Integrating multiple data sources
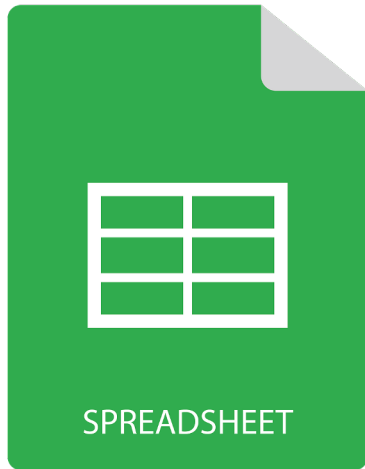
for the efficient Peering Coordinator

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Technical Evangelist

kentik
The network observability company

What is the most common tools for the peering coordinator?

SPREADSHEET

PeeringDB

Search here for a network, IX, or facility.

Advanced Search   Legacy Search
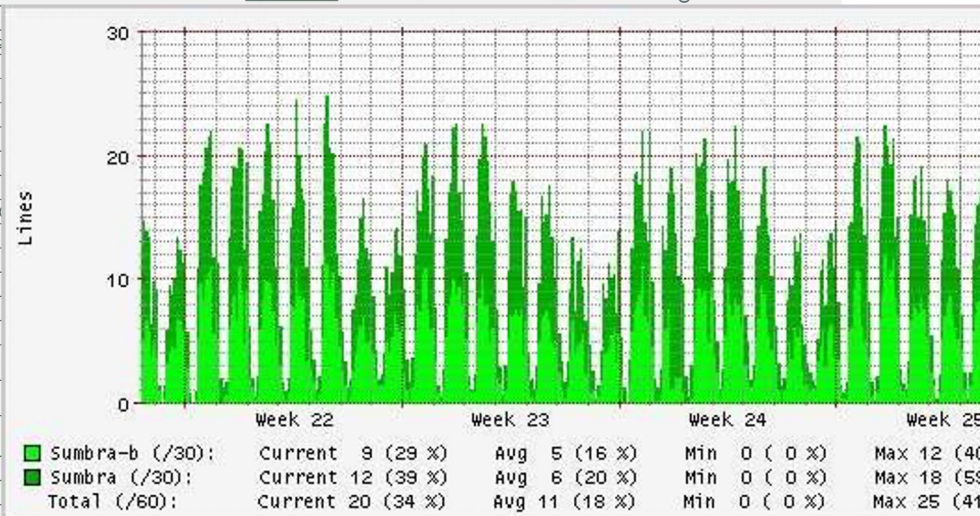
English (English)

A1 Telekom Austria AG

Organization	A1 Telekom Austria AG
Also Known As	AON/Highway 194
Long Name	
Company Website	http://www.a1.net/
ASN	8447
IRR as-set/route-set ?	RIPE::AS-PTA RIPE::AS-TA6
Route Server URL	
Looking Glass URL	http://ppp.a1.net/tools/lookin(
Network Types	Cable/DSL/ISP
IPv4 Prefixes ?	3000
IPv6 Prefixes ?	350
Traffic Levels	50-100Gbps
Traffic Ratios	Balanced

