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Zabbix Dashboard Widget Tips and Tricks



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Widget data broadcasting and listening



Broadcast and listen capabilities

Widgets have broadcast and listen capabilities for the following entities:

- ▶ Hosts
- ▶ Host groups
- ▶ Time periods
- ▶ Items
- ▶ Events
- ▶ Maps

Widget	Broadcasts	Listens
Action log	-	Time period
Clock	-	-
Discovery status	-	-
Favorite graphs	-	-
Favorite maps	-	-
Gauge	-	Hosts, Items
Geomap	Hosts	Host groups, Hosts
Graph	Time period	Time period, Items, Hosts
Graph (classic)	Time period	Hosts, Items, Graphs, Time period
Graph prototype	Time period	Hosts, Time period
Honeycomb	Hosts, Items	Host groups, Hosts
Host availability	-	Host groups
Host card	-	Hosts
Host navigator	Hosts	Host groups
Item history	Items	Hosts, Time period
Item navigator	Items	Host groups, Hosts
Item value	-	Hosts, Items, Time period
Map	Host groups, Hosts	Maps
Map navigation tree	Maps	-
Pie chart	-	Time period, Items
Problem hosts	Host groups	Host groups, Hosts
Problems	Events	Host groups, Hosts
Problems by severity	Host groups	Host groups, Hosts
SLA report	-	-
System information	-	-
Top hosts	Hosts	Host groups, Hosts
Top items	-	Host groups, Hosts
Top triggers	-	Time period
Trigger overview	-	Host groups, Hosts
URL	-	Hosts
Web monitoring	Host groups	Host groups, Hosts

Broadcast and listen capabilities

Additional information about widgets and their broadcast/listen capabilities can be found in our documentation

1 Dashboard widgets

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Overview

This section provides the details of parameters that are common for dashboard widgets.

Common parameters

The following parameters are common for every single widget:

Name	Enter a widget name.
Refresh interval	Configure the default refresh interval. Default refresh intervals for widgets range from <i>No refresh</i> to <i>15 minutes</i> depending on the type of the widget. For example: - <i>No refresh</i> for <i>URL</i> widget; - <i>1 minute</i> for <i>Action log</i> widget; - <i>15 minutes</i> for <i>Clock</i> widget. Refresh intervals can be set to a default value for all users. Switch the dashboard to editing mode , click the edit a widget button and select the desired refresh interval from the dropdown list.

1 Dashboard widgets

- Overview
- Common parameters
- Specific parameters
- Dynamic parameters
 - Host groups, Hosts, Item, Item list
 - Override host
 - Time period
 - Widget behavior
 - Widget compatibility

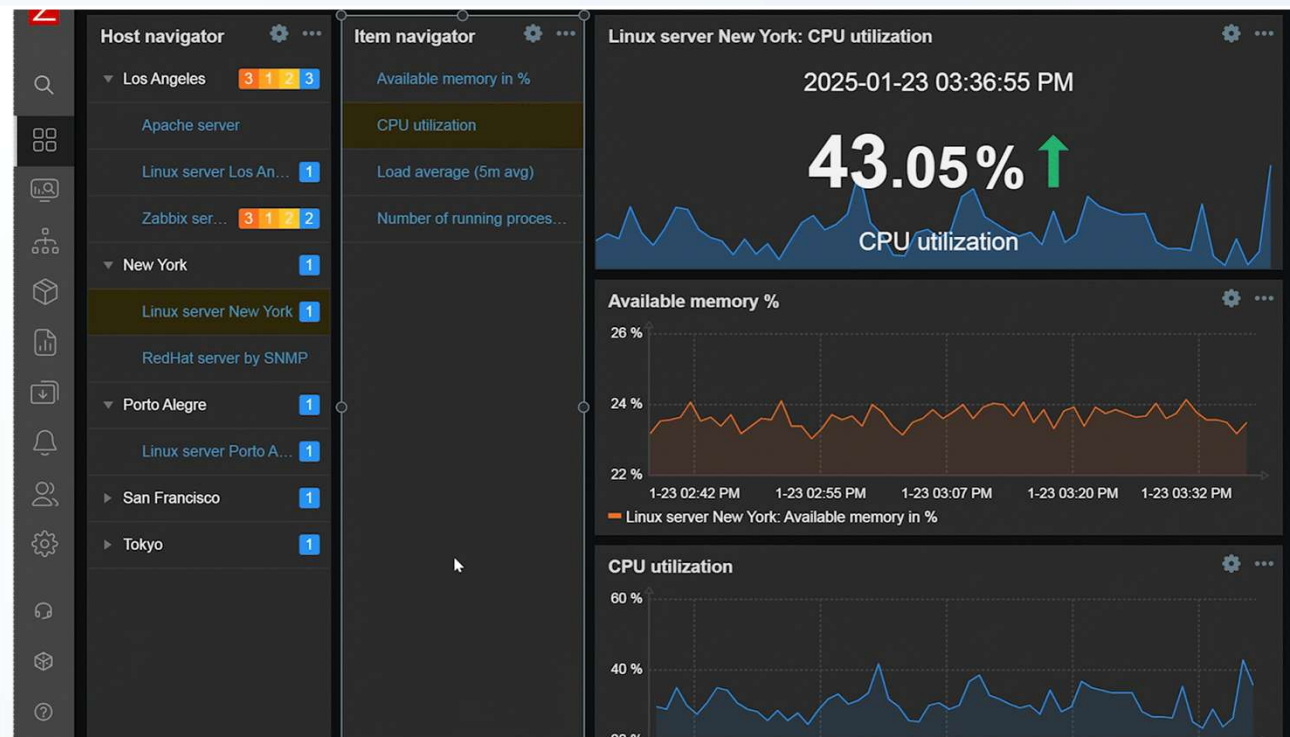


https://www.zabbix.com/documentation/current/en/manual/web_interface/frontend_sections/dashboards/widgets

Broadcast and listen capabilities

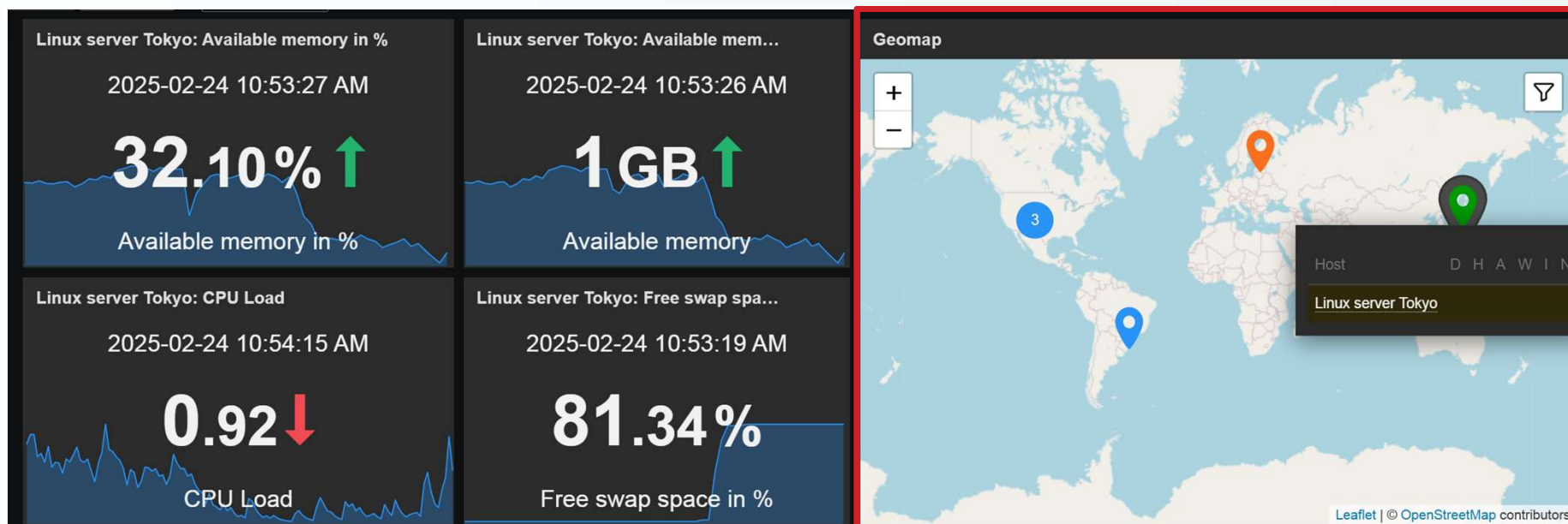
Broadcast and listen capabilities ensure that some widgets can be used as data sources for other widgets

- ▶ Hosts are selected in the Host navigator
- ▶ Items are selected in the item navigator
- ▶ Host selection is reflected in graph and item value widgets



