

Server Today with desktop and mobile bonus sections - July 17, 2023

“Good evening my fellow Americans, in the councils of government we must guard against the acquisitions of unwarranted influence whether sought or unsought by the military industrial complex. The potential for the disastrous rise of misplaced corporate powers exist, and will persist. We must never let the weight of these combinations endanger our liberties or democratic and justice processes. We should take nothing for granted. Only an alert and acknowledged citizenry can compel through constitution and contractual compliance the proper meshing of the huge industrial and military machinery of our defense, and corporate political machinery of open commerce, democratic deliberation, with our peaceful methods and goals, so that industry, security, commerce, liberty and the people may prosper.”

President Dwight David Eisenhower farewell address, January 17, 1961

“I want to talk about our common responsibilities in the face of a common danger. Events of the prior five years may have helped to illuminate the challenge for some, but the dimensions of its threat have loomed large on the horizon for three decades. Whatever our hopes may be for the future, for reducing this threat and for remedying it, there is no escaping either the gravity or the totality of its challenges to our survival and to our security. The very word secrecy is repugnant in a free and open society, and we as a people are inherently and historically opposed to secret societies, to secret oaths and to secret proceedings including the very grand jury investigations that are occurring now concerning technical, industrial, corporate, law, intelligence and political failures prejudicial to key witnesses on those topics of investigation to hear and give testimony. We decided long ago and for common purpose that danger lurks in excessive and unwarranted concealment of pertinent facts that far outweigh their dangers cited to justify not only to conceal, but for reliance on misrepresentation and the predicate harms of vicarious disinformation. Even today, there is little value in opposing the threat of a closed society by imitating its arbitrary restrictions, and there is a very grave danger that an announced need for increased complicity will be seized upon by those anxious to expand its security to the very limits of censorship, to conceal conditioning, manipulation and folly, to expand its meaning, and as observed, taking constitutional privileges, equal protections, condoning federal, states, industrial, commercial and citizen robbery. In doing so enabled the 30 year perpetration of an espionage. I do not intend to permit the continuation of this outcome to the extent that it is within my control onto the system of civil justice its entities or individual consequence.”