Public Peering Exchange Points

Filter

Exchange A↕ ∨ IPv4	ASN IPv6	Speed	RS Peer
AMS-IX 80.249.209.207	8447 2001:7f8:1::a500:8447:1	200G	✓
DE-CIX Frankfurt	8447	200G	✓

```
→ ~ traceroute www.a1.at
traceroute to www.a1.at (80.75.46.164), 64 hops max, 52 byte packets
 1  192.168.0.1 (192.168.0.1)  5.579 ms  5.512 ms  8.758 ms
 2  100.120.0.1 (100.120.0.1)  26.835 ms  6.560 ms  6.949 ms
 3  be230.aarh-dist01.link.stofa.net (45.80.92.116)  6.961 ms  11.962 ms  41.739 ms
 4  * * *
 5  be229.aarh-dist02.link.stofa.net (89.184.134.46)  18.533 ms  18.573 ms  18.306 ms
 6  be-190.aarh-cor03.ip.norlys.io (139.45.29.226)  17.875 ms  17.605 ms  17.337 ms
 7  be-182.koldb-cor03.ip.norlys.io (139.45.18.43)  18.154 ms  17.262 ms  17.603 ms
 8  be-200.frnx-br01.ip.norlys.io (139.45.29.174)  17.791 ms
    be-201.frnx-br01.ip.norlys.io (139.45.29.176)  18.931 ms  19.106 ms
 9  ipv4.de-cix.fra.de.as8447.a1.net (80.81.192.69)  104.883 ms  20.344 ms  17.862 ms
10  lg4-9080.as8447.a1.net (195.3.64.5)  32.450 ms  28.117 ms  28.182 ms
11  lg2-9082.as8447.a1.net (195.3.68.34)  29.289 ms  28.570 ms  28.689 ms
12  * * *
13  * * *
14  * * *
15  * * *
16  * * *
17  * *
```

Week 22   Week 23   Week 24   Week 25

Sumbra-b (/30):	Current 9 (29 %)	Avg 5 (16 %)	Min 0 (0 %)	Max 12 (40
Sumbra (/30):	Current 12 (39 %)	Avg 6 (20 %)	Min 0 (0 %)	Max 18 (59
Total (/60):	Current 20 (34 %)	Avg 11 (18 %)	Min 0 (0 %)	Max 25 (41

Adding NetFlow is a good step

Source | Destination | Non-Directional / Other

▼ Network & Traffic Topology

Source	Destination	Non-Directional / Other
☐ Interface	☐ Interface	☐ Ultimate Exit Interface
☐ Connectivity Type	☐ Connectivity Type	☐ Ultimate Exit Connectivity Type
☐ Network Boundary	☐ Network Boundary	☐ Ultimate Exit Network Boundary
☐ Provider	☐ Provider	☐ Ultimate Exit Provider
☐ Traffic Origination	☐ Traffic Termination	☐ Simple Traffic Profile
☐ Interface Capacity	☐ Interface Capacity	☐ Traffic Profile
☐ VLAN	☐ VLAN	☐ Site
☐ MAC Address	☐ MAC Address	☐ Device
		☐ Site Market
		☐ Ultimate Exit Site Market
		☐ Ultimate Exit Site
		☐ Ultimate Exit Device
		☐ Host Direction
		☐ Device Sample Rate

▼ IP & BGP Routing

☐ IP/CIDR	☐ IP/CIDR	☐ Protocol
☐ Site by IP	☐ Site by IP	☐ INET Family
☐ Site Type by IP	☐ Site Type by IP	☐ DSCP
☐ Port Number	☐ Port Number	☐ ToS
☐ Route Prefix/LEN	☐ Route Prefix/LEN	☐ Packet Size
☐ Route LEN	☐ Route LEN	☐ Packet Size (nearest 100)
☐ AS Number	☐ AS Number	☐ Sampling Rate * 100
☐ Next Hop IP/CIDR	☐ Next Hop IP/CIDR	
☐ Next Hop AS Number	☐ Next Hop AS Number	
☐ 2nd Hop AS Number	☐ 2nd Hop AS Number	
☐ 3rd Hop AS Number	☐ 3rd Hop AS Number	
☐ AS Path	☐ AS Path	
☐ BGP Community	☐ BGP Community	
☐ VRF Name	☐ VRF Name	
☐ VRF Route Distinguisher	☐ VRF Route Distinguisher	
☐ VRF Route Target	☐ VRF Route Target	
☐ VRF Extended Route Distinguisher	☐ VRF Extended Route Distinguisher	
	☐ RPKI Validation Status	
	☐ RPKI Quick Status	
	Segment Routing SID	
	Segment Routing SID Path	

IP Addresses, Ports And Protocols Are Not Enough

- It is awesome to see what traffic is flowing on the network.

