Timeline Controller Documentation

Expanded State vs. Minimised State

Timeline has two states:

- Full expanded state shows: full HUD metrics + the graph indicating NS % / Yield Vol.
- Minimised state shows: basic HUD metrics + timeline navigator line with the same device events / asset event flags
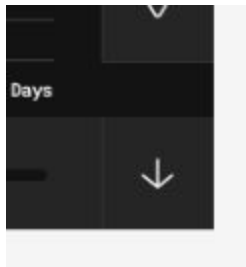
Full:

Minimized:

Timeline state is toggled using icon button in right bottom corner of component / screen:

Switch between states slides the timeline HUD metrics & graph up/down from the bottom the screen]

Event Flag Types (Brief Legend):

Compromised Asset Events: single asset compromised event - red node symbol indicates presence of types of assets	
Compromised Asset Cluster: red circle with # indicating the total number of compromised assets in cluster	

Reconned Assets / Reconned Devices: indicated by blue stroke / line on timeline	
Compromised Devices: indicated by red stroke / line on timeline	
First Compromised Device In Subnet Group: slight red fill behind event flag indicates that device = first device in subnet to be compromised	

Simulation Navigation Using Timeline Controller

User can navigate to/between nodes in the simulation map / timeline using:

- Arrow keys

- Next Event / Previous Event control buttons
- Clicking on event flag

User can move forwards / backwards in selected attack pathway using arrow keys / next/previous controls

User can click on asset or device flag, which will anchor to asset/device node in map and node will switch to selected state

Asset/Device Event Flag On-Click

Clicking on asset or non-asset device event flag will:

- Highlight attack pathway up until that device in timeline - user can then carousel through events using arrow keys / next/previous controls
- Anchor to device node in map, centre node in view, toggle node to selected state and highlight attack pathway to selected device in map

Currently when compromised event flag is selected on-click - the opacity of all devices / compromised asset flags not included by attack pathway will be reduced by 75% to 'dim' them and focus user on selected pathway.

To get back to normal view, one should click on a an empty (black) area.

Campaign HUD Metrics

Shows standard campaign metrics for current position in campaign timeline. Includes:
- Network Superiority % graph
- # of assets compromised, per type
- Yield Volume

In minimised campaign state, HUD metrics are more basic with just numbers, no visual indicators.

When NS is achieved, NS graph will flip to achieved state (same as campaign card)

Network Superiority

A horizontal line will be present on top of the graph from start to end, indicating the threshold for reaching the NS. For now it's fixed on 80% but in the future will be configured otherwise.

Play button

Clicking Play will start running the campaign and move the "blue circle" (Need a better term for this…) along the chart in a constant pace (TBD). Every time the blue circle gets to an event, the map will be updated and the the HUD metrics are adjusted according to the blue circle position.

Time scale and Resolution

1. Start time is the the time the campaign started running
2. End time is the min(NOW, CompleteTimestamp)
3. The highest resolution should fit

Hover-over Tooltips

User can hover-over asset compromised event flags to get the following information:

- Device Name
- Timestamp
- Name of Method Used
- Attack Source Device Name
- Icon indicators of types of assets present in node (Data, Network, Device)
- If device is first comp event in subnet, subnet name included in tooltip
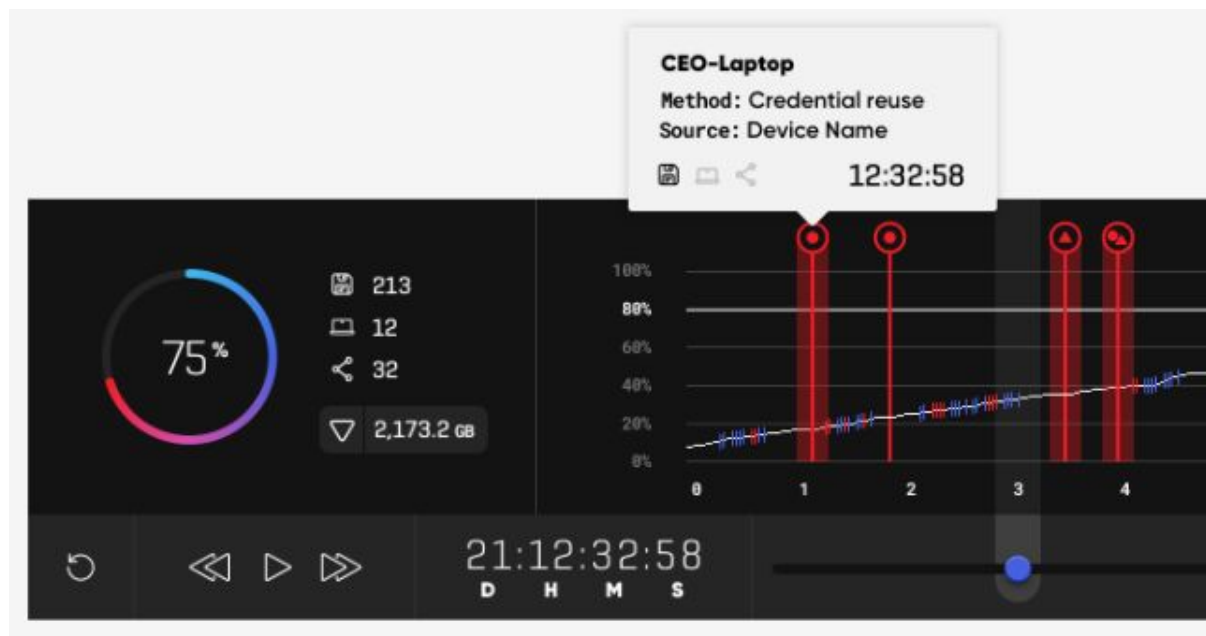
User can hover-over asset cluster event flags:

- Number of data assets compromised
- Number of network assets compromised
- Number of device assets compromised
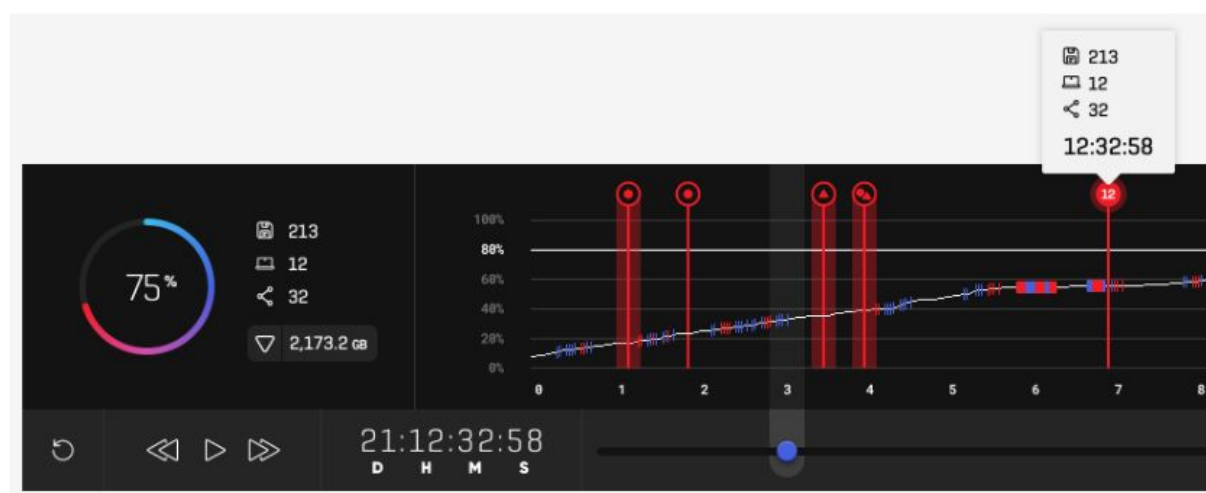
NOTE: Hovering over device events is TBC at this point. Requires further exploration.

Zoom Functionality

User can scroll vertically to zoom in/out of timeline, which will allow users to see more assets/device events. Event clusters will break out as user zooms in (ie. Asset cluster of 45, could break off into 5 separate clusters on zoom)

On zoom timeline intervals will adjust to be accurate in unison.

Maximum resolution should set an event width to be no more than 10% of the chart width. Assumption (server side responsibility): two events can't occur at the same time.


Regardless the zoom state, a blue circle on the bottom of the chart scrolls over the entire campaign duration. It's position is set in one of these cases:
1. An event is clicked - the position is set to the event time
2. The user drags the blue circle along its line

The HUD metrics are adjusted according to the blue circle position.

View Mode Toggles

View mode is controlled using dual icon toggle buttons on right side of timeline. Toggling on one mode, toggles off the other mode.
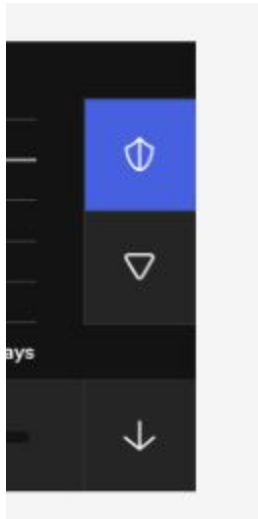
Two view modes for timeline:

1. Network Superiority
   - NS % gain is indicated on graph across duration
   - Y-axis = % (0-100)
   - X-axis = campaign duration intervals
2. Yield Volume
   - Yield vol. gain is indicated across duration
   - Y-axis = volume in GB (changes with time, i.e. dynamic)
   - X-axis = Campaign duration intervals

Changes to made:

1. The "Go to start position" icon ( )will be replaced
2. The time duration ( ) will be replaced with absolute time.
3. When timeline is played a Pause button will replace the play button, and vice versa. We'll get a new icon for this.