Viewing Pulsar decisions, availability, & performance

Pulsar's data visualizations allow you to view and compare the performance and availability of your resources (such as CDNs, data centers, or cloud regions) and the routing decisions that Pulsar has made based on the performance data. You can use Pulsar dashboards to gain quick insights into your resources and how well they perform.

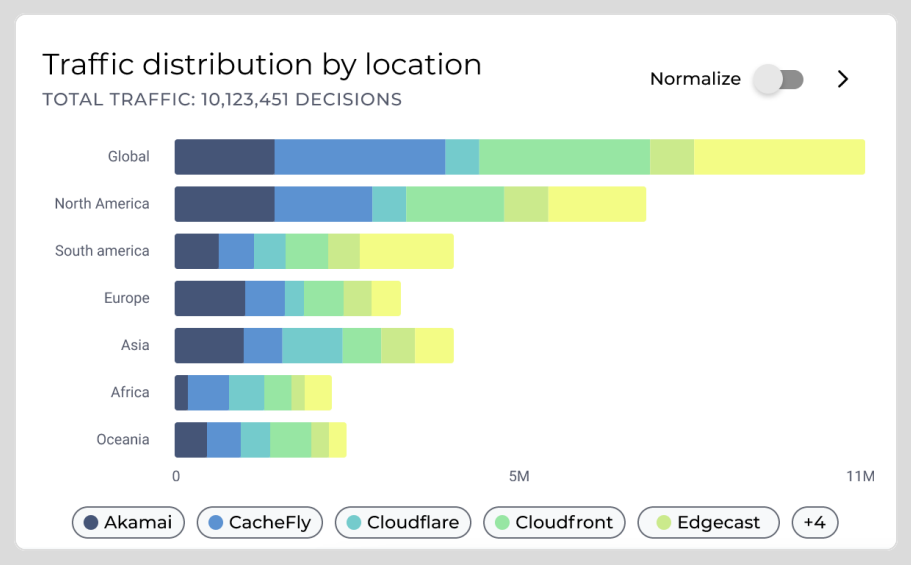
At the top of each dashboard, you can filter for specific records, locations, ASNs, resources, and dates, depending on the dashboard tab you are currently viewing. Click **Apply filter** to update the display and view the comparison.

Analysis

Use the **Analysis** dashboard to gain insights about your resources quickly. The **Analysis** dashboard is the quickest way to see how your performance and availability relate to the decisions made at a glance.

Traffic distribution by location

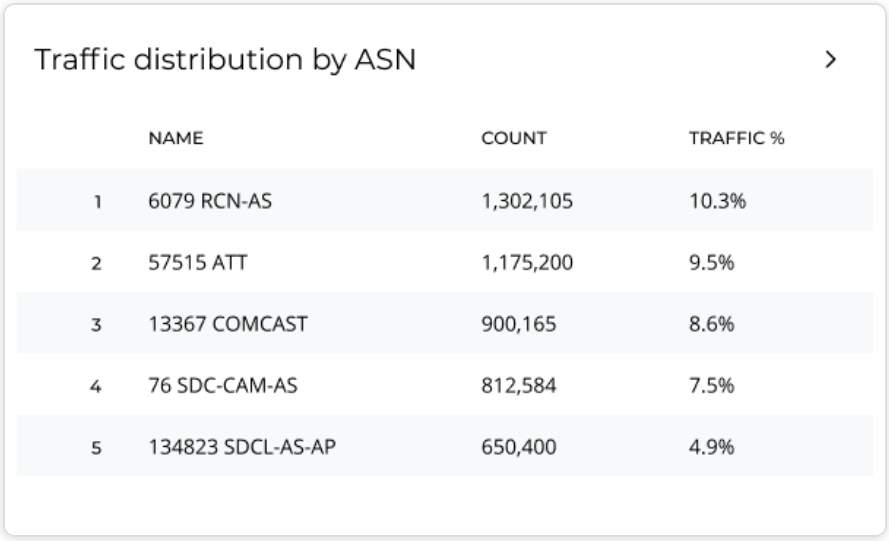
View the distribution of decisions across your resources (CDNs, public cloud networks, etc.) by geographical location. You can normalize this view to a percentage instead of a total traffic number.



To learn more about how traffic is distributed, click the arrow next to the **Normalize** toggle. On the **Decisions** page, you can view a map, line chart, or bar chart to visualize better how traffic is distributed over time and the total number of global decisions and global top ASNs. You can learn more about the Decisions page here.