- But what does any of this mean in terms or users, content, or network costs?
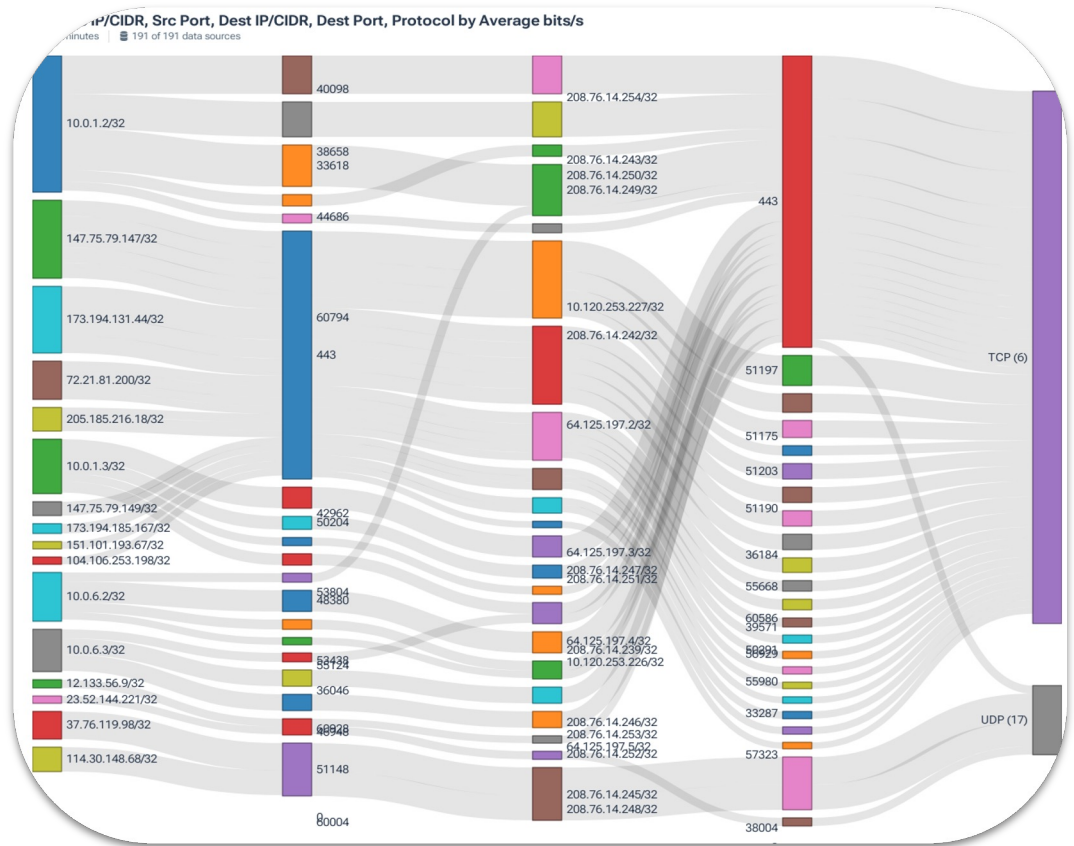
Telemetry Enrichment

Enrichment with metadata provides context

Geo-location	**Threat feeds**	**Transit costs**
BGP table information	**Pod names**	**Public BGP data**
PeeringDB information	**IPAM**	**OTT service name**
Application identifiers	**Process IDs**	**CDN names**
DNS information	**Synthetic test results**	**Customer names**

Telemetry Enrichment

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But how?