Broadcast and listen capabilities

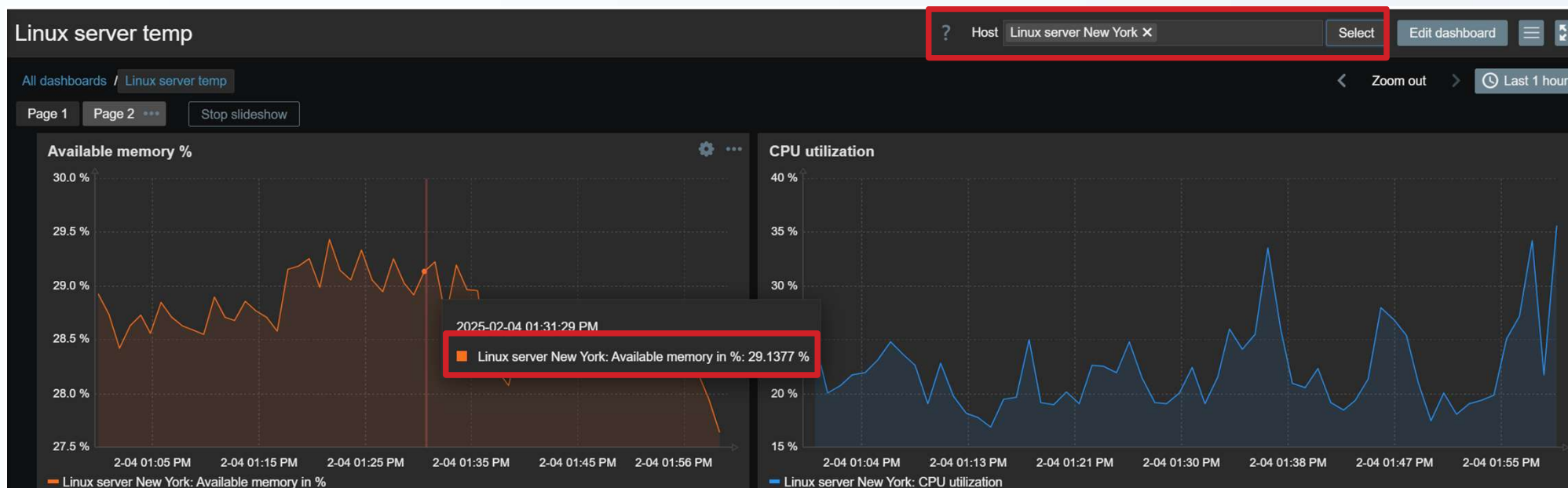
Various Non-navigator widgets can also be used as broadcast widgets



Broadcast and listen capabilities

Host data source can be overridden on the dashboard level

- ▶ Host is selected in the dashboard dropdown
- ▶ The item values are displayed for the selected host (If such items exist on the host)



Navigator widgets

The navigator widgets can be used as data sources for other widgets:

- ▶ Host navigator
- ▶ Item navigator
- ▶ Map navigation tree

Various widgets can utilize navigators as data sources:

- ▶ Graphs
- ▶ Maps
- ▶ Item value
- ▶ Host card
- ▶ Etc.

Navigator widgets

Navigator widgets use various filters to display a list of matching entities

- ▶ The list can be grouped by tag values, host groups, problem severities and more
- ▶ Number and severity of matching problems is displayed next to the host and group

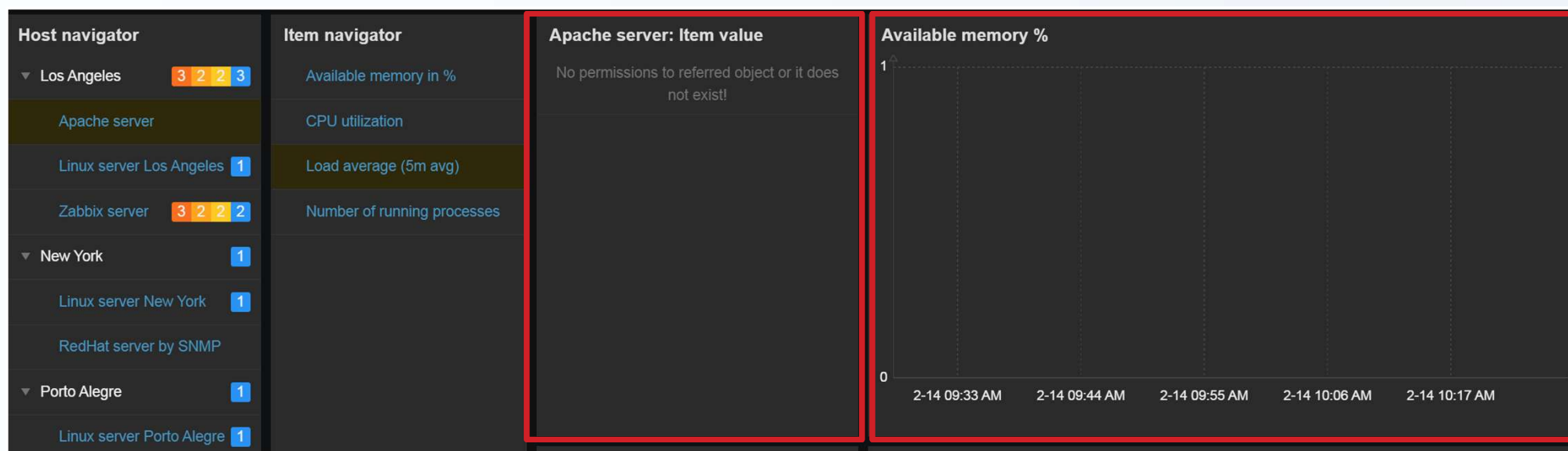
The screenshot displays two side-by-side Zabbix Navigator widgets. The 'Host navigator' widget on the left shows a hierarchical list of hosts and groups. It includes a search bar, a settings icon, and a list of items with problem counts and severity indicators. The 'Item navigator' widget on the right shows a list of monitored items, each with a settings icon and a menu icon.

Host navigator	Item navigator
▼ Los angeles 1	Available memory in %
▼ Information 1	CPU utilization
Linux server Los Angeles 1	CPU utilization
▼ Uncategorized	Load average (5m avg)
Apache server	Number of running processes
▶ Los Angeles 3 1 2 2	
▶ New York 1	
▶ Porto Alegre 1	
▶ San Francisco 1	
▶ Tokyo 1	

Broadcast and listen capabilities

If an item which does not exist on the host is selected via broadcast widgets, the linked listener widgets will be empty

- ▶ Ensure your broadcast widgets have proper filters as to not confuse users interacting with dashboards



Advanced graph widget use cases

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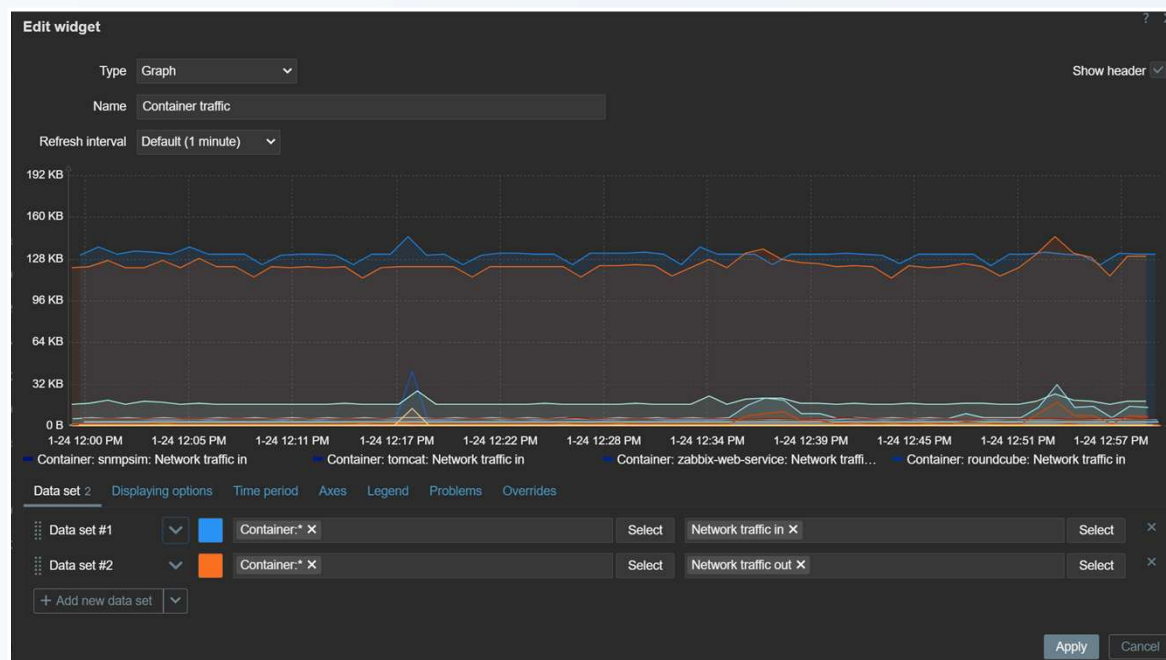
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Graph widget

