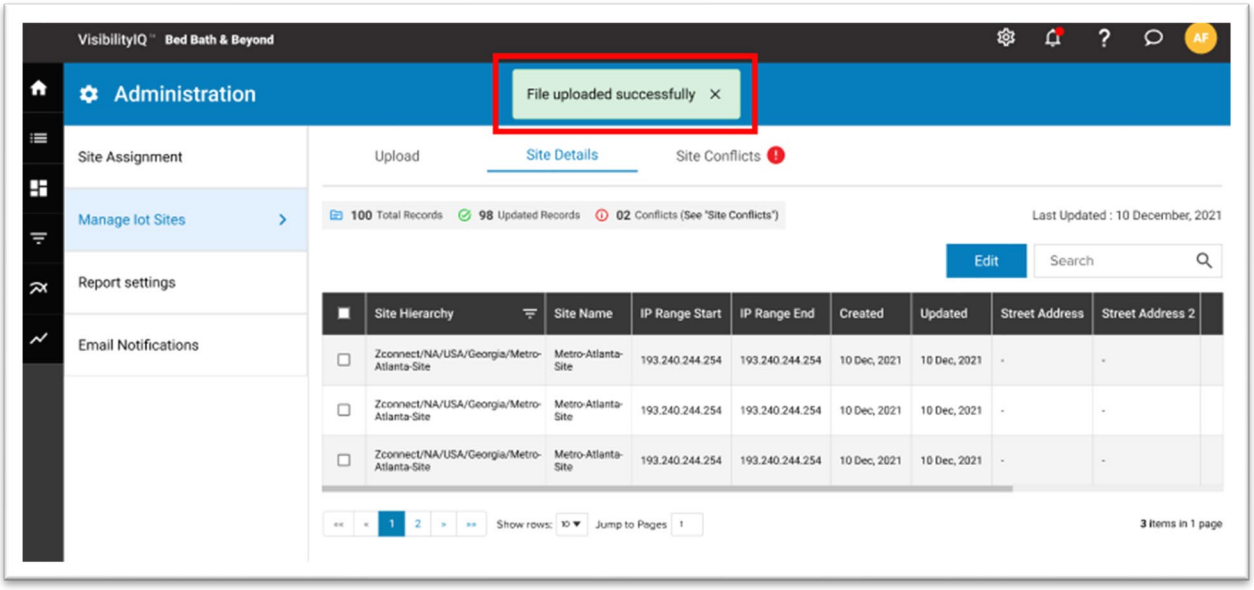
6. If the data format supplied in the template is not supported by the upload process or the combined size of files to be uploaded exceeds the limit of 10 MG, an error message will display, and the user can make changes to the template by reducing the number of lines in the file so that the file size is smaller can be uploaded successfully. Additionally, if too may files were submitted causing the file size to be exceeded, the user can reduce the number of files being submitted, and submit the remaining files in a separate batch.



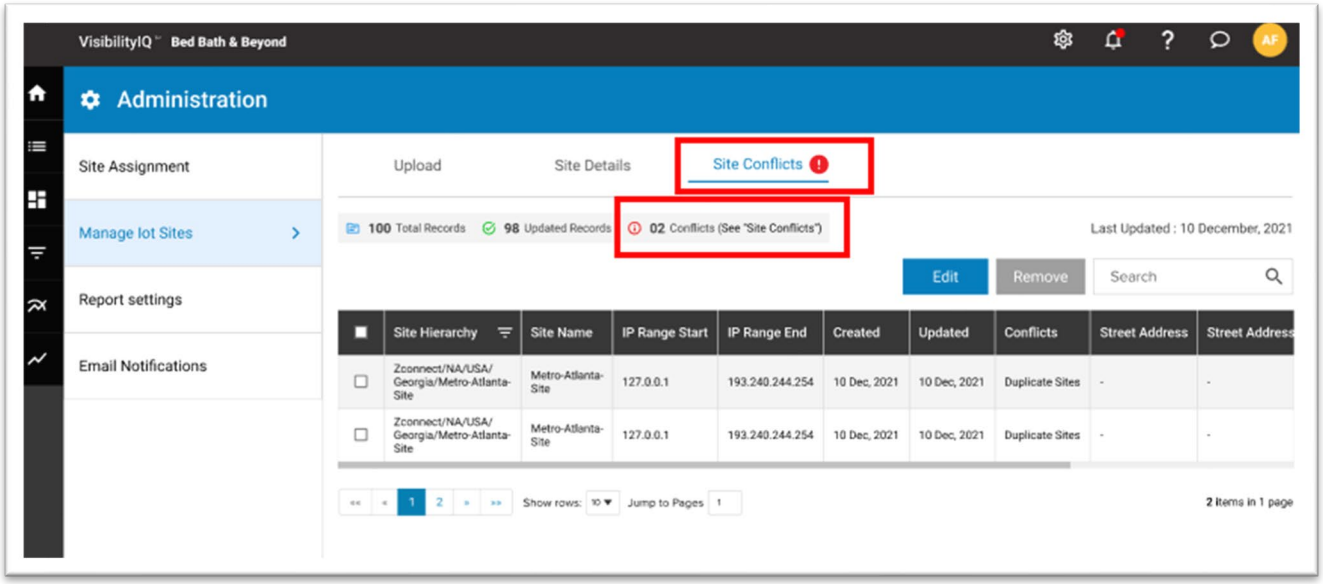

VisibilityIQ
Bed Bath & Beyond
Administration
Site Assignment
Manage Iot Sites
Report settings
Email Notifications
Upload
Sites Detail
Site Conflicts
Site information & IP mapping
Zebra VisibilityIQ Foresight Site Auto Relocation feature has the ability to assign non- MDM devices to a site if they have a Zebra Device Agent installed.
File Upload
Drag your file here
or Browse to Upload
Filename1.csv (3.5MB)
100% Completed
Filename2.csv (6.5MB)
File format not supported
Cancel
Continue
Instructions
How to Create a Site
1. First node from th
2. Second node from
• NALA (North Ame
• EMEA (Europe Mi
• APAC (Asia Pacifi
1. Furthest node fro
2. There can be a va
3. If there is a locatio
4. Special Character
5. Sites leading with "_" in the Site Name will be ignored, so it is advised to name the sties appropriately
6. Example Hierarchy
• MyCompany\NALA\US\CENTRAL_TIME_ZONE\IL\1234_SCHAUMBURG
• MyCompany\EMEA\UK\GMT\10023_HAMPSHIRE
t can be ignored, unless Zebra advise to use # character.
s with the exception of # preceding, a store number in the name.
Site Hierarchy
Set of linked node for associating sites to devices
Site Name
The user assigned name that displays in the dashboard
Address
Site physical address


PBR IOT Sites 1.3
VisibilityIQ
Bed Bath & Beyond
Administration
Site Assignment
Manage Iot Sites
Report settings
Email Notifications
Upload
Sites Detail
Site Conflicts
Site information & IP mapping
File Upload
Drag your file here
or Browse to Upload
Filename1.csv (3.5MB)
20% Completed
Filename2.csv (6.5MB)
Exceeded overall file size max 10MB.
Cancel
Continue
Instructions
How to Create a Site
1. First node from th
2. Second node from
• NALA (North Ame
• EMEA (Europe Mi
• APAC (Asia Pacifi
1. Furthest node fro
2. There can be a va
3. If there is a locati
4. Special Character
5. Sites leading with "_" in the Site Name will be ignored, so it is advised to name the sties appropriately
6. Example Hierarchy
• MyCompany\NALA\US\CENTRAL_TIME_ZONE\IL\1234_SCHAUMBURG
• MyCompany\EMEA\UK\GMT\10023_HAMPSHIRE
Site Hierarchy
Set of linked node for associating sites to devices
Site Name
The user assigned name that displays in the dashboard
Address
Site physical address

