

Introducing the Sumo Logic Security App vol.2

 dev.classmethod.jp/articles/sumo-logic_security-app-vol-2

酒井剛

June 1, 2022

sumo logic

Dear security operators and administrators, log analysis is important, isn't it?

Continuing from last time, I would like to take a closer look at the dashboard of the Sumo Logic security app , "Amazon VPC Flow - Cloud Security Monitoring and Analytics," which can quickly gain security insights from AWS VPC logs .

Vol.1 (GuardDuty episode) available here

Available Plans

First of all, this app is available for all Sumo Logic plans.

Free	Trial	Essential	Enterprise Operation	Enterprise Security	Enterprise Suite
✓	✓	✓	✓	✓	✓

Settings before installing the app

From the Sumo Logic console, select App Catalog and install Amazon VPC Flow - Cloud Security Monitoring and Analytics.

The screenshot shows the Sumo Logic App Catalog interface. At the top, there's a navigation bar with 'sumo logic' and various icons. Below it, a search bar says '+ New' and a link to 'App Catalog'. A back button 'Back to App Catalog' is also present. The main area displays the 'Amazon VPC Flow - Cloud Security Monitoring and Analytics' app by Sumo Logic. It includes a small icon, the app name, a 'Community' link, and a 'Learn More' link. A prominent blue 'Add Integration' button is at the bottom right. Below this, two tabs are visible: 'Overview' (which is selected) and 'Before You Start'. The 'Overview' tab contains a brief description: 'Analytics and Monitoring dashboards to provide operational security for AWS VPC flow data sources.' Under 'Dashboard Preview', three screenshots of the app's interface are shown: 'Amazon VPC Flow - Security Analytics - Accepts & Rejects', 'Amazon VPC Flow - Security Analytics - Traffic Direction Monitor', and 'Amazon VPC Flow - Security Monitoring - Overview'. Each screenshot shows various charts and data points related to VPC flow logs. At the bottom of the page, there's another navigation bar with 'sumo logic', 'App Catalog', and a '+ New' button. A progress bar indicates step 1 of 2, with 'Configure Amazon VPC Flow - Cloud Security Monitoring and A...' and 'Preview & Done' options. A note says 'You do not have the permission to setup data. You may use the data already setup to use this app or contact your administrator for permissions.' To the right, a red box highlights the 'Next' button, which is labeled 'Nextで進んでいってインストール' (Move forward with installation). Below the progress bar, there's a section titled 'Select Data Source for your App' with a note about source categories. A table shows 'Amazon VPC Flow Logs data source' and 'Source Category' set to 'Prod/AWS/VPC'. A red box highlights this table. Further down, there's a 'Folder Name' field and a list of saved searches and dashboards under 'Amazon VPC Flow - Cloud Security Monitoring and Analytics'.

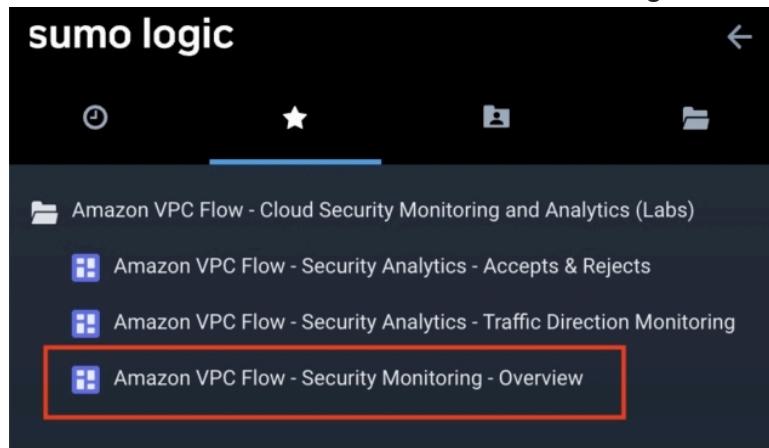
*Before installing the app, you must enable VPC flow logs on the AWS side and configure the settings to import VPC flow logs into Sumo Logic. When enabling VPC flow logs on the AWS side, there are two ways to integrate logs: to S3 or to CloudWatch Logs. Logs can also be imported from AWS to Sumo from either S3 or CloudWatch Logs.

Please refer to this blog for information on the differences in VPC flow log integration destinations on the AWS side.

Learn how to configure Sumo Logic to retrieve from S3 [here and how](#) to configure Sumo Logic to retrieve from CloudWatch Logs here .

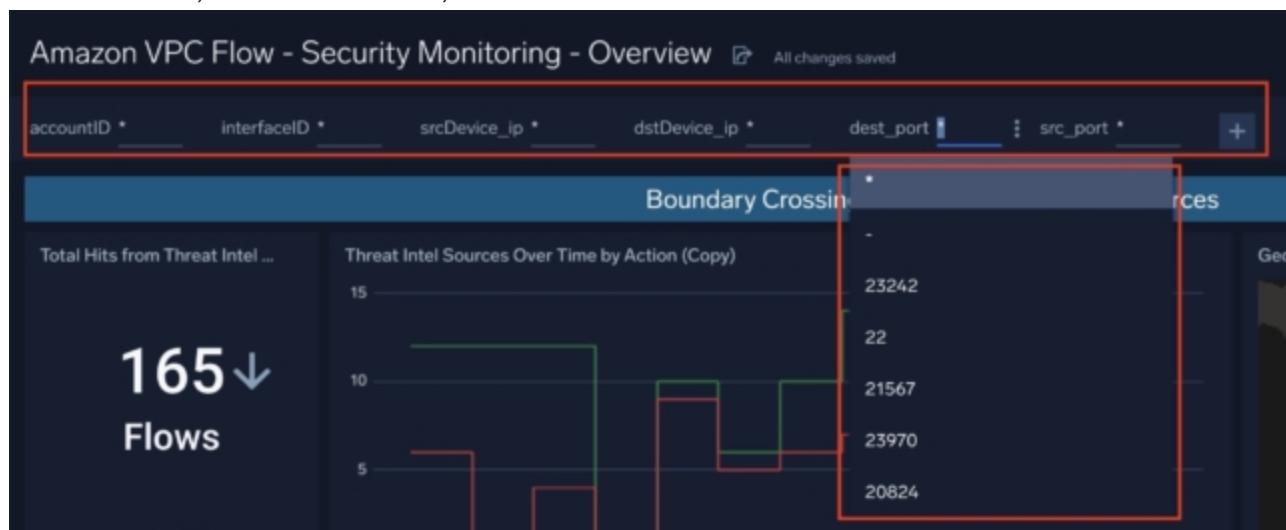
Once you install the app, three dashboards will be displayed. Let's take a look at each dashboard. First, let's look at the Amazon VPC Flow - Security Monitoring - Overview dashboard.

*Note: For data and environment, we are using the Sumo Logic training environment.



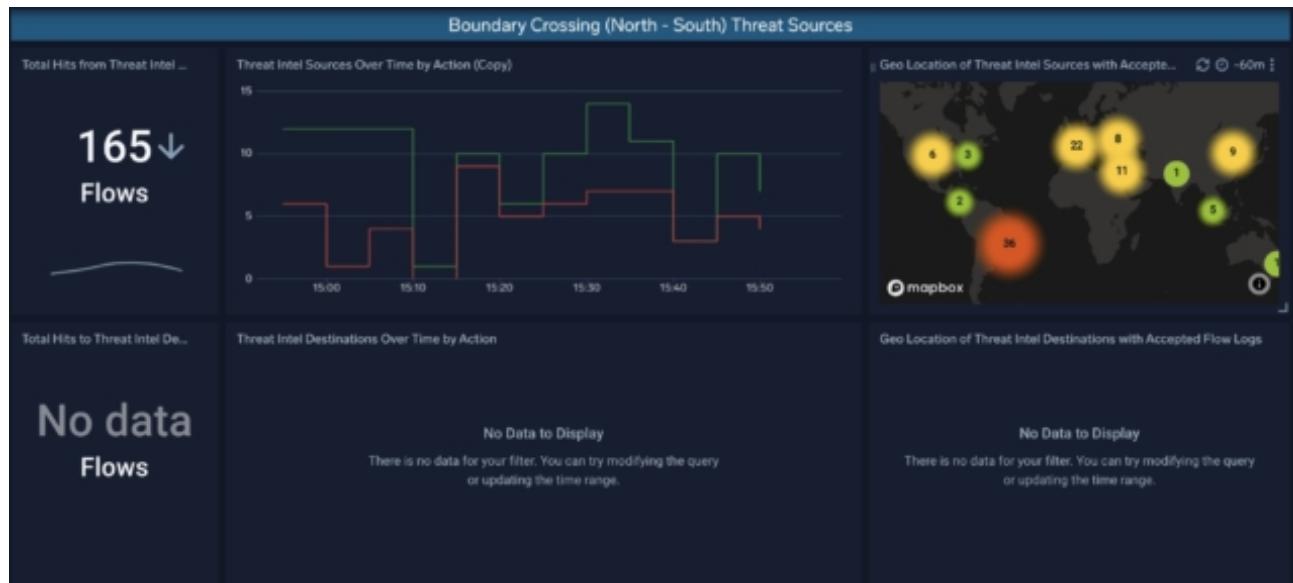
Amazon VPC Flow - Security Monitoring - Overview

First, here you can filter the entire dashboard by Account ID, Interface ID, Source IP, Destination IP, Destination Port, and Source Port.



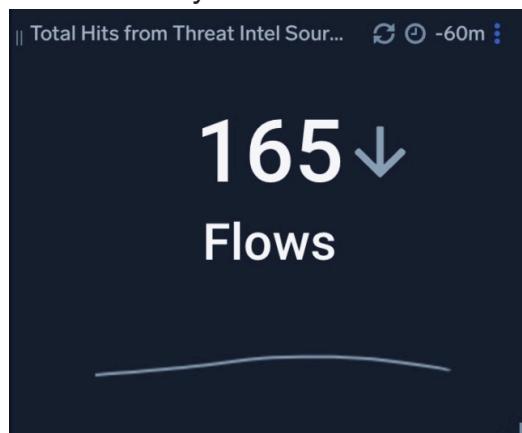
Boundary Crossing (North - South) Threat Sources

Boundary Crossing (North - South) Threat Sources shows whether any logs of outbound or inbound communication between the Internet and AWS were caught by CrowdStrike's Threat Intelligence.