The Graph widget allows you to displays values in an SVG (Vector) graph

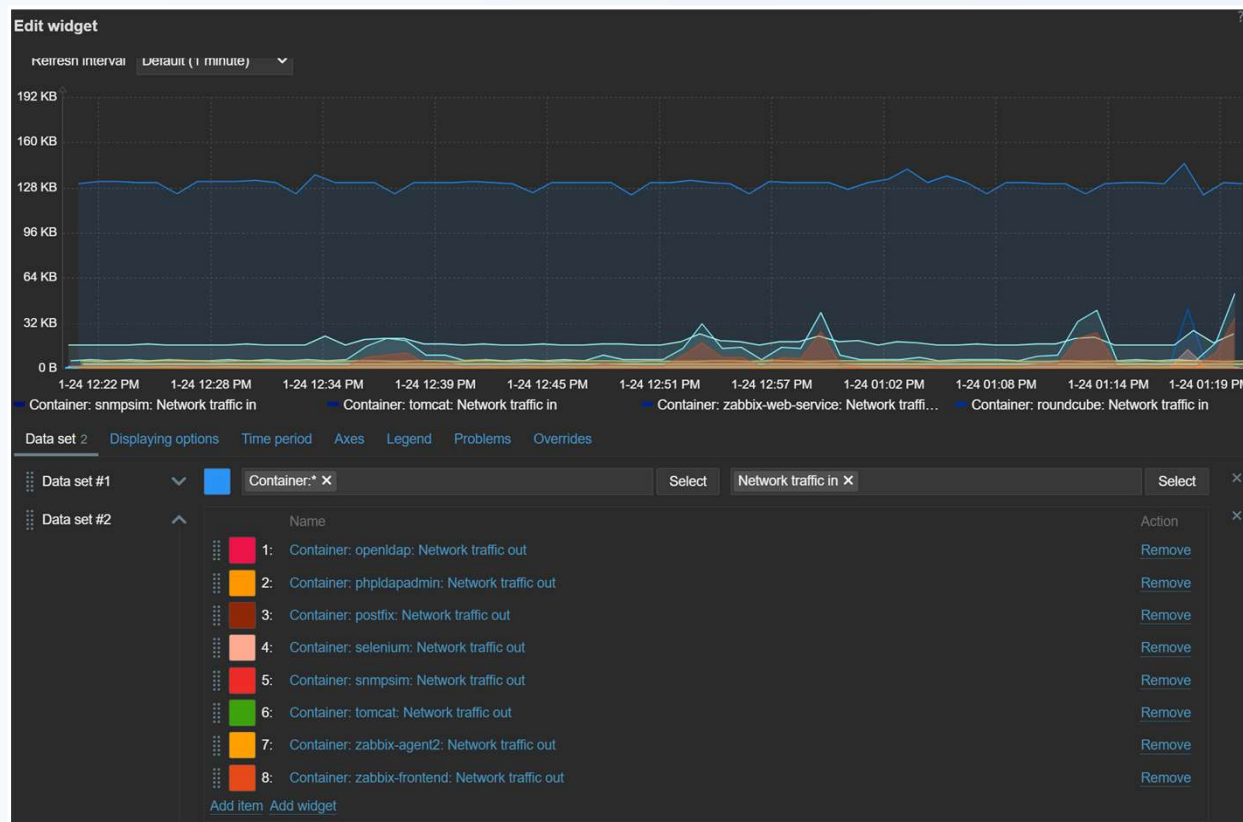
- ▶ Uses item and host patterns in data sets
- ▶ Supports various draw styles and visualization options
- ▶ Displayed values can be aggregated directly in the graph



Data sets

Graphs allow for two types of data sets

- ▶ Item pattern data sets
- ▶ Item list data sets
 - Item list can be linked to a broadcast widget
- ▶ Both data sets can be linked to an override host from a broadcast widget



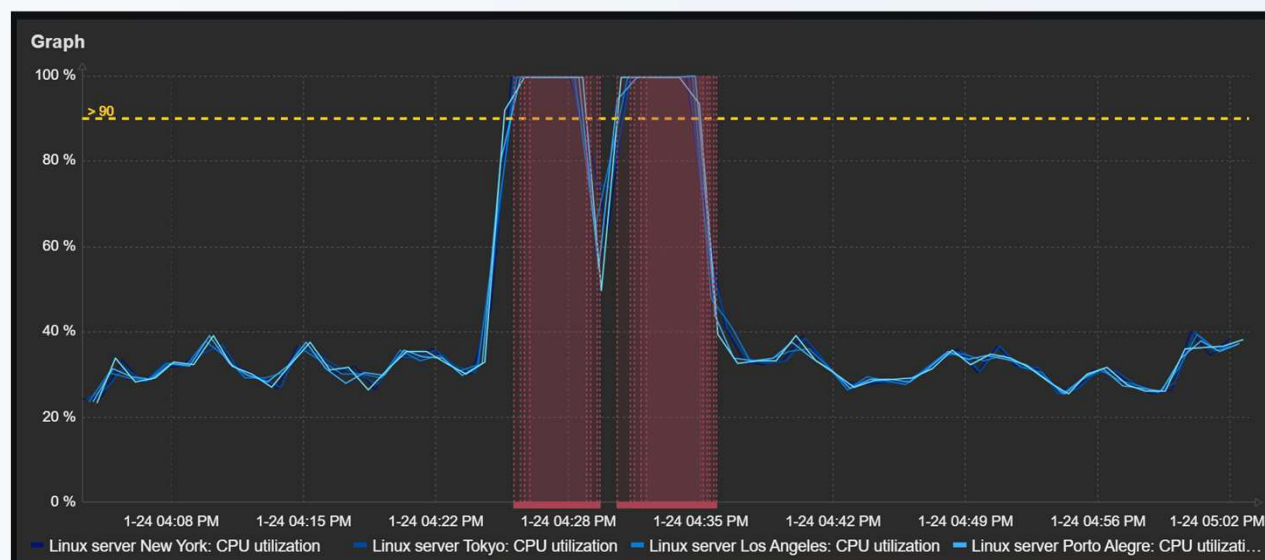
Trigger and problem display

Trigger thresholds can be displayed for simple triggers

- ▶ A simple trigger is a trigger with one function (only last, max, min, avg) for one item in the expression

Detected problems can be highlighted on the graph

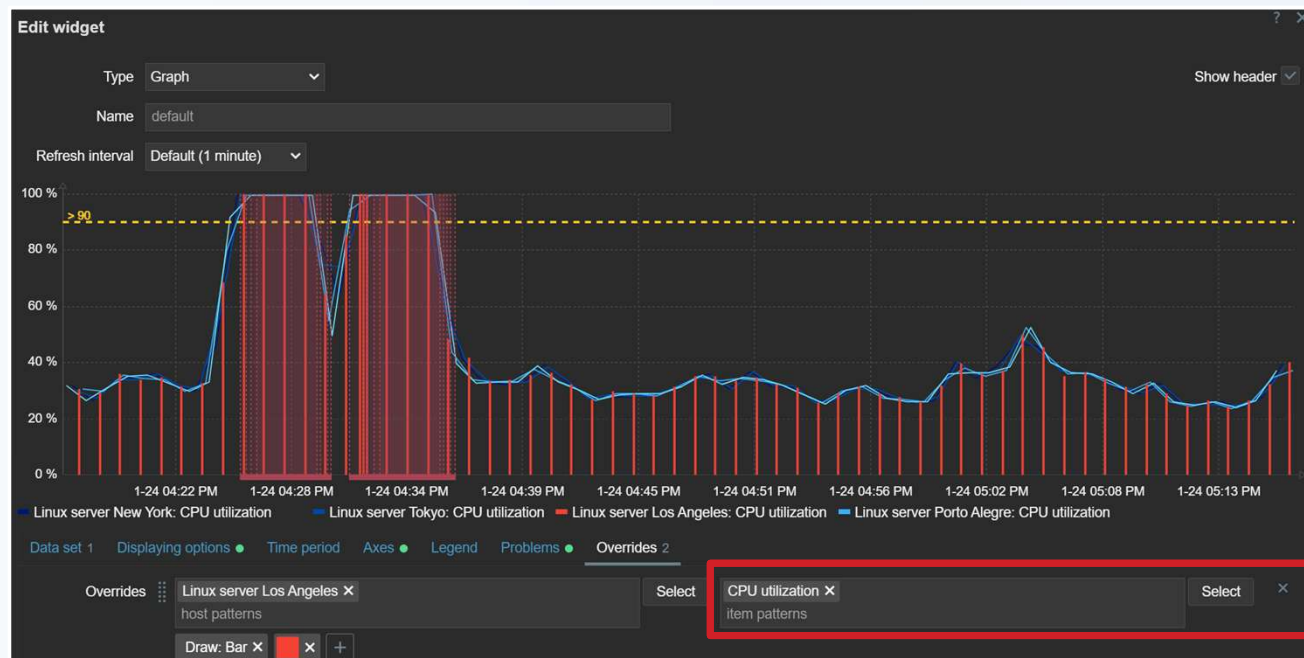
- ▶ The problems can be filtered by hosts, severities, tags and more



