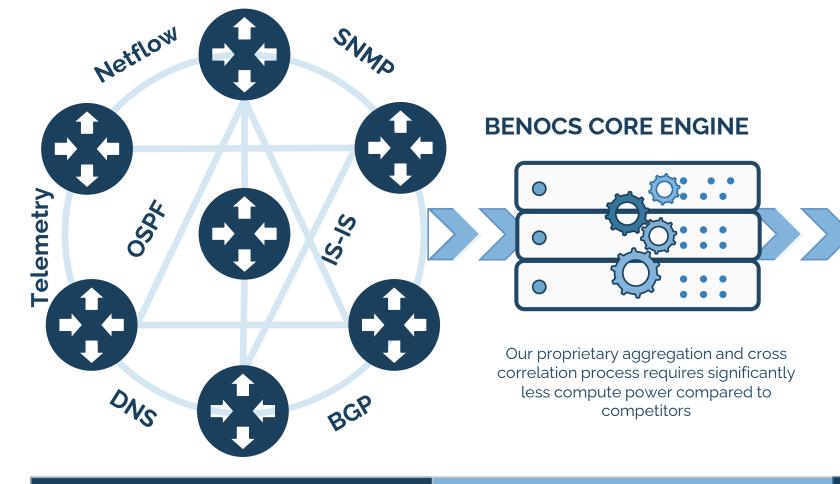
BENOCS

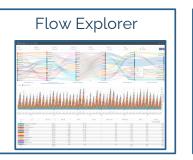
Forward Path

Matching routes to traffic levels

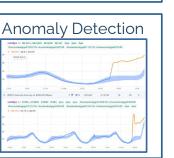
2025

What BENOCS does:











CDN Flow Director

Simplices the other many factor integer fragments at 0 0 0											
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NETWORK INTELLIGENCE



PROCESSING



For context...

Network: European Incumbent

Peer: Major Hyperscaler Graphs: BENOCS Analytics



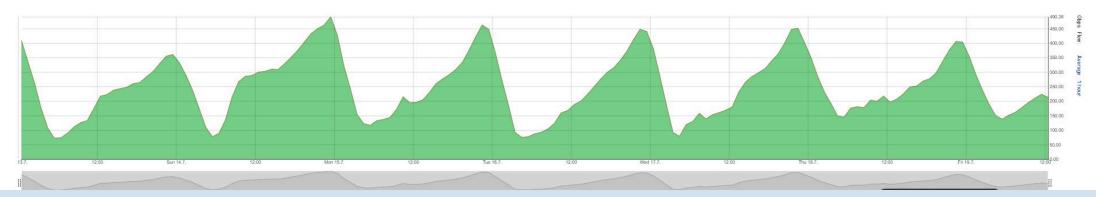
Typically, when you have a direct interconnect with a peer in multiple locations...

...all traffic should exit via direct route.

rce AS 11	Handover AS 12	 Ingress Router 	Egress Router 12	Nexthop AS ²	Destination AS	œ	Begin	End	
ilters	0 filters	0 filters	0 filters	0 filters	1 filters	41	13.07.2024	19.07.2024	View 💌
Source AS 1 [05%] (0.2.5%[0.61%] (0.17%] (0.01%] (0.06%] (0.06%] (0.06%]		Handover AS 1 [95%] [0.27%] [0.26%] [0.27%] [0.26%]	(0.61%) (0.63%	ER 1 (55%) ER 2 (25%) ER 3 (14%) (1430) (14)		Nexthop AS 1 [100%]			Destination AS [

Volume Share for Source AS Volume Share for Handover AS Volume Share for Ingress Router Volume Share for Egress Router Volume Share for Nexthop AS

O Relative Show SNMP Total Traffic Cannot display SNMP for filter(s): Destination AS. Please clear this filter to view SNMP