President John Franklin Kennedy, foreign correspondent's address, April 27, 1961

By Invitation

Intel DCG Xeon Product Laundering Theft



May 1998

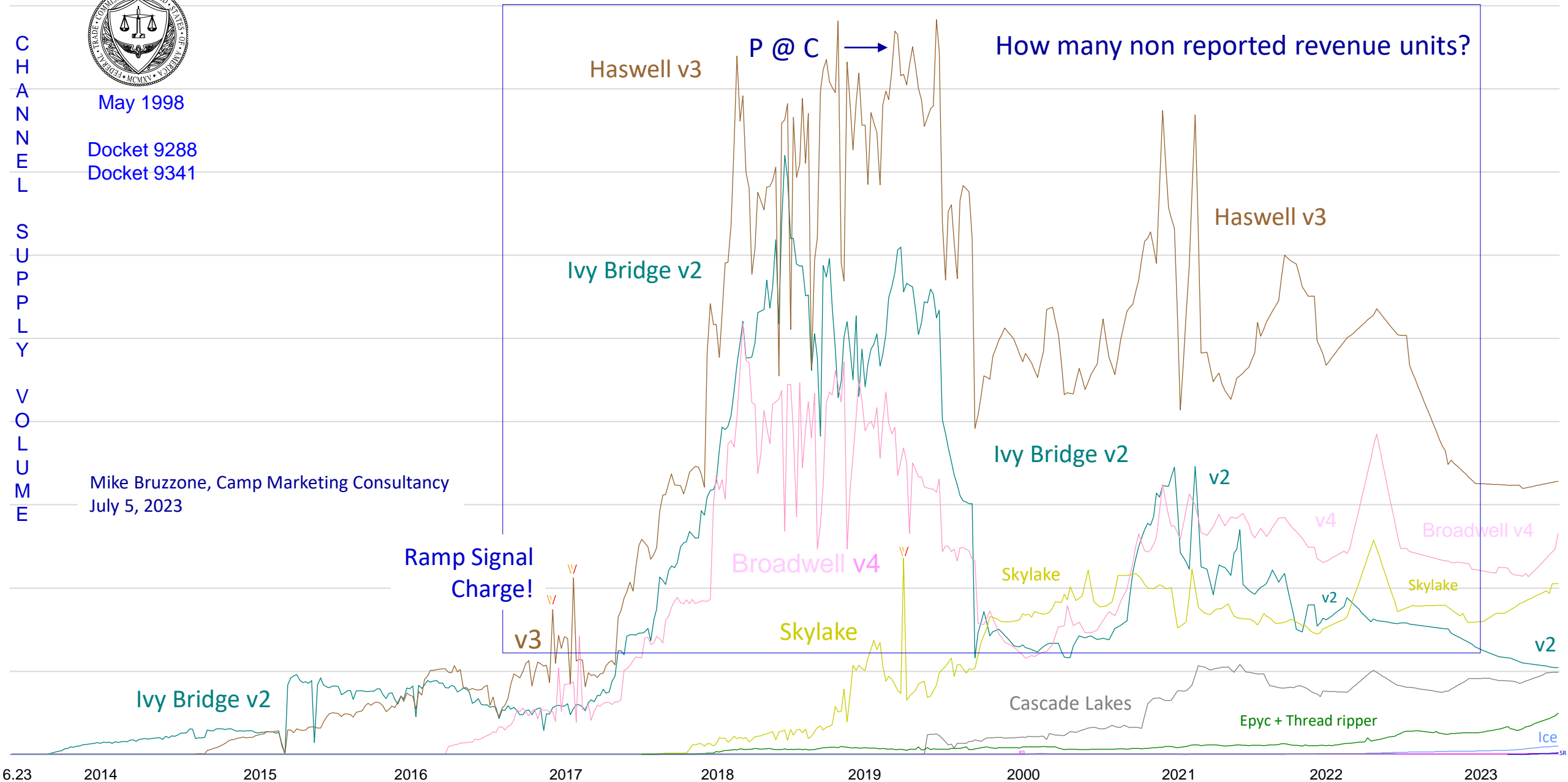
Docket 9288

Docket 9341

CHANNEL
SUPPLY
VOLUME

Mike Bruzzone, Camp Marketing Consultancy

July 5, 2023



Intel Xeon and Core full runs with AMD Epyc + TR and all Ryzen

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Mike Bruzzone, Camp Marketing Consultancy
July 5, 2023



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CHANNEL

SUPPLY VOLUME

Xeon	Unit Volume	% Total Channel
Ivy Bridge v2	1,402,711,808	22.83%
Haswell v3	2,632,881,219	42.86%
Broadwell v4	1,278,827,689	20.82%
Pentium D	1,975,541	0.03%
Skylake	614,079,144	10.00%
Cascade Lakes	207,664,808	3.38%
Ice Lake	4,838,854	0.08%
Sapphire Rapids	187,261	0.00%
On Channel Data subject IDC	6,143,166,326	100.00%