Overrides

The Overrides section can be used to make changes to matching items within existing datasets

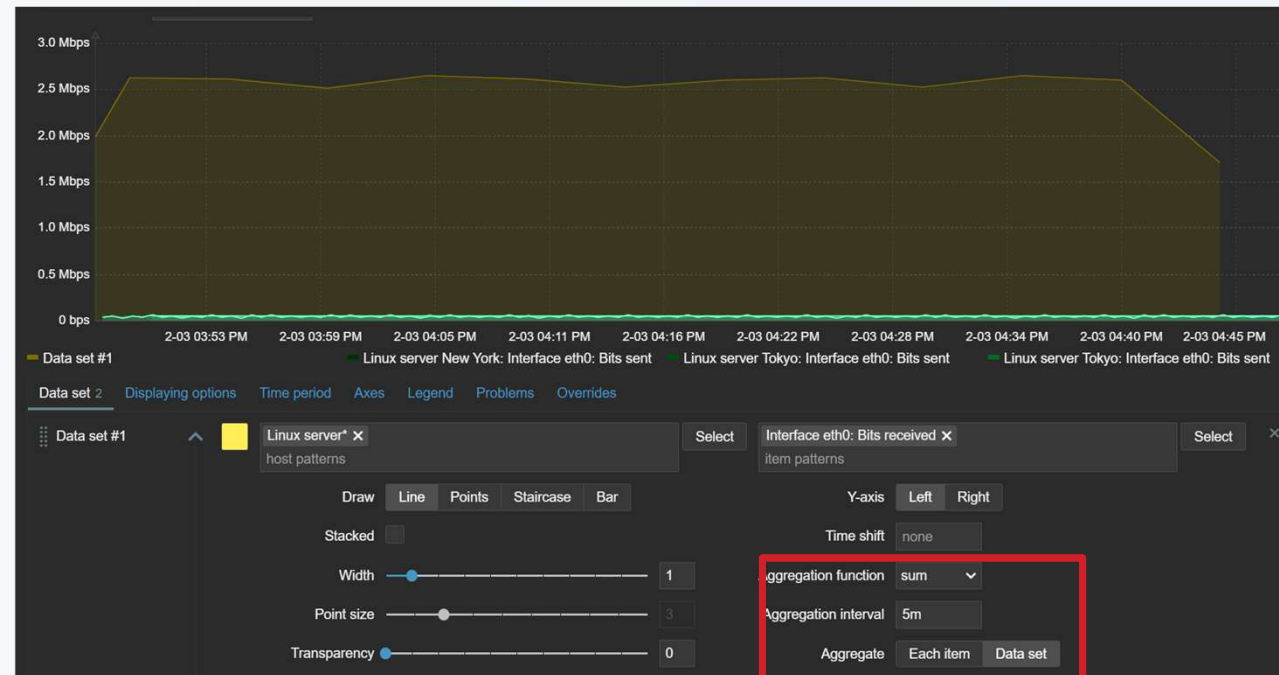
- ▶ This way an item or items can be visualized/emphasized in a unique way
- ▶ Draw style, color, missing data behavior, time shift and Y-axis display can be overridden.



Aggregation

Aggregations can be used to gather new insights directly from the dashboards

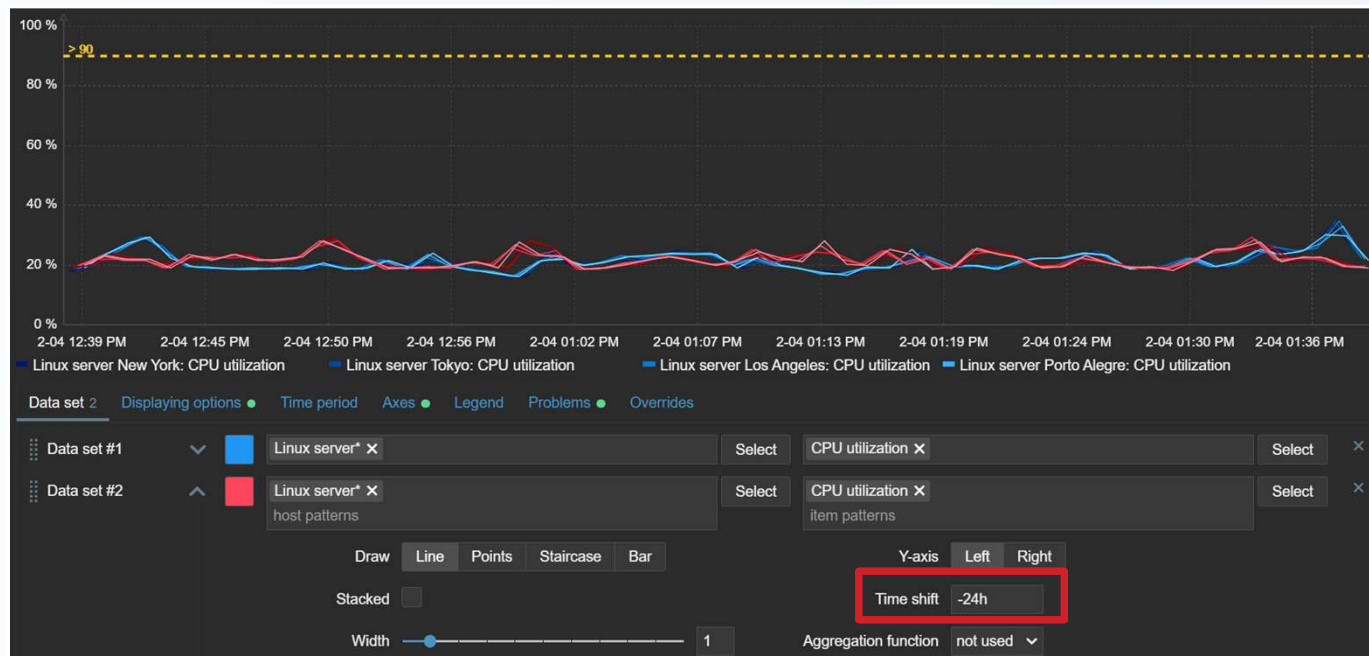
- ▶ Min, max, avg, sum, count and other aggregations
- ▶ Aggregate each item or the whole data set
- ▶ For example: Display total incoming traffic across all matched hosts



Time shift

Time shift can be used to display older data on the current timeline

- ▶ Useful for comparing old data points with current data

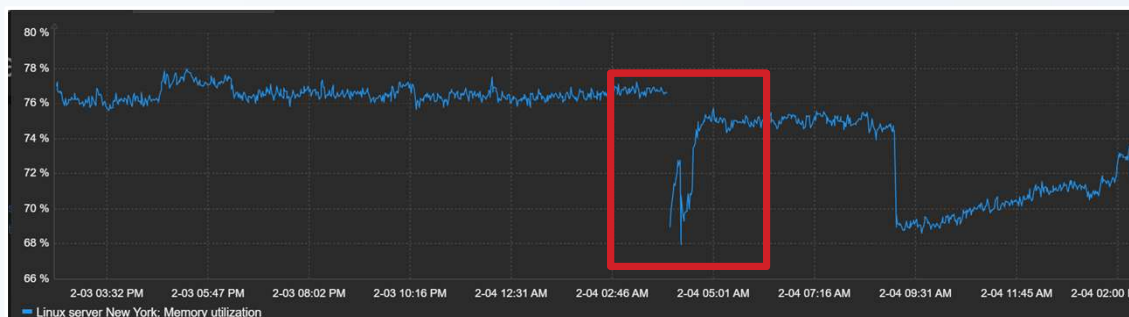


Missing data

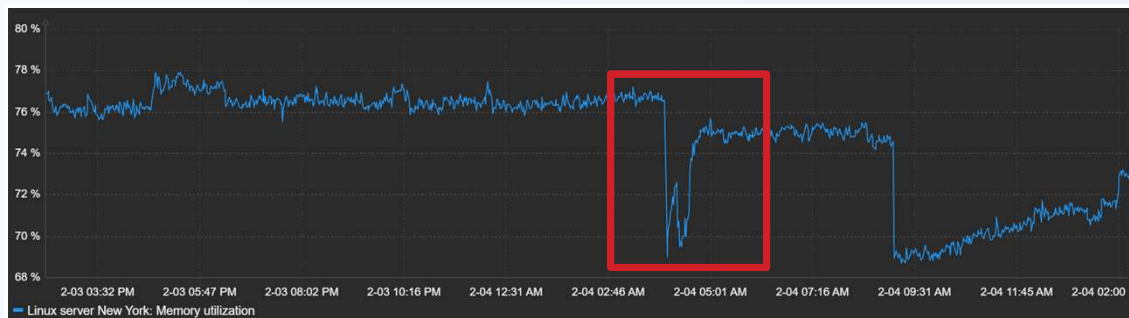
Graph widget provides multiple ways of visualizing missing values:

- ▶ Do not display missing values
- ▶ Connect last known value with the current value
- ▶ Treat them as 0
- ▶ Treat missing values as last known values

Do not display missing values



Connect last known value with the current value



Defining thresholds for widgets

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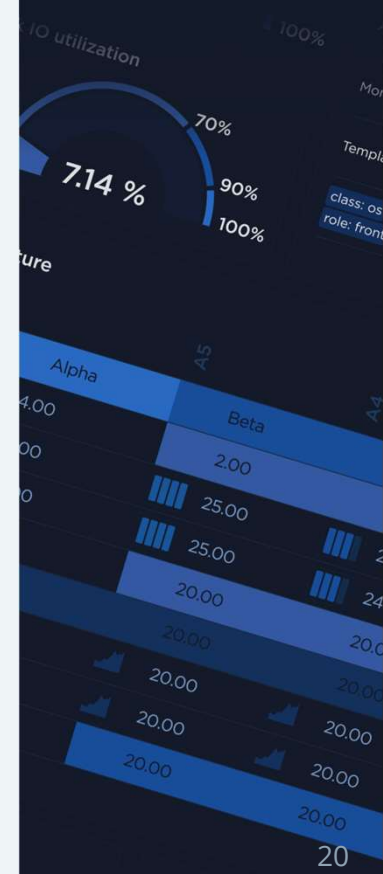


Defining threshold for widgets

Threshold values can be defined for various widgets to make the visualization of data more dynamic

- ▶ Highlight a value once it exceeds a warning/critical threshold
- ▶ Highlight services/applications that are down
- ▶ Enables users to quickly detect issues in their environment
- ▶ Threshold values can be defined only for numeric data





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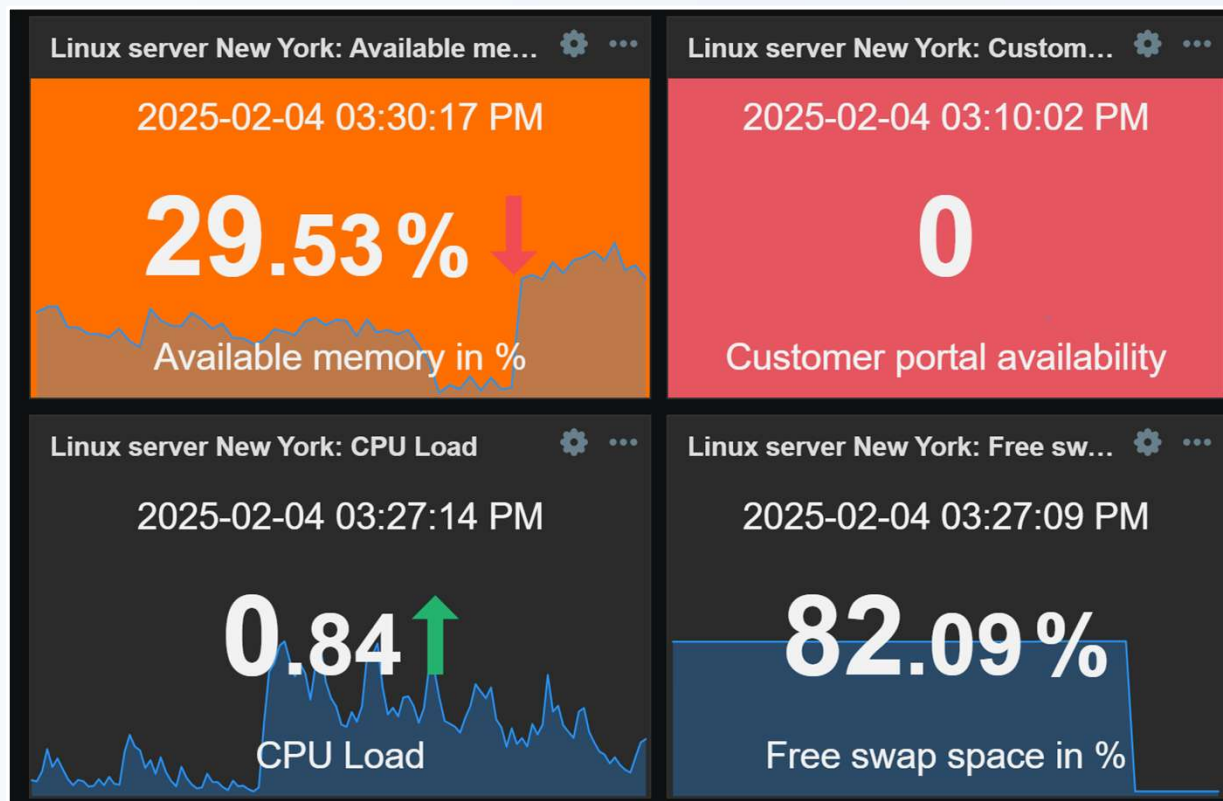


Item value

Highlight item value in case if a threshold is reached

- ▶ Reaching and exceeding a threshold changes the background color of the widget

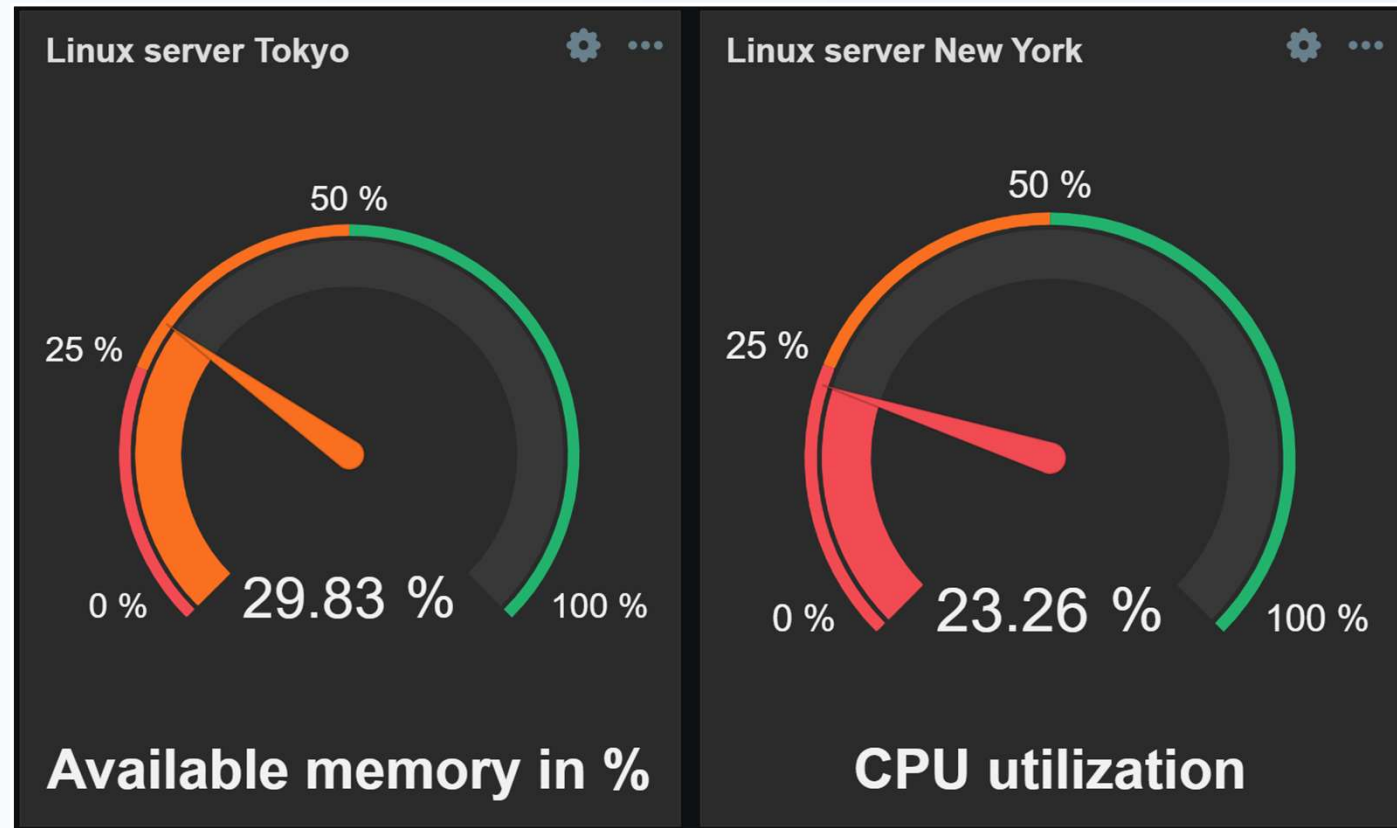
Thresholds	Threshold	
	0	Remove
	10	Remove
	20	Remove
	30	Remove