Total Hits from Threat Intel Source

Displays the number of inbound communications for the last 15 minutes where the source IP in the communication log matches a threat IP in CrowdStrike's Threat Intelligence (the graph below shows a sparkline of the number of inbound communications that matched a threat IP every 15 minutes over a 1-hour period).



Threat Intel Sources Over Time by Action

Displays the number of allowed and denied communication flows over a five-minute period where the source IP address in the communication log for the past hour matches a threat IP address in CrowdStrike Intelligence, as a step line chart.



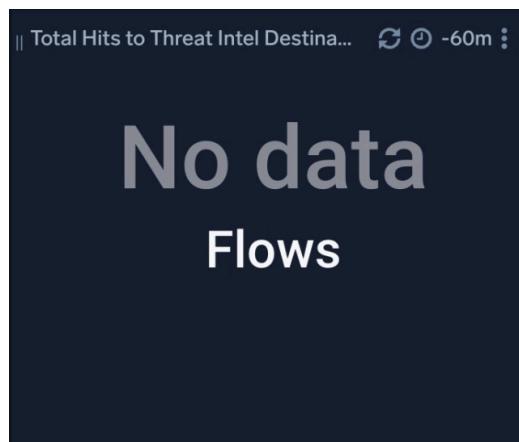
Geo Location of Threat Intel Sources with Accepted Flow Logs

Geo-location displays allowed inbound traffic where the source IP in the communication log for the past hour matches a threat IP in CrowdStrike Intelligence.



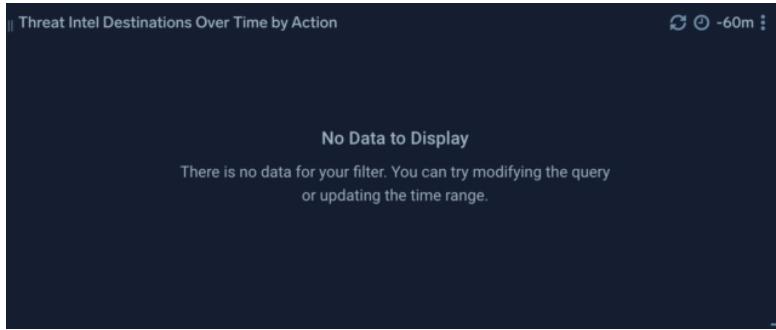
Total Hits to Threat Intel Destinations

Displays the number of outbound communications for the last 15 minutes where the destination IP in the communications log matches a threat IP in CrowdStrike's Threat Intelligence (the graph below is a sparkline showing the number of outbound communications with a threat IP match every 15 minutes over a one-hour period). The charts for the next three panels related to destination IPs are empty because there were no matches in the demo data.



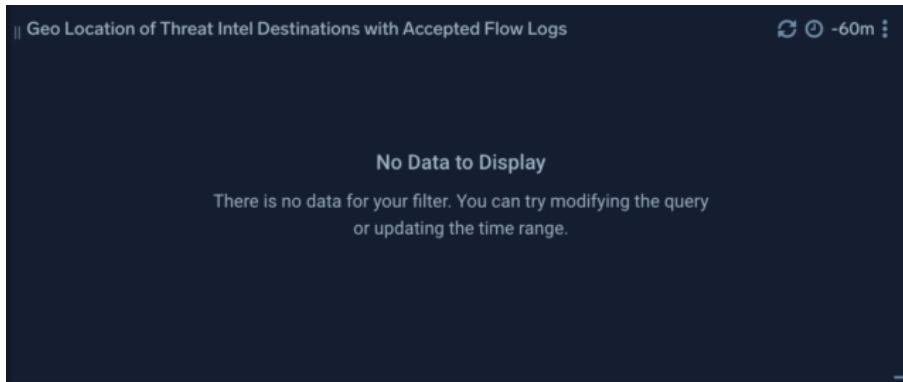
Threat Intel Destinations Over Time by Action

Displays the number of allowed and denied traffic flows over a 5-minute interval where the destination IP address in the traffic log for the past hour matches a threat IP address in CrowdStrike Intelligence, as a step line chart.



Geo Location of Threat Intel Destinations with Accepted Flow Logs

Geo-location displays authorized outbound communications where the destination IP in the communication log matches a threat IP in CrowdStrike Intelligence within the last hour.



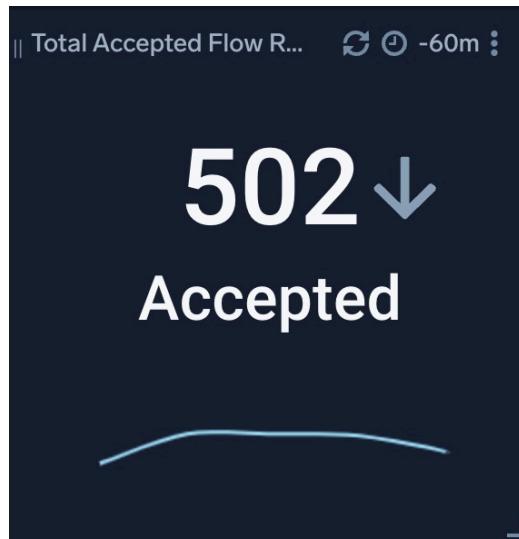
Accepted Flows

Accepted Flows shows the accepted communications in the VPC flow logs.



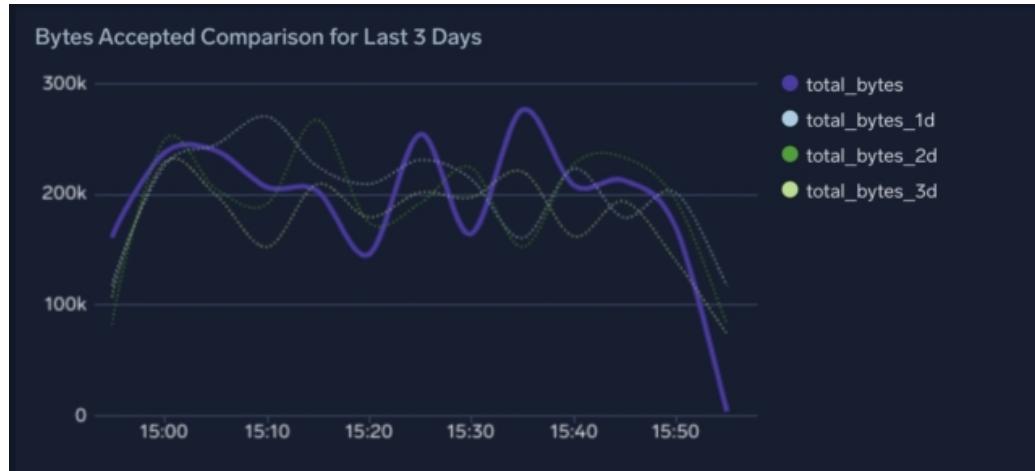
Total Accepted Flow Records

Displays the number of permitted communication flows for the last 15 minutes (the graph below shows a sparkline of the number of permitted communication flows every 15 minutes over a 1-hour period)



Bytes Accepted Comparison for Last 3 Days

Displays the amount of traffic allowed every 5 minutes within the last hour and the amount of traffic for each time period over the last 3 days in a line chart.



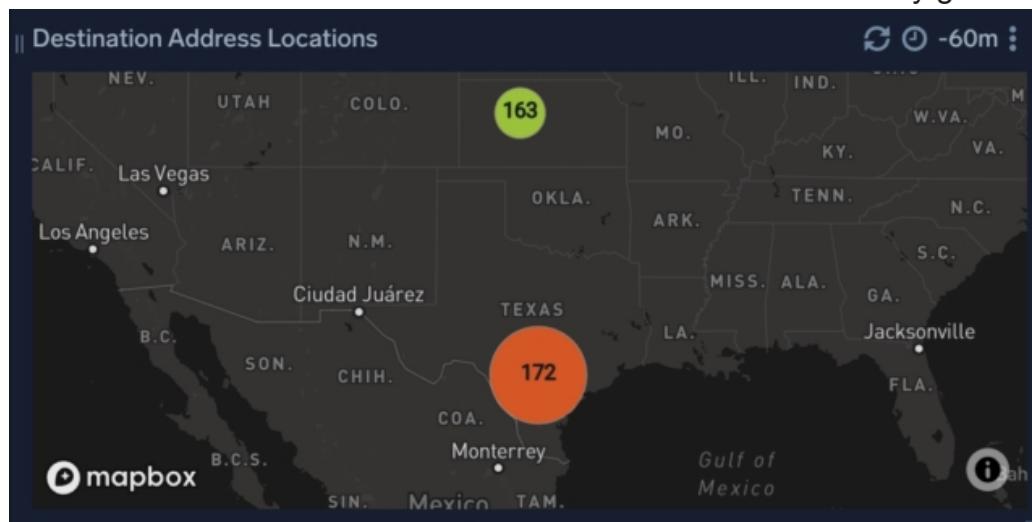
Source Address Locations

View allowed inbound traffic for the last hour with Geo Location



Destination Address Locations

View all allowed outbound communications within the last hour by geolocation



Rejected Flows

Rejected Flows shows rejected communications in the VPC flow logs.



