ENDGAME.

Enterprise Application

Specifications Document

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Created by Emily Ryan

Document Version History

Sep 25
ECR: Faceted search, advisory/event labels, severity adjusted for "anomalous" and application flow updates

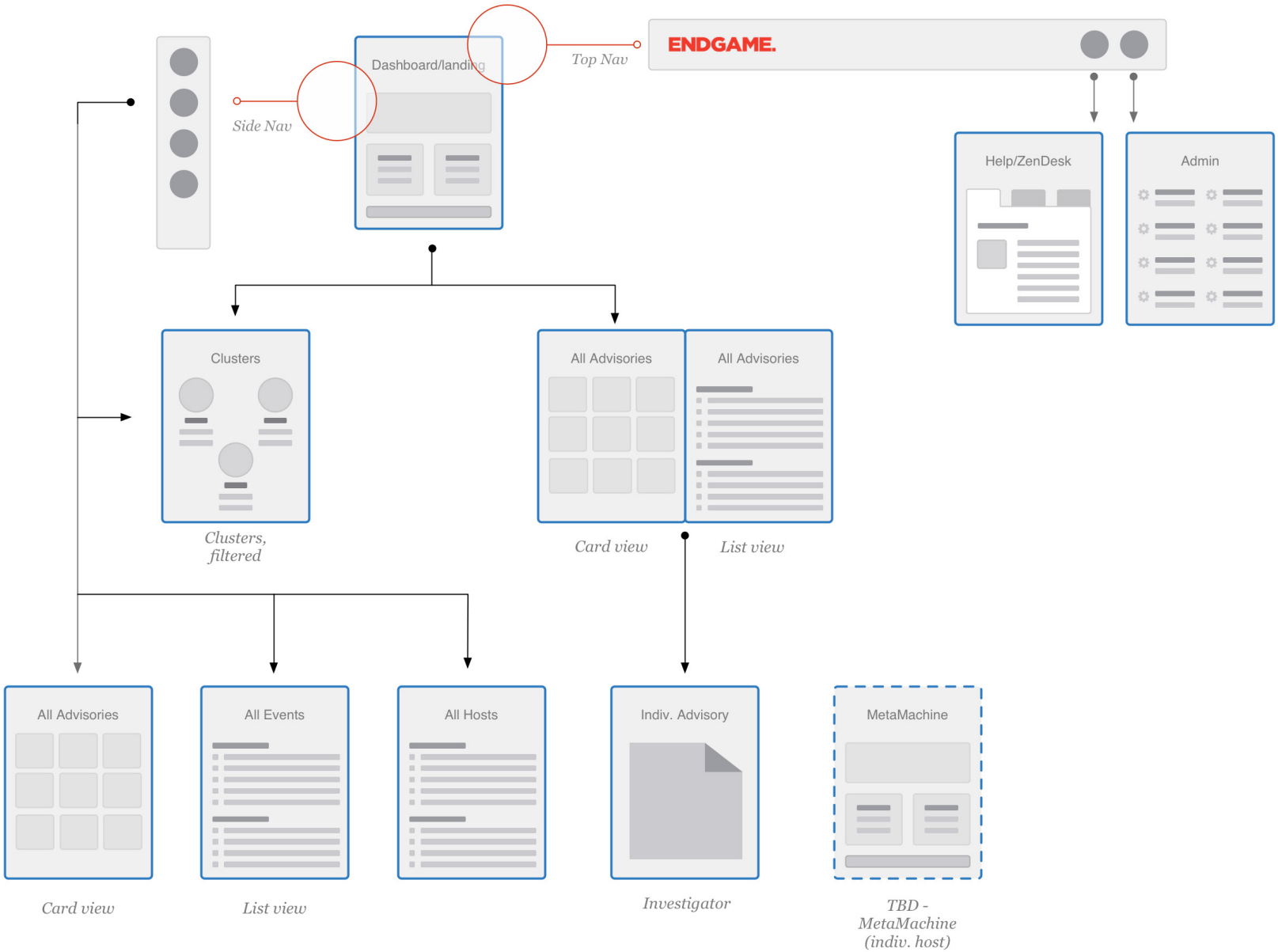
Sep 18
ECR: Dashboard interactivity added.

Sep 10
ECR: Advisory screens updated including updated date/time and layout revisions. Events added.

Sep 3
ECR: Edits/spelling fixes. Fonts added.

Sep 2
ECR: Document created

Organizational Overview / Sitemap



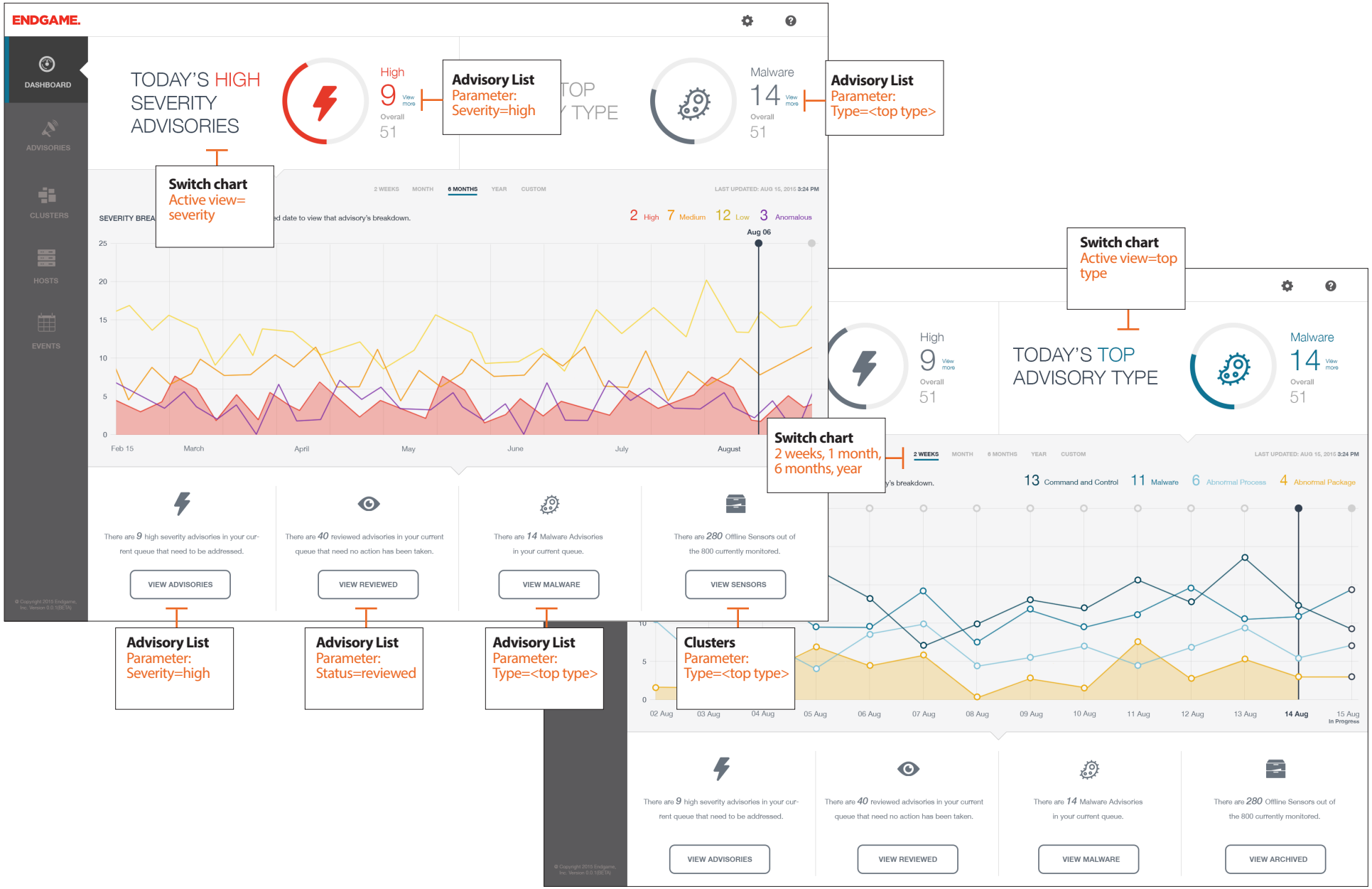
Application Paths

User paths through the system and associated parameters (i.e., filters applied when linking)

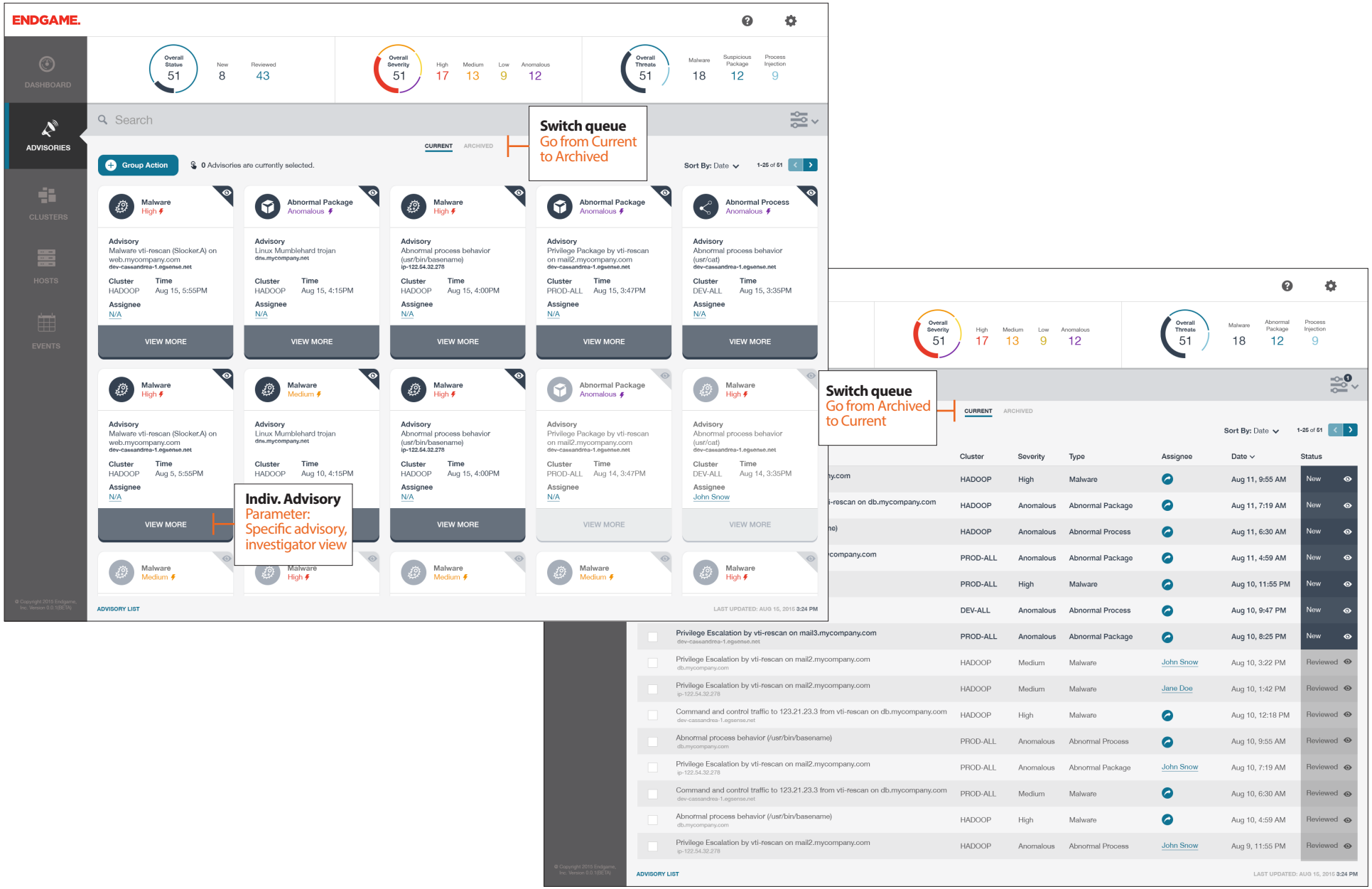
This chapter contains:

- Dashboard
- Advisory List
- Individual Advisory
- Clusters
- MetaMachine / Individual Host
- Hosts List
- Events List

Dashboard Linked Paths



Advisory List Linked Paths



Interaction Specifications

Screen by screen analysis and guide for building each area of the application including null/empty and error states.

This chapter contains:

- Dashboard
- Advisories
- Events
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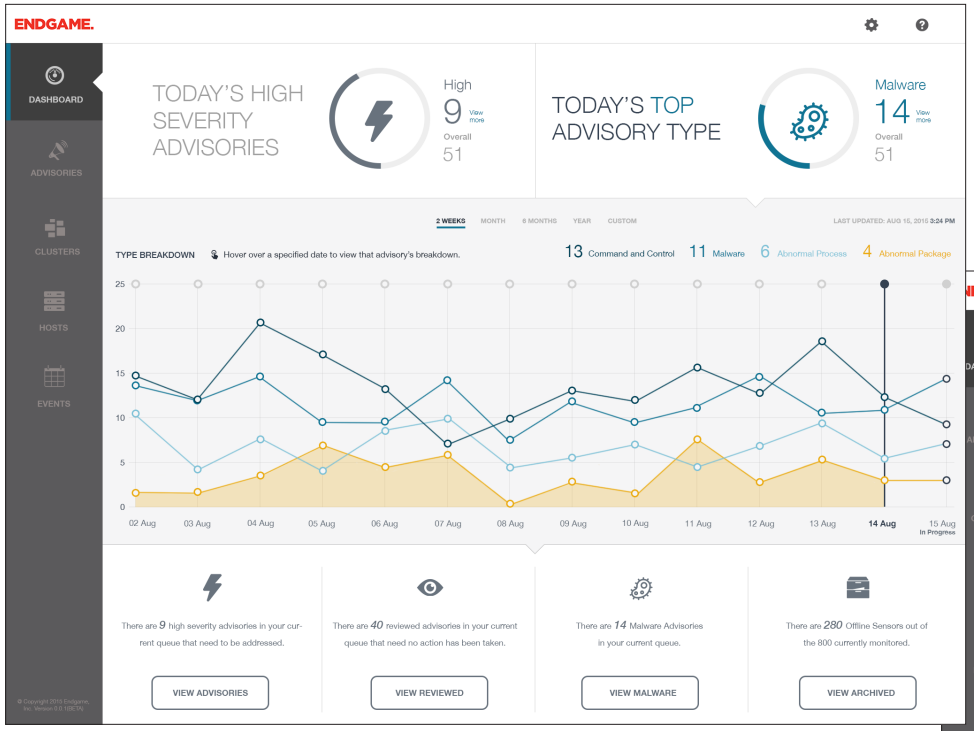
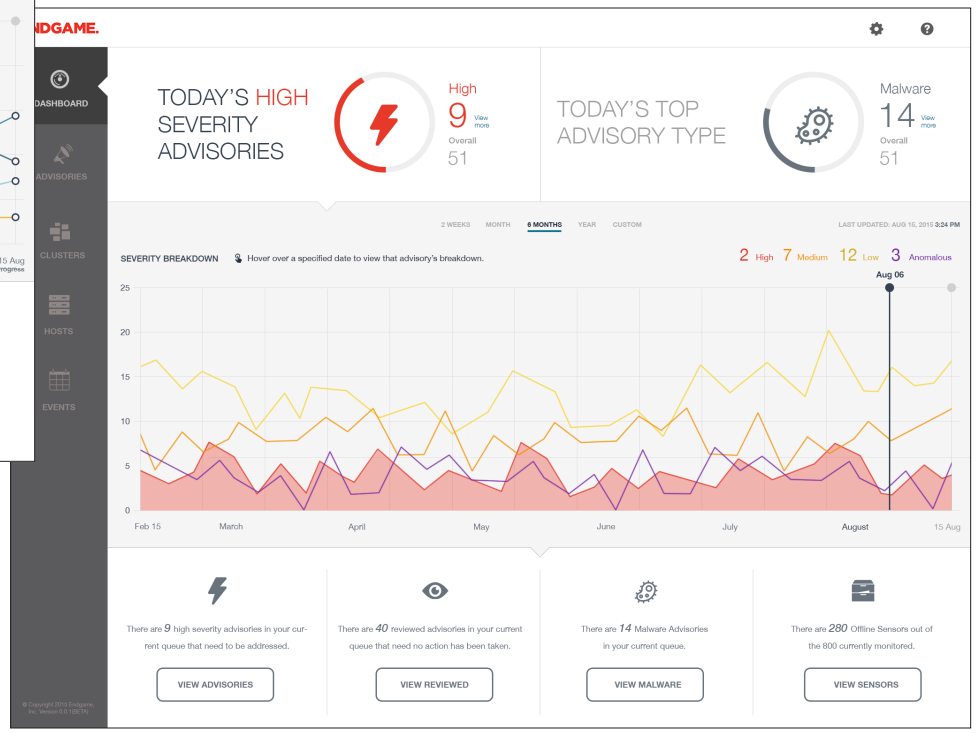
Dashboard