Traffic distribution by ASN

You can learn more about how traffic is distributed across autonomous system numbers (ASNs). This is especially helpful to drill down deeper into the data for a specific ASN within a specific geographic area. You must select a geographic area before you filter by ASN.

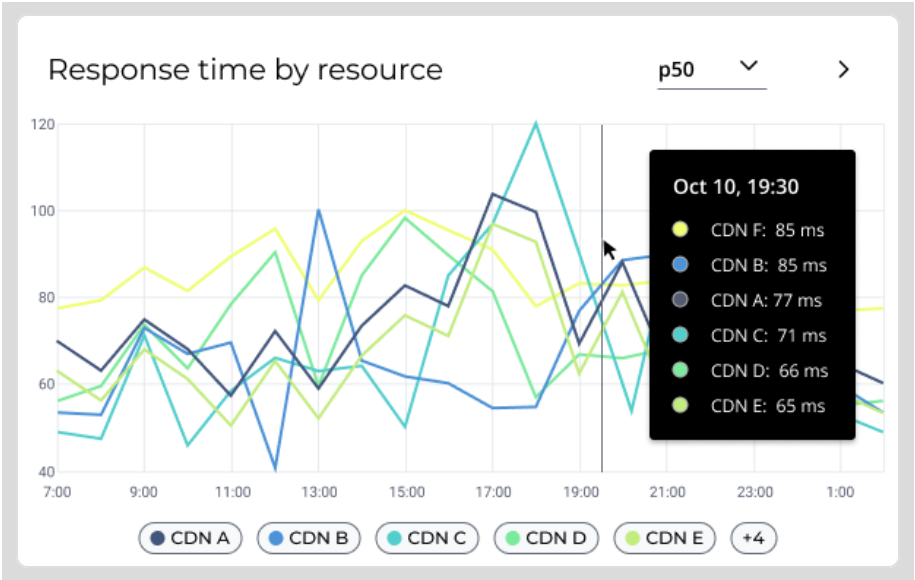


	NAME	COUNT	TRAFFIC %
1	6079 RCN-AS	1,302,105	10.3%
2	57515 ATT	1,175,200	9.5%
3	13367 COMCAST	900,165	8.6%
4	76 SDC-CAM-AS	812,584	7.5%
5	134823 SDCL-AS-AP	650,400	4.9%

To learn more about how traffic is distributed, click the arrow next to the *Traffic distribution by ASN* header. On the **Decisions** page, you can view a map, line chart, or bar chart to visualize better how traffic is distributed over time and the total number of global decisions and global top ASNs. You can learn more about the **Decisions** page here.

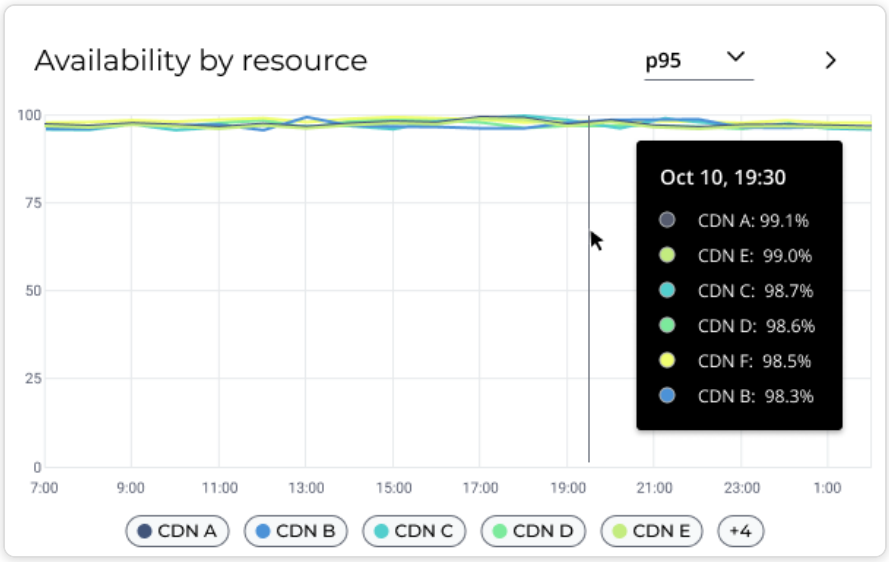
Response time by resource

Compare the response time of your resources and determine which ones perform well and those that do not. Quickly determine whether and when you need to make changes to distribute traffic amongst your resources effectively.