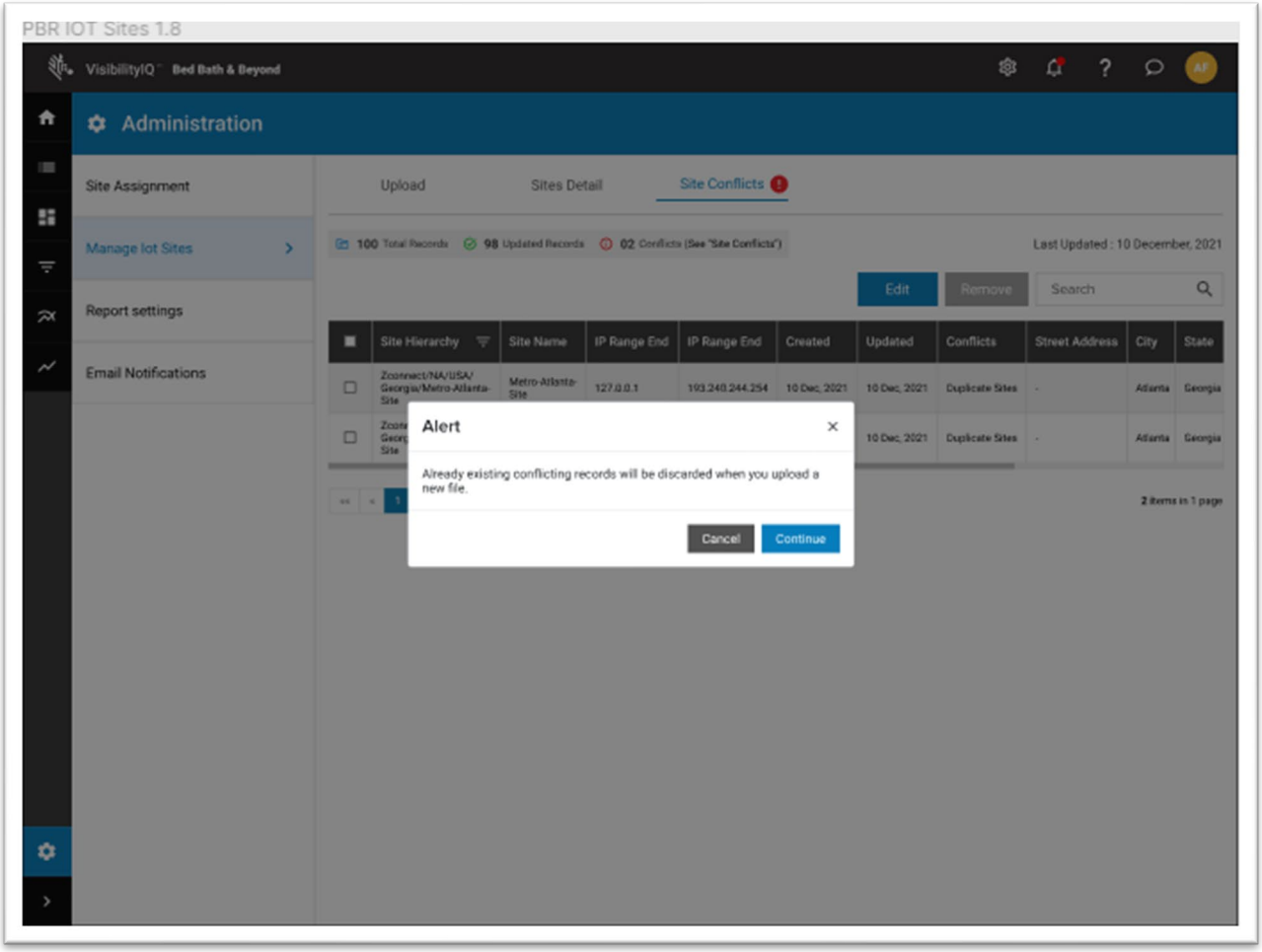
When the file is uploaded successfully, a confirmation message displays.



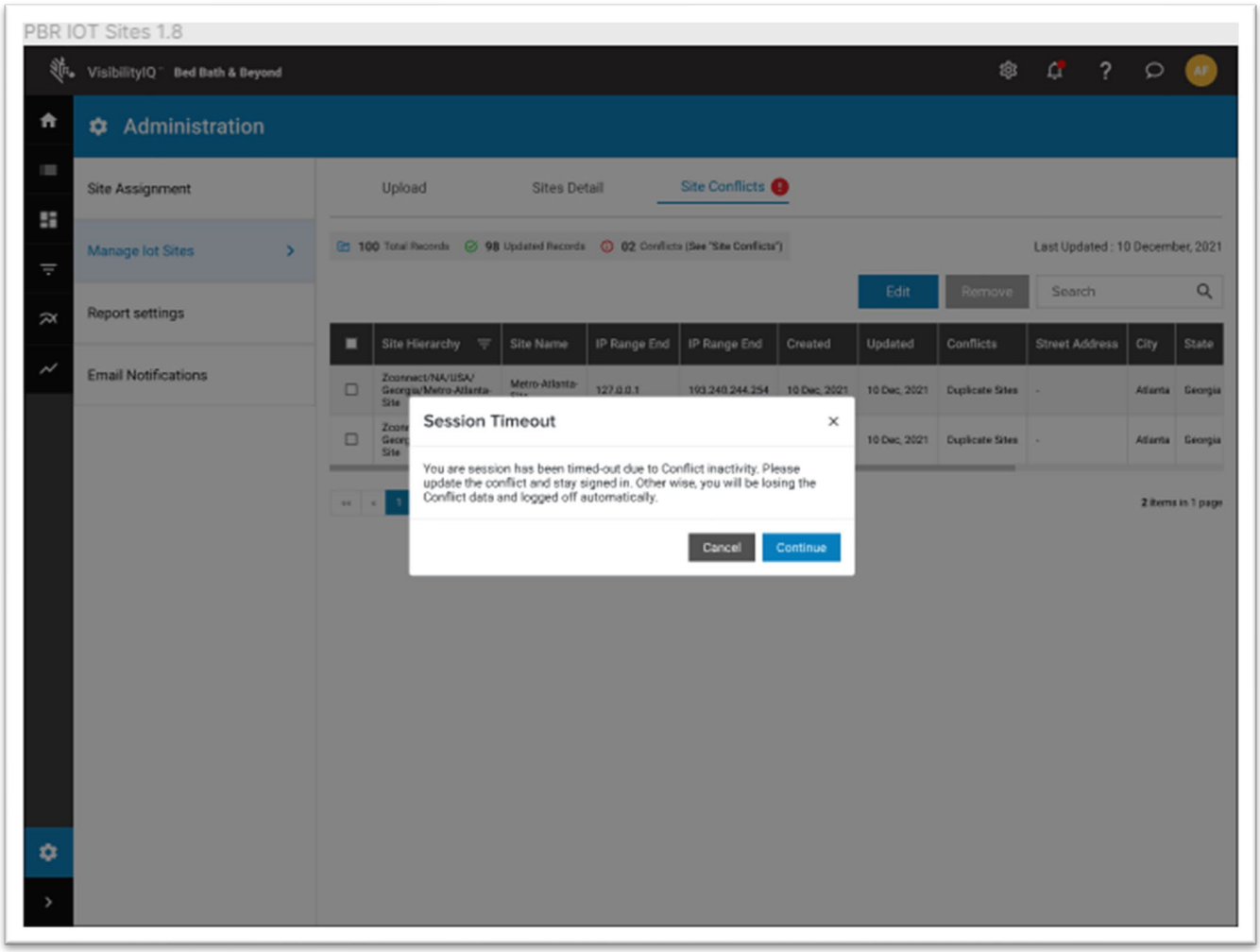
As part of the file upload process, site validation is done on the formatting and content of the information in the Site Template file. Additionally, the new site information will be compared to existing sites in the dashboard. If an issue exists, the tool will identify the problem in the Site Conflict tab and allow the user to resolve the issue using the edit or remove features.