The starting experience for the product resides in the dashboard area of the application. The user should be able to quickly assess what advisories and events warrant a closer look while also having an understanding of the status of their current environment. Additionally, the system will also present advisory trend information in 2 week, 1 month, 6 month and 1 year snapshots. Near the bottom of the screen is an area that allows the user to quickly jump into pre-filtered views. Eventually this area will further segment into those filtered views right in the dashboard interface, however, for GA, simply allowing the user to see a rollup and an accompanying link is enough.



Dashboard, showing advisory type trends, 2 week view



Dashboard, showing advisory severity trends, 6 month view

Dashboard Interactivity

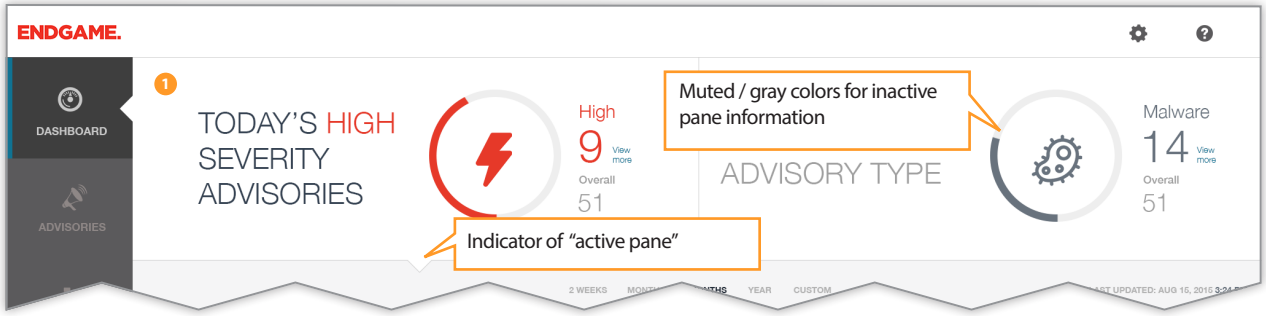
1. Dashboard Current KPIs

There are two types of "current KPI stats" on the dashboard which are high severity advisories (as they compare to all advisories of the day) and the "top" type of advisory for the day, again, as compared to all advisory types. **NOTE: Top type refers to the highest number of occuring advisories of a specific type.** This information should be the total number at the time the user loads the dashboard and will increase as the day progresses.

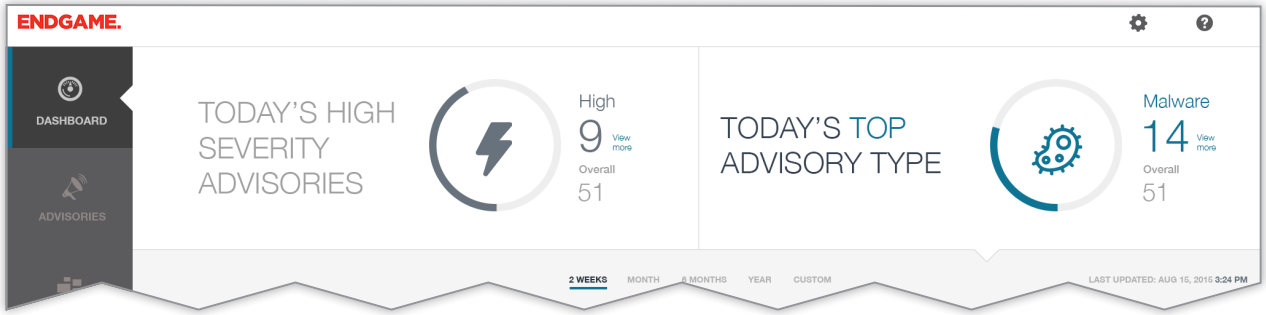
When the user clicks anywhere within either pane, the middle area (trend charts) should load with the respective data. That pane will become the "active pane" and there should be a small arrow visible in the middle of that pane pointing to the trend charts. The alternate should also "dim" or gray out so that it's not as bright as the active pane.

2. KPIs empty state

Once the KPIs have been reset for the next day, there will be a period of time where the counts will reset to 0. When this occurs, the system should display the appropriate selected states as illustrated in the figures below.

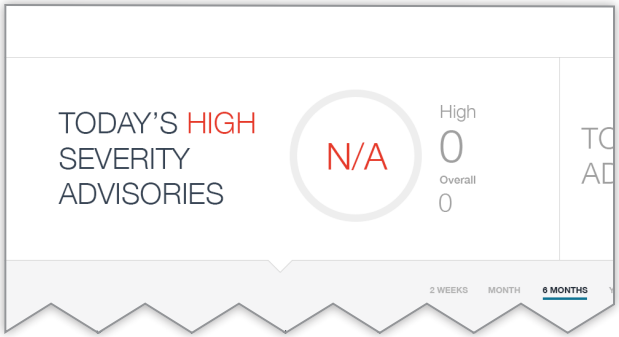


Dashboard KPIs showing data for both high severity advisories and top advisory type

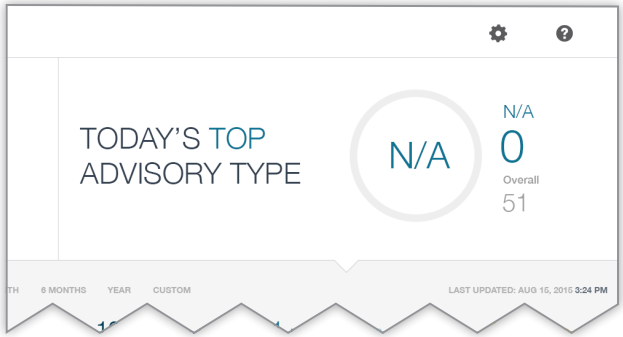


Dashboard KPIs showing "Top Advisory Type" as active pane

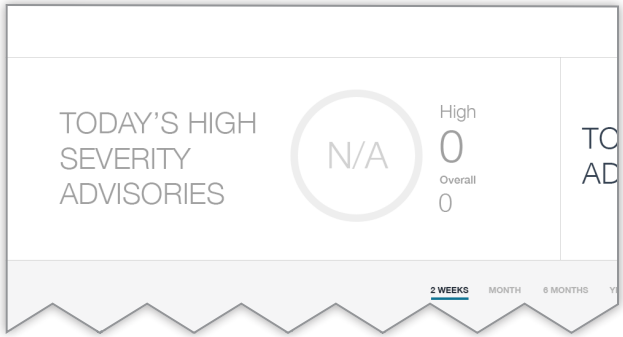
2



Empty Dashboard KPIs - selected state for Severity



Empty Dashboard KPIs - selected state for Types



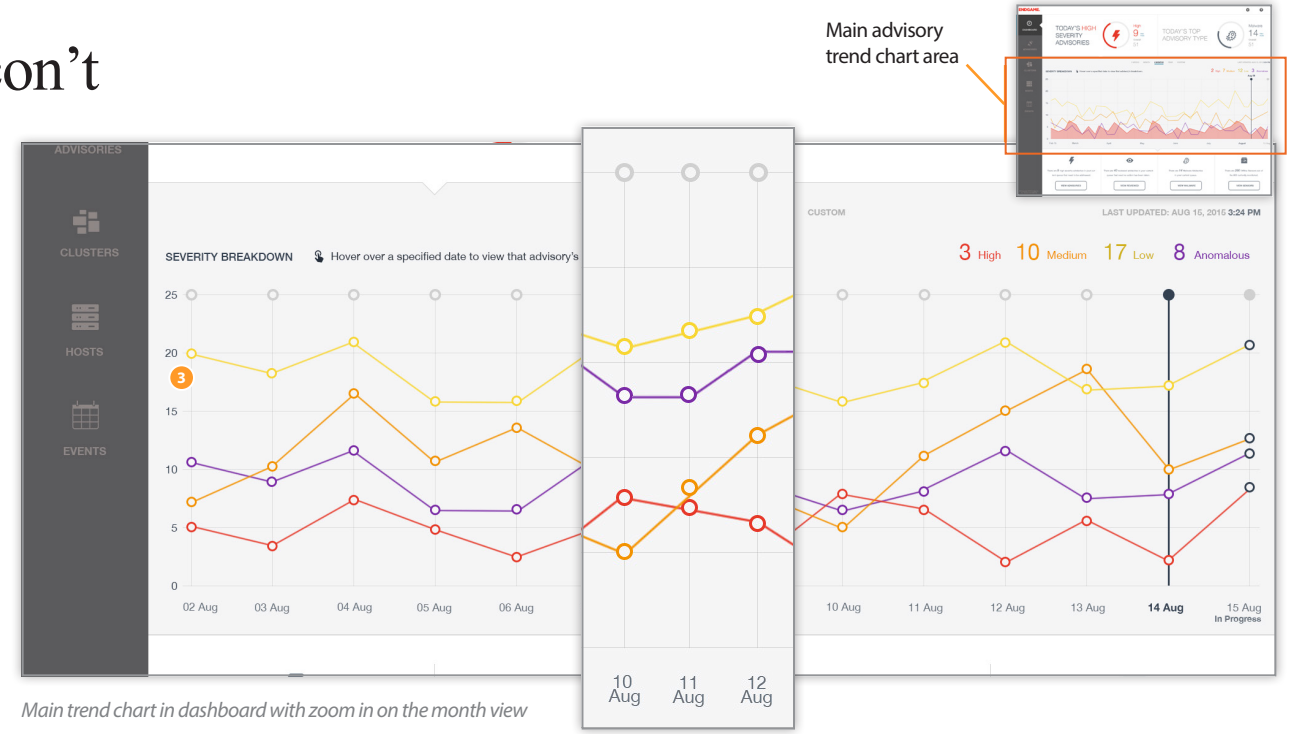
Empty Dashboard KPIs - unselected state showing muted color palette

Dashboard Interactivity, con't

3. Main advisory trend chart

When the user initially loads the dashboard, the left panel should be active and the chart should show the 2 week view of advisories by severity. The far right will show the advisories for the current day which are denoted as being "In Progress" The line and dot color corresponds to the severity color with the exception of today (the far-most right point) For that day, the line will remain the severity color but the dots will show as a dark gray color, again to denote data that is still changing.

The user can toggle between various views to extend the amount of data shown via the tabs. As the chart zooms out, the dots will disappear and the x-axis will adjust to show months in lieu of days (see bottom illustration) Clicking a specific line will highlight the space under the line to bring focus to that specific data trend. Clicking off the line or on a different line removes the shading and applies it to the clicked line, if any.

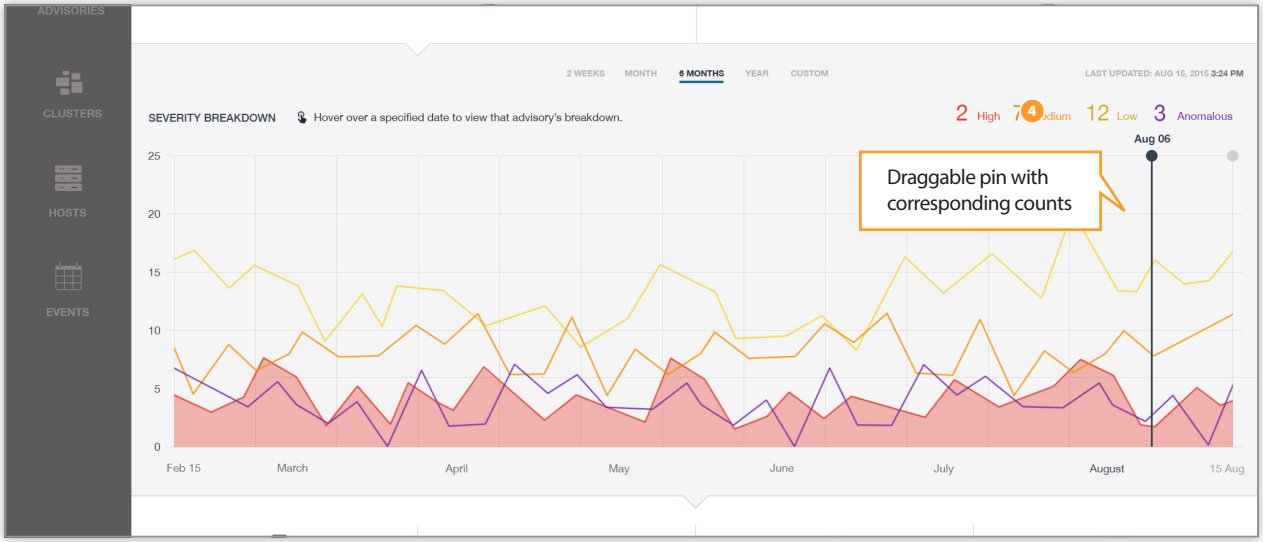


Main trend chart in dashboard with zoom in on the month view

4. Selecting specific dates

Each chart will include a "marker" or pinline indicating the user's currently selected date. This is denoted with a black line that the user can move across the chart, done by hovering with the mouse. As the pin moves, the area to the top right of the chart will update with total counts of each advisory type. The marker itself will show the date which will also change as the pin moves. Together, this will tell the user the individual count numbers for each day in the range.