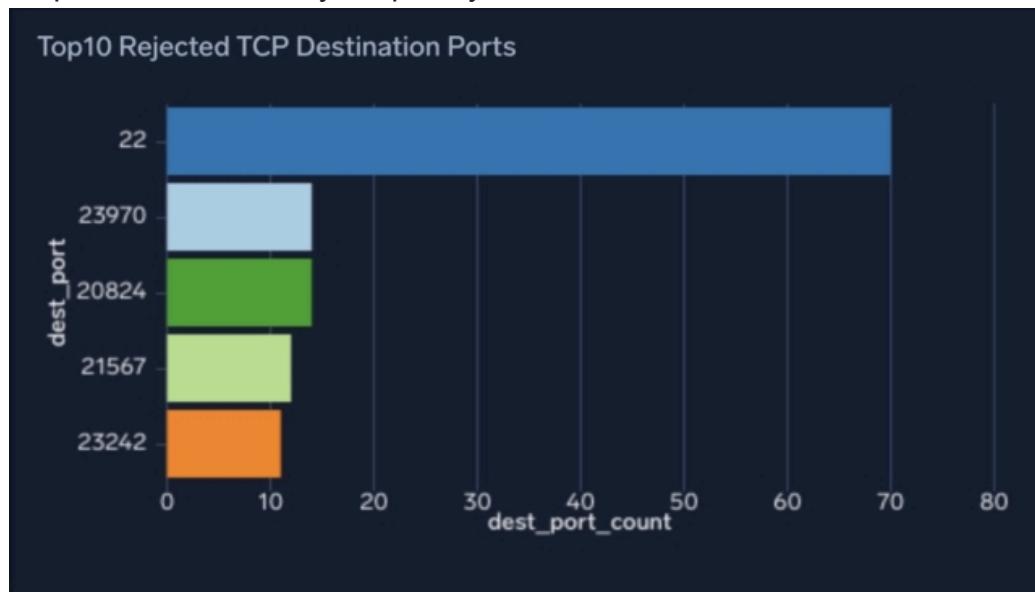
Total Rejected Flow Records

Displays the number of rejected communication flows for the last 15 minutes (the graph below shows a sparkline of the number of rejected communication flows every 15 minutes over a 1-hour period)



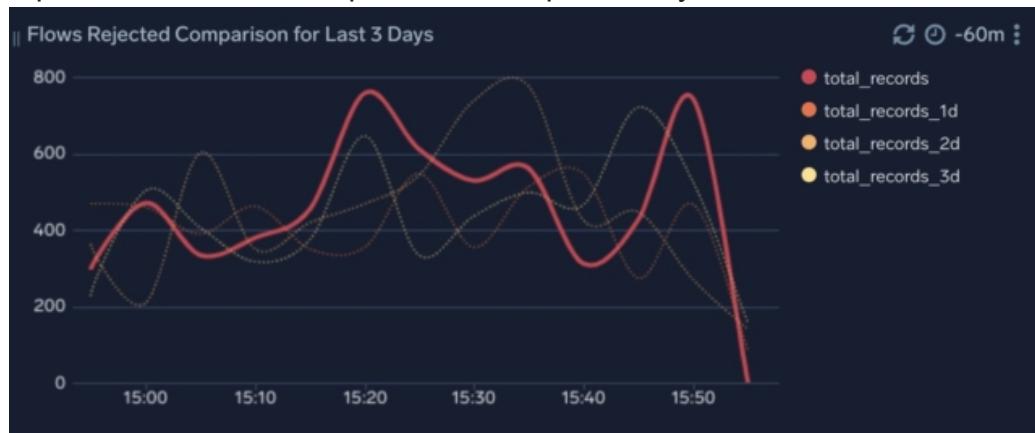
Top 10 Rejected TCP Destination Ports

Displays the number of rejected TCP outbound communications by destination port over the past hour, sorted by frequency from most to least.



Flows Rejected Comparison for Last 3 Days

Displays the number of rejected packets every 5 minutes for the past hour and the number of packets for each time period for the past 3 days in a line chart.



Rejects by InterfaceID, dstDevice_ip

Displays a table of the number of rejected communication flows for each interface ID and destination IP address within the last hour

|| Rejects by InterfaceID, dstDevice_ip

⌚ -60m ⋮

	interfaceID	dstDevice_ip	_count
1	eni-[REDACTED]	[REDACTED]	56
2	eni-[REDACTED]	[REDACTED]	53
3	eni-[REDACTED]	[REDACTED]	49
4	eni-[REDACTED]	[REDACTED]	16
5	eni-[REDACTED]	[REDACTED]	14
6	eni-[REDACTED]	[REDACTED]	11

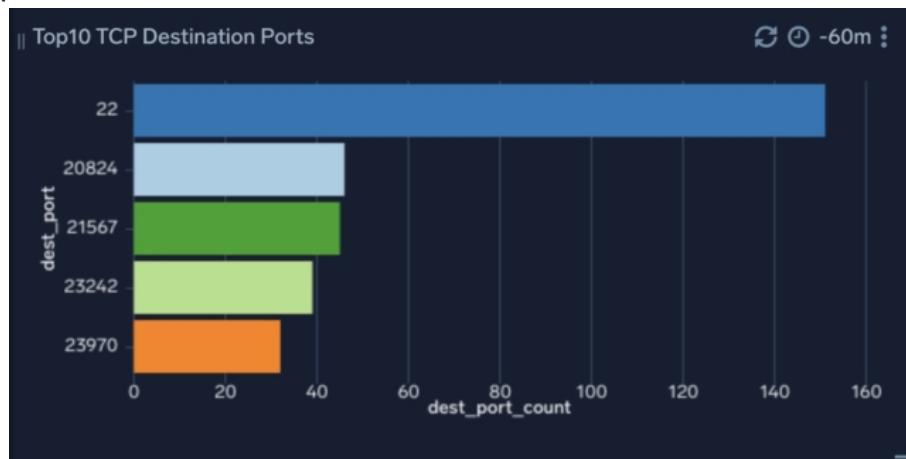
Boundary Crossing (North - South) Data Access

Boundary Crossing (North - South) Data Access displays TCP communication between the Internet and AWS and aggregated results by destination port.



Top 10 TCP Destination Ports

Displays the number of allowed TCP outbound communications by destination port for the past hour in a bar chart.



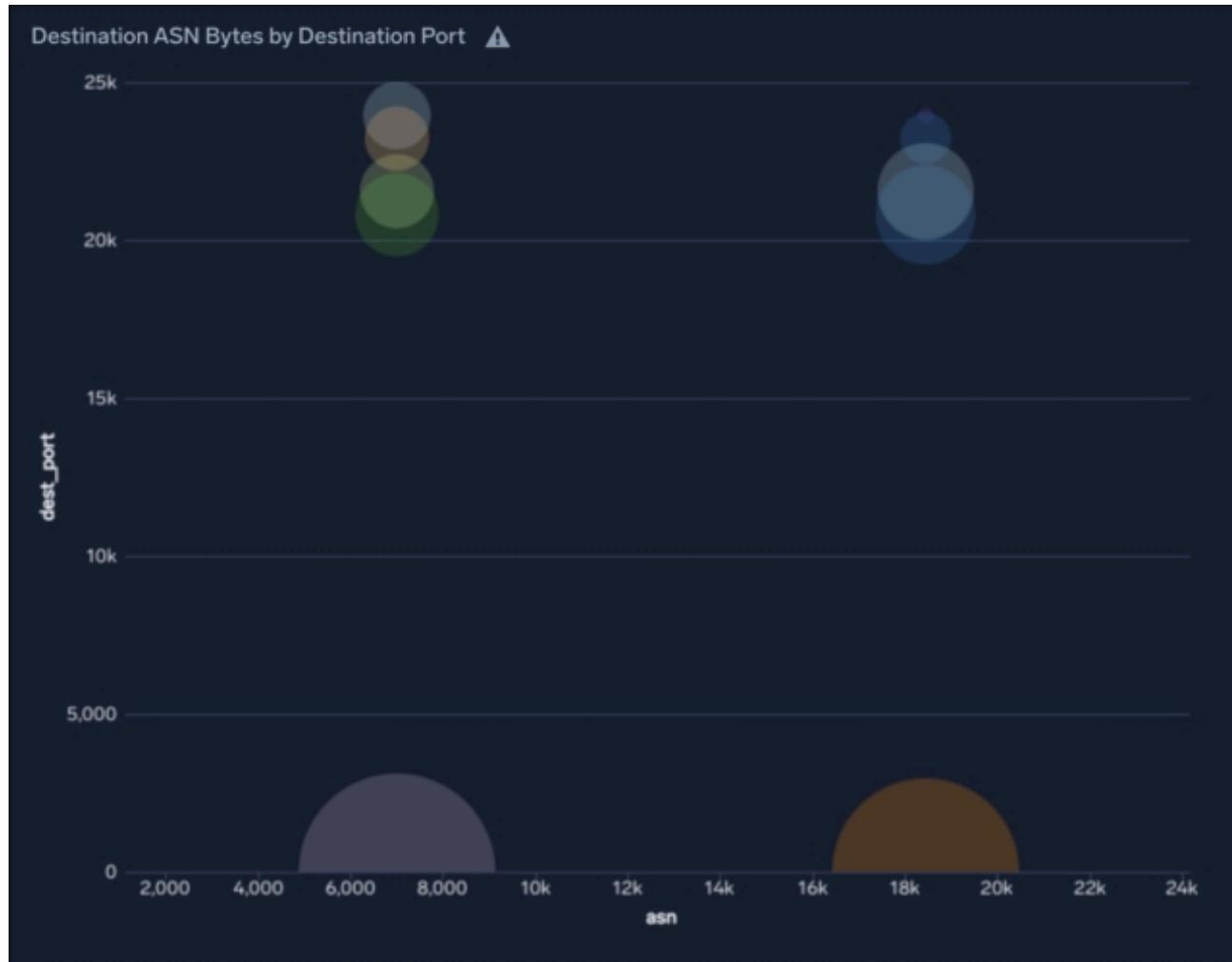
Top 10 Account IDs by Bytes

Displays the amount of TCP inbound/outbound traffic allowed within the last hour by account ID in a donut chart.



Destination ASN Bytes by Destination Port

Displays the AS number to which the destination IP belongs and the traffic volume for each destination port for permitted outbound communications within the past hour in a bubble chart.



Top TCP Destination Ports by ASN Organization

Displays the AS number to which the destination IP of the TCP outbound communication allowed within the last hour belongs, along with the number of ISP vendors and destination ports in descending order.