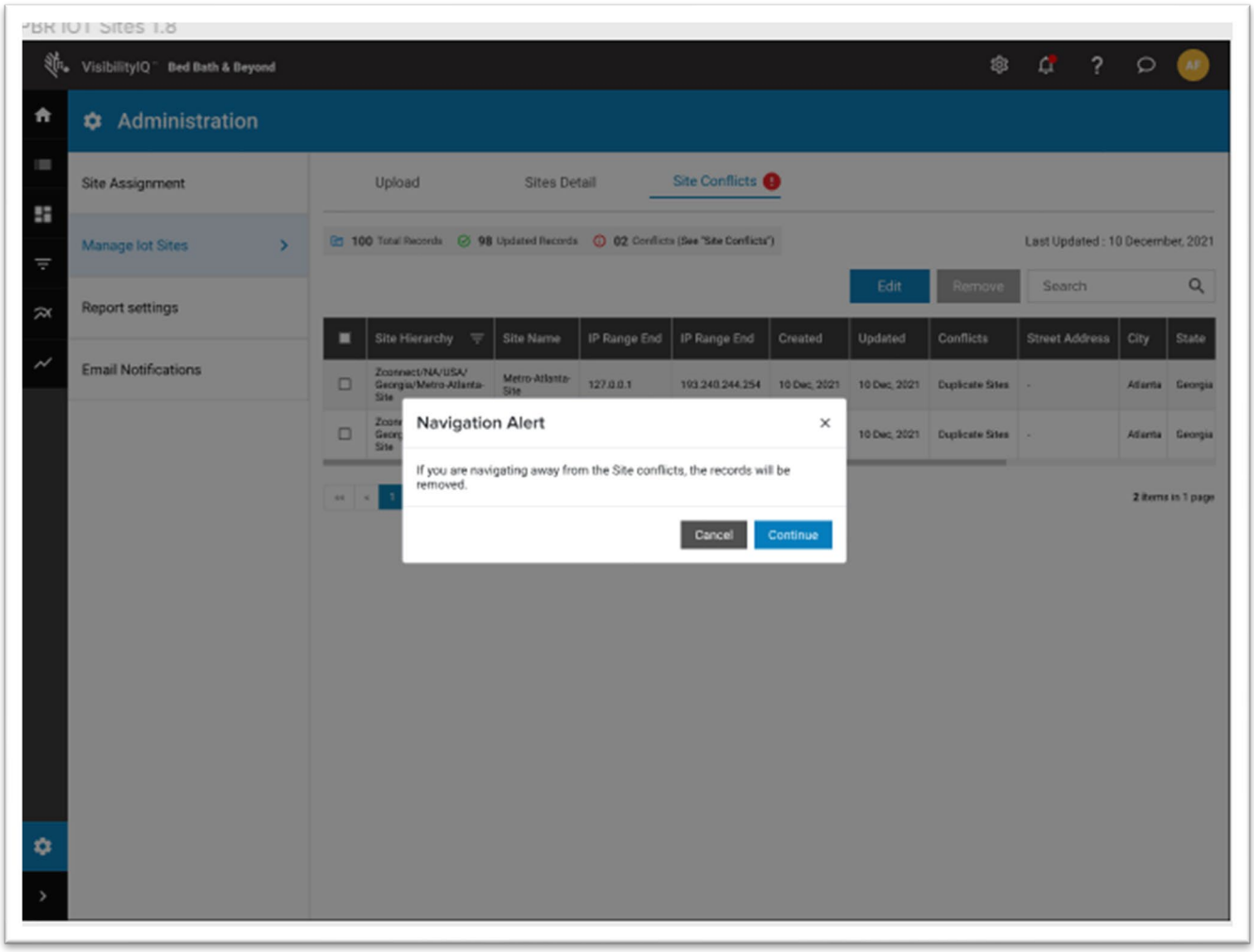


If you try to upload a new file before resolving exiting conflicts, an Alert notifies you that previously identified conflicts will be discarded and the data for those sites in conflict will not be uploaded to the dashboard.



Additionally, if the system detects no activity for a period or if you navigate away from the tool, the tool times out and/or displays an alert that conflicts will be discarded.

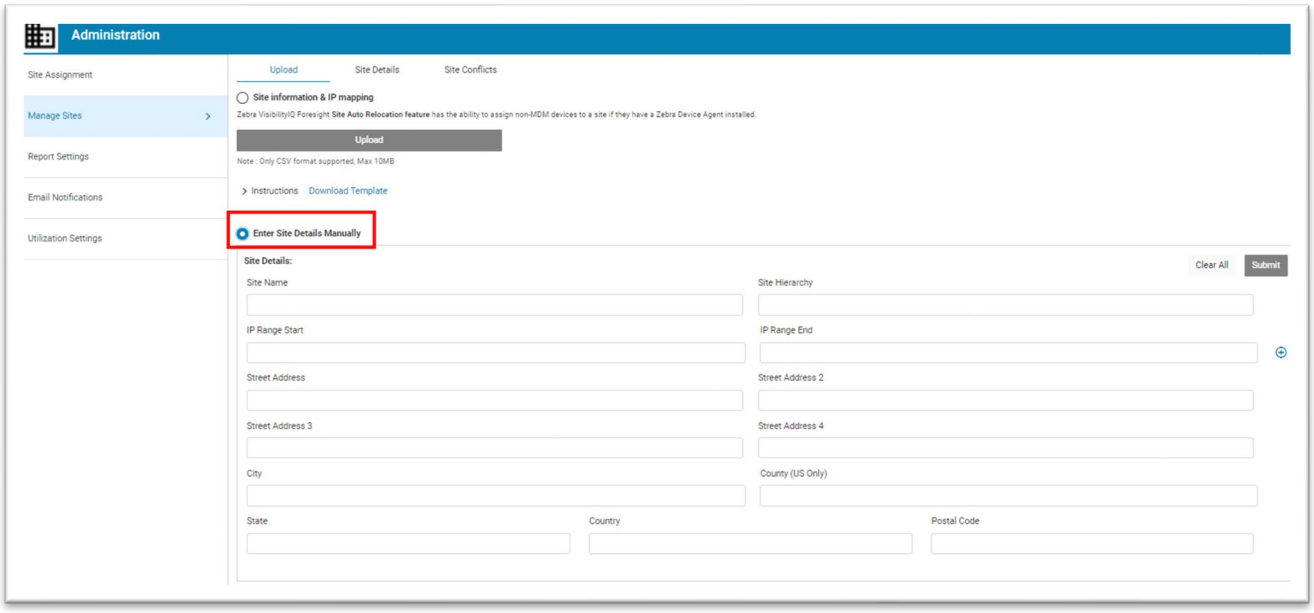



VisibilityIQ
Bed Bath & Beyond
Administration
Site Assignment
Manage Iot Sites
Report settings
Email Notifications
Upload
Sites Detail
Site Conflicts
100 Total Records
98 Updated Records
02 Conflicts (See "Site Conflicts")
Last Updated : 10 December, 2021
Edit
Remove
Search
Site Hierarchy
Site Name
IP Range End
IP Range End
Created
Updated
Conflicts
Street Address
City
State
Navigation Alert
If you are navigating away from the Site conflicts, the records will be removed.
Cancel
Continue

Upload Sites Using Manual Site Entry

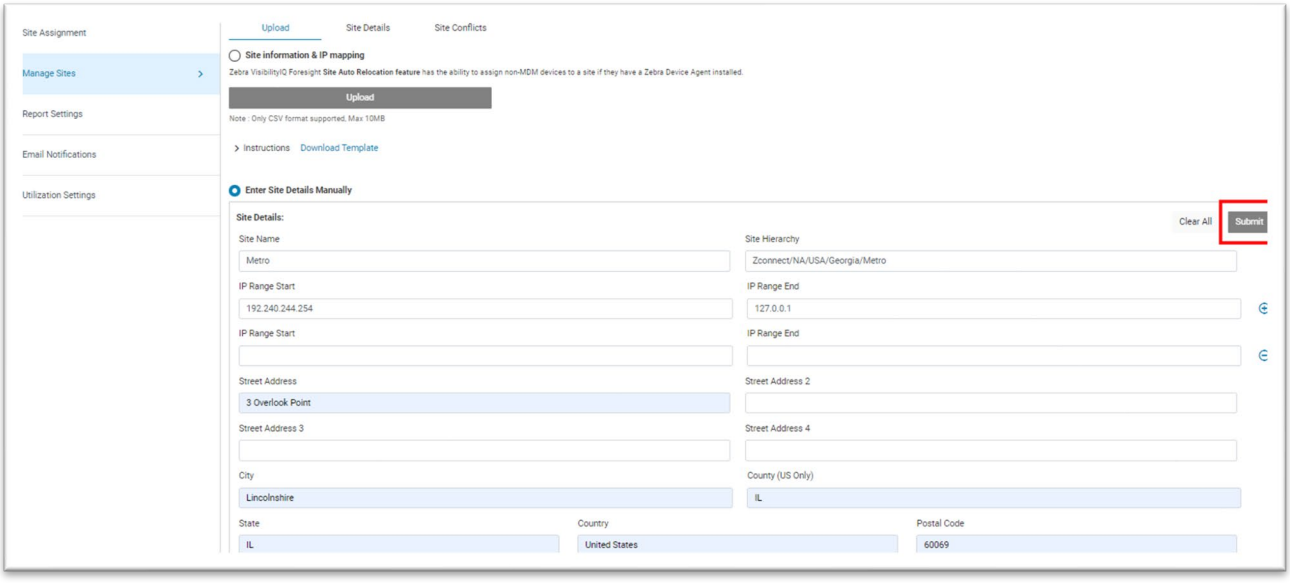
Manual Site Entry

1. Sites can also be entered and updated manually by entering the required data in the “Enter Site Details Manually” section.