In the 2 week view the pin should "snap" to the date lines due to the fact that data is collected once a day (i.e., there is no way to see counts during the day) When a user switches to the month view, the dots and lines will get closer together, but the axis should still show each day. Once the user moves to a 6 month or 1 year view, the labels should switch to months and the line should move more smoothly as the pin moves through the chart.



Main trend chart showing 6 month view

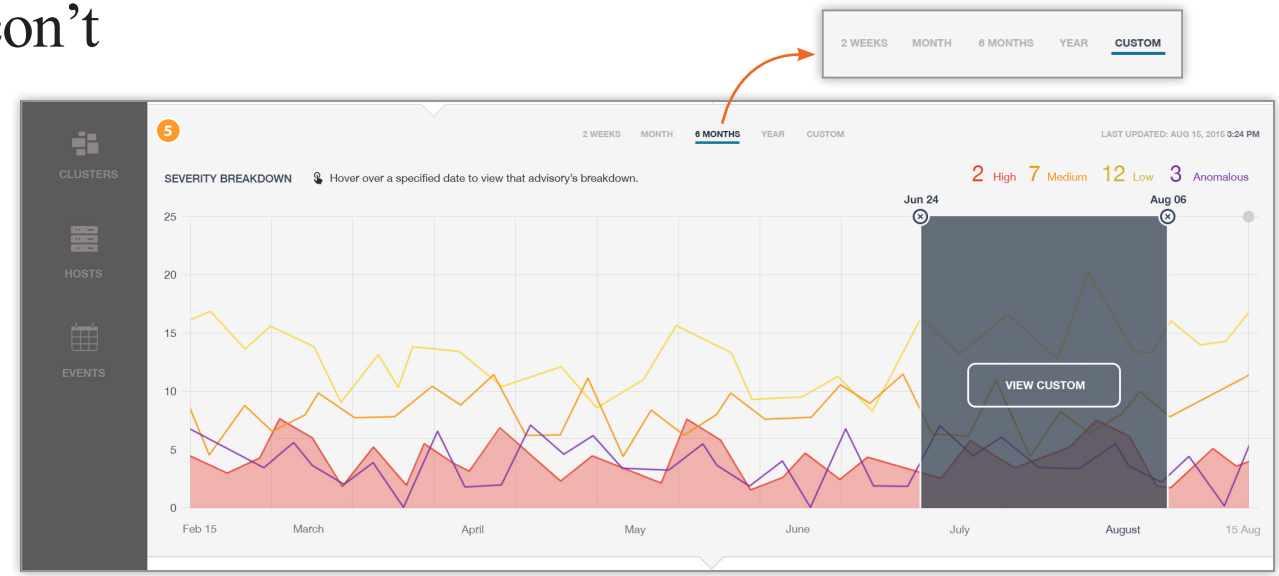
Dashboard Interactivity, con't

5. Selecting a custom range

A user can select a custom range from within the month, 6 month and 1 year view. This happens by clicking on the pin and then dragging the mouse left or right and then letting go on the desired range date. The user can drag left or right and the start date or the end date will set based on the original location of the pin. A gray area should highlight letting them know they have selected a custom range with a clickable button in the center. Once the user clicks this button, the chart should zoom into that range, the tabs should change to highlight "custom" and the x-axis should update with the new information.

NOTE: The user cannot zoom any closer than 2 weeks. Also the zoom should only function as a horizontal zoom, not a vertical.

To return to a default view, click the desired tab. This will return the chart back to its original state.



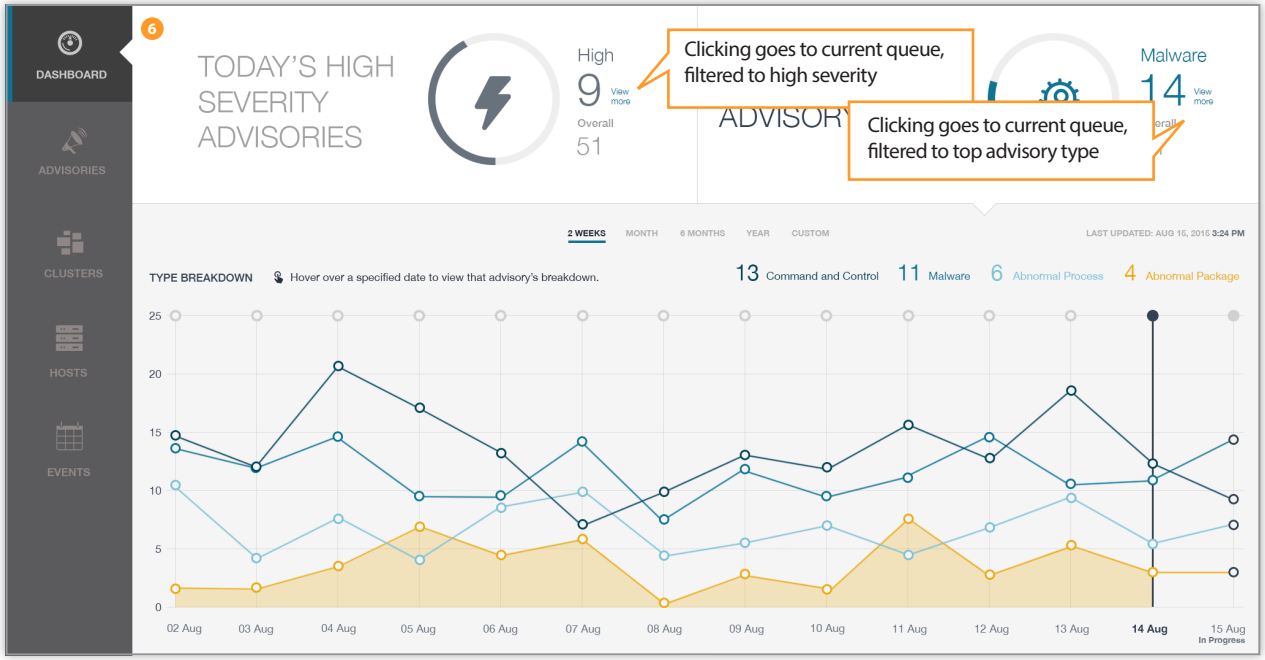
Custom range selection

6. Modes / panes

By default, the active pane is the advisory severity pane. When the user opens the dashboard, this pane should be on by default and the chart should default to the 2 week increment. If the user clicks the right pane (the Advisory Type pane) the chart should change to reflect the advisory types and their trends. Again, the defaul will be the 2 week view and the user can select month, 6 month or 1 year as well as selecting a custom range. All previously mentioned functionality should exist as it does in the severity chart views.

Several things worth noting:

- Advisory type icon shows in the center of the KPI chart
- Colors in the chart correspond to the counts listed in the totals area



Advisory type chart view, 2 week increment

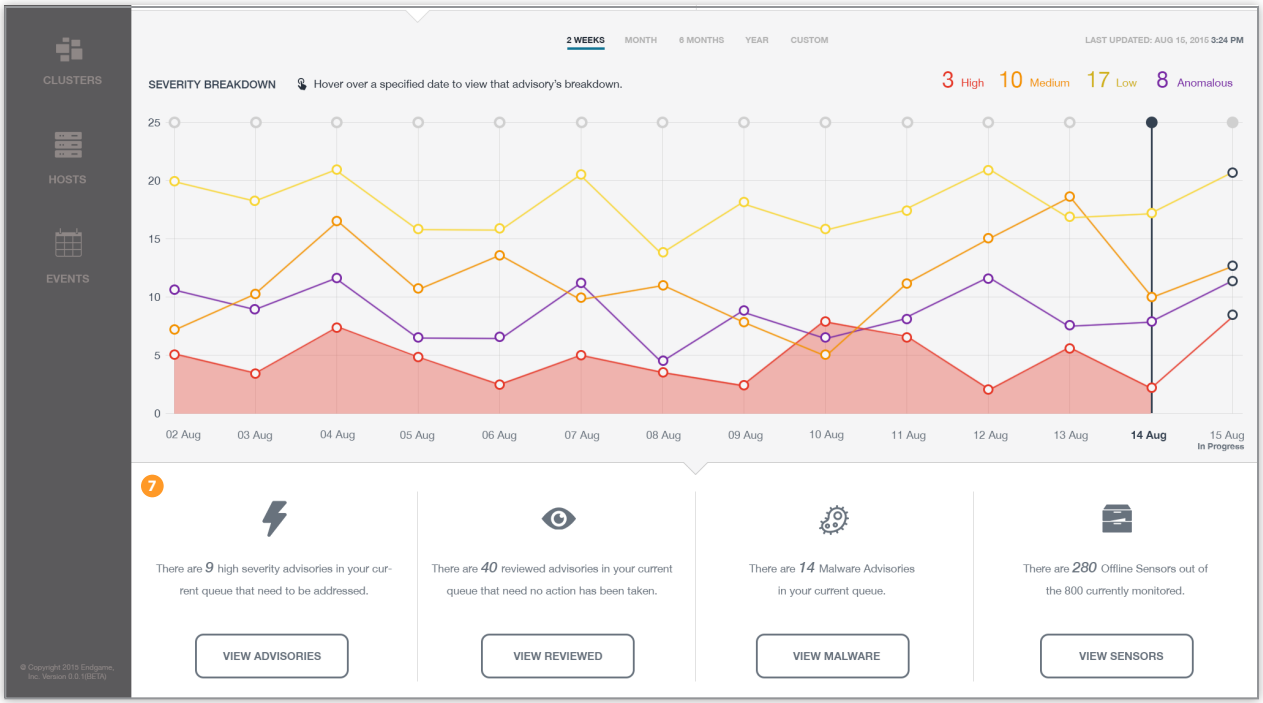
Dashboard Interactivity, con't

7. CTAs

At the bottom of the dashboard, the user should see an area with 4 boxes that allow them to quickly get to areas of the application. These areas could include:

- Pre-filtered view of currently open high severity advisories
- Pre-filtered view of currently reviewed advisories but not triaged
- Pre-filtered view of current queue with top type of advisories
- Current advisories that have been assigned to the user
- Sensor / host listing highlighting the number of off-line sensors

Actual advisories TBD based on availability and client needs.



Call to action areas

Interaction Specifications

Screen by screen analysis and guide for building each area of the application including null/empty and error states.

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- Dashboard
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- Clusters
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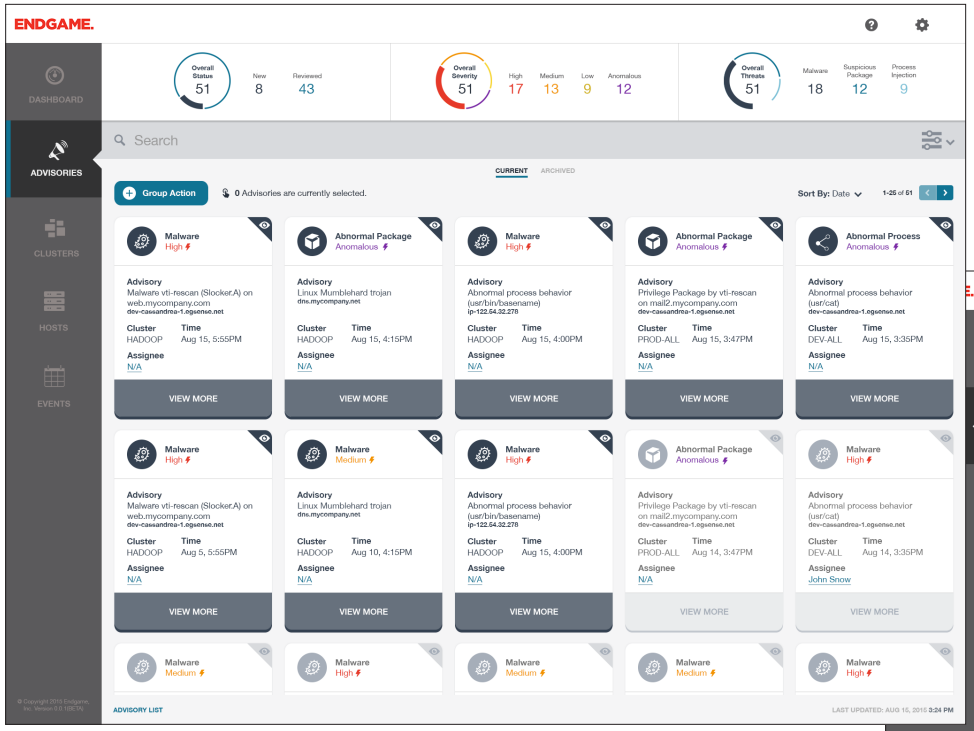
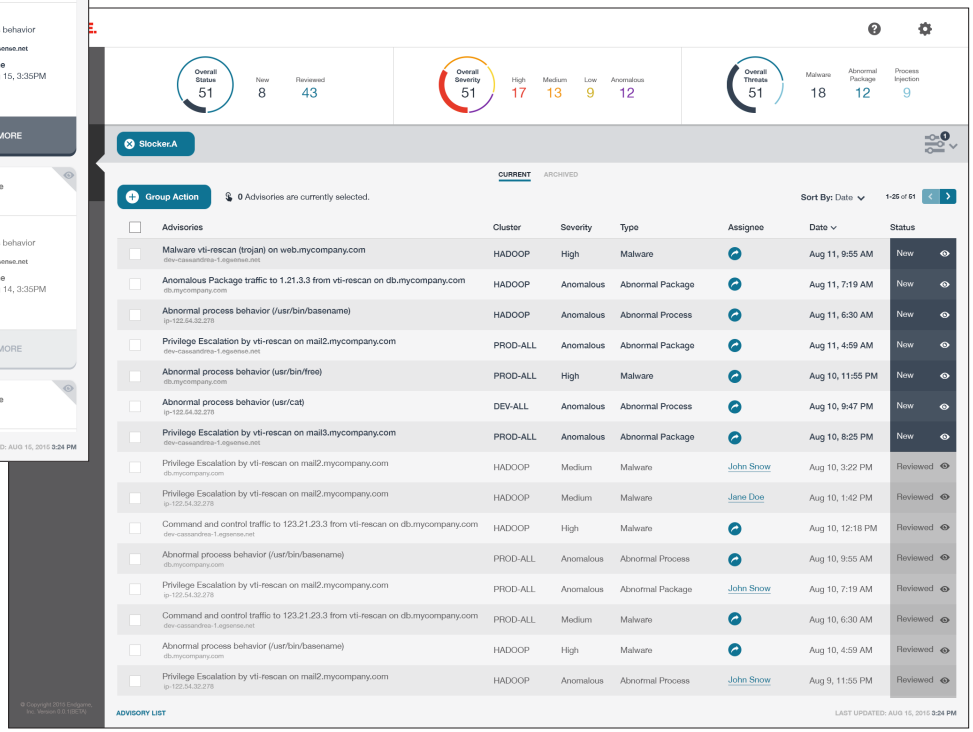
- Hosts List

Advisories

Advisories are the heart of Endgame Enterprise. They are events and combinations of events that the system has flagged as being particularly interesting and worthy of investigation. For this reason, it's imperative that the user can quickly browse them and take immediate action. Since there are so many that can be generated, it's also essential the system provide workflow and triaging capabilites for both individual advisories as well as groups of advisories. The user will spend the najority of their time in this area of the site, therefore it needs to be clean, easy to use and it should provide cues letting the user know what areas merit their attention and how they can best work through the list.