Top TCP Destination Ports by ASN Organization				
	asn	organization	dest_port	dest_port_count
1	7018	att services inc	22	14
2	18460	fort hays state university	22	11
3	18460	fort hays state university	23970	2
4	18460	fort hays state university	21567	2
5	7018	att services inc	23242	2

< 1 2 >

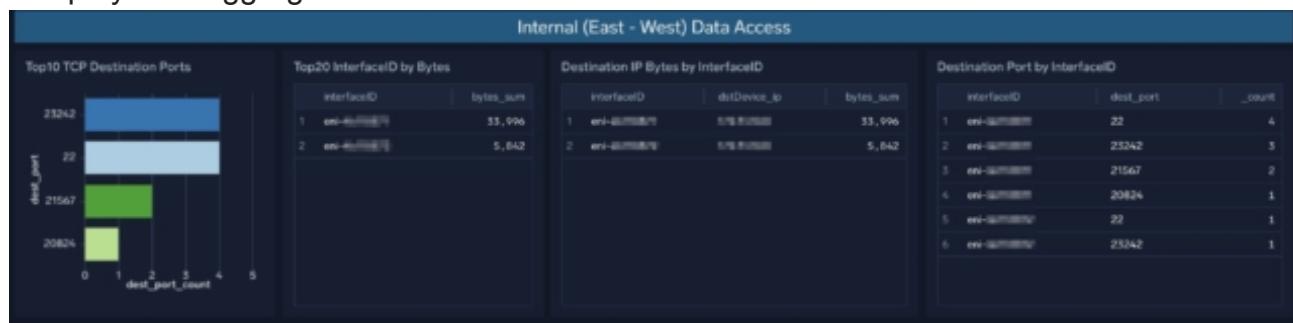
Destination Port by InterfaceID

Displays the number of permitted outbound communications for the last hour by interface ID and destination port in a table sorted from most to least.

Destination Port by InterfaceID		
interfaceID	dest_port	_count
1 eni-[REDACTED]	22	135
2 eni-[REDACTED]	20824	41
3 eni-[REDACTED]	23242	33
4 eni-[REDACTED]	21567	33
5 eni-[REDACTED]	23970	28
6 eni-[REDACTED]	22	28
7 eni-[REDACTED]	21567	13
8 eni-[REDACTED]	20824	10

Internal (East - West) Data Access

It displays the aggregated results of internal communications between AWS and AWS.



Top 10 TCP Destination Ports

Displays the number of allowed TCP internal communications by destination port for the past hour in a bar chart.



Top 20 InterfaceID by Bytes

A table showing the amount of internal communication allowed within the last hour by interface ID, sorted by traffic volume.

Top20 InterfaceID by Bytes		
	interfaceID	bytes_sum
1	eni-[REDACTED]	33,996
2	eni-[REDACTED]	5,842

Destination IP Bytes by InterfaceID

Displays a table of allowed internal communications within the last hour, sorted by interface ID and destination IP address, sorted by traffic volume.

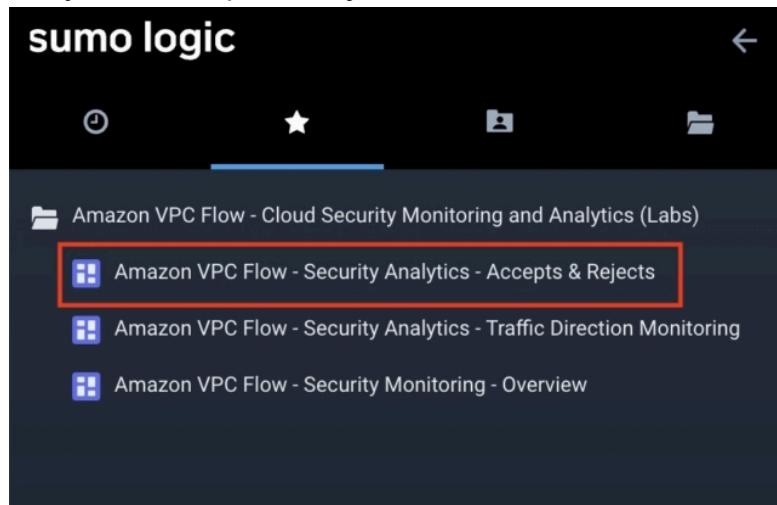
Destination IP Bytes by InterfaceID			
	interfaceID	dstDevice_ip	bytes_sum
1	eni-[REDACTED]	[REDACTED]	33,996
2	eni-[REDACTED]	[REDACTED]	5,842

Destination Port by InterfaceID

Displays the number of permitted internal communications by interface ID and destination port for the past hour in a table sorted from most to least.

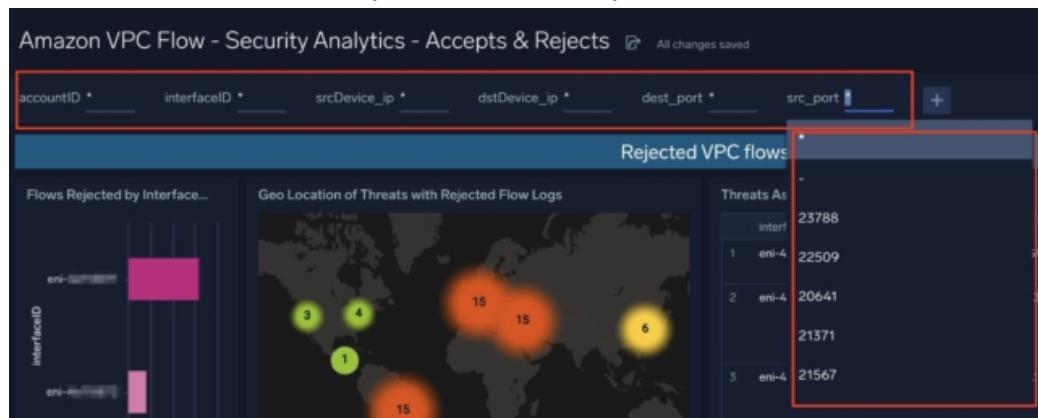
Destination Port by InterfaceID			
	interfaceID	dest_port	_count
1	eni-[REDACTED]	22	4
2	eni-[REDACTED]	23242	3
3	eni-[REDACTED]	21567	2
4	eni-[REDACTED]	20824	1
5	eni-[REDACTED]	22	1
6	eni-[REDACTED]	23242	1

Next, go back to the folder and look at the next dashboard: Amazon VPC Flow - Security Analytics - Accepts & Rejects.



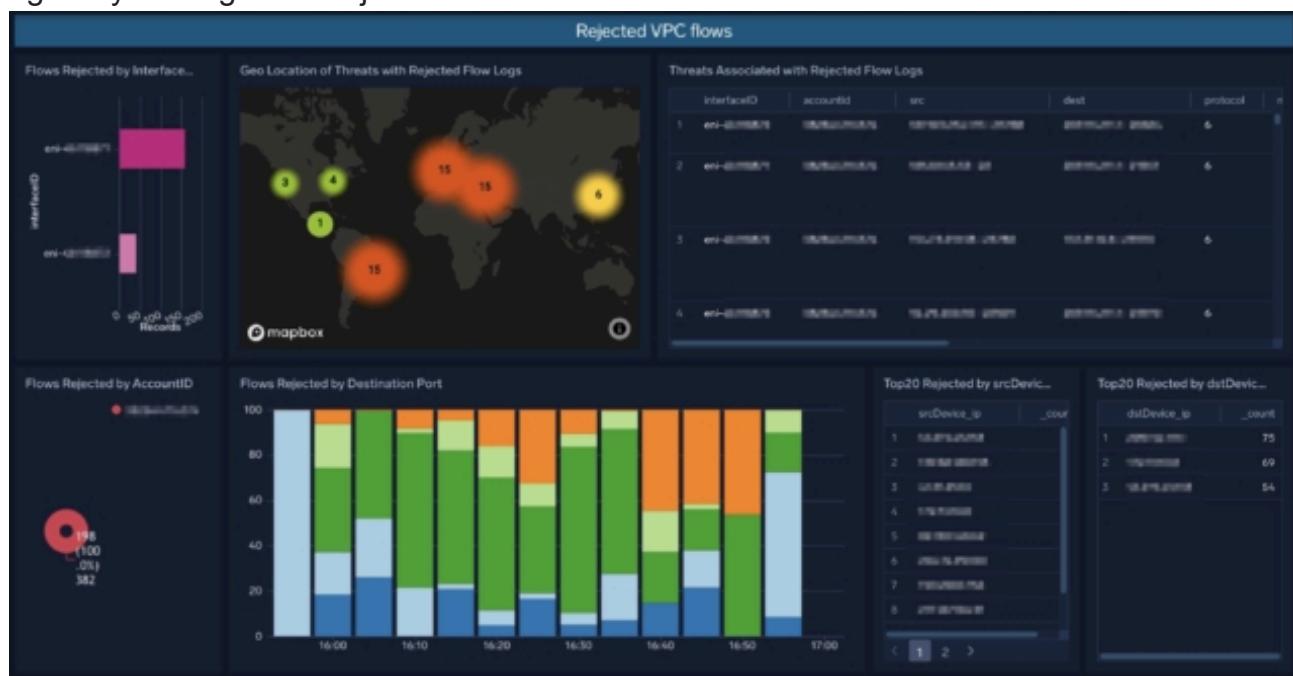
Amazon VPC Flow - Security Analytics - Accepts & Rejects

Here too, you can filter the entire dashboard by account ID, interface ID, source IP, destination IP, destination port, and source port.



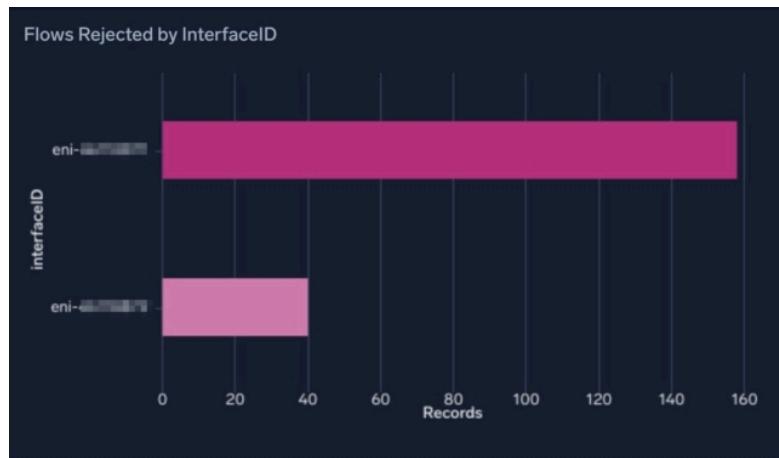
Rejected VPC flows

It gives you insight into rejected communications.