Gauge

Thresholds in gauges are useful to visualize current resource utilization

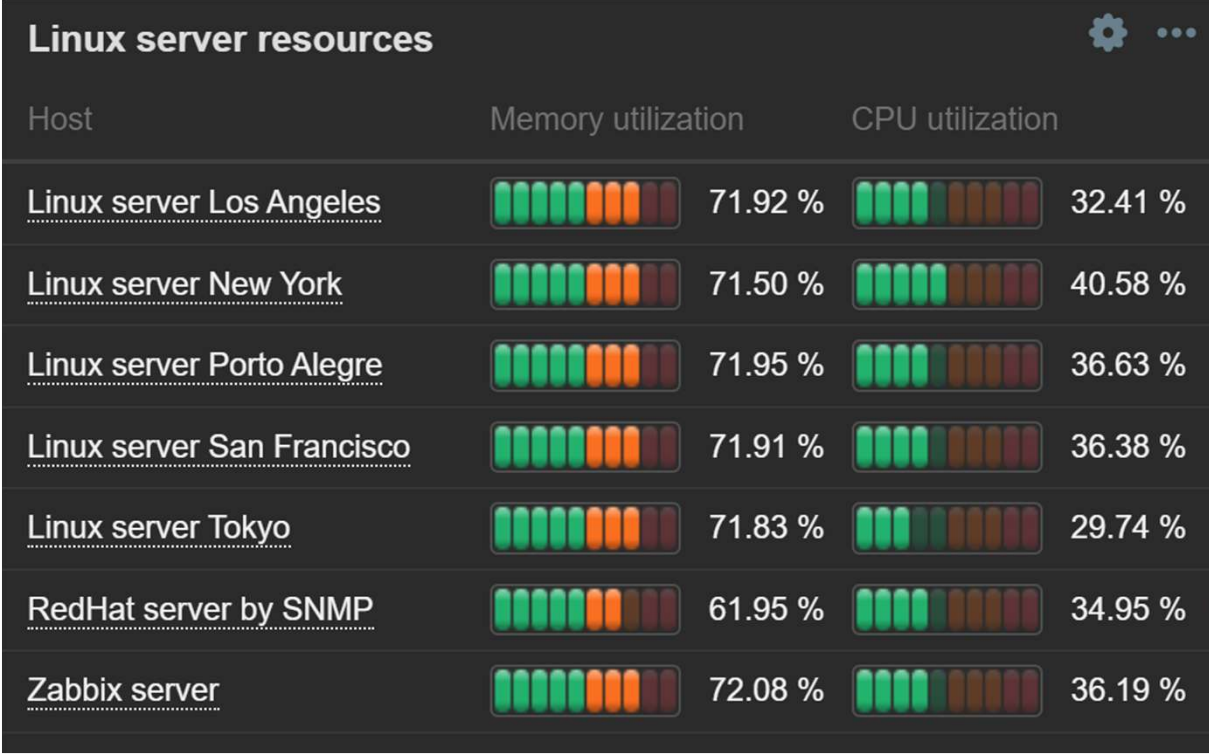
- ▶ Threshold arc and arc labels can be displayed or hidden



Top hosts/items

Thresholds are supported by Top hosts and Top items widgets

- ▶ Individual thresholds can be defined for each widget column
- ▶ Useful for getting a better overview when correlating utilization of various resources and statuses of applications/services



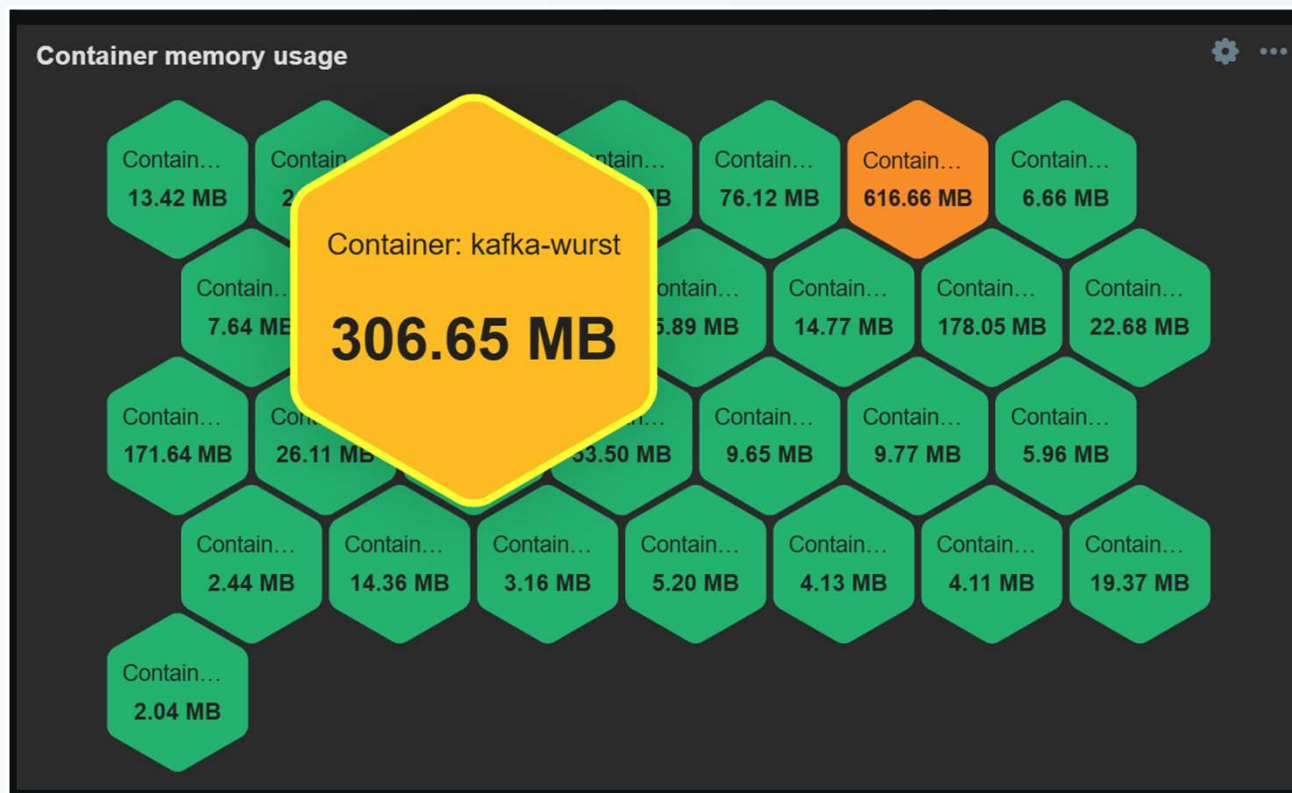
The screenshot shows a Zabbix widget titled "Linux server resources". It displays a table with columns for Host, Memory utilization, and CPU utilization. Each row represents a different host, with its name, memory usage percentage, and CPU usage percentage. The memory utilization is visualized with a bar chart of 10 segments, and the CPU utilization is also visualized with a bar chart of 10 segments. The data is as follows:

Host	Memory utilization	CPU utilization
Linux server Los Angeles	71.92 %	32.41 %
Linux server New York	71.50 %	40.58 %
Linux server Porto Alegre	71.95 %	36.63 %
Linux server San Francisco	71.91 %	36.38 %
Linux server Tokyo	71.83 %	29.74 %
RedHat server by SNMP	61.95 %	34.95 %
Zabbix server	72.08 %	36.19 %

Honeycomb

Honeycomb widget supports defining multiple thresholds

- ▶ Color interpolation can be used to gradually transition between threshold colors