Advisories, card view



Advisories, list view

Advisory List Interactivity

1. Advisory List KPIs

The user arrives in the Current Advisory queue via side nav, individual advisory and from the dashboard.

KPIs are presented at the top of the screen and are related to the current & archived queues, depending on the screen. They include:

- Current: Overview, New & Reviewed
- Archive: Overview, Dismissed & Resolved
- High/Medium/Low & Anomalous* severity
- Top 3 types of advisories

All three KPIs utilize donut charts to illustrate total breakdown numbers with corresponding colors that match the rolled up KPI numbers.

EMPTY STATE

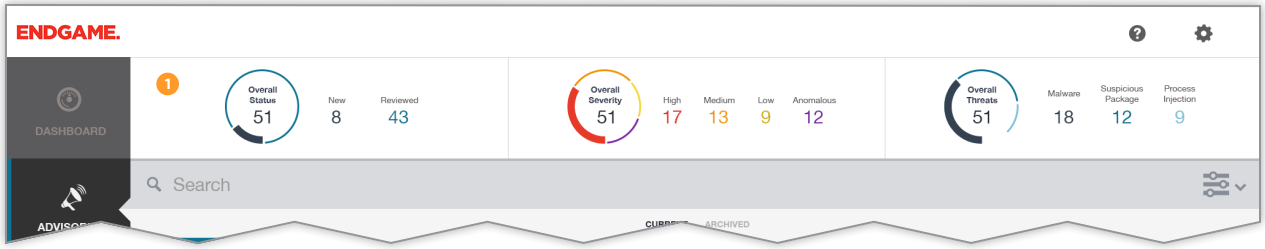
When there are no advisories in the active queue, the KPIs should reflect this by letting the user know there is no data and graying out the visuals. The information should still consume the same amount of space relative to the page and include an outline of the missing graphs but it should utilize the lighter color palette presented in the Visual Design section of this document.

2. Advisory - getting started/info included

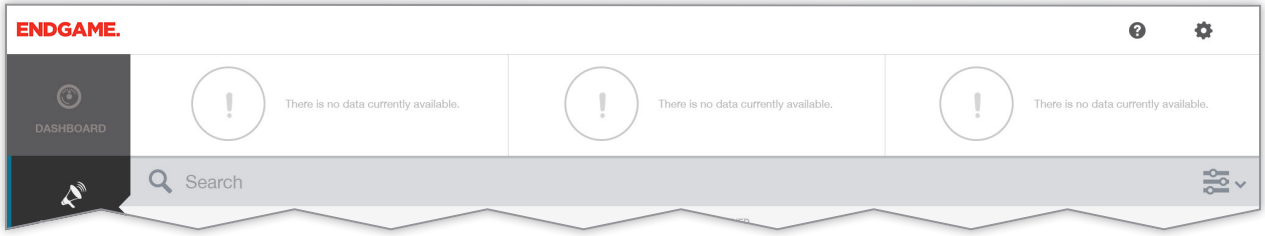
By default, advisories should include the following information:

- Advisory name
- Server/IP address
- Cluster
- Severity
- Type of advisory
- Assignee
- Date/time
- Status

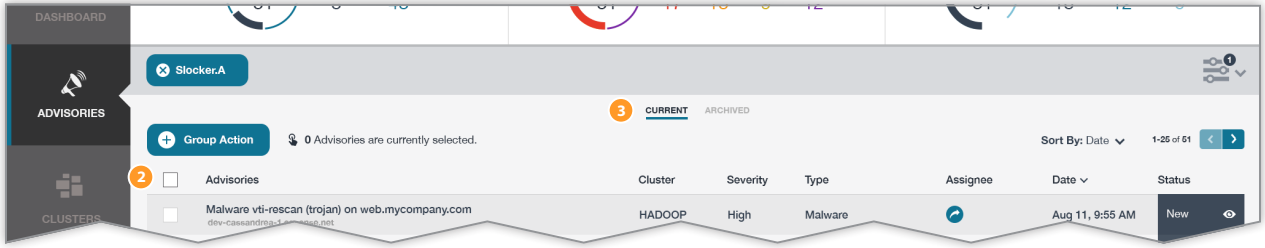
(*) Anomalous only applies to Abnormal Package and Abnormal Process



Advisory KPIs with data



Empty Advisory KPIs



Advisory information and queue selector/tabs

3. Queue – Current & Archive

Advisories can live in one of two queues – Current and Archive. Each has its own unique characteristics, which are outlined in the following sections.

The tabs at the top of the screen allow the user to toggle between the current queue and the archive queue. The "active" queue tab should highlight with an underline and full color text.

By default, the "Current" queue utilizes a card view while the "Archive" view utilizes a list view, however, the user can switch between views. The user should be able to toggle between card and list view from the filter menu in the right corner of the search box.

Advisory List Interactivity, con't

4. Search

Overview

When the user lands on the Advisories or Events screens, they will be presented with a large search box that will allow for a faceted search experience. In general, when a user types a search term, the search should be run and the results updated. As a user interacts with the search box (and filters) and the returned results change, the KPIs at the top of the screen should also change to match the results that are returned.

Facets

Due to the large quantiites of data and high number of events, the search will function as a faceted search instead of a free text search. To get started, the user will be presented with a drop box of available facets when they put their cursor into the box and click.

Step 1: User clicks in search area. Facet list appears

Step 2: User selects a facet from the drop down

Step 3: Selected facet is added to search box

Step 4: Cursor appears after facet, user types value(s)

Step 5: User attempts to enter an invalid value for a facet

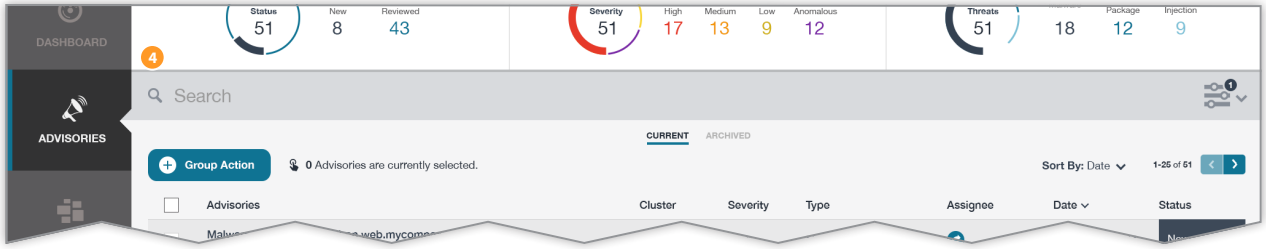
Step 6: Multiple facets example showing color range

Notes

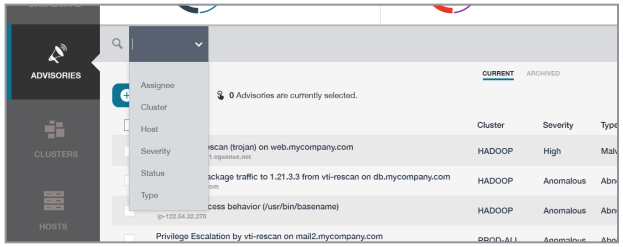
Facets are auto-suggesting. Therefore, it is possible to enter a value that does not get returned as a legitimate value. In cases where there are a set of acceptable values, entering an invalid value will return validation errors as outlined in Step 5.

Facets will validate before the search is run. If there are no matching results, the user will see the standard empty result screen (Section 12)

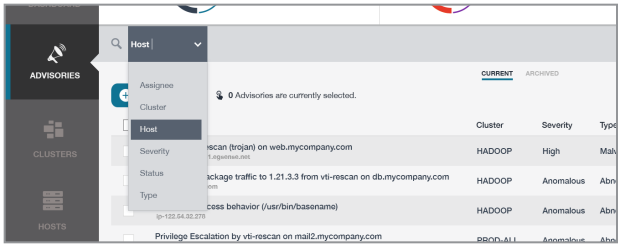
Mutiple values for the same facet will be added to the appropriate facet tile using commas to separate the values. (see Step 5)



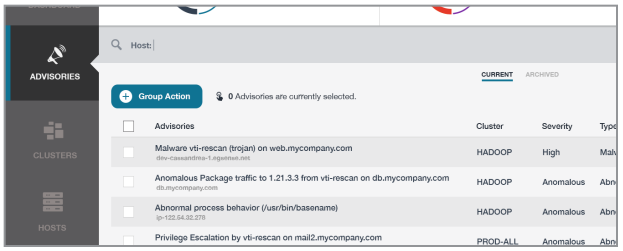
Starting/default search area



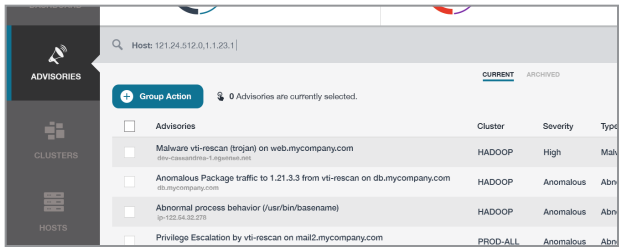
Step 1: facet list



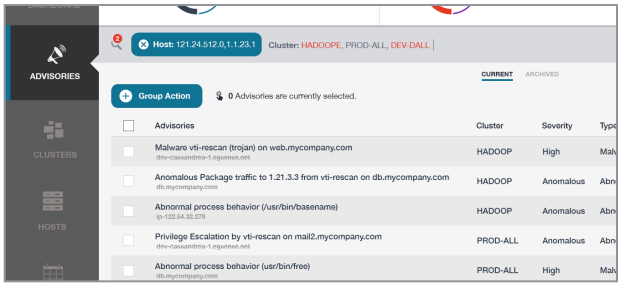
Step 2: facet selected



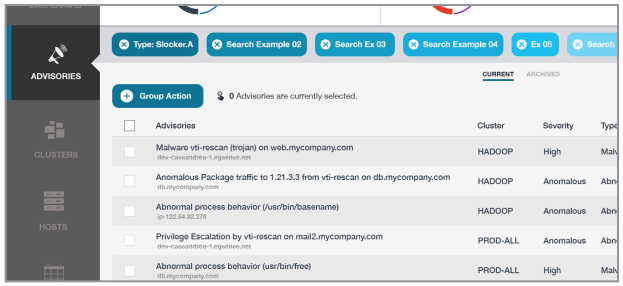
Step 3: facet added to search box



Step 4: user value typed after facet



Step 5: search validation errors



Step 6: multiple facet tiles and values

Advisory List Interactivity, con't

5. Filtering

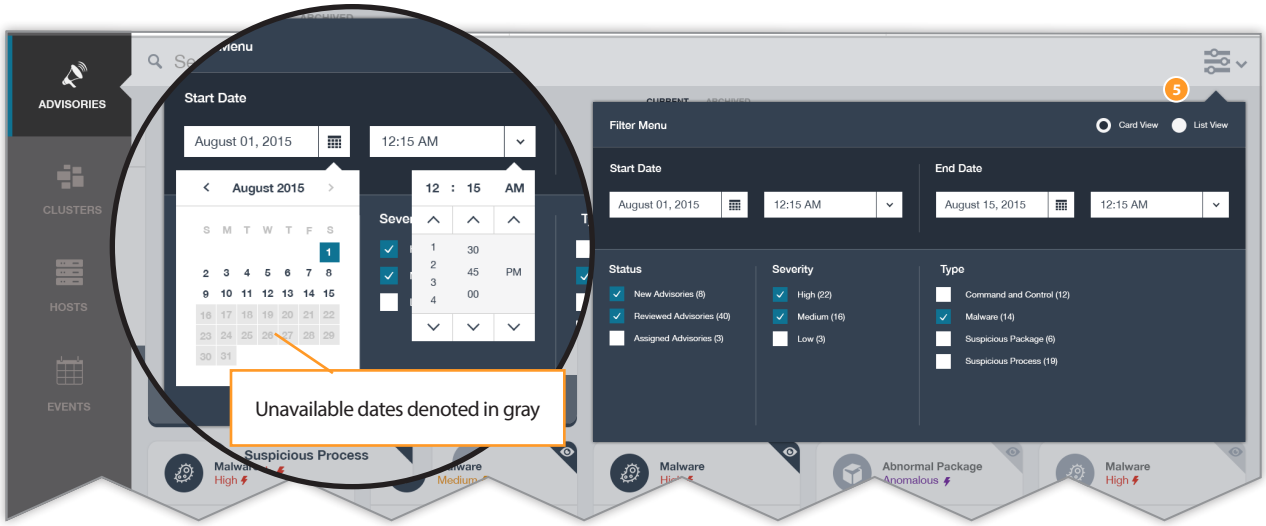
The queue contains several sets of filters hidden within the filter dropdown panel, located to the right of the search box, which correspond to several facets found in the search box. When the filter panel is open, the results should be covered with a transparent gray background. The filters numbers should update as the user interacts with them to show totals from the combinations. Since the panel sits on top of the results, the results should update in real-time and the number of results should also update so the user can quickly understand how their selections are affecting the results being returned. These filters include the following facets:

Status	Type
Severity	Date/time

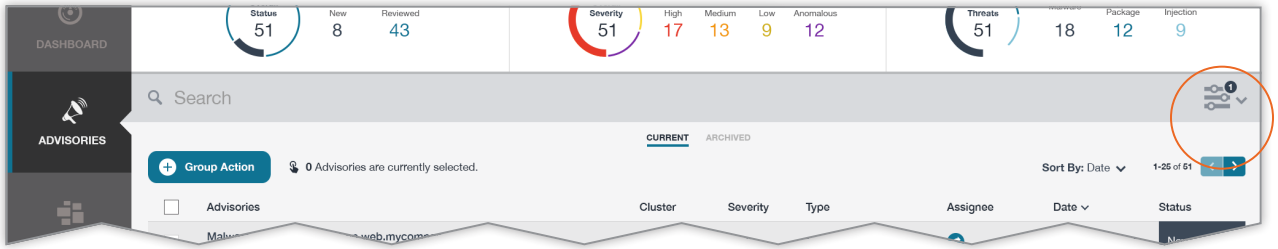
When the user selects one or more filters, the remaining filter sets should update their counts to allow the user to see the total number of advisories in the active queue. Note: Filters will work the same between both card and list views.

Filter sets, like the search box facets, can be combined. When one or more filters are selected within the same set, they should utilize the "OR" construct. When filters are set across facets, they should utilize the "AND" construct. As the user selects facets and values within the filter drop box, the search box should update where the facets overlap so the user can see that in some cases, they can set a facet value from either and get the same result set returned.

Because the filters are returning results in real-time, there is no need for an "Apply" button. When the user clicks outside of the filter panel, the panel should close, the gray background overlay should disappear and the results should display as they do in the default view.



Filter panel open with selections and transparent gray overlay. Highlight on date/time interactivity.



Closed filter showing filter selected indicator. In this example, one filter has been set.

Filter set indicator

If a user has selected one or more filters form the drop down filter menu, the small indicator located at the right end of the search box will show a small number in the corner denoting the number of filters that have been set.

If the user clears out the filters or no filters are set, the notification number/icon will disappear as in the top figure.