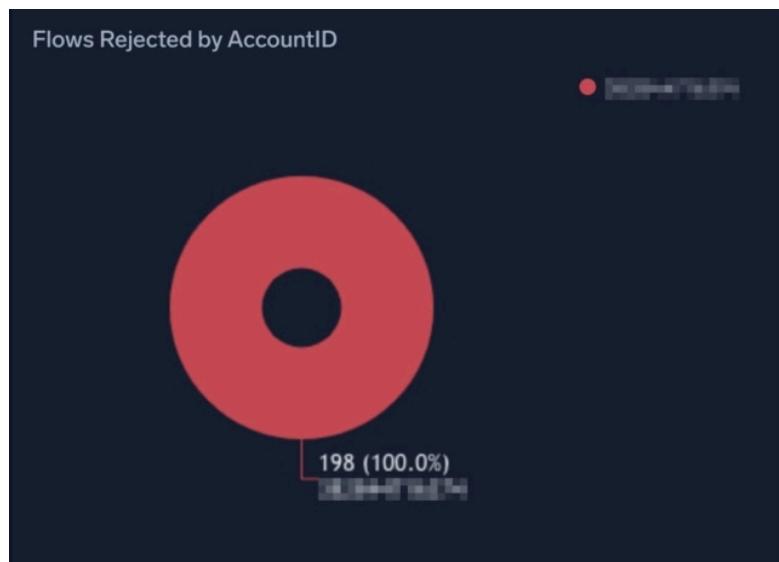
Flows Rejected by InterfaceID

Displays the number of denied communication flows for each interface ID within the last hour in a bar chart.



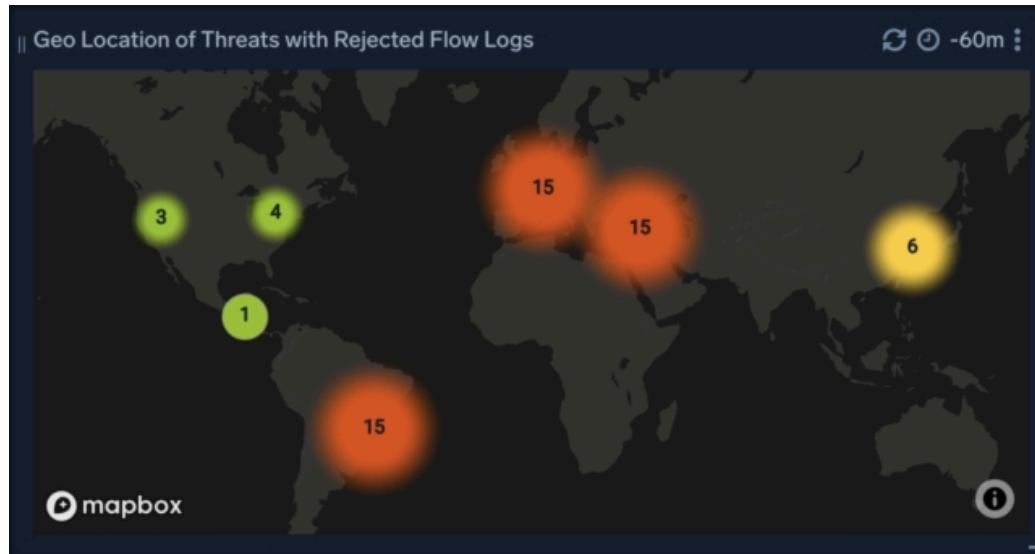
Flows Rejected by AccountID

Displays the number of rejected communication flows for each account ID within the last hour in a donut chart.



Geo Location of Threats with Rejected Flow Logs

Geo-located view of denied inbound traffic where the source IP matches a threat IP in CrowdStrike Intelligence within the last hour



Threats Associated with Rejected Flow Logs

Displays a table showing the number of denied communication flows within the last hour where the source IP matches a threat IP with a severity of High in CrowdStrike Intelligence.

Threats Associated with Rejected Flow Logs						⌚ ⚡ -60m :
	interfaceID	accountid	src	dest	protocol	malicious_confidence
1	eni-[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	6	high
2	eni-[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	6	high
3	eni-[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	6	high
4	eni-[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	6	high

Flows Rejected by Destination Port

Displays the number of rejected packets by destination port for every 5 minutes within the last hour in a bar graph chart.



Top20 Rejected by srcDevice_ip

Displays a table of the top 20 source IPs for rejected communication flows within the last hour

Top20 Rejected by srcDevice_ip		↻ ⏴ -60m ⋮
	srcDevice_ip	_count
1	[REDACTED]	35
2	[REDACTED]	33
3	[REDACTED]	23
4	[REDACTED]	19
5	[REDACTED]	10
6	[REDACTED]	7
7	[REDACTED]	6
8	[REDACTED]	5
9	[REDACTED]	2

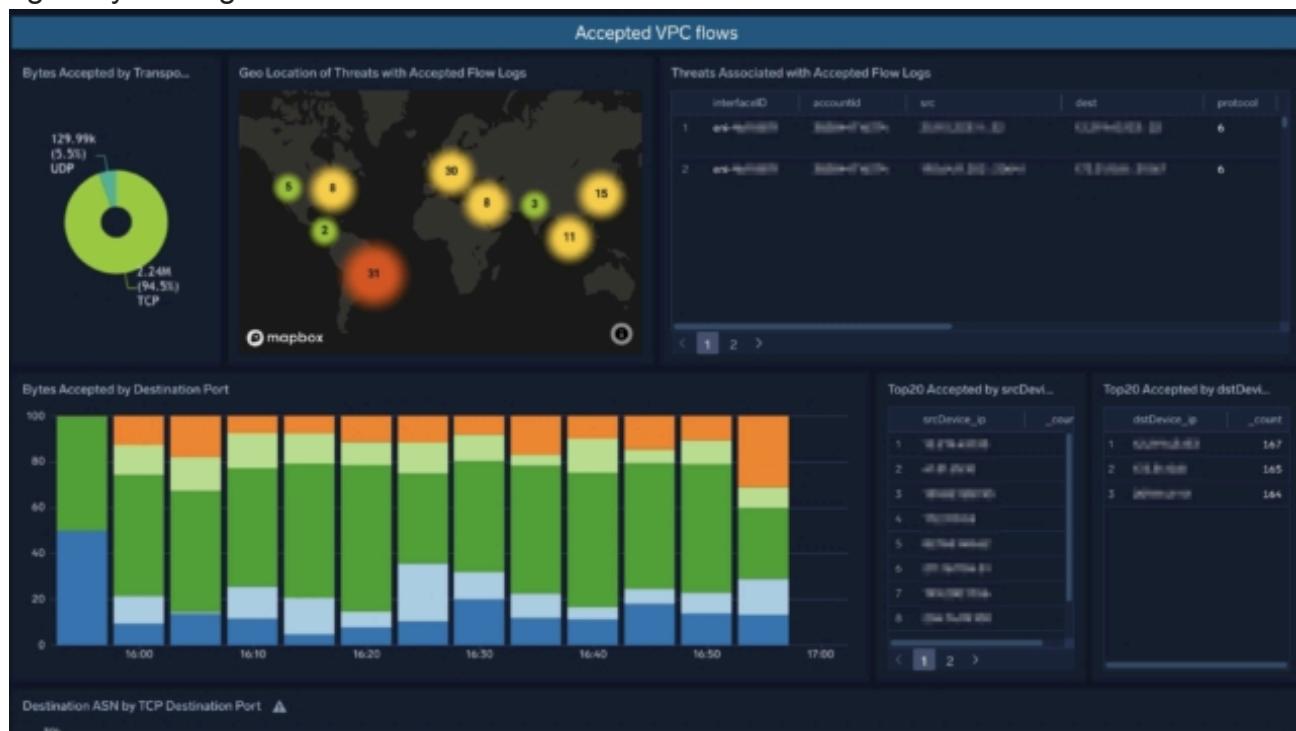
Top20 Rejected by dstDevice_ip

Displays a table of the top 20 destination IPs for rejected communication flows within the last hour

Top20 Rejected by dstDevice_ip		
	dstDevice_ip	_count
1	[REDACTED]	75
2	[REDACTED]	69
3	[REDACTED]	54

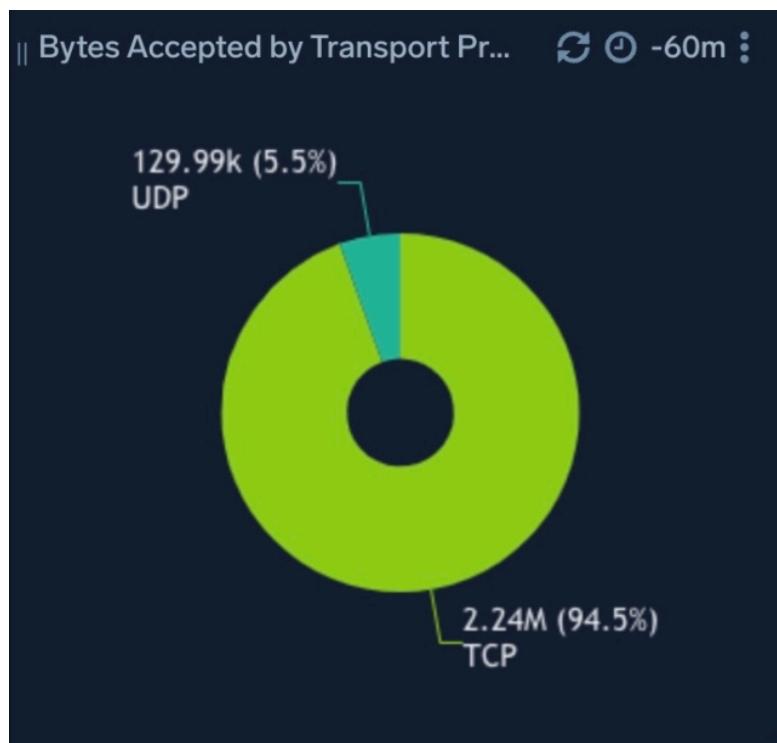
Accepted VPC flows

It gives you insight into allowed communications.