- ✅ There is no single source of truth

- ✅ The data exists but is spread across numerous sources

- ✅ Automation can pull this data together

- ✅ Using APIs, push it into a network observability platform that can enrich the network traffic

Best Practices for Leveraging Contextual Data
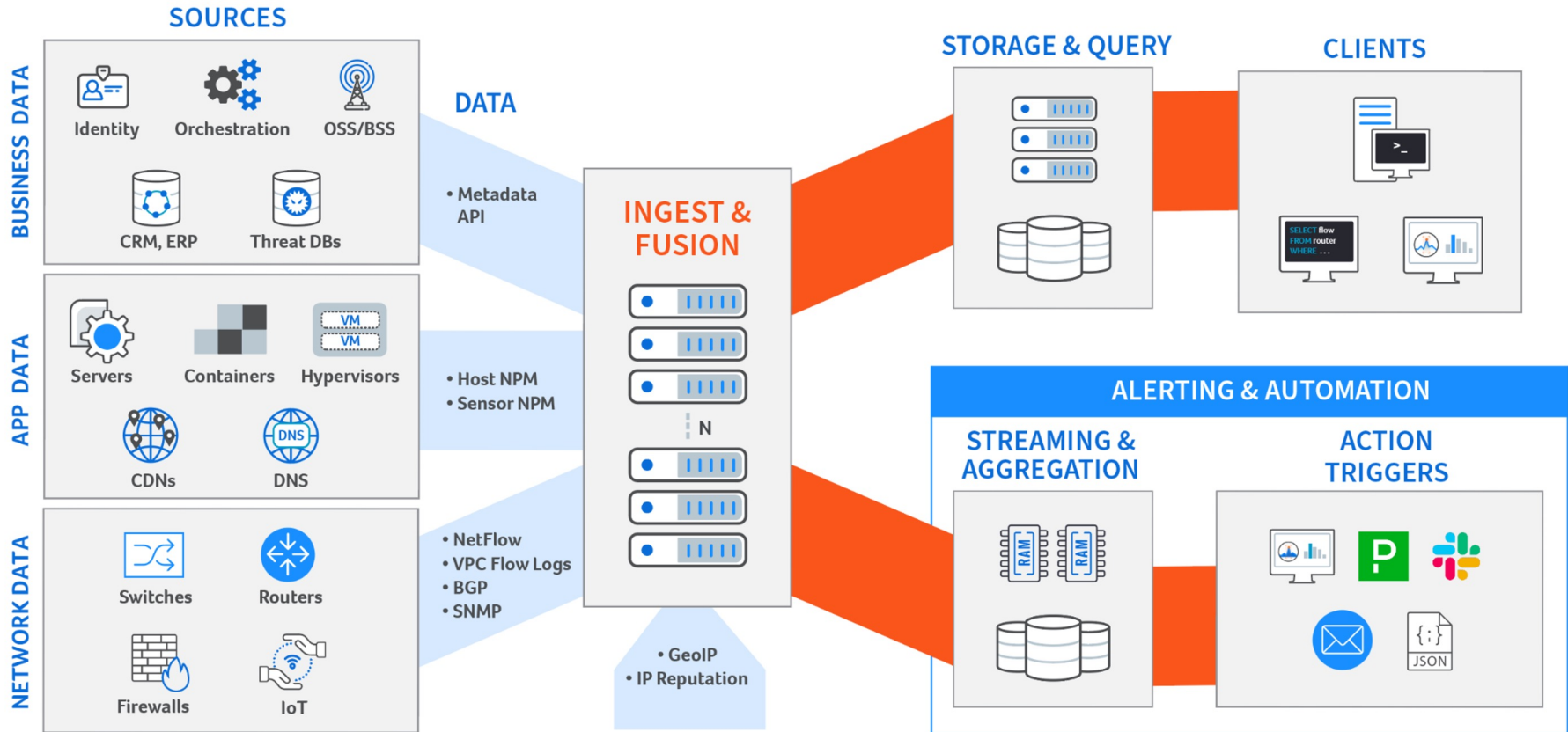
Results

Do we use our IX port well?