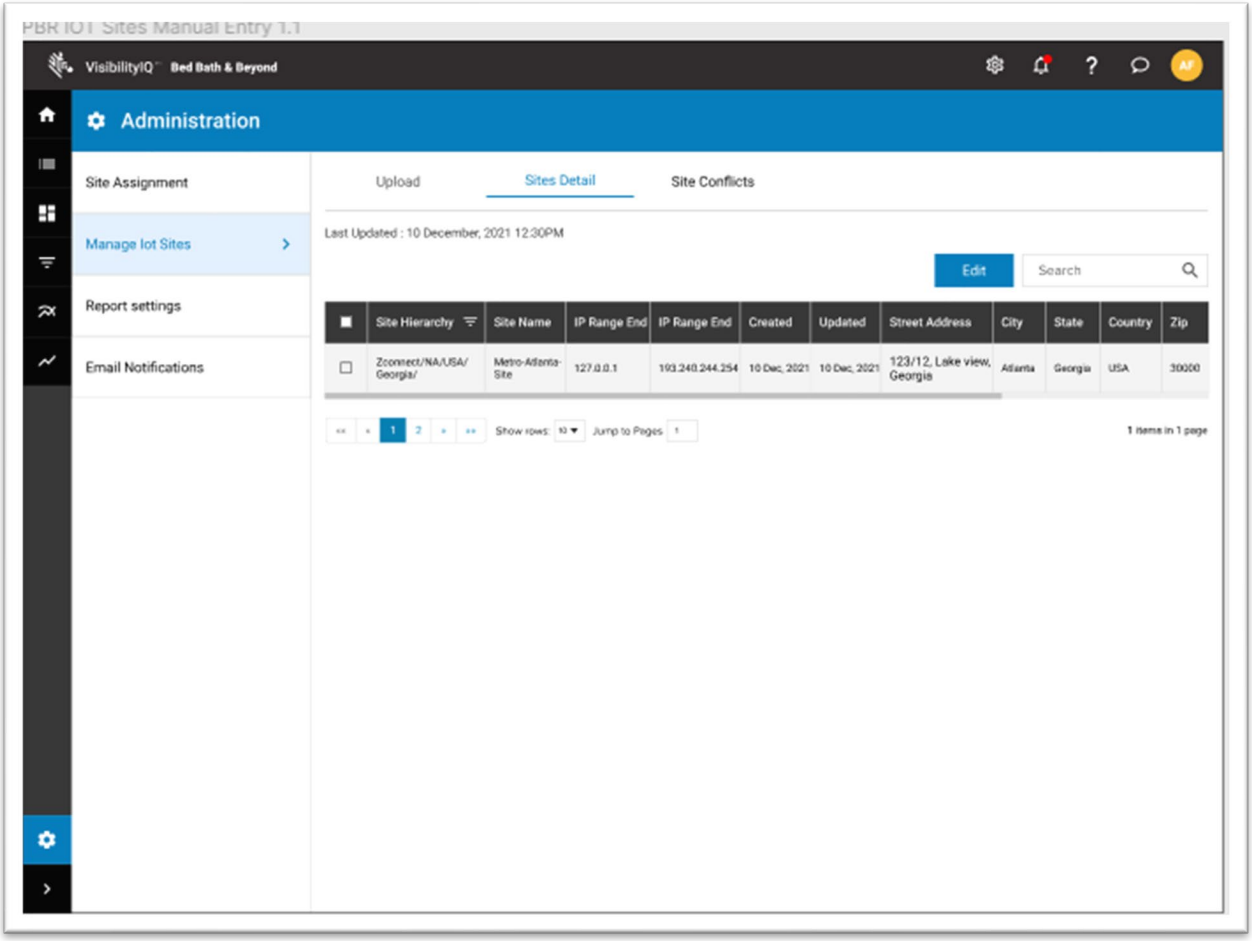


2. For IOT setup, user must enter all of the relevant site information including IP address range. For MDM setup, user can click the drop down to populate Site Hierarchy and Site Name for the site they would like to make changes to.

3. Once the site details have been entered in the form, click “Submit” to have the information accepted.

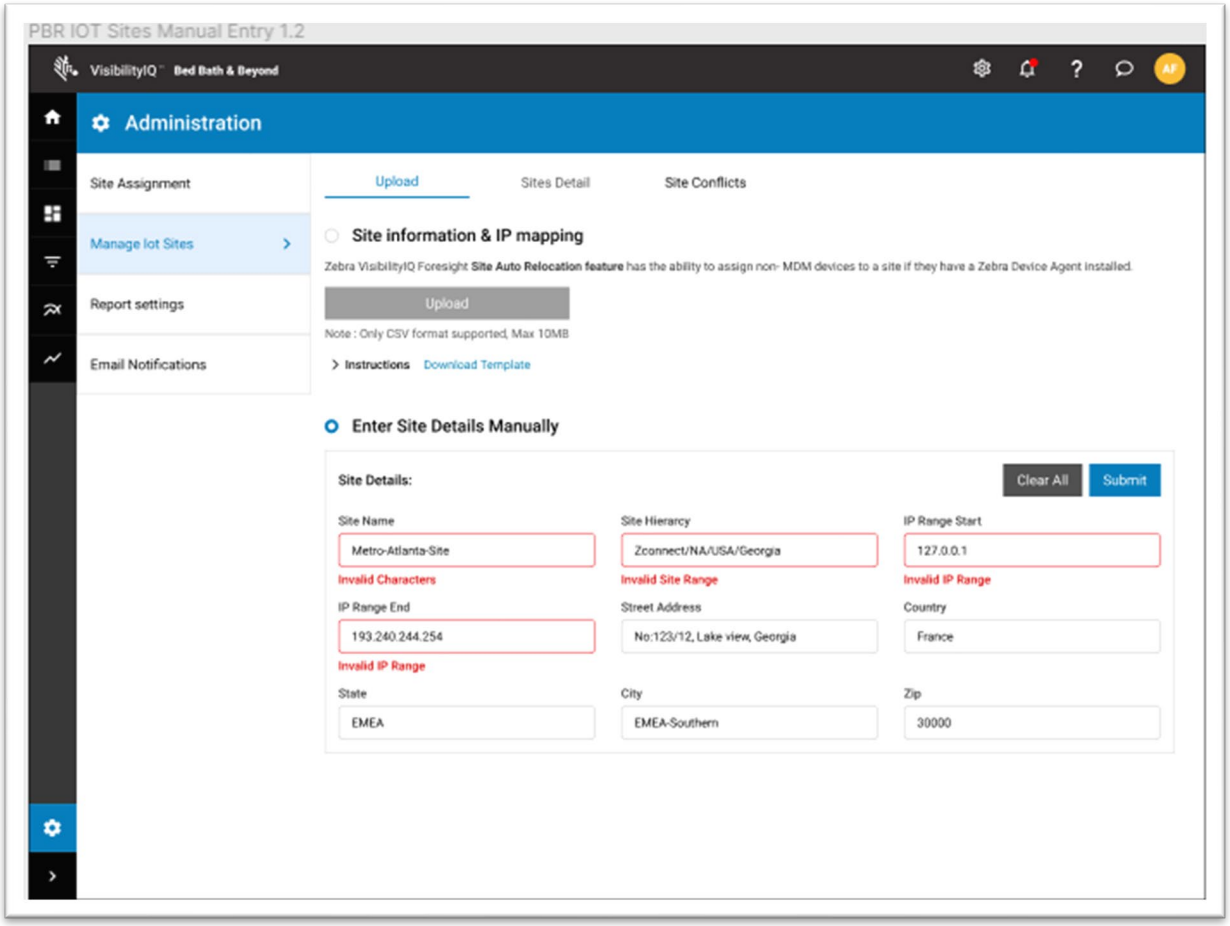


4. User can view the newly updated site in the Site Details tab.



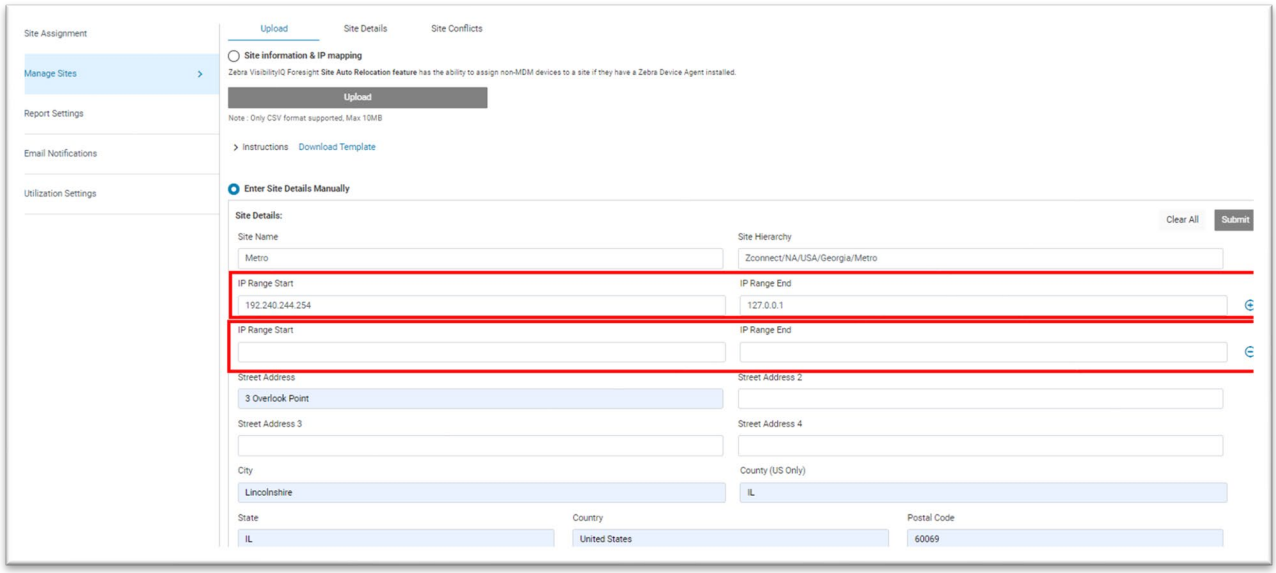
Manual Upload Form Validation Errors

1. Upon submission of the manual site record, validation will be performed to ensure all mandatory fields have been entered correctly.