Advisory List Interactivity, con't

6. Sorting

LIST VIEW: Columns are sorted by clicking on the column name or utilizing the sort drop down. Each column should be sortable and the currently sorted column should be denoted with an arrow next to the column name. The selected sort should also appear next to the "Sort By" menu text. Clicking the currently sorted column reverses the sort order. Standard sort orders are:

Advisory name, alphabetical

Cluster name, alphabetical

Severity (High-Medium-Low-Anomalous)

Type, alphabetical

Assignee, alphabetical

Date (most-> least recent)

Status

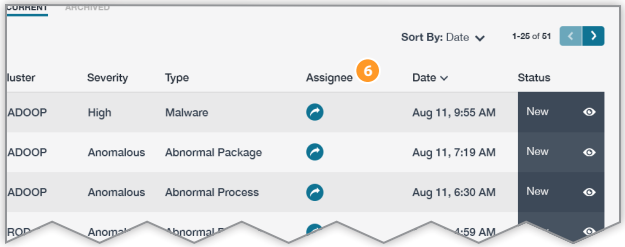
The date format should display as "Mmm d hh:mm". Seconds should be left off for clarity, and unless the advisory occurred in a prior year, year should be omitted.

The status column has a special sort order. This column should be sorted in the order: New then Reviewed (Current) and Resolved then Dismissed (Archived).

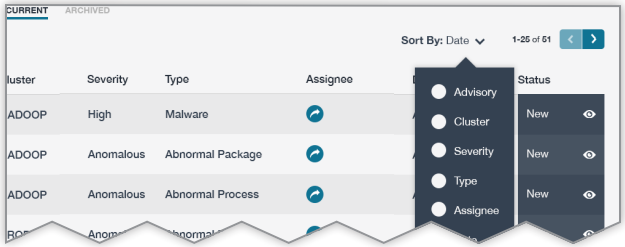
Note: "Same time" denotes date and hour/minute. It is possible there will be multiple advisories in the same minute and therefore, they should have a sub-sort or grouping by status following the status column sort order.

CARD VIEW: Sorting should utilize the same paradigm as above however the sorting will run from left to right. That is, the first 5 results will list in the first row, the second five in the second row, etc. There is no column sort present in the card view.

PAGINATION: Pages are set at 25 results per page in both list and card views. List view will return 25 rows while Card view will return 5 rows of 5 cards each.



List view showing column sort and drop sort menu selection. closed



Drop sort menu selection open.

Highlighted row with hover

7. Viewing more

LIST VIEW: List view utilizes hovers for additional information. When a user hovers over a particular advisory in the list view, additional information and options should show which include:

Additional information, based on Advisory type

Investigate action

Dismissed action

Once a user selects a particular action either by hovering or using the checkbox, the success message should appear (section TBD) and the workflow item status should update to match the action taken. If the action moves the advisory to a different queue, that advisory should no longer show in the active queue.

Advisory List Interactivity, con't

7. Viewing more, card view

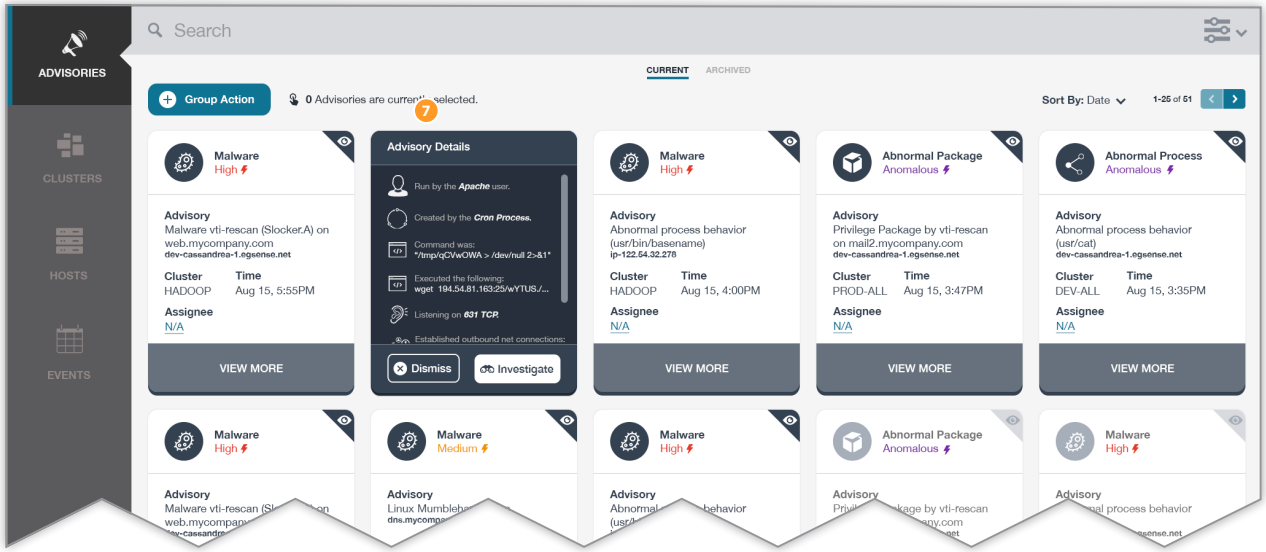
CARD VIEW: In the card view, the user will see additional information by clicking on the "View More" area of the card. This includes the same information above I the "LIST VIEW" section. The card should visually "flip" so that the user sees the "back" of the card. If a user clicks in the top area of the flipped card or on any other card, the flipped card should flip back to its initial state.

8. Selecting advisories (individual and multiple)

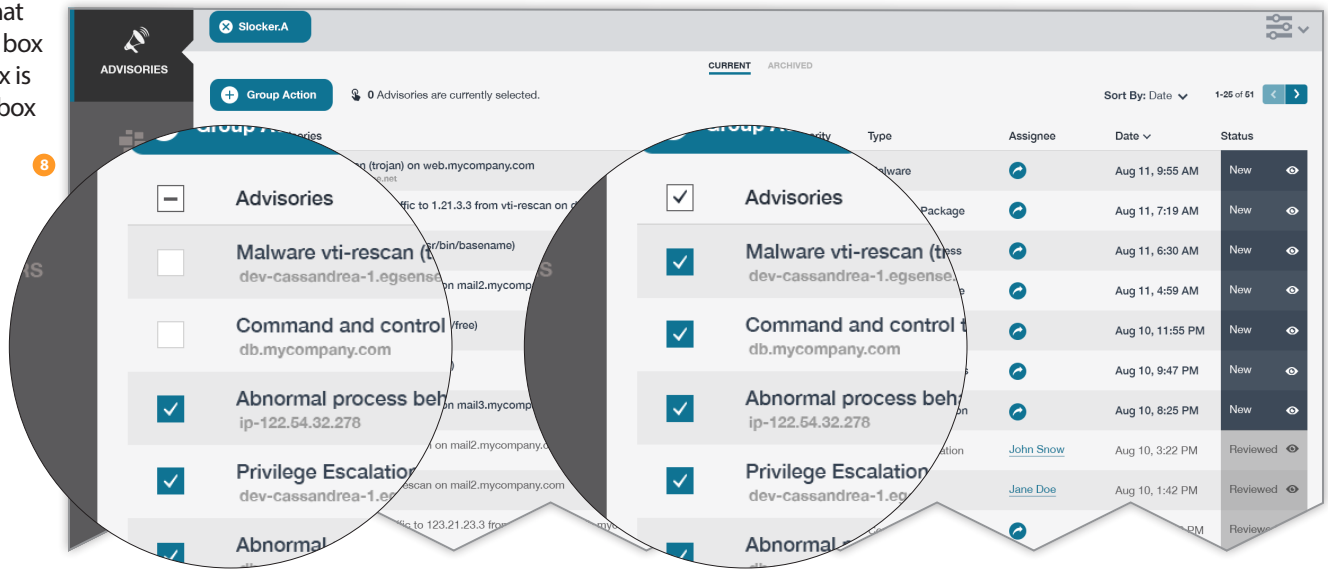
LIST VIEW: The Advisory List functions similarly to Gmail's inbox. Each advisory has a checkbox option that allows the user to select a specific advisory or select a group of advisories via the header/top checkbox.

Selecting one or more individual advisories should partially select the top checkbox while selecting all visible advisories should show the top checkbox as fully checked.

The top checkbox should also toggle in its selection. That is, if the top box is completely empty, checking the top box should select every visible advisory. If the top check box is partially or completely checked, clicking the top checkbox should unselect every selected advisory.



Viewing more, card view



Selecting advisories, list view, partial

Selecting advisories, list view, all

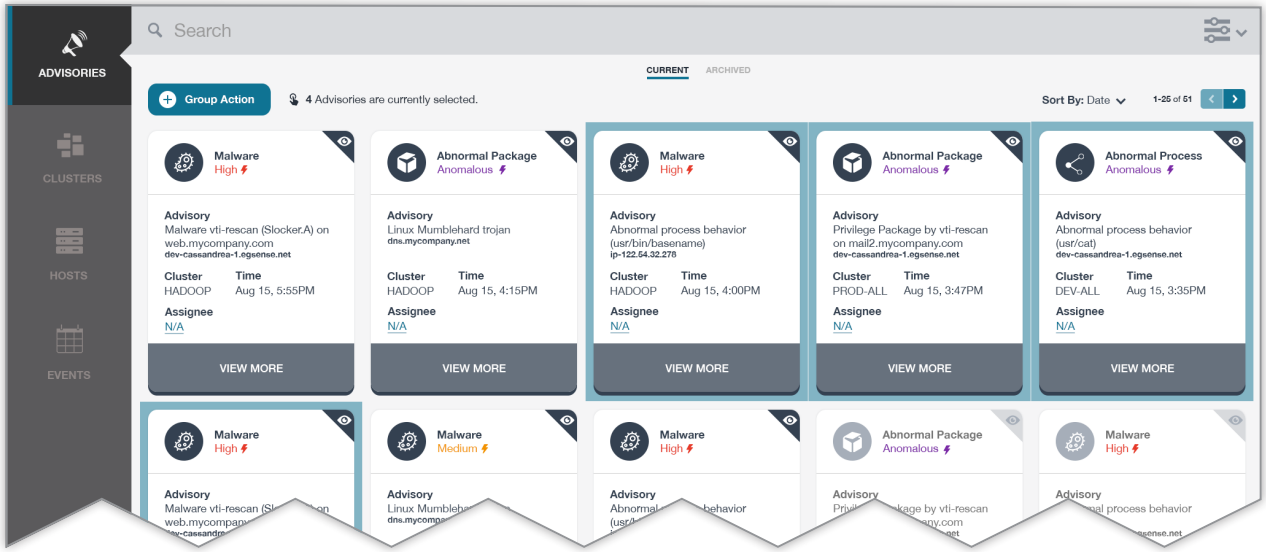
Advisory List Interactivity, con't

CARD VIEW: Clicking anywhere on a card (with the exception of the "View more" area) "selects" the card. Once a card is selected, clicking again that area will unselect the card. The user can also mass select advisories by clicking the "Group action" button and choosing to "Select Page" or "Select All" which will select either all on the current screen or every advisory in the filtered queue. The buttons will then shift to say "Deselect Page" or "Deselect All" and all selected items will become unselected. The total number selected should update the "X currently selected" header.

9. Group Action

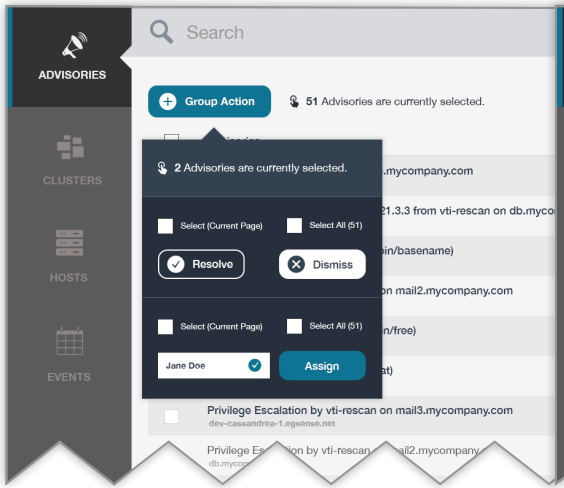
Clicking the "Group Action" button allows the user to select an action to take on currently selected advisories - Dismiss, Resolve or Assign

Scenario 1 and 2 can be done either through the top checkbox as discussed in the previous section while scenario 3 can only occur within the Group Action dropdown.

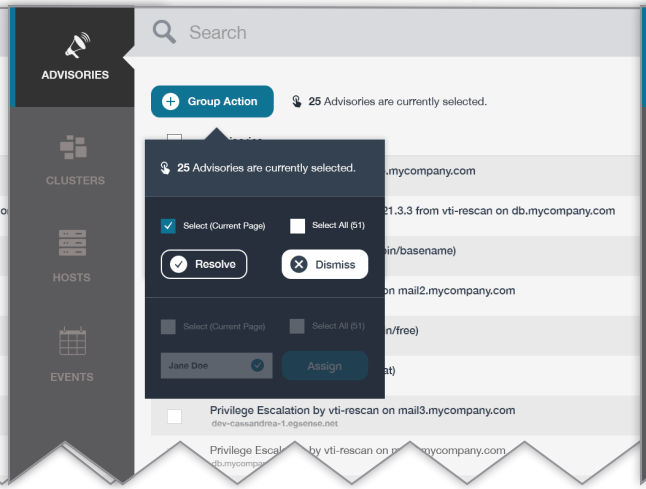


Selecting individual cards

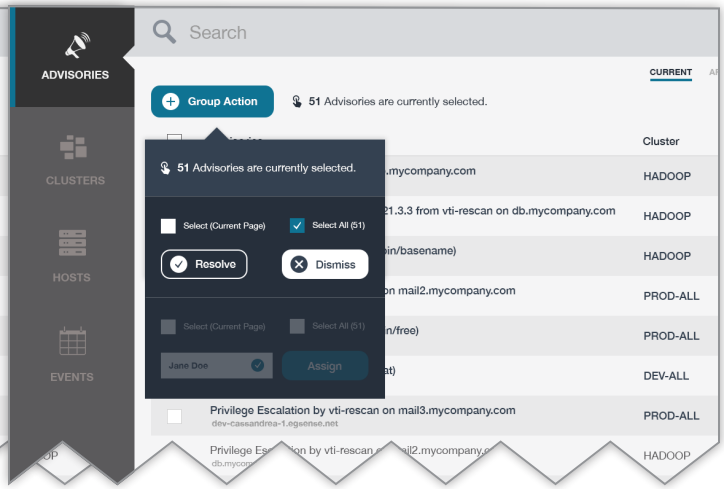
9



Scenario 1: Some selected by hand



Scenario 2: User selects all on current screen



Scenario 3: User selects all advisories in the active queue

Advisory List Interactivity, con't

10. Applying workflow and assigning advisories

Advisories start as "New" in the system. The user may then triage their advisory listing by applying actions to the advisories.