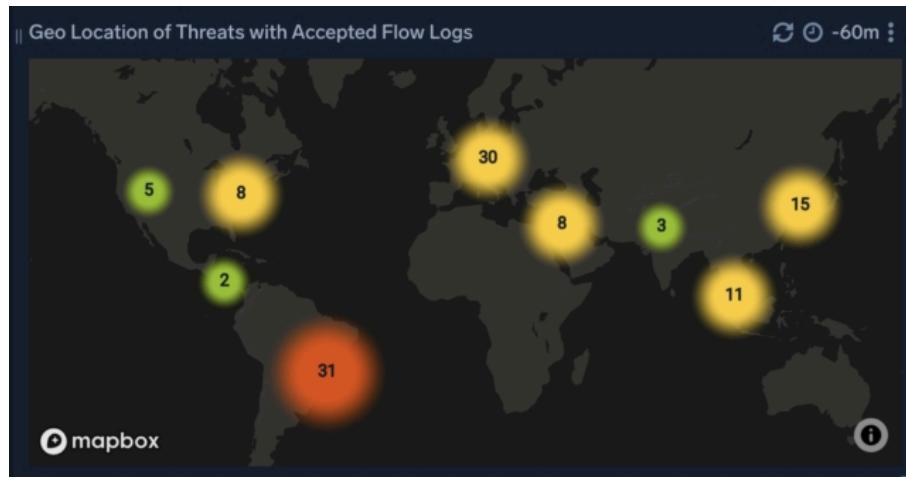
Bytes Accepted by Transport Protocol

Displays the amount of traffic by protocol for permitted communication flows within the last hour in a donut chart.



Geo Location of Threats with Accepted Flow Logs

Geo-location of allowed inbound traffic where the source IP matches a threat IP in CrowdStrike Intelligence within the last hour



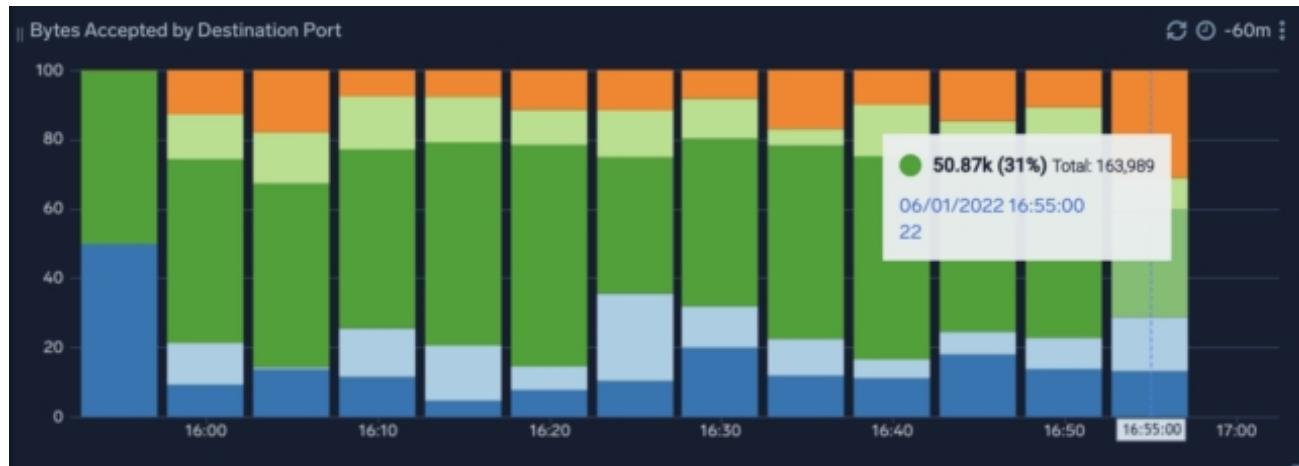
Threats Associated with Accepted Flow Logs

Displays communication flows (access sources) with a high severity that match authorized CrowdStrike Intelligence threat IPs within the past hour in a table format.

Threats Associated with Accepted Flow Logs						-60m
interfaceID	accountid	src	dest	protocol	malicious	
1	eni-[REDACTED]	[REDACTED]	[REDACTED]	6	high	
2	eni-[REDACTED]	[REDACTED]	[REDACTED]	6	high	

Bytes Accepted by Destination Port

Displays the permitted traffic volume for each destination port for every 5 minutes within the past hour in a 100% stacked bar graph.



Top20 Accepted by srcDevice_ip

Displays a table of the top 20 source IPs for permitted communication flows within the last hour

srcDevice_ip	_count
1 [REDACTED]	91
2 [REDACTED]	89
3 [REDACTED]	65
4 [REDACTED]	48
5 [REDACTED]	32
6 [REDACTED]	24
7 [REDACTED]	15
8 [REDACTED]	14
9 [REDACTED]	3
< 1 >	

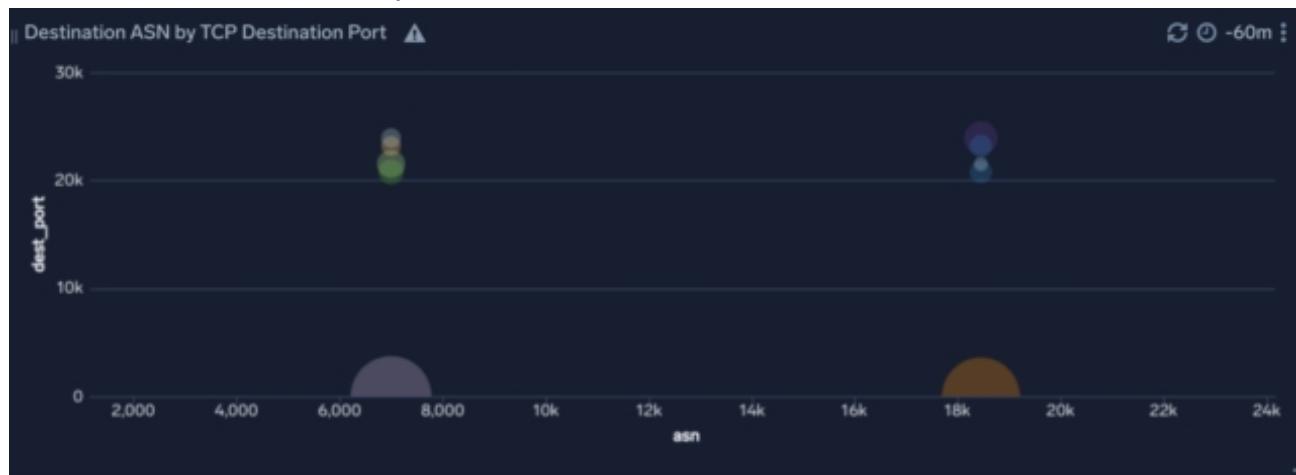
Top20 Rejected by dstDevice_ip

Displays a table of the top 20 destination IPs for permitted communication flows within the last hour

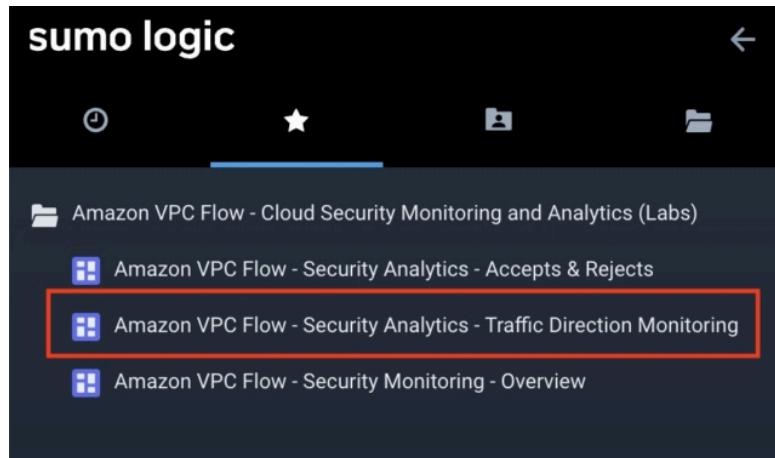
Top20 Accepted by dstDevice_ip		↻ ⓘ -60m :
	dstDevice_ip	_count
1	[REDACTED]	167
2	[REDACTED]	165
3	[REDACTED]	164

Destination ASN by TCP Destination Port

Displays the number of permitted TCP outbound communications within the past hour by AS number and destination port.



Next, go back to the folder and look at the next dashboard: Amazon VPC Flow - Security Analytics - Traffic Direction Monitoring.

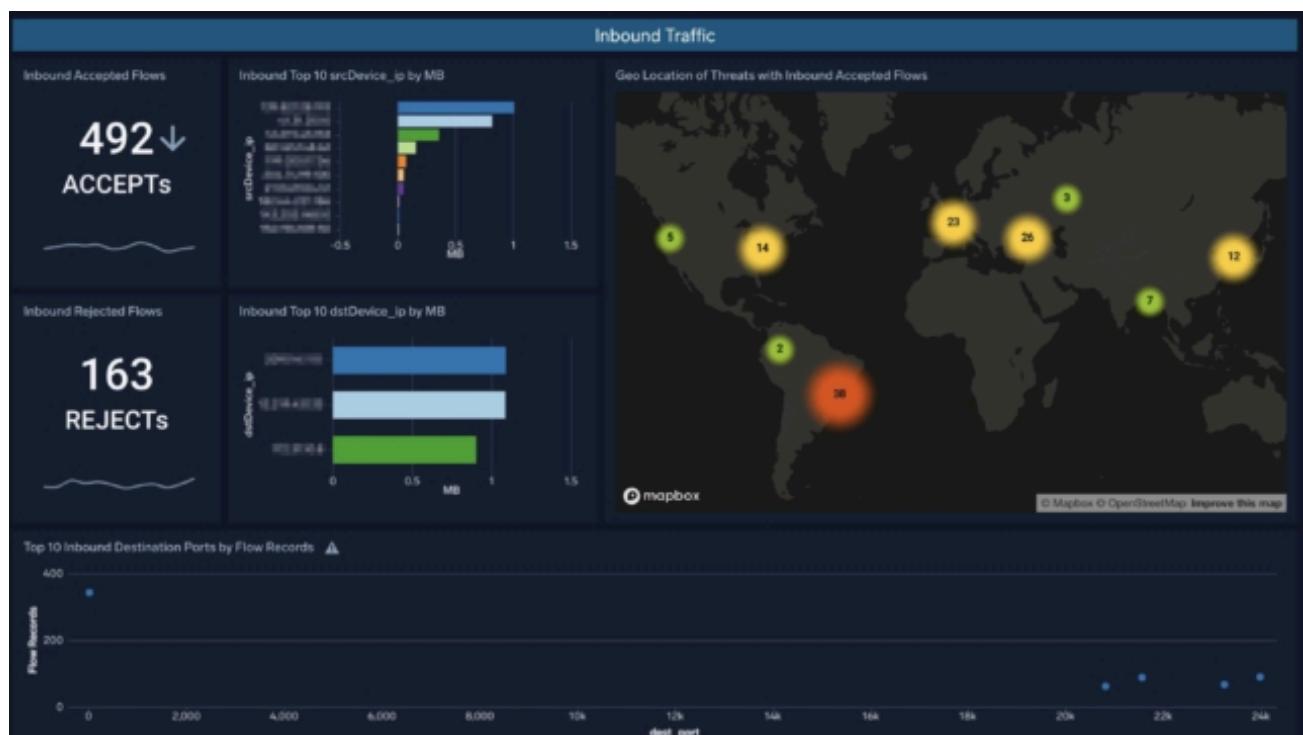


Amazon VPC Flow - Security Analytics - Traffic Direction Monitoring

Here too, you can filter the entire dashboard by account ID, interface ID, source IP, destination IP, destination port, and source port.