How much traffic on transit to AMS-IX members?
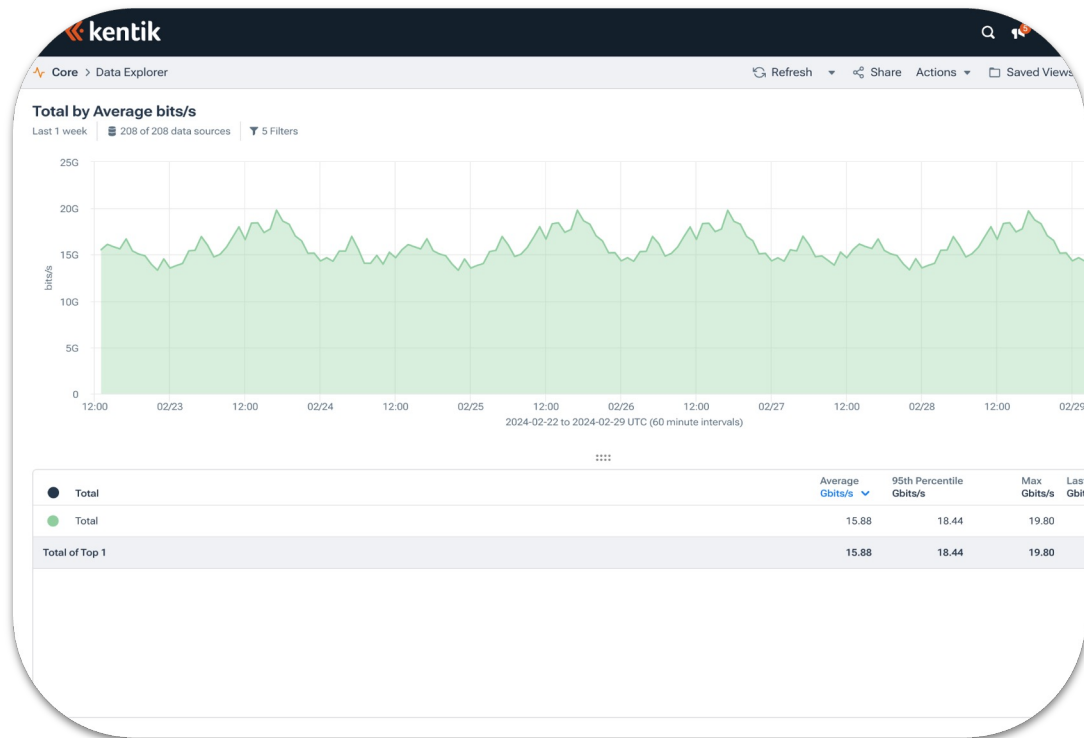
Do we use our IX port well?

Which transit providers?
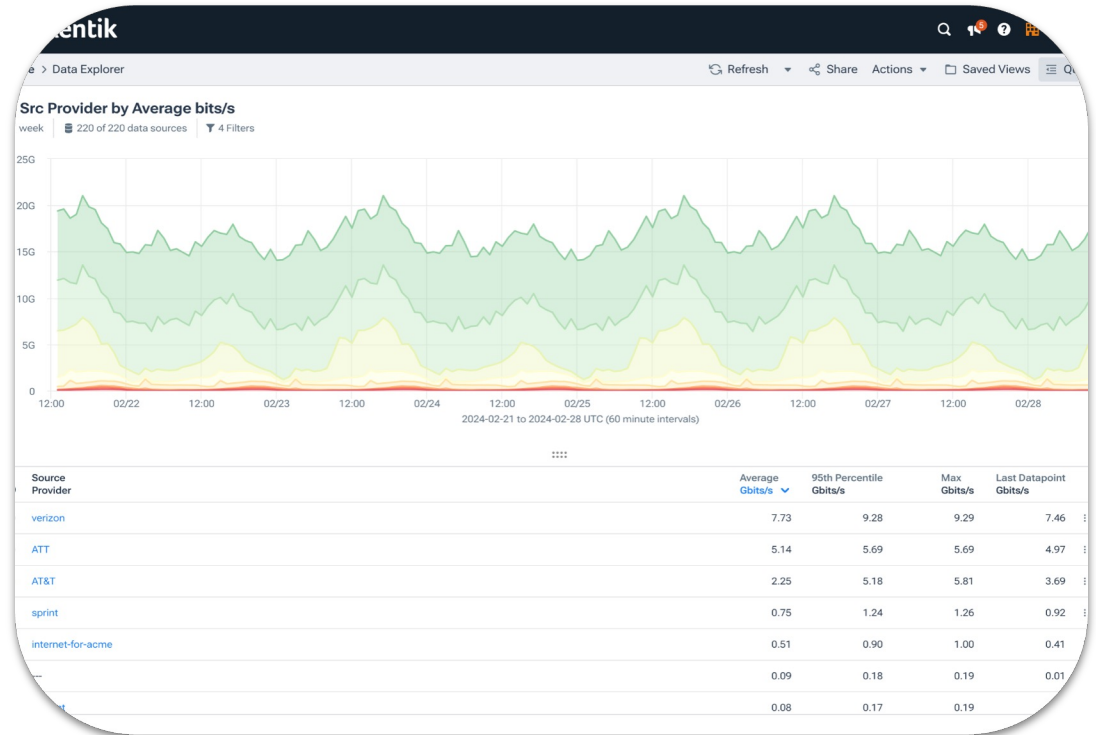
Do we use our AMS-IX port well?