Manual Site Entry – Adding Multiple New Sites

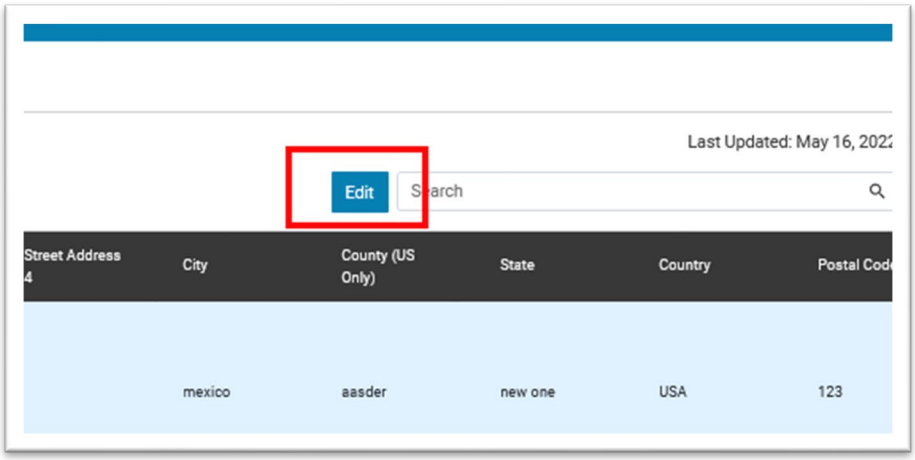
Multiple sites can be entered manually. In addition, manual entry can accommodate situations where a single site has multiple IP ranges (IOT setup only)

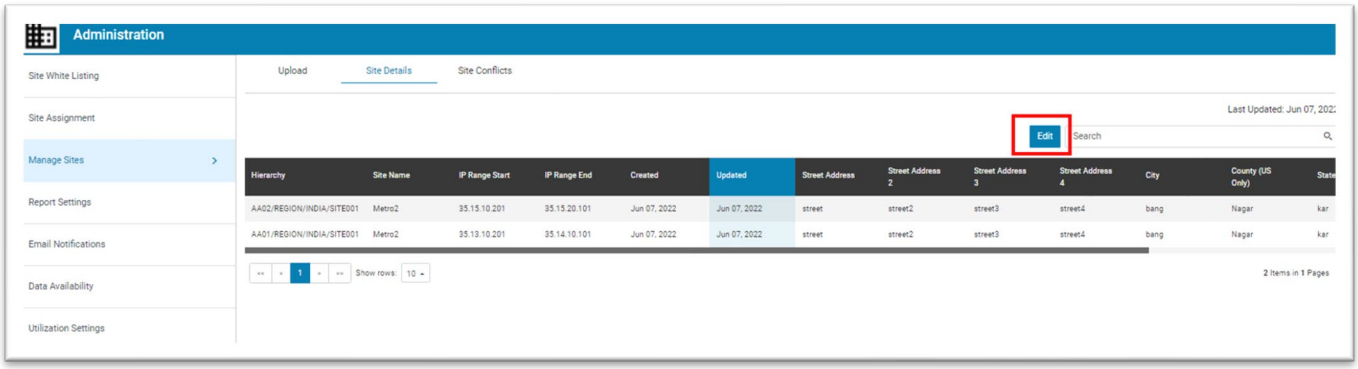


Site Details

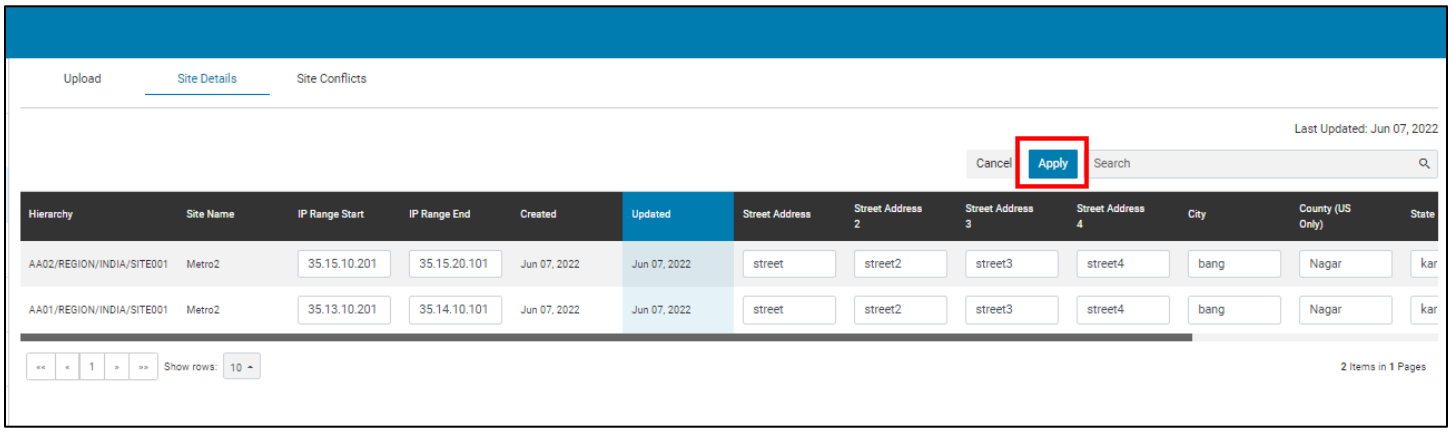
The Site Details tab allows the user to view all the sites that are loaded for the dashboard that the user is accessing. They are sorted by the “Updated” column, newest to oldest.

1. Click “Edit” to make changes to any of the address fields for a site. Additionally, you can edit the IP Address information if the dashboard is an IOT setup.