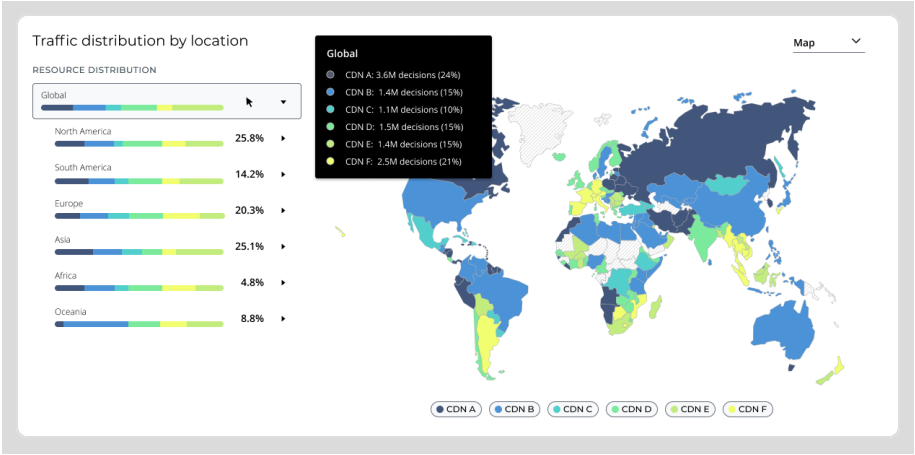
Availability by resource

The *Availability by resource* view offers a comparative relative uptime between selected resources. Exploring the availability data here can help you choose availability thresholds for your answers.

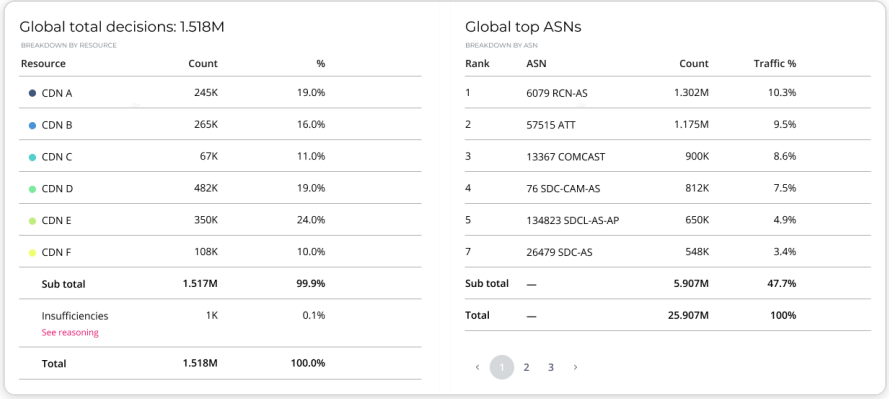


Decisions

The **Decisions** page helps you visualize Pulsar's decisions. Review traffic distribution by location, or use the top filter to pinpoint these decisions better. You can review this information as a map, a line chart, or a bar chart, all of which display a clear breakdown of where Pulsar sent traffic based on the inputs at the time. Hovering over a location will show you more data about that particular location.



Under the *Traffic distribution by location* view, you can review global total decisions and top ASNs. Review insufficiencies (instances in which Pulsar did not have sufficient data to make a decision) and the reasons for them in the *Global total decisions* view.



Global total decisions: 1.518M

BREAKDOWN BY RESOURCE

Resource	Count	%
CDN A	245K	19.0%
CDN B	265K	16.0%
CDN C	67K	11.0%
CDN D	482K	19.0%
CDN E	350K	24.0%
CDN F	108K	10.0%
Sub total	**1.517M**	**99.9%**
Insufficiencies See reasoning	1K	0.1%
Total	**1.518M**	**100.0%**

Global top ASNs

BREAKDOWN BY ASN

Rank	ASN	Count	Traffic %
1	6079 RCN-AS	1.302M	10.3%
2	57515 ATT	1.175M	9.5%
3	13367 COMCAST	900K	8.6%
4	76 SDC-CAM-AS	812K	7.5%
5	134823 SDCL-AS-AP	650K	4.9%
7	26479 SDC-AS	548K	3.4%
Sub total	—	**5.907M**	**47.7%**
Total	—	**25.907M**	**100%**