Inbound Traffic

This is a dashboard for inbound communication between the Internet and AWS.



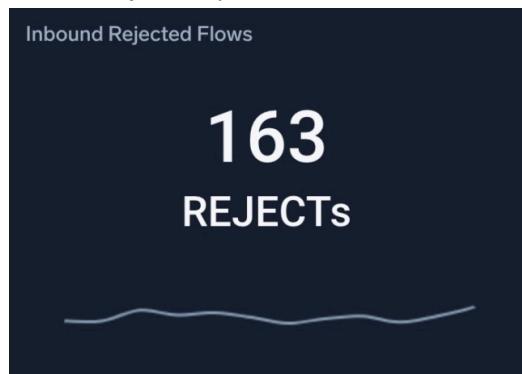
Inbound Accepted Flows

Displays the number of inbound communications allowed over the last 5 minutes (the graph below shows a sparkline of the number of inbound communications allowed over 5-minute intervals over a 1-hour period)



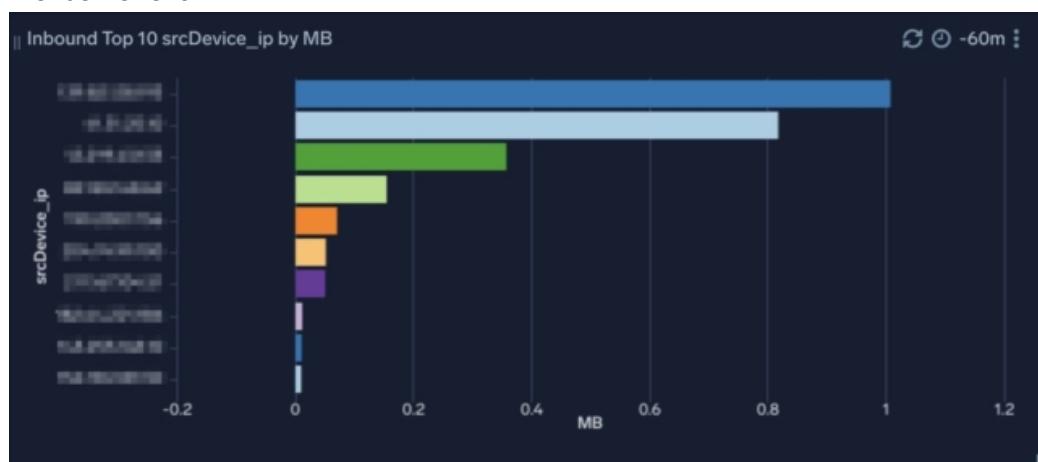
Inbound Rejected Flows

Shows the number of rejected inbound communications over the last 5 minutes (the graph below shows a sparkline of rejected inbound communications over 5-minute intervals over a 1-hour period)



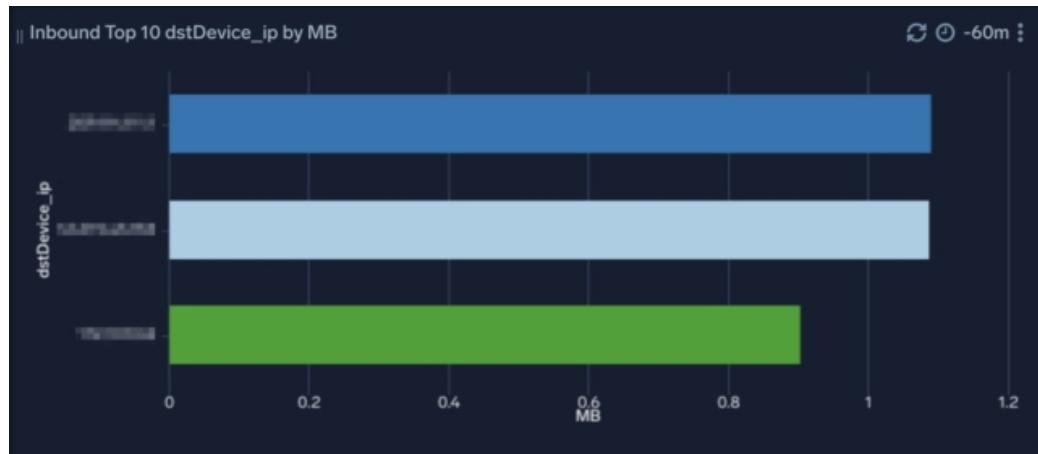
Inbound Top 10 srcDevice_ip by MB

Displays the top 10 traffic volumes for inbound traffic by source IP address for the past hour in a bar chart.



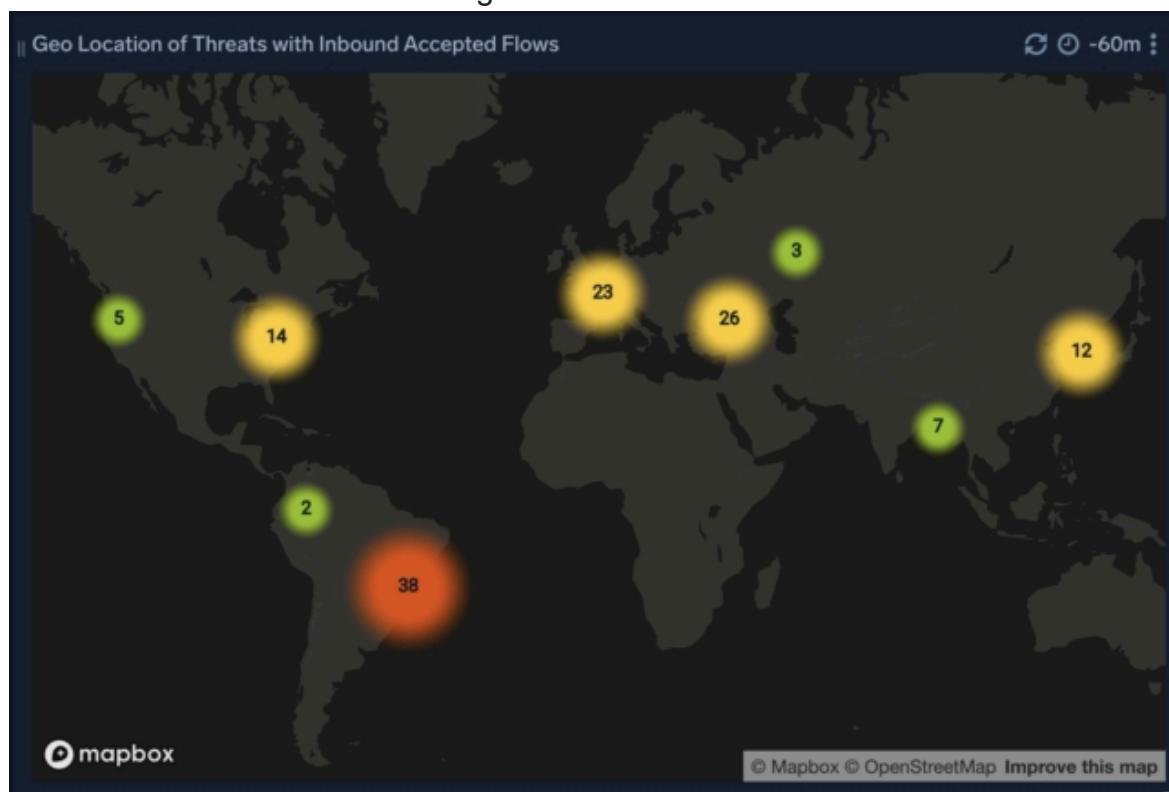
Inbound Top 10 dstDevice_ip by MB

Displays the top 10 traffic volumes for inbound traffic by destination IP address for the past hour in a bar chart.