Transit cost

Do we use our AMS-IX port well?

Which new peers?
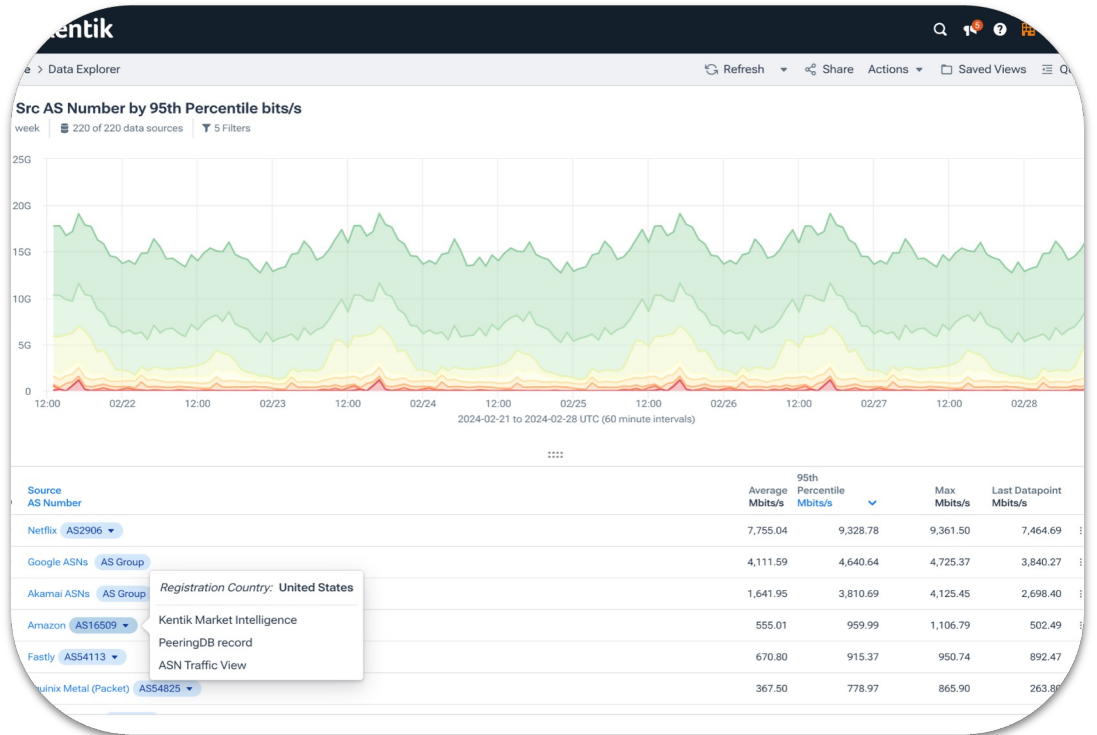
If we build in Ashburn, which IX would we join?