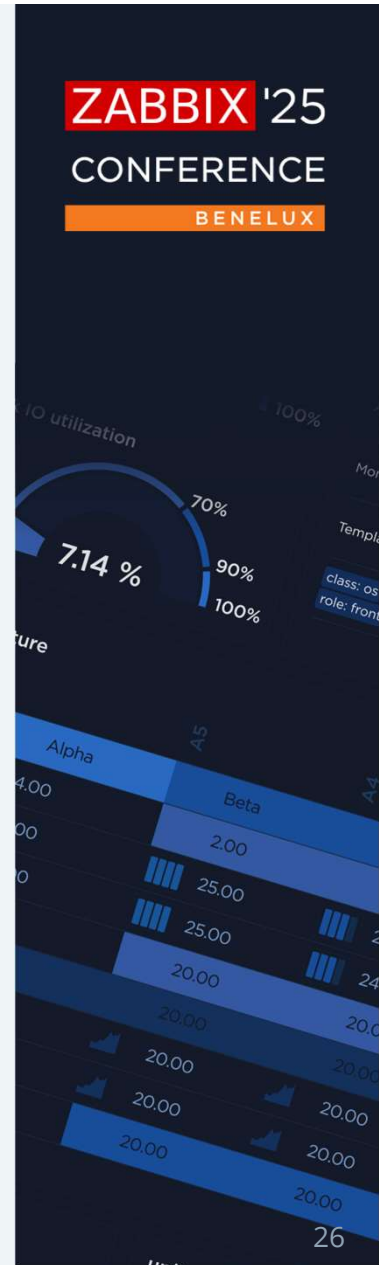
Dashboards for MSPs



Dashboard visibility

Dashboards can be private or public

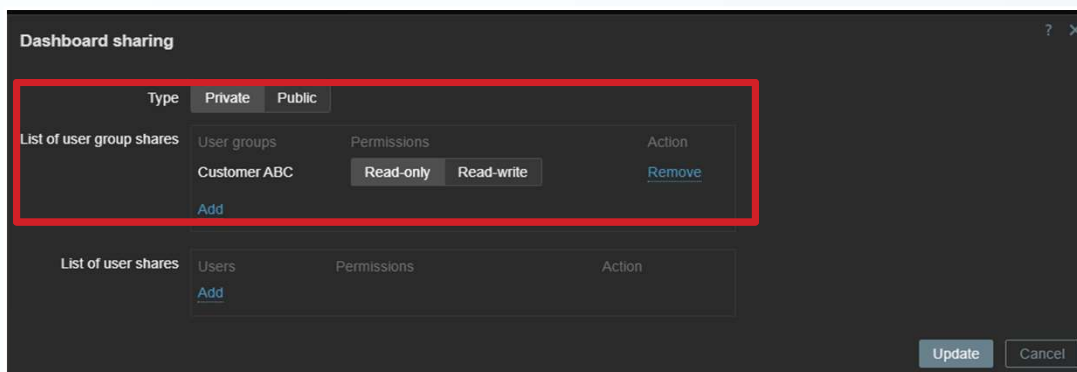
- ▶ Public dashboards are available in read-only mode to every user
- ▶ Private dashboards are not visible to users by default
- ▶ Private dashboards require specifying explicit read/write permissions to users and user groups



Dashboard visibility

To modify dashboard sharing settings:

- ▶ Select Sharing options in the dashboard burger menu (not visible in the dashboard edit mode)



Dashboard visibility

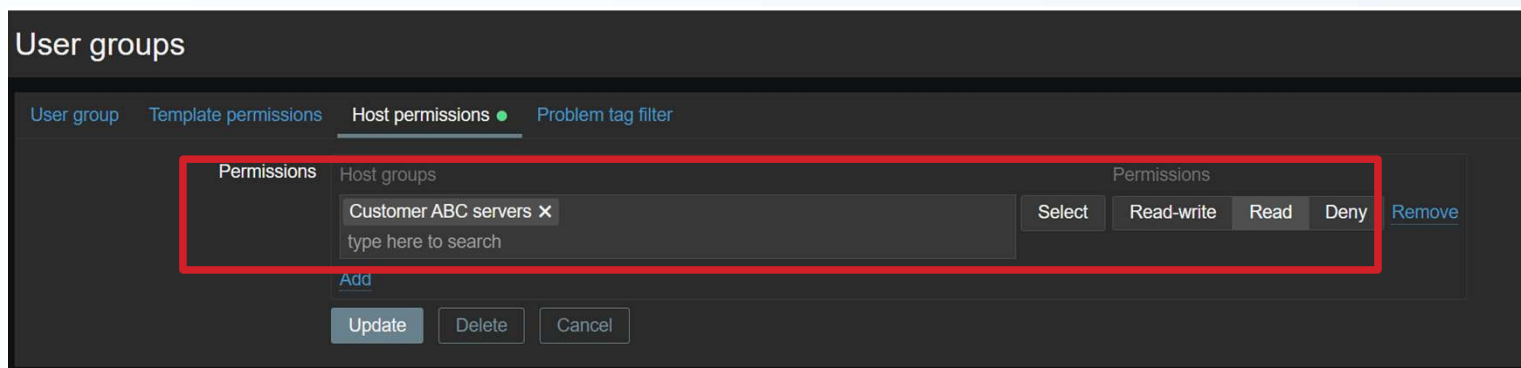
Only public dashboards and private dashboards with assigned permissions will be visible to the user

The screenshot shows a dark-themed user interface for managing dashboard visibility. At the top, there is a search bar labeled 'Name' and a 'Show' filter with two options: 'All' (selected) and 'Created by me'. Below the search bar are 'Apply' and 'Reset' buttons. A red rectangular box highlights a list of dashboard items, each with a checkbox and a name:

- Name ▲
- Customer ABC servers
- Global statistics

Host permissions

Only the hosts to which the user has at least read-only access will be visible on the dashboards the user has access to



The screenshot shows the 'User groups' configuration page in Zabbix. The 'Host permissions' tab is active. A red box highlights the 'Permissions' section, which contains a search input field with 'Customer ABC servers' selected, a 'Select' button, and three permission buttons: 'Read-write', 'Read', and 'Deny'. Below the search field is an 'Add' button. At the bottom of the permissions section are 'Update', 'Delete', and 'Cancel' buttons.

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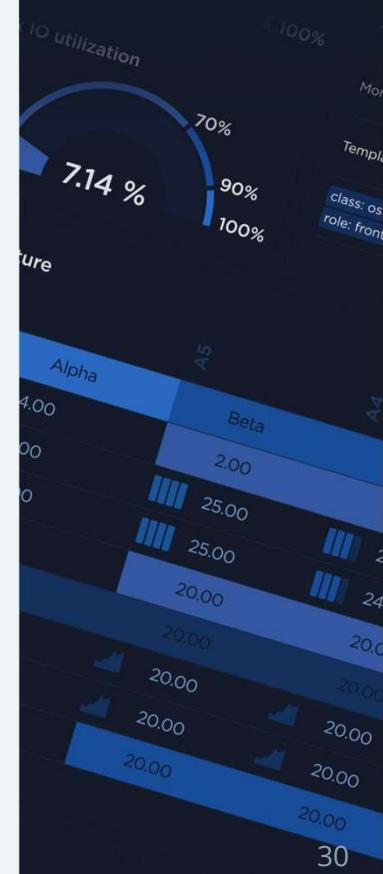


Restricting access to widgets

Access to widget can be limited for a particular user role

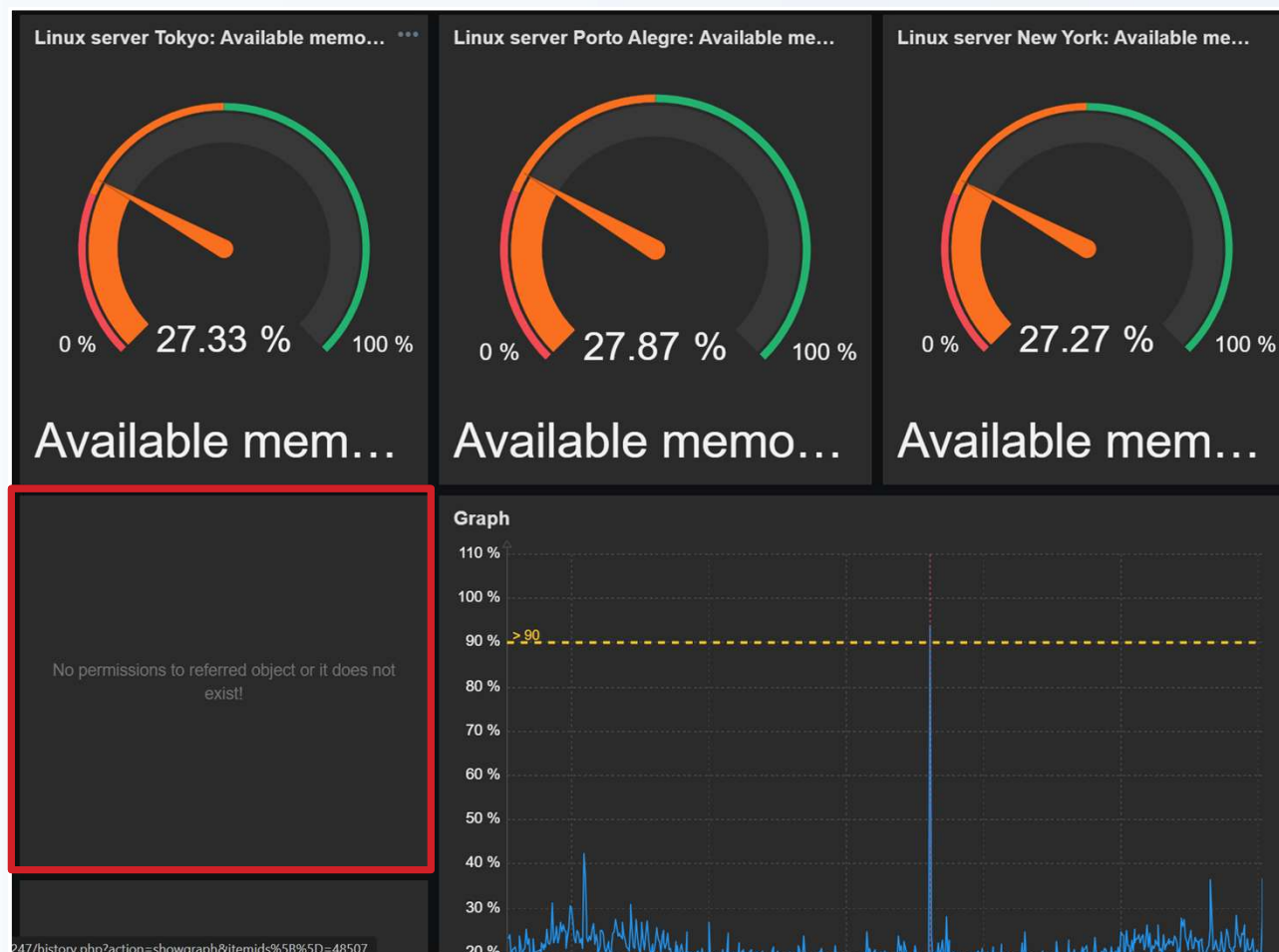
- ▶ Limiting the list of widgets to only the required ones improve the user experience
- ▶ Access to custom 3rd party widgets can also be restricted
- ▶ Access to widgets can be restricted system-wide under Administration General - Modules