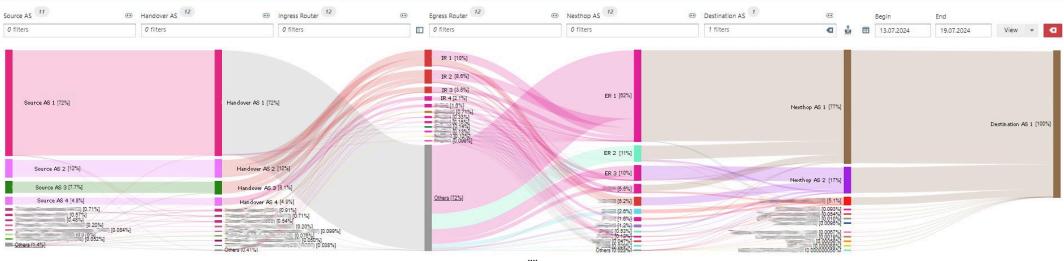


Volume Share for Destination AS



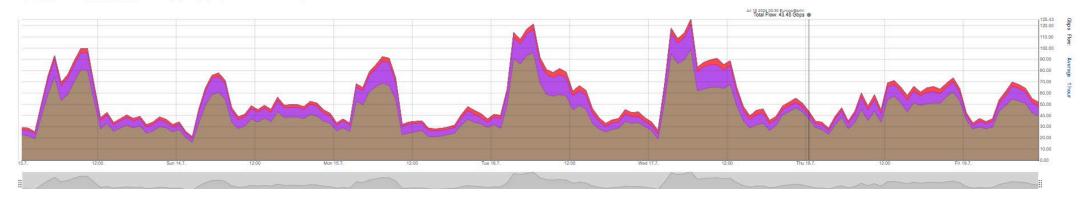
But with this hyperscaler...

se BENOCS Analytics Flow Explorer Core Planner Border Planner Looking Glass Raw Network Analyzer



....

Volume Share for Handover AS Volume Share for Handover AS Volume Share for Ingress Router Volume Share for Egress Router Volume Share for Nexthop AS Volume Share for Destination AS





1 vantage point(s)		AS Path	\$		*714	?	1
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Vantage Point 🌻	Prefix 🗧	Route Distingu	uisher AS Path	Cocal P	Pref 🗢 Med	BGP Next Hop	BGP Originator \$	BGP Community 🖨	Last update (UTC) 🖨	
	17.248.201.0/24	4	3356 714	100	0				2024-07-16 00:19:26	:
	17.69.104.0/23		714	100	150				2024-07-17 13:39:16	:
	17.188.120.0/24		1299 714	100	•				2024-07-17 19:00:29	:
	17.253.128.0/21		714	100	0				2024-06-28 07:52:34	- 1
	17.91.144.0/21	-	714	100	3830				2024-07-18 05:09:58	:
	17.45.206.0/23	-	3356 714	100	0				2024-07-16 00:19:27	
8-3-2 links General				100	250			States and States	2024-07-17 13:39:36	:
	1.66 4.0/ 3		TETIX		IOV er	tised		it is the state of the	2024-07-17 13:38:16	:
	17.252.48.0/20		714	100	0			- CONTRACTOR DATA	2024-06-28 07:52:34	:
8.8% liebs lienary	17-44.192.0/20		714	100	11880	104,012,000			2024-07-18 05:18:14	:
8-312 Sells General				10	rect	route			2024-07-16 00:19:31	:
8-3-2 links, General	17.69.0.0/16			100	250				2024-07-17 13:39:36	:
8-84 Belts Genery	17.56.9.0/24	• •	714	100	20	154,555 888	104,215,168		2024-06-28 07:52:33	
It is it liefs, Generally,	17 10 1				dirac	t rou			2024-07-16 00:19:31	:
8.95 lieb, Genery	17.58. 2.0/			100					2024-07-17 19:00:29	:
	17.160.0.0/16		714	100	20	THE JEE 31	THE R. L. THE	and the second	2024-06-28 07:52:33	:
	17.240.32.0/20		714	100	20				2024-06-28 07:52:33	:
			ave as CSV	100	0				2024-07-16 00:19:26	:
	17.24 Export			100	0				2024-07-16 00:19:21	:
	17.43.112.0/21	-	ave as XLS	100	12180				2024-07-10 21:13:31	:
	17.61.0.0/17	- Es	ave as XLSX	100	0				2024-07-16 00:19:21	:
	17.57.156.0/24		3356 714	100	0				2024-07-16 00:19:22	:
	17.39.96.0/20	•	714	100	20				2024-06-28 07:52:33	:
	17.39.128.0/19		3356 714	100	0				2024-07-16 00:19:26	:
It is in the local second	17.33.90.0/24	-	3356 714	100	0	104.013 140	TORUGUE MAR	DESCRIPTION OF TAXABLE	2024-07-16 00:19:20	:

Submit



- 28.0

4.0

14:40

Total prefixes advertised: 1667 Prefixes carrying outgoing traffic:

Prefixes carrying no traffic: 1418

Destination Subnet	\$	Nexthop AS	\$	Forward AS Path	\$	Destination AS	\$ Max Bps	¢	Bytes	4Ē	Average Bps	\$	
▼ 2a01:b740:a41::/48 (1)							13 Gbps		5.7 TB		12.7 Gbps	:	
	714					714	13 Gbps		5.7 TB		12.7 Gbps	:	
▼ 17.248.209.0/24 (3)							6.18 Gbps		2.44 TB		5.42 Gbps	:	
	1299			299 714		714	4.87 Gbps		1.94 TB		4.32 Gbps	:	
	3356		3	356 714		714	1.25 Gbps		474 GB		1.05 Gbps	:	
	1200				1	714	62.3 Mbps		20.4 GR		45.4 Mbps	1	



249

14:00

- 28.0

14.0

8.0

4.0

14:40

Out of the 249 prefixes carrying outgoing traffic 149 prefixes are direct routes 100 prefixes are indirect routes

Destination Subnet	Nexthop AS	Forward AS Path		etion AS	Max Bps 🗢	Bytes ₄₹	Average Bps	\$
▼ 2a01:b740:a41::/48 (1)				13 Gbps	5.7 TB	1	2.7 Gbps	1
	714		714	13 Gbps	5.7 TB	1	2.7 Gbps	:
▼ 17.248.209.0/24 (3)				6.18 Gbps	2.44 TB	5	.42 Gbps	:
	1299	1299 714	714	4.87 Gbps	1.94 TB	4	I.32 Gbps	:
	3356	3356 714	714	1.25 Gbps	474 GB	1	.05 Gbps	:
	1200		714	63.3 Mbns	20.4 GF	3	15.4 Mbps	:



Source AS 1 [72%]	07 out of 249 putgoing traffic	ormers Router 12 to Nextrop AS 12 Ormers Orrefixes Restand not the and not the	have on incomir	Begin End 13.07.2024 19.07.202 19.07.202 19.07.202 19.07.202	4 View - A
Source AS 2 [1: Source AS 3 [7.7%] Source AS 4 [4.8%] [0.57%] [0.57%] [0.20%] [0.20%] [0.20%] [0.20%] [0.20%] [0.20%] [0.20%]	Handover AS 2 [1234] Handover AS 2 [1234] Handover AS 3 [2,154] Handover AS 4 [4 9%] [0 2054] [0 2054] [0 2054] [0 2054] [0 2054]	Coteca (72%) Coteca (72%) Coteca (72%) Traffic in (Mbps)	Traffic out (Mbps)	No of Prefixes	
ime Share for Source AS	Direct in/indirect out	26,098 (99.9%)	5,232.2 (22.3%)	36 (14.5%)	ime Share for Destination
Relative COP Show SNIMP	Only direct out	0.0 (0%)	13,202.5 (56.3%)	149 (59.8%)	
	Only indirect out	0.0 (0%)	5,012.8 (21.4%)	58 (23.3%)	125.43 120.00 110.00
	Transit in/asymmetrical transit out	14.8 (0.1%)	3.9 (0%)	5 (2%)	100.00 90.00 20.00
M	Transit in/transit out	6.5 (0%)	4.8 (0%)	1 (0.4%)	70,50
/ /	Total	26,120 (100%)	23,456 (100%)	249 (100%)	40.00
12:00	Sun 14.7. 12:00 Man 15.7. 12:00	Tue 16.7. 12.00	Wed 17.7, 12:00 Thu 16.7.	12:00 Fri 19.7.	10.00



Adding location to the context

90% of the no incoming/only outgoing traffic is terminating in a different continent (US)



Our recommendation

 For US-terminating traffic (90% of outgoing traffic), consider establishing a PNI in the US and manage BGP configuration (coldpotato routing).

 For direct-in/indirect-out traffic, ensure symmetrical routes by reaching out to the BGP engineers of the Hyperscaler for potential corrections.



Péter György

pgoergy@benocs.com



BENOCS GmbH Reuchlinstr. 10, 10553 Berlin +49 30 577 000 4 – 0

benocs.com



			Link Start					
				•C3		C		



O Relative Show SNMP Total Traffic O Show Extrapolated Flow (4.56% divergence)