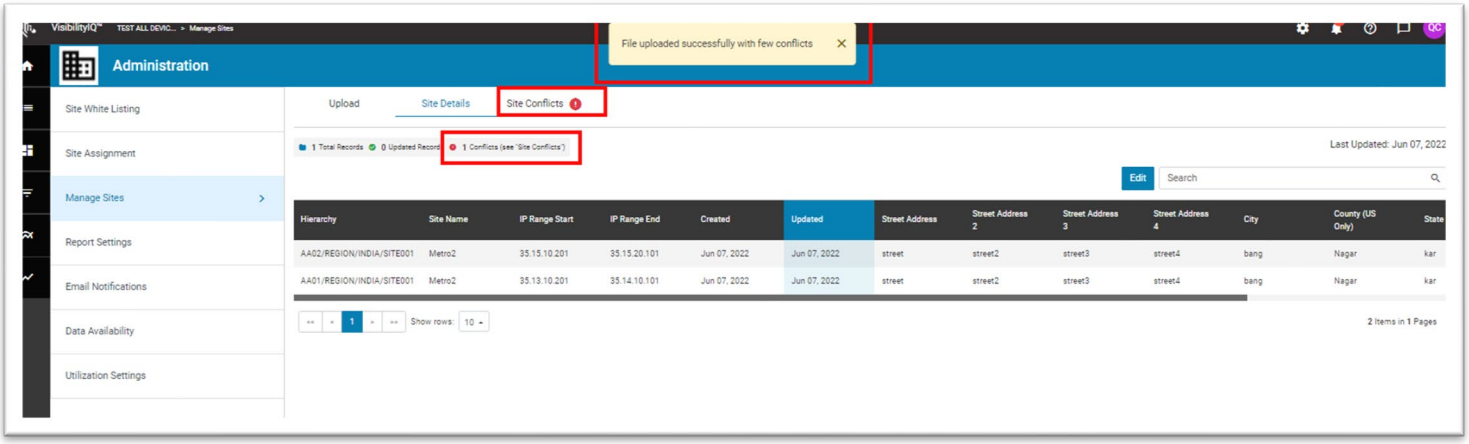


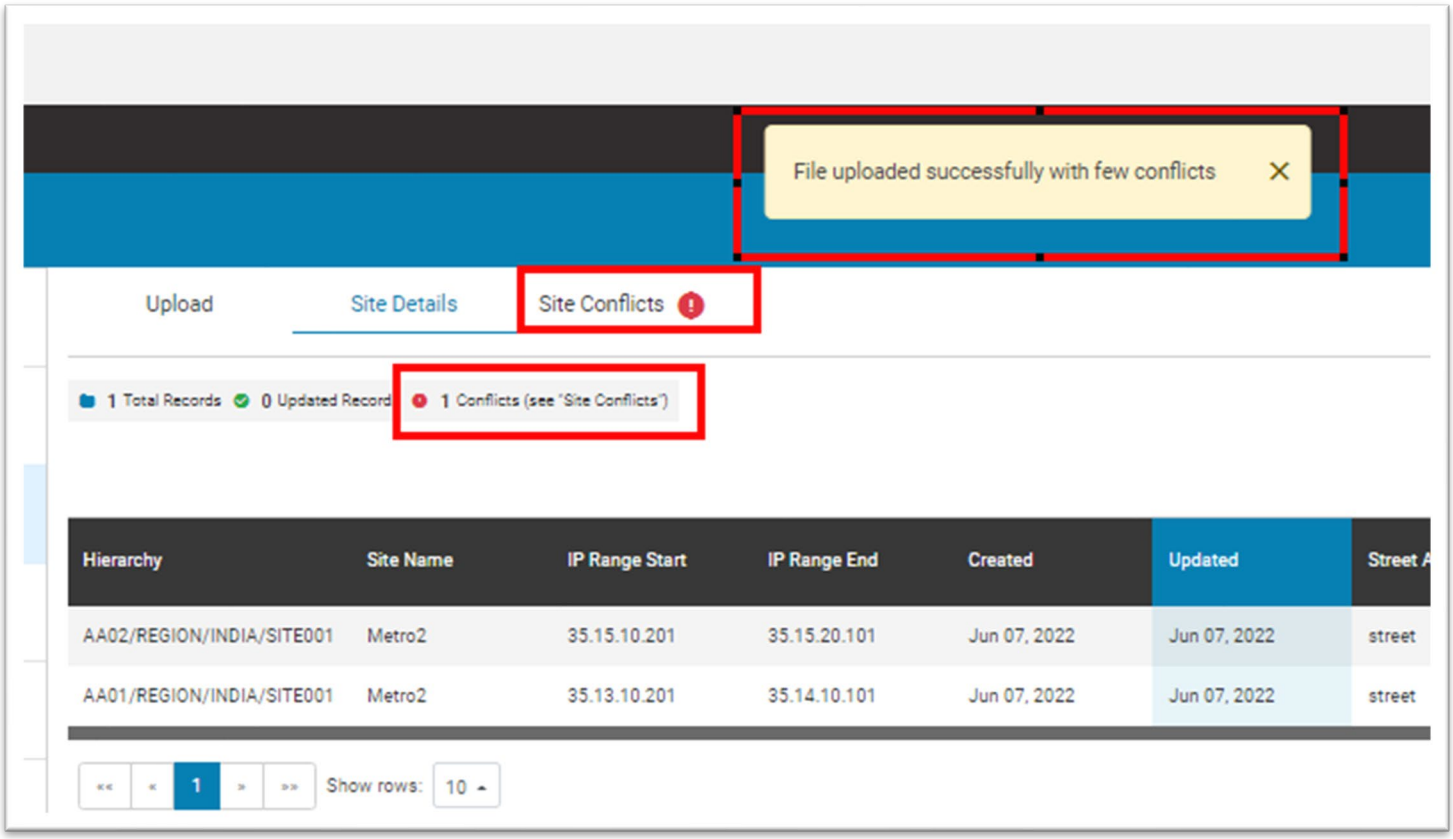
2. Click “Apply” to save your changes.



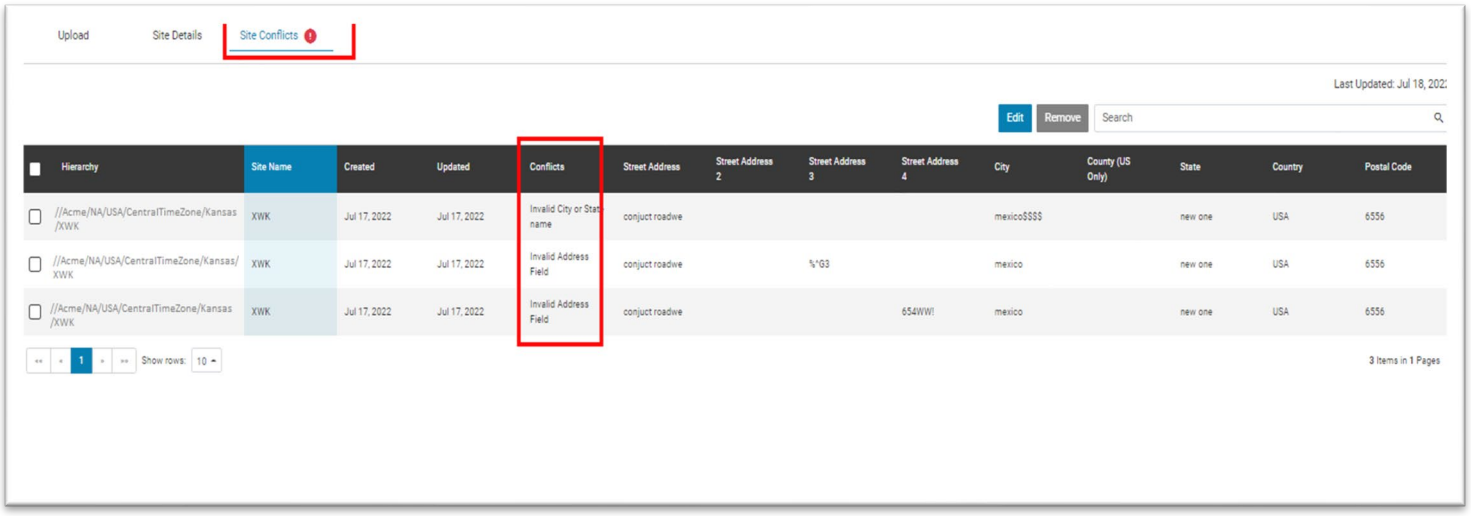
Site Conflicts

After the site changes have been processed, the system will identify if there are any site conflicts within the processed sites. This will be indicated by message stating the “File uploaded successfully with a few conflicts” and a red icon showing next to the Site Conflicts tab. Additionally, number of conflicts will be listed.

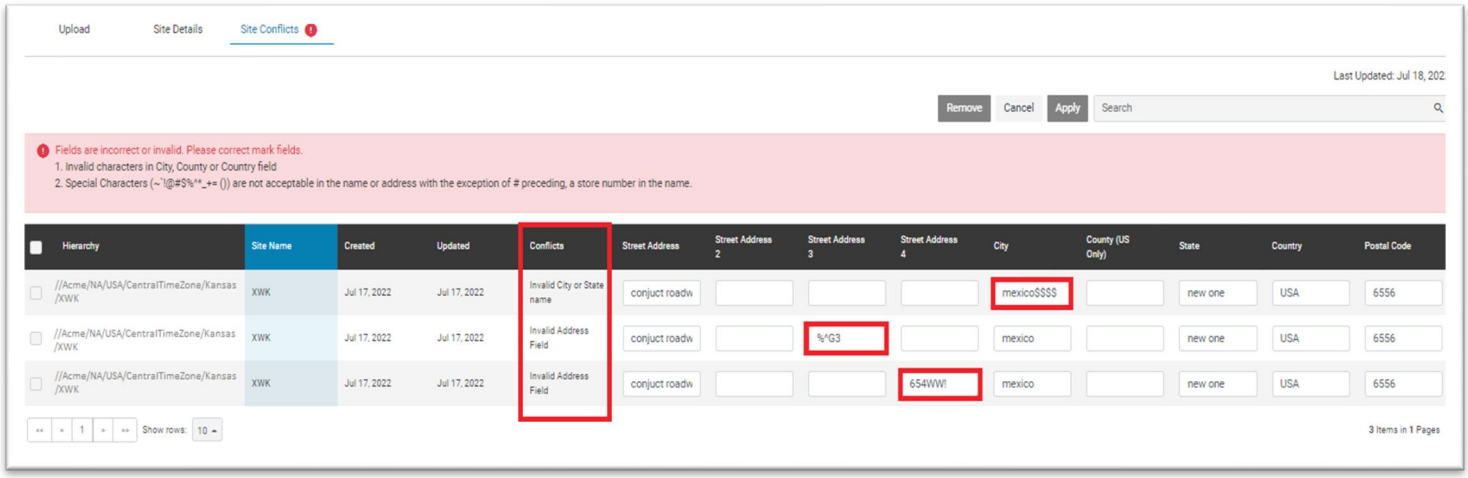




1. Click the Site Conflicts tab and resolve the identified issues. In the Site Conflicts tab, the “Conflicts” column will indicate the reason for the conflict. By clicking the check box next to the line they want to correct, and clicking “Edit”, the user can make the appropriate corrections.