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Restricting access to widgets

The restricted widgets will display as empty with the message **“No permissions to referenced object or it does not exist”**



Dashboard owners

Users that are configured as dashboard owners cannot be deleted

- ▶ Change the owner or delete the dashboard during the user offboarding procedure

The screenshot shows the Zabbix 'Users' management interface. At the top, there is a warning message: 'Cannot delete user' with a red exclamation mark icon. Below the message, it states: 'User "Benelux" is dashboard "Customer ABC servers" owner.' Underneath, the 'Dashboard properties' section is visible, containing the following fields:

- * Owner: Benelux X (with a 'Select' button)
- * Name: Customer ABC servers
- Default page display period: 30 seconds (with a dropdown arrow)
- Start slideshow automatically:

Other tips and tricks

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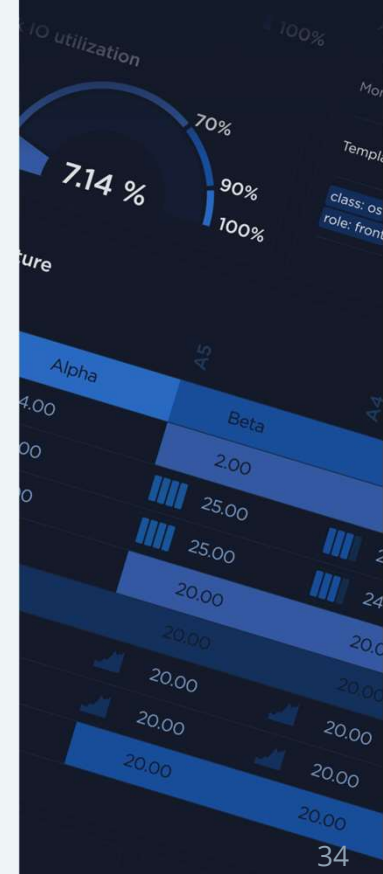


API method - dashboard.get

Zabbix API **dashboard.get** method allows to retrieve a dashboard for backup purposes

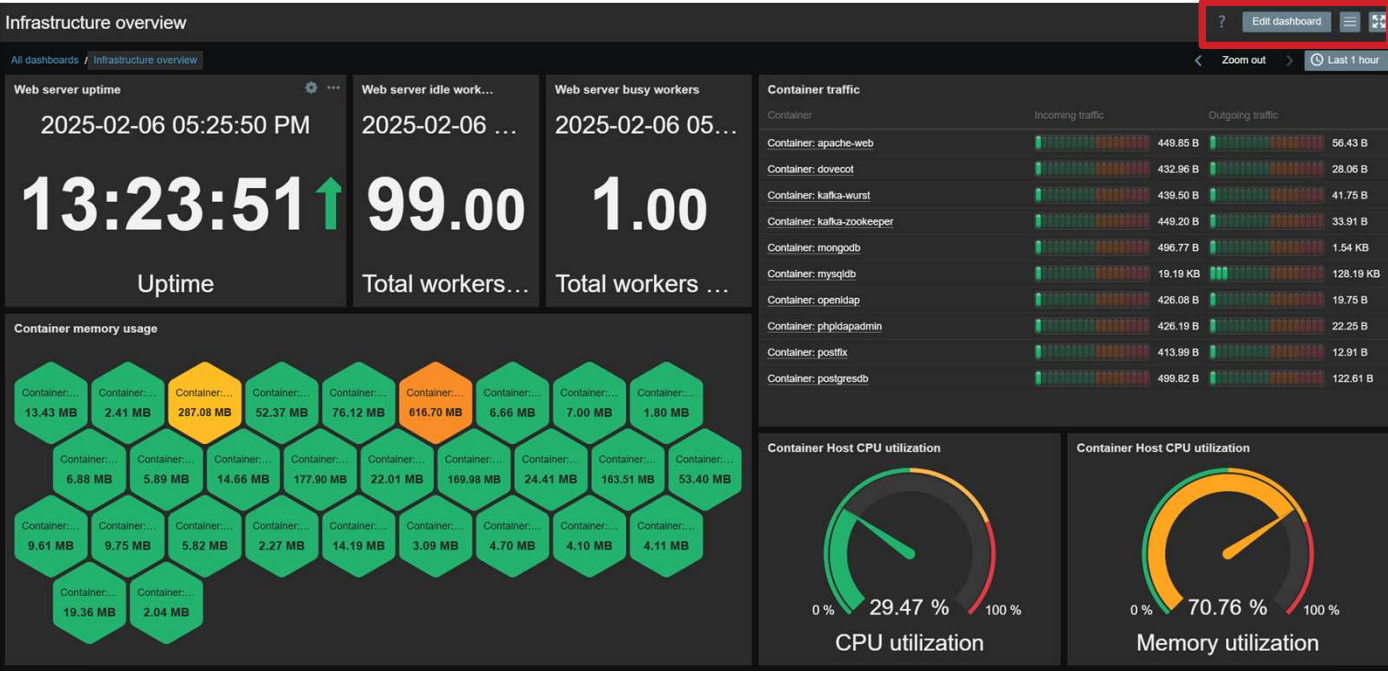
```
{
  "jsonrpc": "2.0",
  "result": [
    {
      "dashboardid": "1",
      "name": "Dashboard",
      "userid": "1",
      "private": "0",
      "display_period": "30",
      "auto_start": "1",
      "users": [],
      "userGroups": [],
      "pages": [
        {
          "dashboard_pageid": "1",
          "name": "",
          "display_period": "0",
          "widgets": [
            {
              "widgetid": "9",
              "type": "systeminfo",
              "name": "",
              "x": "12",
              "y": "8",
              "width": "12",
              "height": "5",
              "view_mode": "0",
              "fields": []
            }
          ]
        }
      ]
    }
  ]
}
```

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Kiosk mode

Zabbix dashboards can be displayed in **kiosk mode** by pressing the kiosk mode button in the top right corner of the dashboard



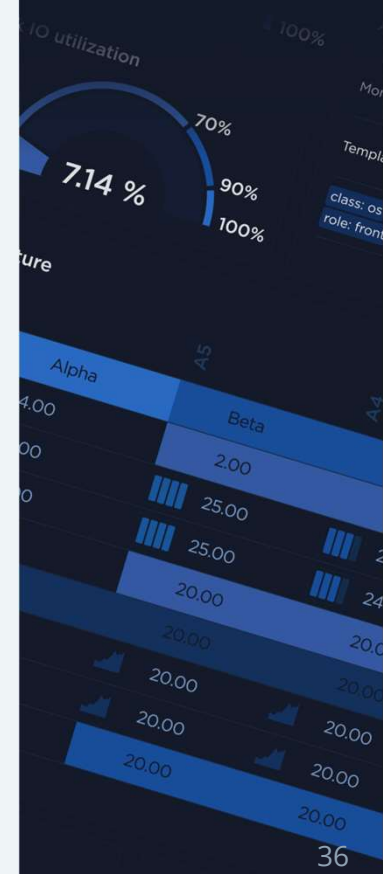
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Slideshows

Multi-page dashboards can be displayed in slideshow mode

- ▶ Accessible in dashboard settings while in edit mode
- ▶ Individual page display periods can be configured in page properties

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Dashboard properties

* Owner Admin (Zabbix Administrator) X Select

* Name Linux server overview

Default page display period 30 seconds v

Start slideshow automatically

Apply Cancel

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Thank you!