‹ 1 2 3 ›

Types of insufficiencies

Insufficiency	Description	Next steps
Geographic location of query source undetermined	Could not determine the geographic location or ASN from the query source. No geographic database has 100% coverage, so you may see several of these messages. The percentage of total decisions is based on where your users are versus our database coverage.	If necessary, contact support@ns1.com to submit geographic database additions or corrections.
Configuration Error	Some Pulsar-specific metadata for the record or answer is invalid. Typically, the **Job ID** metadata is either incorrect or missing.	Fix any incorrect metadata for the record or answer using the Portal or the NS1 API. If updating through the API, be sure to wrap the Job ID in the `answers` array as a `pulsar` meta tag for the `answer` that you want to update. In either case, make sure that every answer has a Pulsar job attached to it.
Decision Error	A transient error occurred while making a decision.	If this error persists, contact support@ns1.com.
Insufficient Data	Pulsar's routing table doesn't have enough data for the specific geographic and ASN combination. This	If this value is low, this is not considered a problem. If you notice many insufficiencies in a specific region and you have custom data, try to embed the Pulsar tag on a web property in that

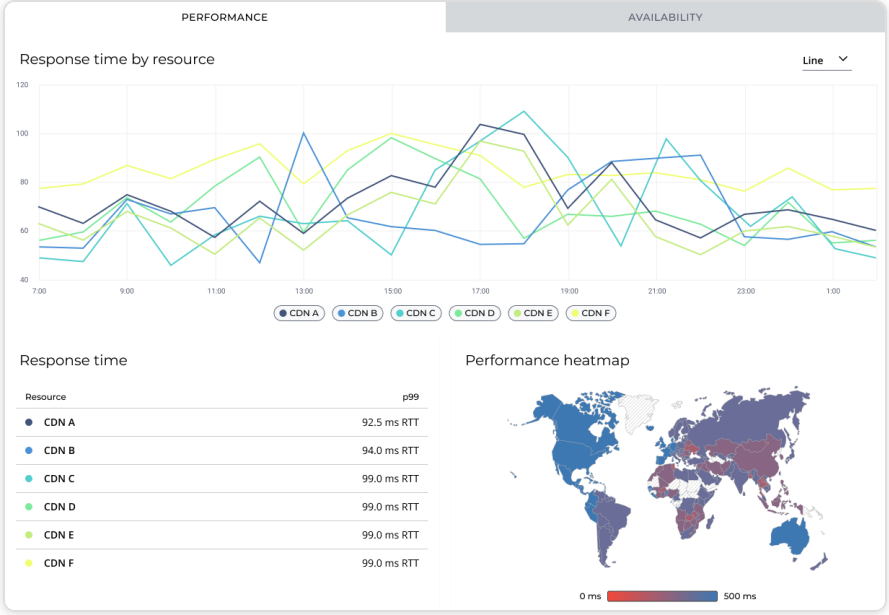
	usually occurs when a single job in a set of answers lacks data.	region to get more impressions. Only contact support@ns1.com if this is a large number or you notice a large concentration in a specific region.
Answer Unavailable	Pulsar made a decision, but the selected answer was not returned. This happens infrequently. This is an edge case where Pulsar functioned as intended, but prior filters removed all viable answers.	This rarely happens. If the issue persists, contact support@ns1.com.

RUM Data

The RUM Data **Performance** and Analysis tabs help you determine how efficiently your resources are being used. The NS1 DNS platform ingests real user performance measurements (**real user metrics**, or RUM) from actual end users. It takes latency measures, throughput, page load time, or other quality of experience metrics from users to the application or content delivery endpoints. Those endpoints can be data centers, cloud instances, CDNs, or a combination of these. Pulsar then builds a dynamic “map” of performance to those endpoints based on the geolocation or ASN of end users. You can set up filters to help Pulsar understand which delivery endpoint will perform best for a specific end user to route them accordingly. Pulsar keeps its “performance map” up to date by continuously taking RUM measurements from the end users it is routing.

Performance tab

This page adds more detail than the *Response time by resource* view on the **Analysis** page. You can review the performance of your resources and how well they are serving different geographies. Use this data to determine what filters might need to change to respond to performance issues. By default, this data is displayed as a line chart, but you can easily switch to a map view to place that data first.



Availability tab

This tab is similar to the *Performance* tab, but it displays availability data instead of performance data. You can find data about anomalies here. Anomalies arise when a resource falls below an uptime threshold that you set. For example, if you set the threshold to 80%, resources that fall below that minimum availability level are anomalies and will display in red on the map view.