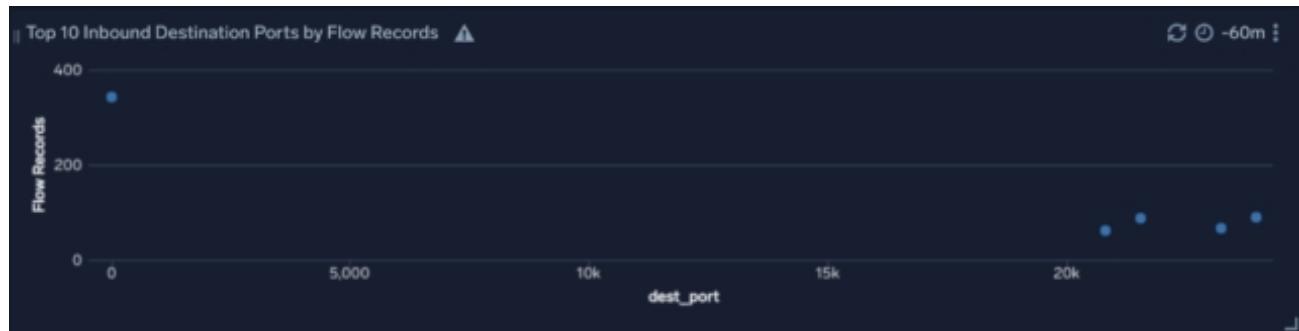
Geo Location of Threats with Inbound Accepted Flows

Geo-location of allowed inbound communications over the last hour where the source IP matches CrowdStrike threat intelligence



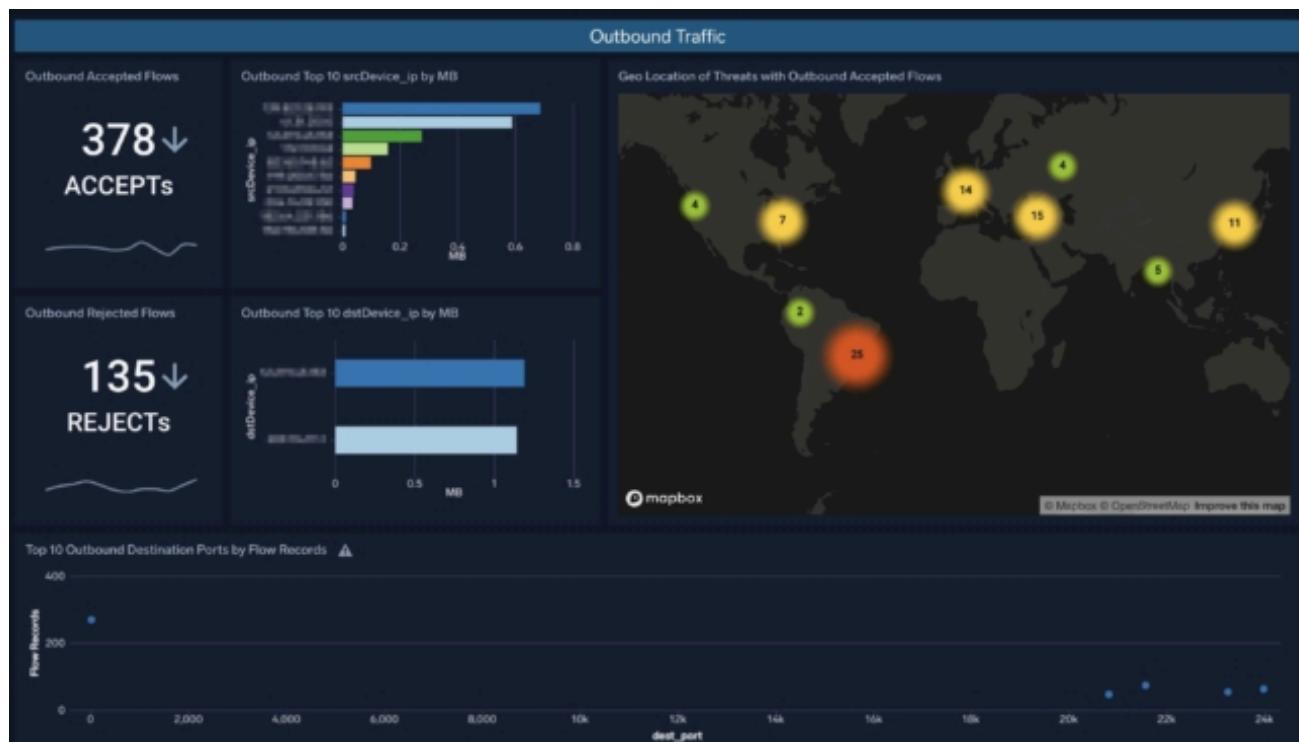
Top 10 Inbound Destination Ports by Flow Records

Displays a scatter plot of the top 10 inbound communications by destination port for the last hour



Outbound Traffic

This is a dashboard for outbound communication between the Internet and AWS.



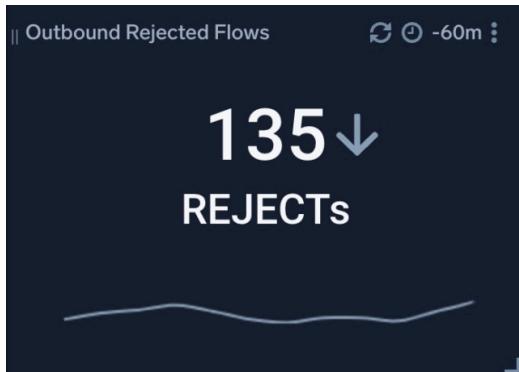
Outbound Accepted Flows

Displays the number of outbound communications allowed over the last 5 minutes (the graph below shows a sparkline of the number of outbound communications allowed over a 5-minute interval over a 1-hour period)



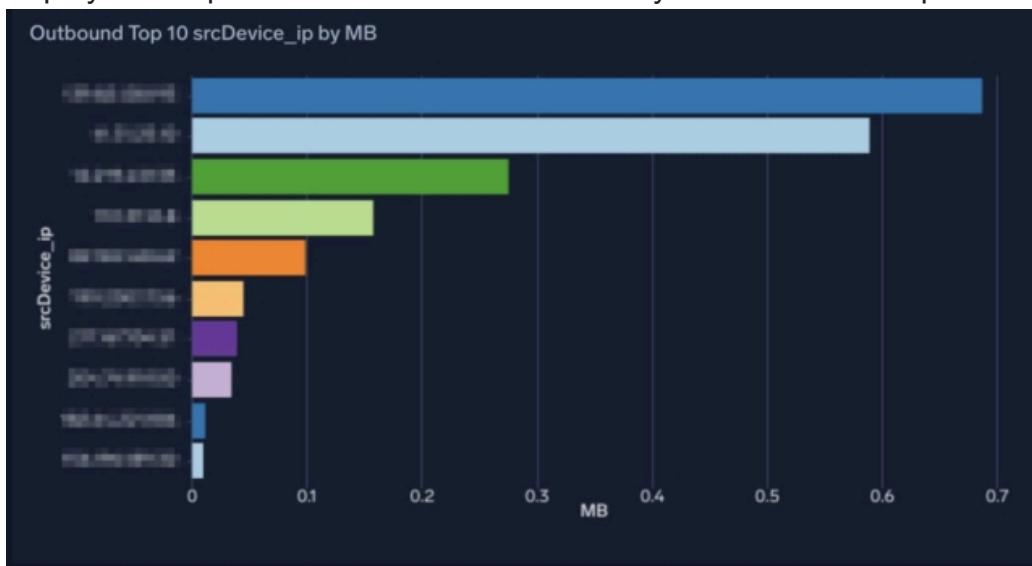
Outbound Rejected Flows

Shows the number of rejected outbound communications over the last 5 minutes (the graph below shows a sparkline of rejected outbound communications over 5-minute intervals over a 1-hour period)



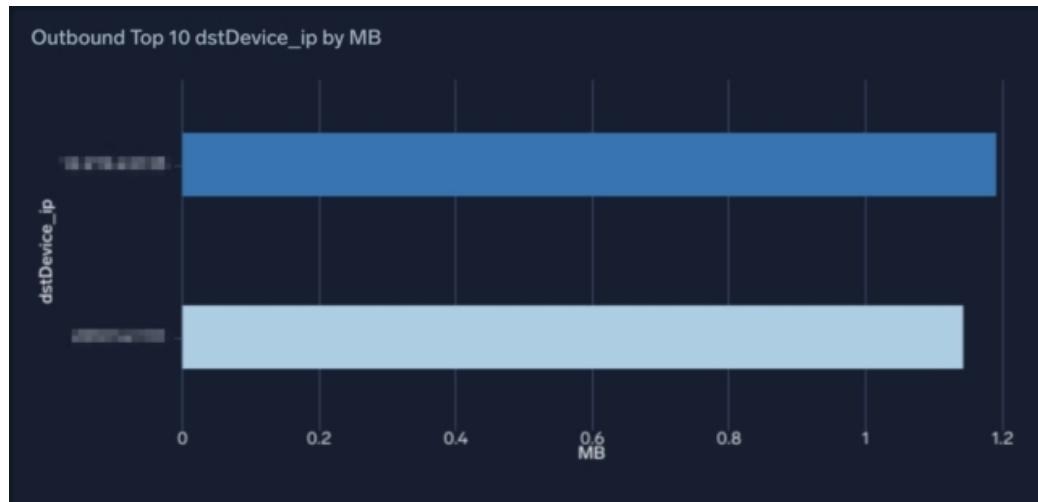
Outbound Top 10 srcDevice_ip by MB

Displays the top 10 outbound traffic volumes by source IP for the past hour in a bar chart.



Outbound Top 10 dstDevice_ip by MB

Displays the top 10 outbound traffic volumes by destination IP address for the past hour in a bar chart.



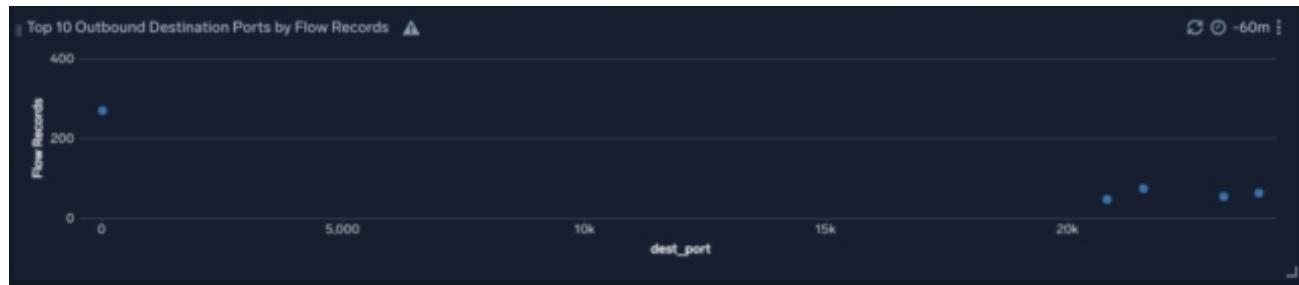
Geo Location of Threats with Outbound Accepted Flows

Geo-location of allowed outbound communications with source IPs matching CrowdStrike threat intelligence within the last hour



Top 10 Outbound Destination Ports by Flow Records

Displays a scatter plot of the top 10 outbound communications by destination port for the last hour



summary

This time, we introduced the dashboard provided by the "Amazon VPC Flow - Cloud Security Monitoring and Analytics" App, part of the security-focused Cloud Security Monitoring and Analytics series. Checking this together with GuardDuty detection information will likely help expedite investigations into indicators of attack and root causes. We hope you will use this article as a reference and take advantage of security insights using Sumo Logic.