How much traffic do we send to members of each?

Filters to dimensions

Where should we build next?

Where should we build next?

Where does the transit traffic go?
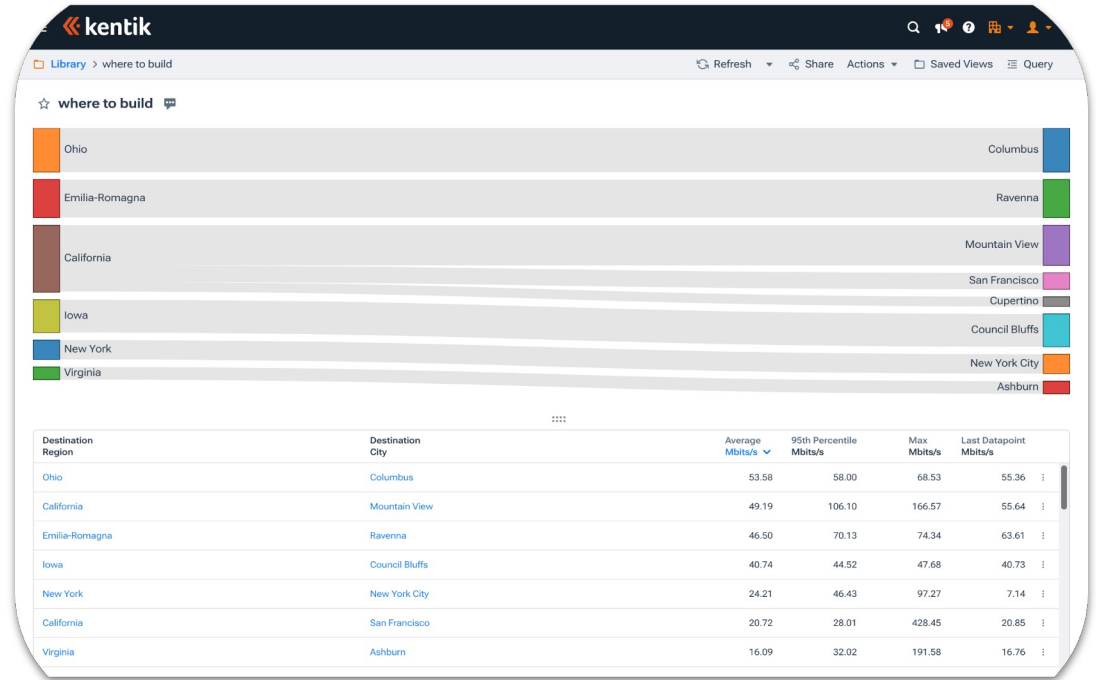
Which Data Center to build in?

Filters to dimensions

Group By Dimensions

| Preset | Filter-Based |

Series

Name

COL1

✓ Include ▾   results matching   All ▾   of the following conditions:

Destination **ASN is available at Facility** ▾ ⇄   equals ▾   Cologix COL1

+ Add Ad Hoc Filter   ⇉ Add Saved Filter   ⇉ Add Nested Group

Name

COL2

✓ Include ▾   results matching   All ▾   of the following conditions:

Destination **ASN is available at Facility** ▾ ⇄   equals ▾   Cologix COL2

+ Add Ad Hoc Filter   ⇉ Add Saved Filter   ⇉ Add Nested Group

Name

COL3

✓ Include ▾   results matching   All ▾   of the following conditions:

Destination **ASN is available at Facility** ▾ ⇄   equals ▾   Cologix COL3

+ Add Ad Hoc Filter   ⇉ Add Saved Filter   ⇉ Add Nested Group

Cancel

Big Shout OUT

To the team and the community for creating and maintaining

PeeringDB

There is a talk from PeeringDB already

But let us call out

- Support the team

- Keep your records updated

- Bring in your ideas for improvements to the team

Enriched data is a way to create efficient workflows

The data shared from the community is valuable
Imagine what else we could share and use?

Thank you!

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@nissen333

in/ninabargisen

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