Once one or more advisories are selected, the labels/ functions that are available are:

Resolved

Dismissed

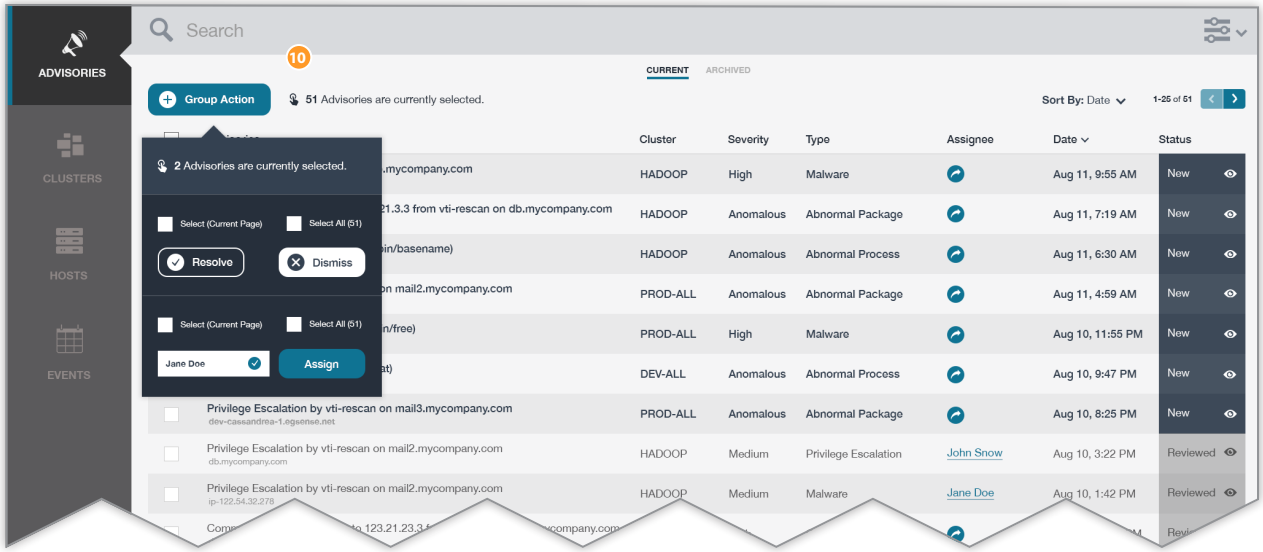
Assigned

"Resolved" and "Dismissed" advisories are removed from the user's active queue and flagged as being closed (Resolved) or not relevant/important (Dismissed) and then placed in the archive.

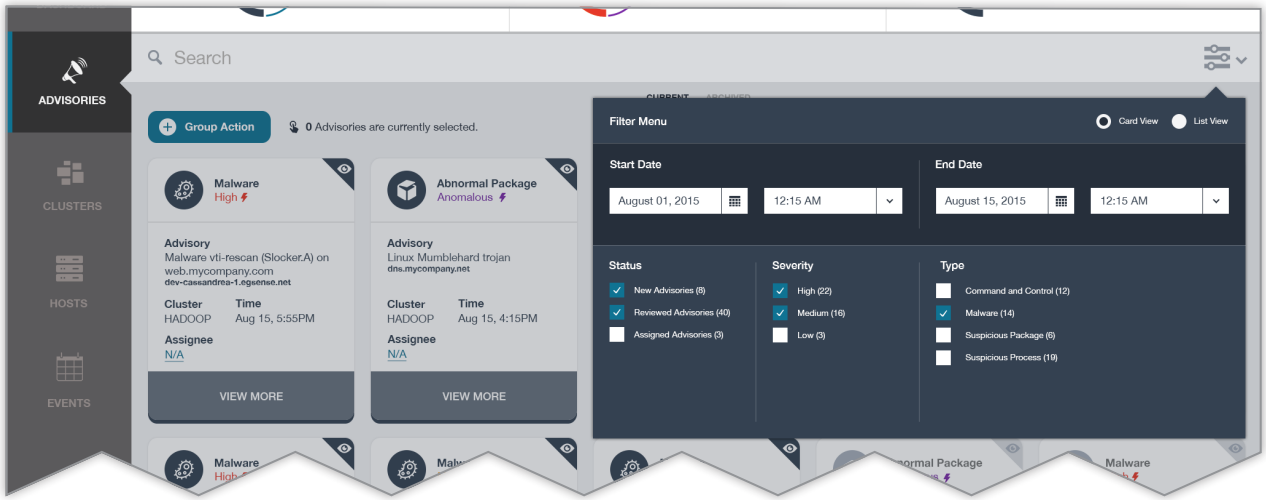
While not a specific step in the workflow process, advisories can also be assigned to an "owner". When an advisory is assigned to an owner, its queue membership will not change, however, the advisory's icon will change to denote its status as being "owned". An advisory can only belong to one person or no one. If it has been assigned to someone, the advisory will show up in their queue when they search for their own advisories.

These steps are available to both individual advisories as well as group selected advisories as outlined in the previous section(s).

NOTE: "Reviewed" advisories are advisories that the user has read but is not ready to remove from their current queue. This step happens automatically when a user reviews the hover (list view) or the flips the card (card view.)



Assigning advisories to users



Selecting advisories that have been assigned to me/current user

Advisory List Interactivity, con't

11. Last updated date

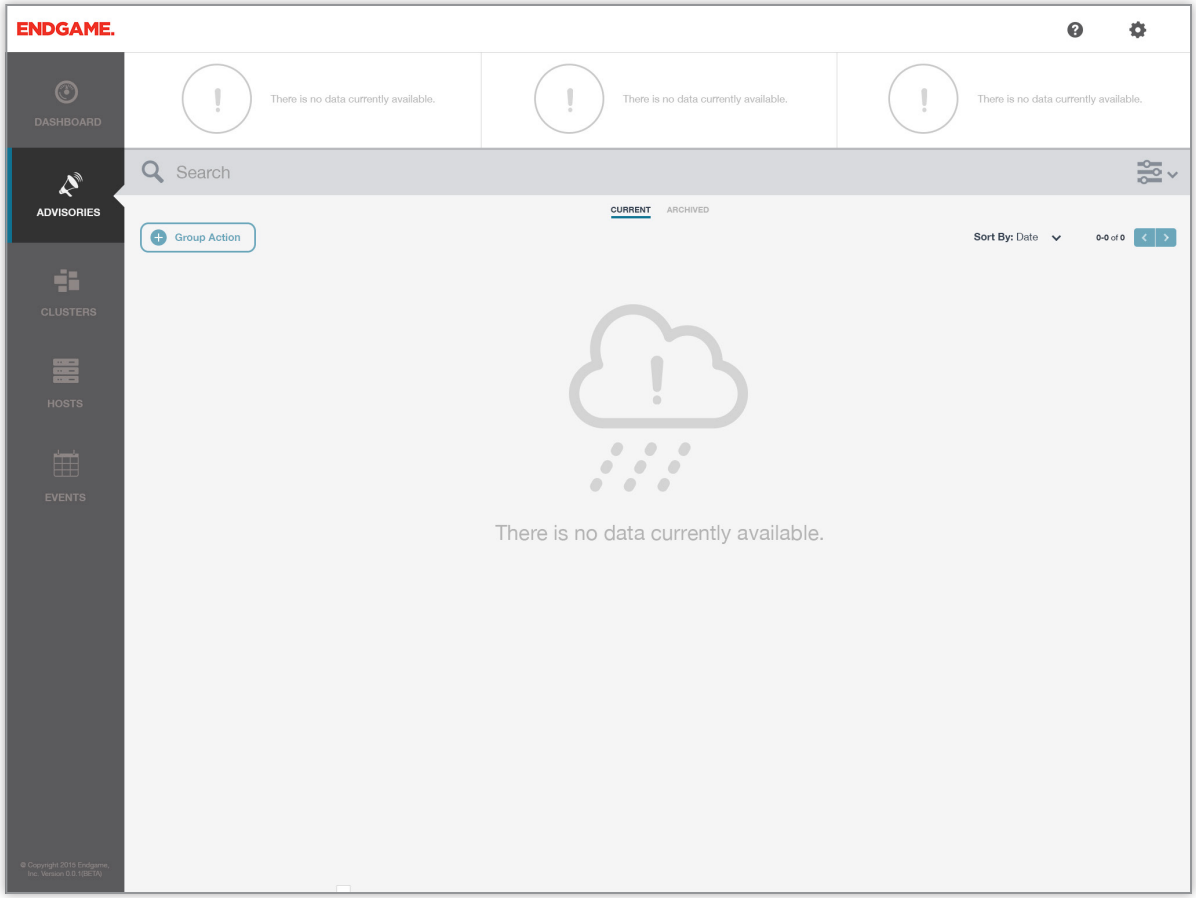
At the bottom of the advisory list is a "Last Updated Date" This is the date and time the user loaded the page. This is important because it serves as a "freshness" date on the list. It's possible more advisories (and events) will come in after the user has loaded the page. Since there is currently no way to let the user know how many new advisories or events have come in since they loaded the page, this will serve as a marker of how long they have been on the page. When the user paginates or reloads the page, this information should update.

12. Empty State

If the system has no advisories, the user should still be able to see their active queues (both Current and Archive) however the buttons should be disabled and there should be specific messaging letting the user know there is no data available. Pagination should also reflect the lack of pages available to browse.

NOTE: Archive should function exactly the same way - that is, the user can browse to the Archive via the tab however the buttons and links should reflect a lack of records and pages available for browsing.

Last updated date/time in the Advisory list



There are currently no available advisories to view in the current queue.

Interaction Specifications

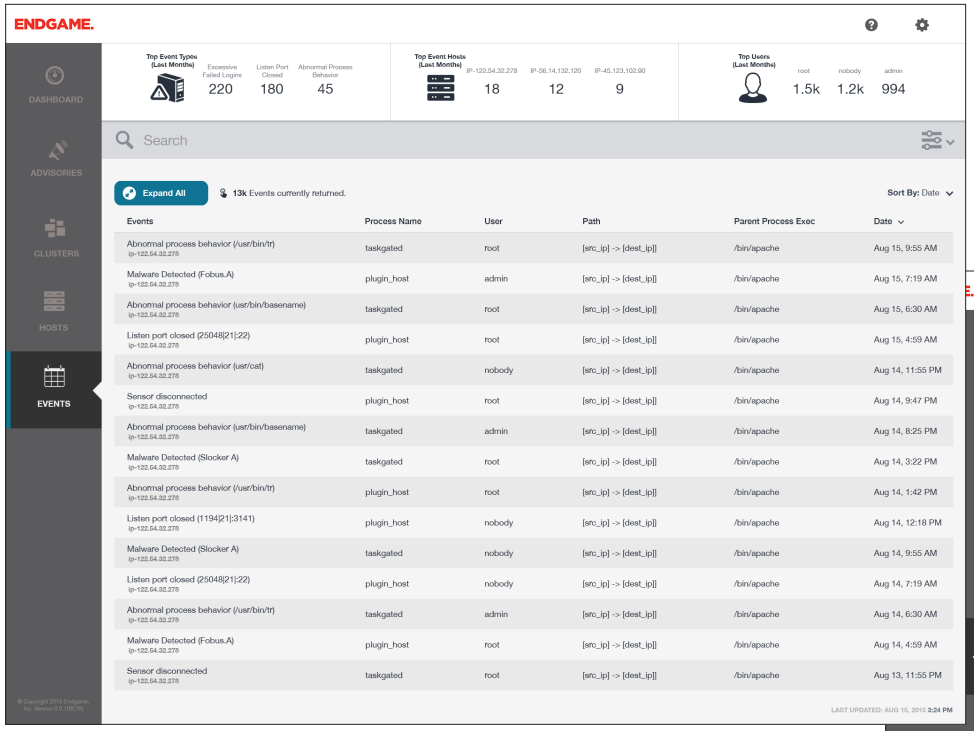
Screen by screen analysis and guide for building each area of the application including null/empty and error states.

This chapter contains:

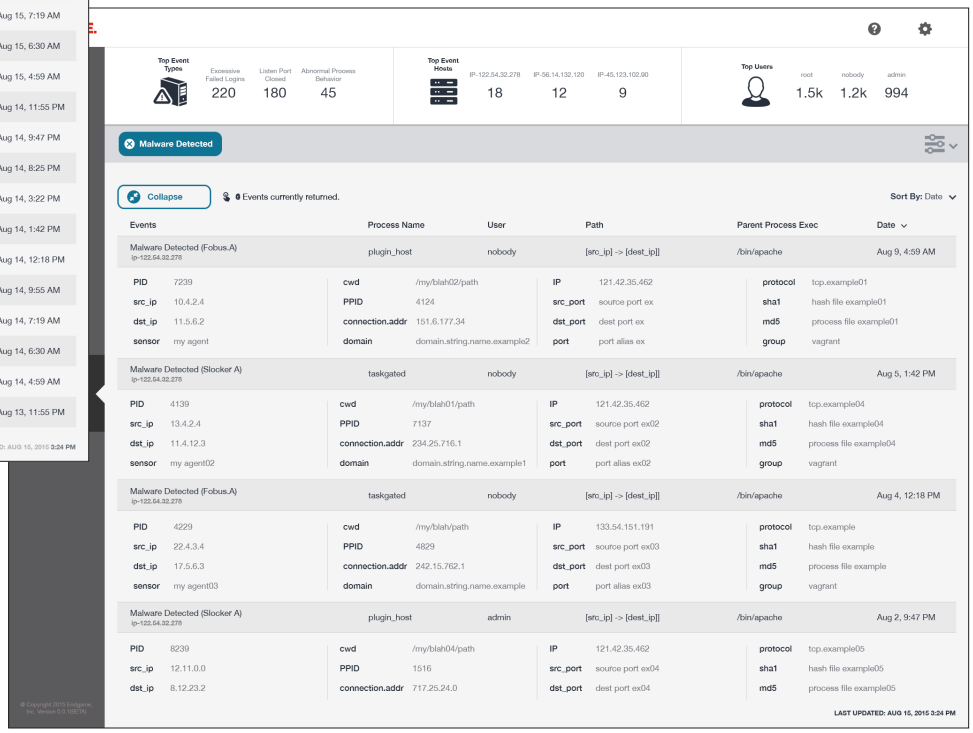
- Dashboard
- Advisories
- Events
- Individual Advisory
- Clusters
- MetaMachine / Individual Host
- Hosts List

Events

Events are the building blocks of Advisories which are what make Enterprise so robust. Events also occur at a very rapid pace which is why it's necessary to have a way to interact and review/search the thousands of events. The user may not utilize this area of the site as often as the advisories or investigator views, however, its purpose as a robust log makes it essential for investigation and reporting purposes. The system will generate advisories by the second which means giving the user very easy search capabilities that can process myriads of facets and values within one interface.



Events, list view



Expanded events, list view

Event List Interactivity

1. Event List KPIs

The user arrives in the Event queue via side nav, individual event and from the dashboard.

KPIs are presented at the top of the screen and are a running 30 day total of event properties, based on one of three areas. They include:

- Top Event Types
- Top Event Hosts
- Top Users

There are no charts needed/utilized in the KPIs section. Instead the numbers should simply present themselves with corresponding icons for each section. FInal icons TBD.