Upon clicking Edit, the type of errors found will be displayed at the top and the fields that need attention will be outlined in red.



Some possible Conflict reasons that may be shown:

- Duplicate Sites
- Hierarchy or Site Name does not exist
- Formatting inconsistencies
- IP ranges overlap (IOT only)

2. Click “Apply” once all corrections have been completed.

3. Failure to correct the conflicts will prevent those site changes from being reflected in the database. Sites left in Conflict will not show the updated information the VIQ dashboard. All conflicts must be resolved before changes will be submitted.

EMAIL NOTIFICATIONS

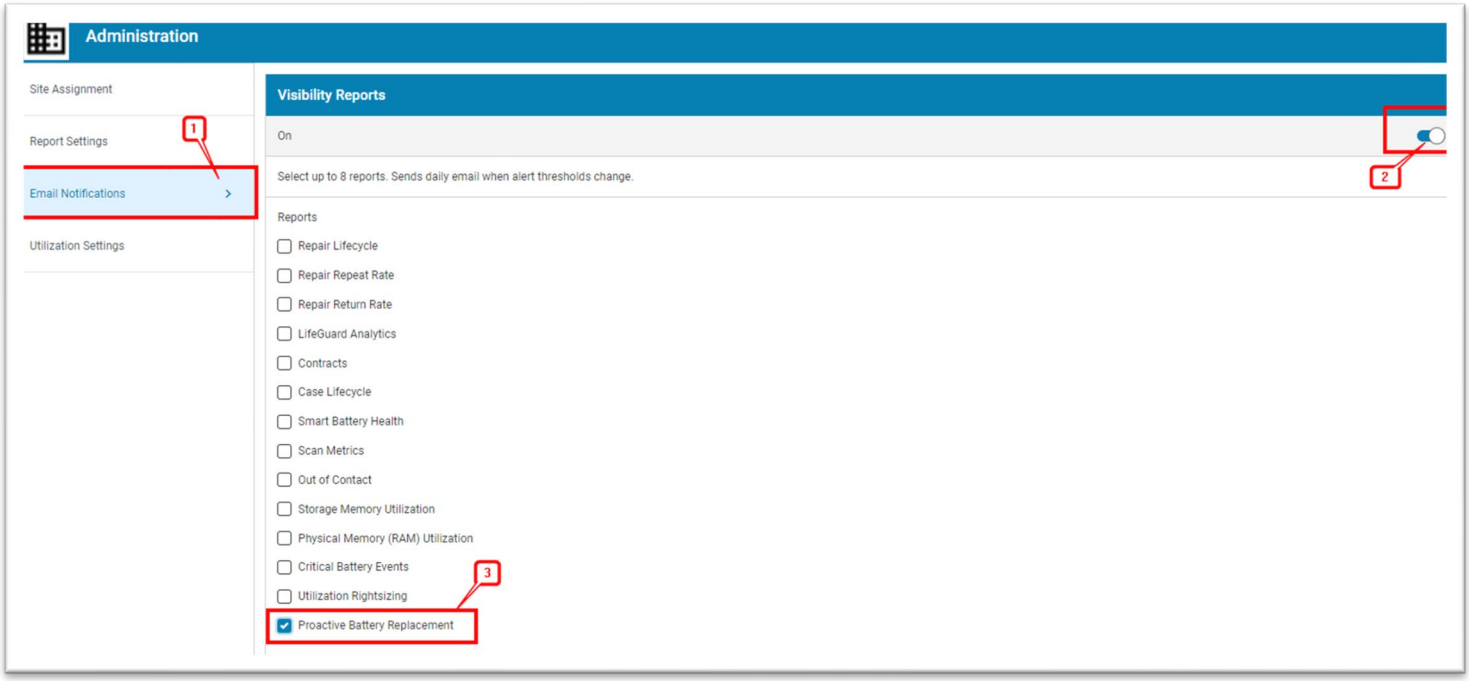
Users can individually enable email notifications. For a Proactive Battery Replacement user, there are two email alert options. One is for a high-level email alerting the user that there are batteries that need to be replaced. The other is a monthly email with an attached export of the Proactive Battery Replacement report, including a special tab showing sites that do not have an address specified.

Enable Proactive Battery Replacement Threshold Alert Email

This is a high-level email notifying you that the 30-day remaining useful life (RUL) threshold has been crossed and there are batteries that will be replaced.

To enable this alert:

1. Navigate to the Administration tab within the dashboard. Choose Email Notifications.
2. Click the toggle button to the right to enable notifications for Visibility Reports
3. Select the checkbox next to the Proactive Battery Replacement report
4. Exit Administration



Enable Proactive Battery Replacement Monthly Email

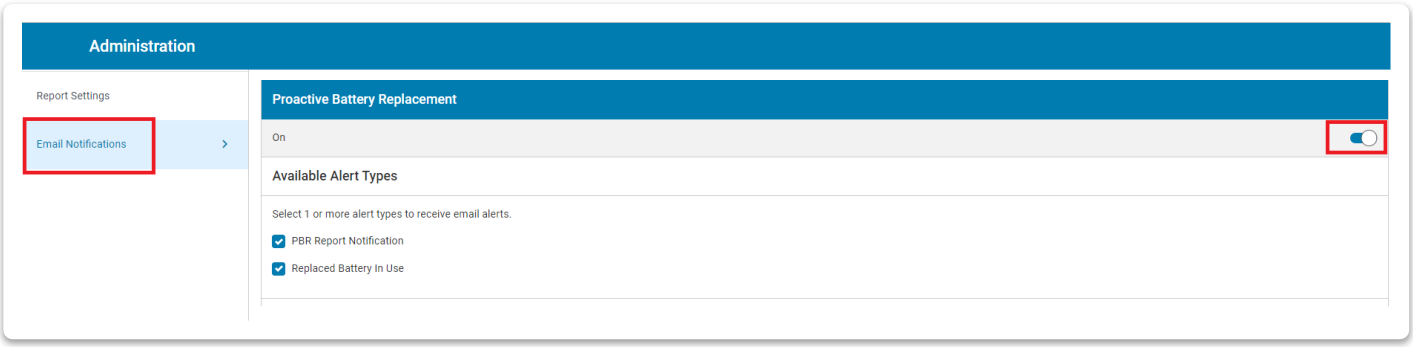
There are two monthly emails available to users. (1) PBR Report Notification email allows a user to receive an email on the first Monday of the month with an export of the Proactive Battery Replacement report. In addition to the three tabs found in the report (Replacement Required, Replaced, Ordered), a fourth tab is included in the excel file with the title “All Sites Without Address”. This tab can be used to identify sites for which a shipping address has not been provided and loaded into VIQ. Combined with the Manage Sites template, this can be used to update any remaining site

shipping addresses for sites in VIQ. (2) Replacement Battery In Use email allows a user to receive a list of all batteries that have been marked for replacement but are still in use beyond the Warning threshold days set in VIQ Report Settings. This email is sent the third Monday of the month. Users are automatically opted in by default but can disable the email through Email Notifications feature under VIQ Administration.