EMPTY STATE

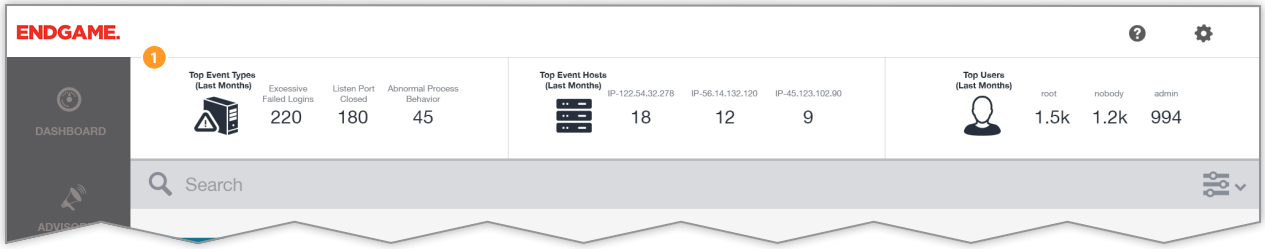
When there are no events in the system, the KPIs should reflect this by letting the user know there is no data and graying out the visuals. The information should still consume the same amount of space relative to the page and include an outline of the missing KPIs but it should utilize the lighter color palette presented in the Visual Design section of this document.

2. Event - getting started/info included

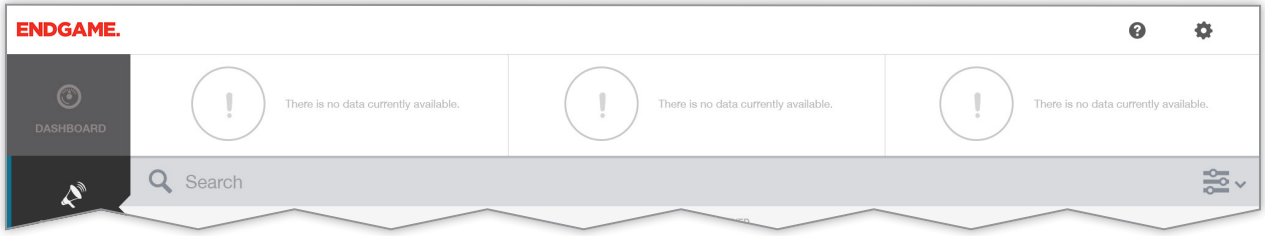
By default, events should include the following information:

- Events
- Process Name
- User
- Path
- Parent Processes
- Date/time

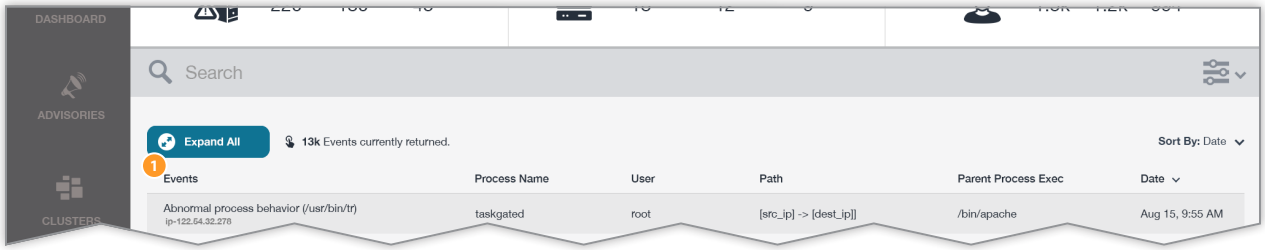
Events happen so quickly that they should not auto-populate the queue. Instead the user should search and filter to bring up desired events. The alternative method of landing on the page can be a pre-filtered view such as all events on a particular host or events by a particular user.



Event KPIs with data



Empty event KPIs



Event information

Unlike Advisories, events do not have any associated workflow nor owners. They do not live in a particular queue and they only persist for 30 days unless they are associated with an advisory, in which case they will persist in the system for up to 1 year.

Event List Interactivity, con't

3. Expanding/collapsing events

Events, by default, display in a collapsed list view. Clicking on the row expands that individual event, however, the user can expand all events currently showing by clicking the "Expand All" button.

When the user clicks the "Expand All" button, the button should change into the "Collapse All" button as shown in the lower image, essentially making the button act as a toggle between the two states. There is no intermediary button when/if a user chooses to only expand selected events, i.e., the user does not utilize the button but instead manually clicks on one or more events.

4. Nested event info

When events are expanded, additional information is revealed as illustrated in the bottom image.

5. Sorting columns

Just like advisories, event columns are sorted by clicking on the column name or utilizing the sort drop down. Each column should be sortable and the currently sorted column should be denoted with an arrow next to the column name. The selected sort should also appear next to the "Sort By" menu text. Clicking the currently sorted column reverses the sort order. Standard sort orders are:

Event, alphabetical

Process name, alphabetical

User, alphabetical

Path, alphabetical

Parent process, alphabetical

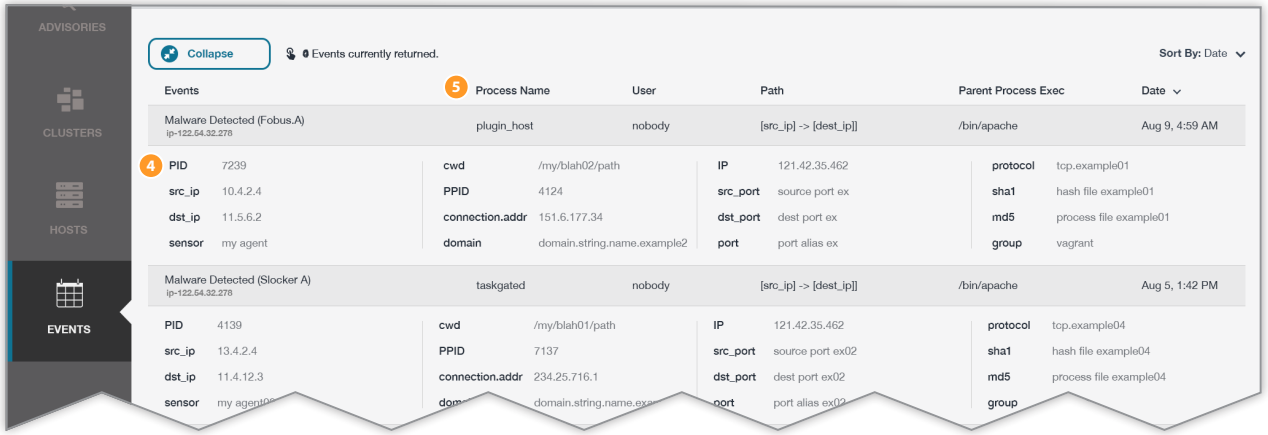
Date (most-> least recent)

The date format should display as "Mmm d hh:mm". Seconds should be left off for clarity, and unless the advisory occurred in a prior year, year should be omitted.

Note: "Same time" denotes date and hour/minute. It is possible there will be multiple advisories in the same minute and therefore, they should have a sub-sort or grouping by status following the status column sort order.

PAGINATION: There is no pagination. Instead, events utilize infinite scrolling.

Collapsed events (default view)

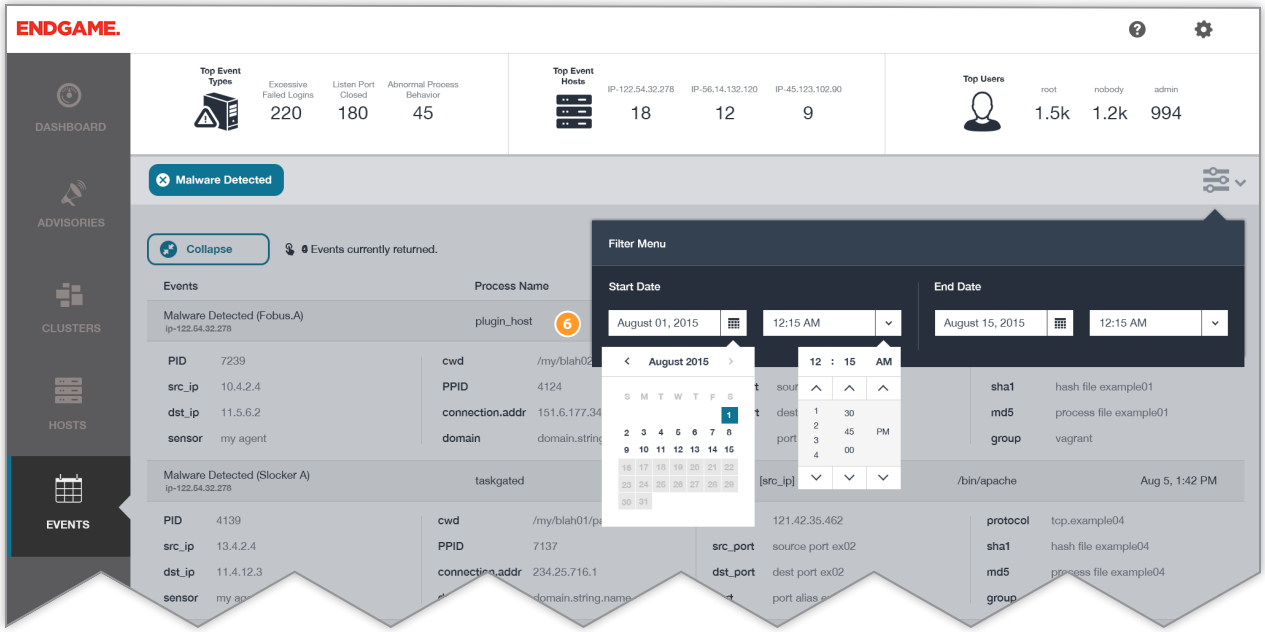


Expanded events view

Event List Interactivity, con't

6. Filters

Events only utilize one filter - date/time. The controls function the same as they do in Advisories and the filter panel only contains those fields. The majority of users will manage their list of returned events via the search box which will function just as it does in the Advisory area of the site.



Event filters open

Visual Design Specifications

Detailed visual design specifications including fonts, colors, grid layout and iconongraphy for the application.

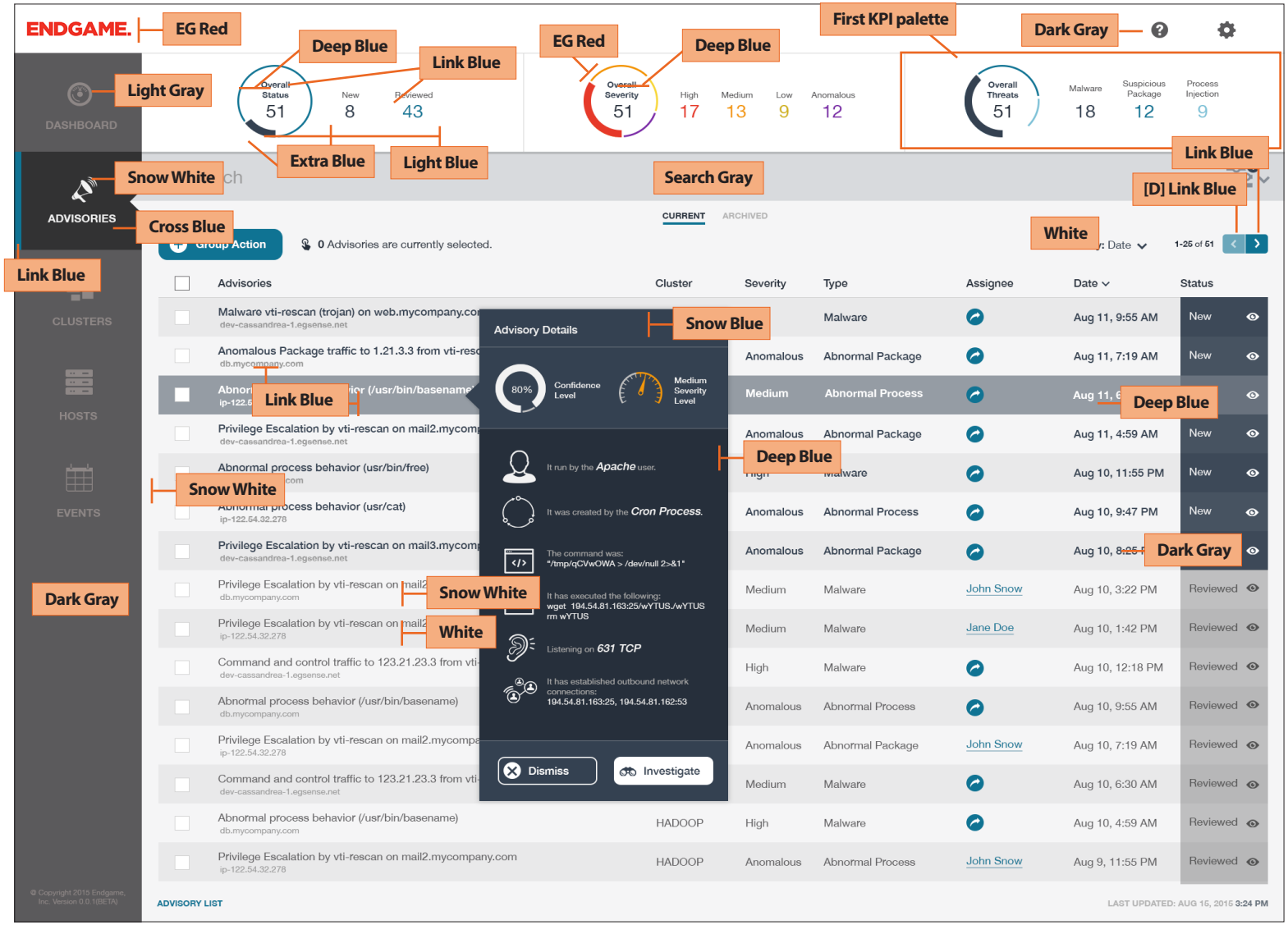
This chapter contains:

- Dashboard
- Advisories
- Events
- Individual Advisory
- Clusters
- MetaMachine / Individual Host
- Hosts List
- Help / Zendesk Integration
- Statuscast
- Login