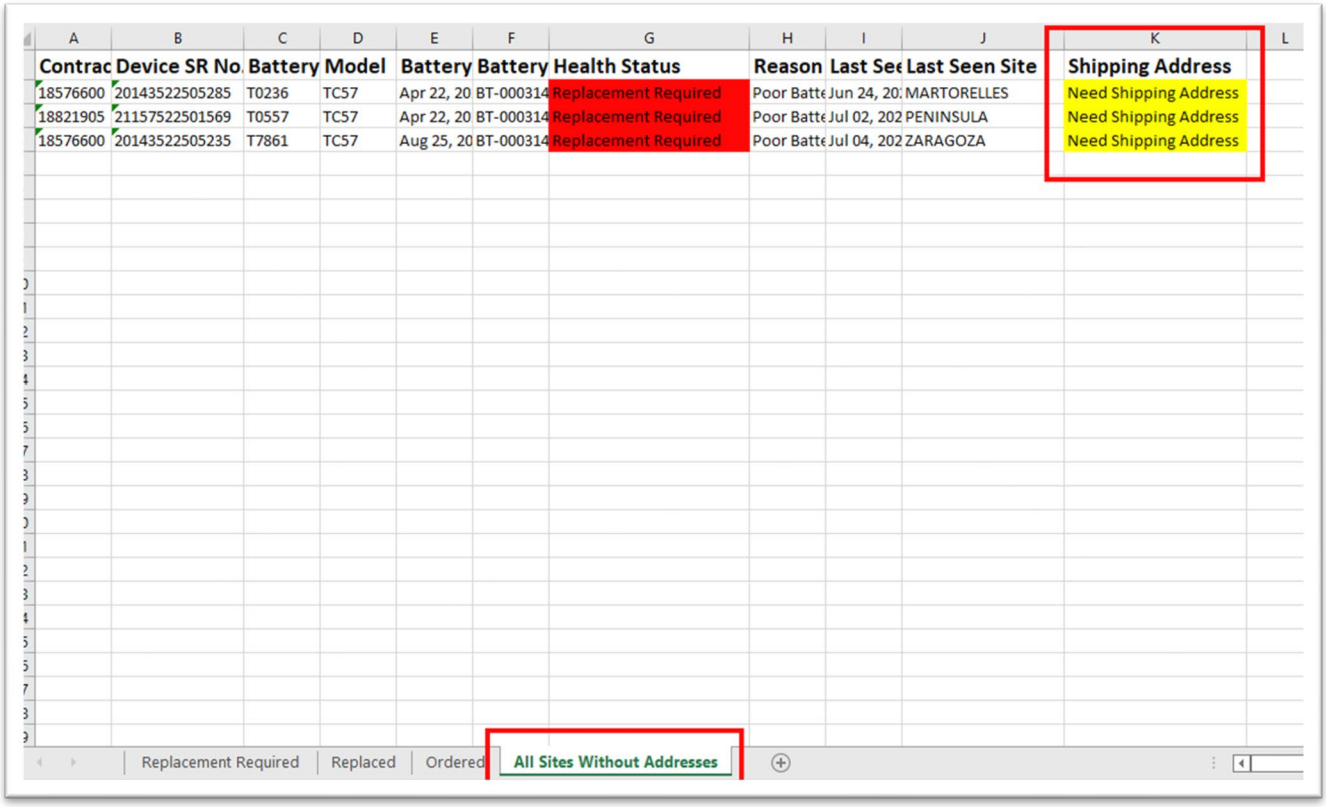
To enable/disable these monthly notifications:

1. Navigate to the Administration tab within the dashboard. Choose Email Notifications.
2. Scroll down to the Proactive Battery Replacement section and click on the toggle button to activate monthly emails for this report. Put a check next to the report you wish to receive and click Save. To disable all emails for this report, turn the toggle button to off.
3. Exit Administration.

Report will be received on the first Monday of the month after notification has been enabled.



Sample PBR Report Notification attachment.



Contrac	Device SR No.	Battery	Model	Battery	Battery	Health Status	Reason	Last See	Last Seen Site	Shipping Address
18576600	20143522505285	T0236	TC57	Apr 22, 20	BT-000314	Replacement Required	Poor Batte	Jun 24, 20	MARTORELLES	Need Shipping Address
18821905	21157522501569	T0557	TC57	Apr 22, 20	BT-000314	Replacement Required	Poor Batte	Jul 02, 202	PENINSULA	Need Shipping Address
18576600	20143522505235	T7861	TC57	Aug 25, 20	BT-000314	Replacement Required	Poor Batte	Jul 04, 202	ZARAGOZA	Need Shipping Address

Replacement Required | Replaced | Ordered | All Sites Without Addresses

Sample Replaced Battery In Use attachment

Contract No.	Device SR No	Model	Battery	Manufa	Part No.	Orderable Batter	Replaced, Still in Use	Date M	Last See	Last Seen Site	Hierarchy
19053621	22082522517710	TC57	T1866	Apr 21, 20	BT-000314-01 R.F	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	LÉRIDA	XYZ CO./EMEA/SPAIN/PENINSULA/LÉRIDA/TC57
18576600	19029522515657	TC57	T3240	Apr 22, 20	BT-000314-01 R.F	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	BARCELONA	XYZ CO./EMEA/SPAIN/PENINSULA/BARCELONA/TC57
18897780	22173522515280	TC57	T2577	Apr 22, 20	BT-000314-01 R.F	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	GUADALAJARA	XYZ CO./EMEA/SPAIN/PENINSULA/GUADALAJARA/TC57
18576600	20144522500498	TC57	T3175	Apr 22, 20	BT-000314-01 R.F	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	GRANADA	XYZ CO./EMEA/SPAIN/PENINSULA/GRANADA
18576600	20143522504823	TC57	T0550	Apr 22, 20	BT-000314-01 R.F	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	MÁLAGA	XYZ CO./EMEA/SPAIN/PENINSULA/MÁLAGA/TC57
18576600	20143522505103	TC57	T7726	Aug 25, 20	BT-000314-01 R.E	BTRY-TC51-43MA1-01	YES, >= 60 Days	Sep 05, 20	Nov 09, 20	GRANADA	XYZ CO./EMEA/SPAIN/PENINSULA/GRANADA/TC57

VISIBILITY IQ ONECARE GLOSSARY

REPORT	TERM	DEFINITION
Repair Lifecycle	**Open Orders**	Devices for which an RMA has been created; but repaired or replaced device has not yet been shipped to customer. Indicates pending action by Zebra.
	Expected	Devices for which an RMA has been created, but defective device has not been received at Repair Depot. Indicates pending action by Customer.
	In Repair	Defective device has been received at Repair Center, but repair is not complete and close date does not exist.
	Repaired	Defective device has repair completed
	Shipped	Repaired or replacement device has shipped from repair center
	Spare Pool	Device resides within customer owned/dedicated spare pool
Case Lifecycle	**Type Code**	This field is used in the Case Lifecycle Report. This field identifies whether the case was opened for a hardware related issue, software related, to open a Return RMA, or for other classifications.
Contracts	**Visibility Entitlement**	Visibility Entitlement is a type of entitlement assigned to a Zebra contract that indicates a contract is enabled to show data in the VIQ dashboards as well as control the type of data that is shown. Possible values: Online Repair Dashboard, Operation Visibility Service, Operation Visibility Connect, TSS Core HW/SW.
LifeGuard Analytics	**Type**	This field indicates if the BSP if of type GMS or non-GMS. GMS stands for Google Mobile Services and non-GMS can also be referred to AOSP (Android Open Source Project). GMS SW includes the Google suite of applications (Gmail, Play Store, Maps, etc.) where non-GMS does not include these added services and applications).

REPORT	TERM	DEFINITION
	BSP Version	BSP stands for Board Support Package and generally refers to the software image that is currently on the device. The BSP Version is also referred to by the EMC team (and Zebra.com) as the Baseline. Any SW image (aka BSP) is uniquely identified by the duple of Baseline and Update Level.
	Lifeguard Update Level	The Update level is the "patch" version of a given BSP. For example, you may have BSP Version 01.03.39 and then you can modify that package with an Update. Updates start at level 0 to indicate no changes and are sequentially incremented (1, 2, 3…). Patches are cumulative meaning if you have update level 5 then you have all the fixes from 1-4 as well. You do not need to install updates sequentially but can skip around going from 1 to 5 to 3 if you so desire.
	Android Security Patch Level	This is a date that indicates how many fixes or vulnerabilities have been repaired in a given BSP. The dates and required fixes are given by Google as part of Android Security Bulletins
On Time Delivery	**On Time %**	For all repair that were due to ship in a given month, how many were actually shipped on time.
Repair Return Rate	**NTF**	No Trouble Found: Devices returned for repair, per reported time period, with no hardware malfunction found or problem and any requirement for preventive maintenance.
	NTF Rate	Calculated by product, the number of devices with NTF classification for a particular product divided by the number of repairs for that product. This rate aggregates for each calendar quarter.
	Damage	Physically damaged units.
	Damage Rate	Calculated by product, the number of devices with damage classification for a particular product divided by the number of units under contract for that product. This rate aggregates for the calendar year.

REPORT	TERM	DEFINITION
	Failure	Devices returned for repair, per reported time period, with material/component malfunction.
Repair Repeat Rate	**Repeat Net**	Units returned for repair within 30 days since its last repair; excluding physically damaged units and units with NTFF (No Trouble Found). Only genuine failures.
	Repeat Gross	Units returned for repair within 30 days since its last repair; excluding physically damaged units
Top Repair Metrics	**Fault**	Device defect determined by Zebra repair depot.
	Problem	Device defect reported by the customer at the time the RMA was created.