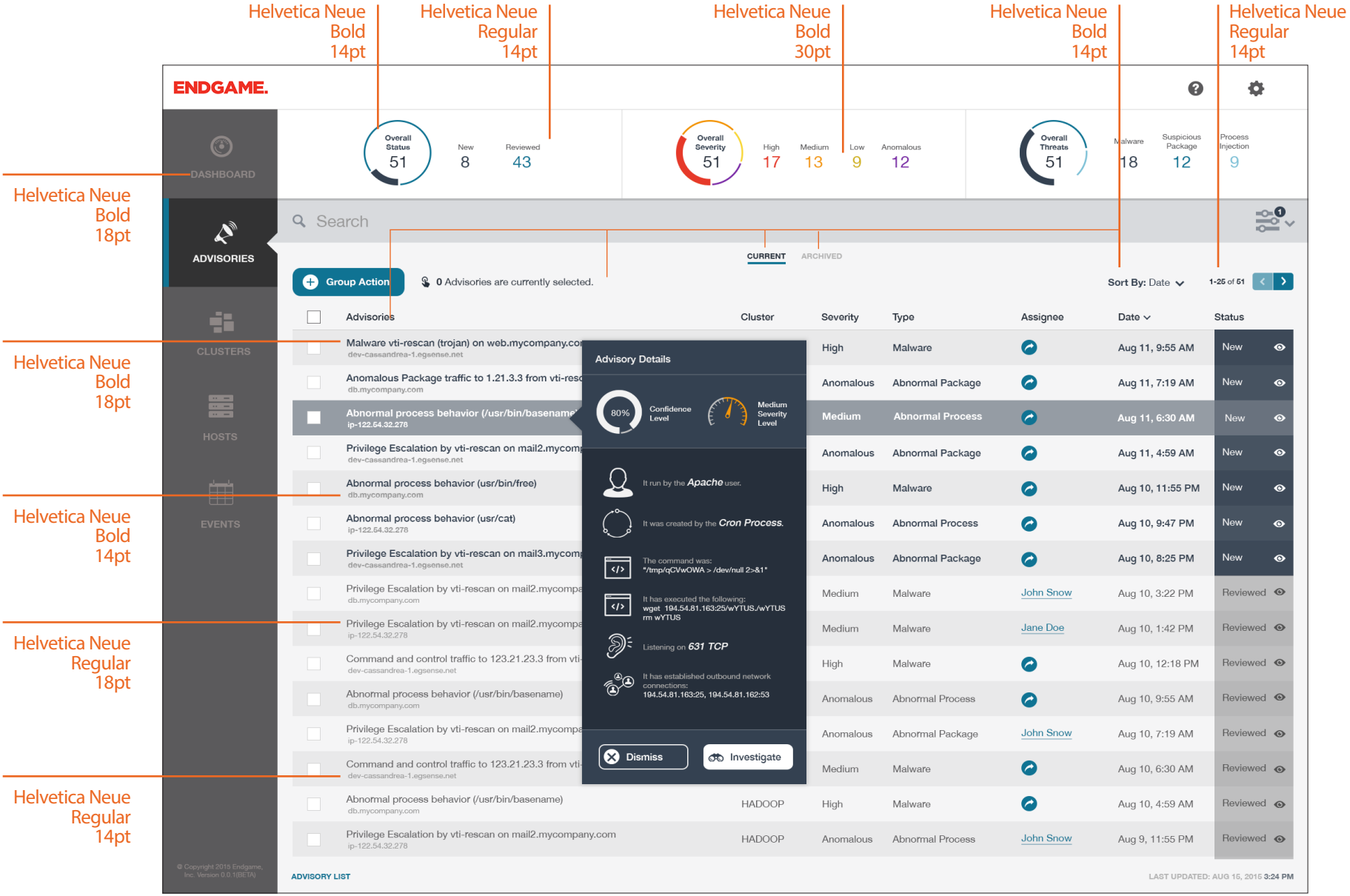
Advisory List Colors

Color listing

- EG Red: #ef3125
- Dark Gray: #5b5a5c
- Light Gray: #8e8786
- Search Gray: #d8dadd
- Light Blue: #7dc1d7
- Link Blue: #0f7393
- [D] Link Blue: #6fabbe
- Deep Blue: #262f3b
- Cross Blue: #323233
- Extra Blue: #344151
- Snow Blue: #959ca4
- Snow White: #f2f2f2



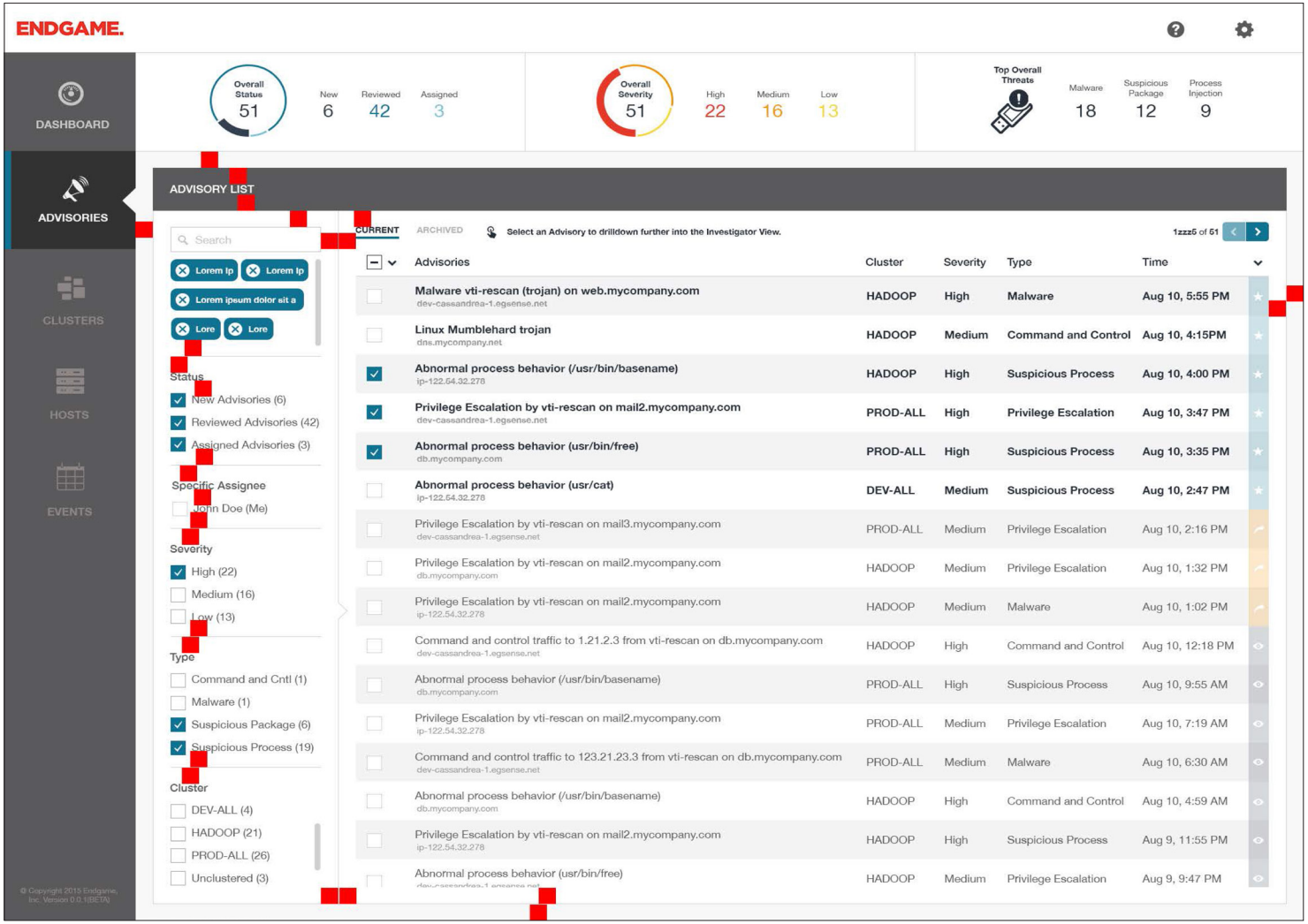
Advisory List Fonts



Advisory List Layout

Spacing

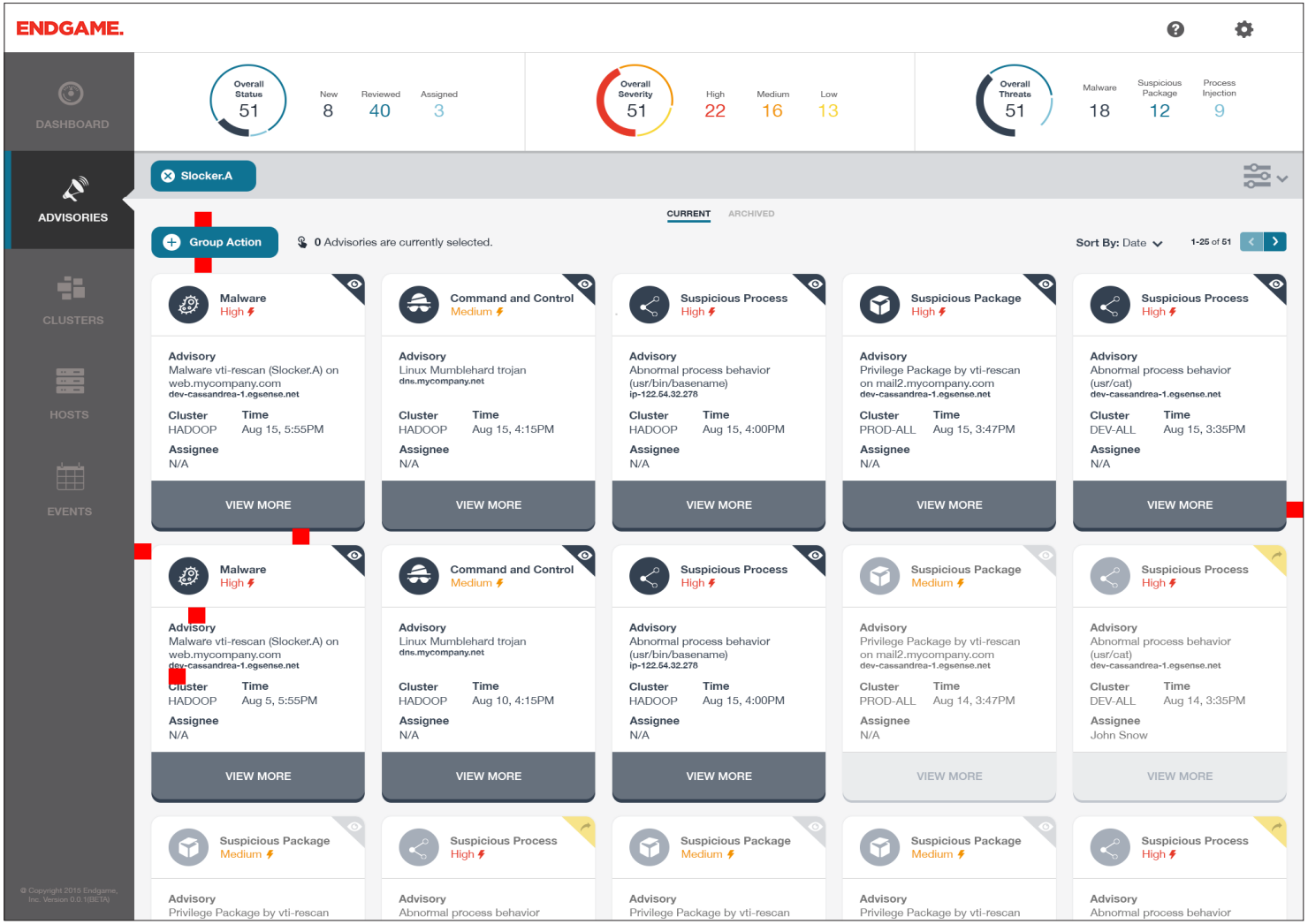
The application should utilize a spacing block of 27 pixels. The red square represents application padding.



Advisory Card Layout

Spacing

The application should utilize a spacing block of 27 pixels. The red square represents application padding.



Advisory Iconography

List View

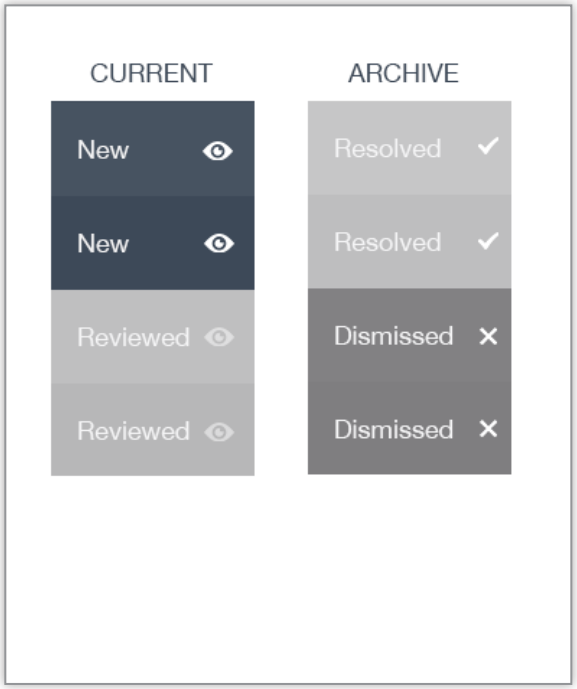
In the list view, the rows alternate colors and the right edges utilize specific colors and icons.

Card View

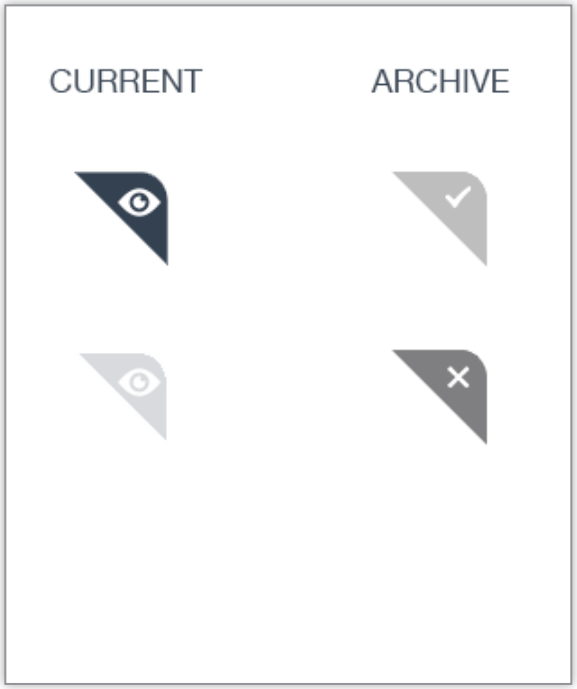
The same icons and colors are used, however, they are set in the top right corners of the cards. The card colors do not alternate.

Advisory Icons (card view)

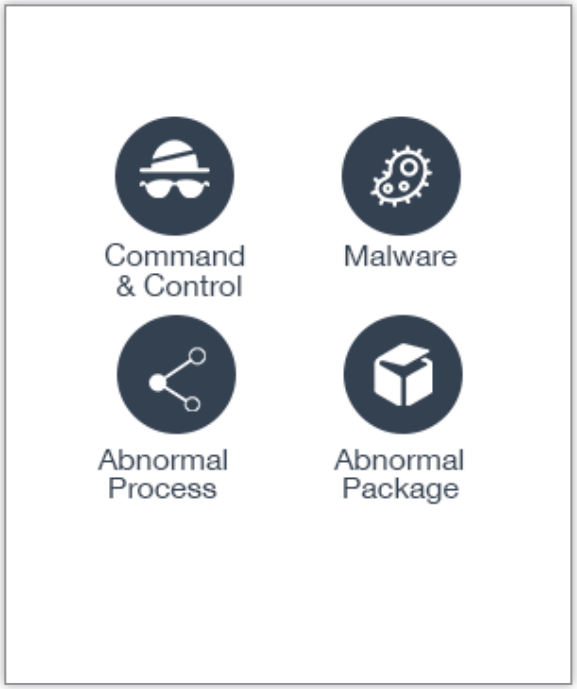
The following icons should be used in the card view to classify the type of advisory.



Advisory status with list colors (alternating palettes) and iconography



Advisory status with card colors and iconography



Advisory type icons