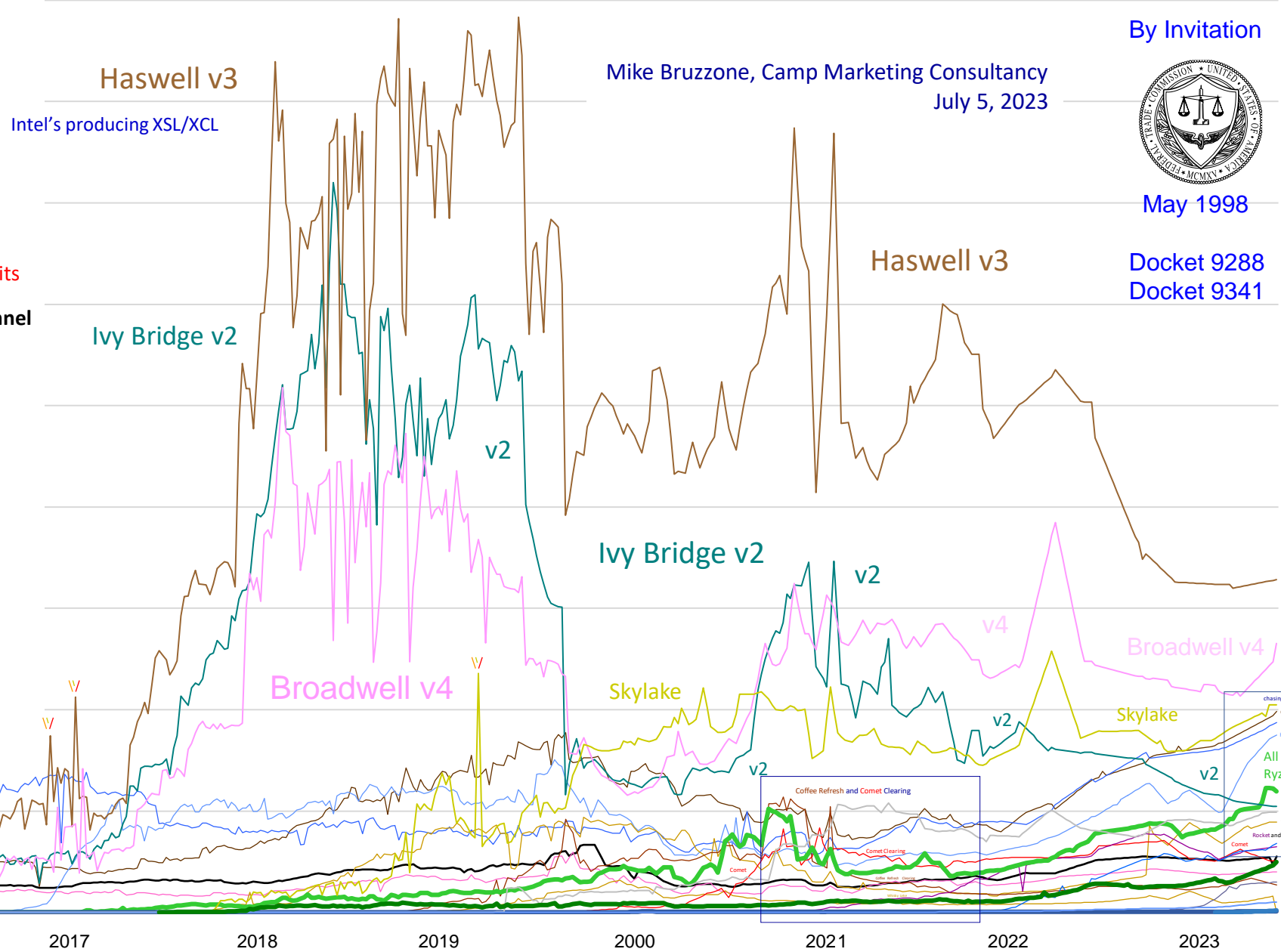
Factoring out half of Xeon volume as secondary = 3 billion units

Core Desktop and Mobile	Unit Volume	% Total Channel
Atoms	246,273,568	7.85%
Haswell	837,312,523	26.71%
Broadwell	194,816,443	6.21%
Skylake	621,788,444	19.83%
Kaby Lake	506,750,033	16.16%
Coffee Lake	239,173,448	7.63%
Whiskey / Amber	48,495,187	1.55%
Coffee Refresh	146,197,459	4.66%
Comet Lake	144,450,994	4.61%
Rocket / Tiger / Ice	89,979,489	2.87%
Alder Lake	51,429,044	1.64%
Raptor Lake	8,730,632	0.28%
IDC / Gartner said total	3,135,397,262	100.00%

These volumes are in the ball park

CM will produce an alternative view

Based on full run channel no overhang is removed as in 'all equal'.



6.23 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Intel reverses the obvious division volumes and continuing decade long thesis is DCG And CCG revenues are also reversed

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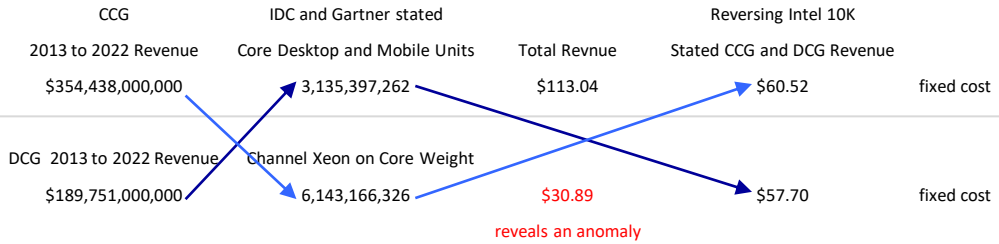
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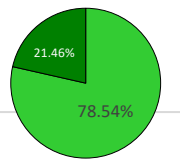
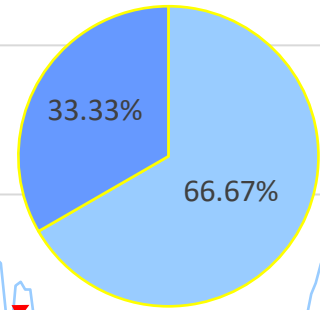
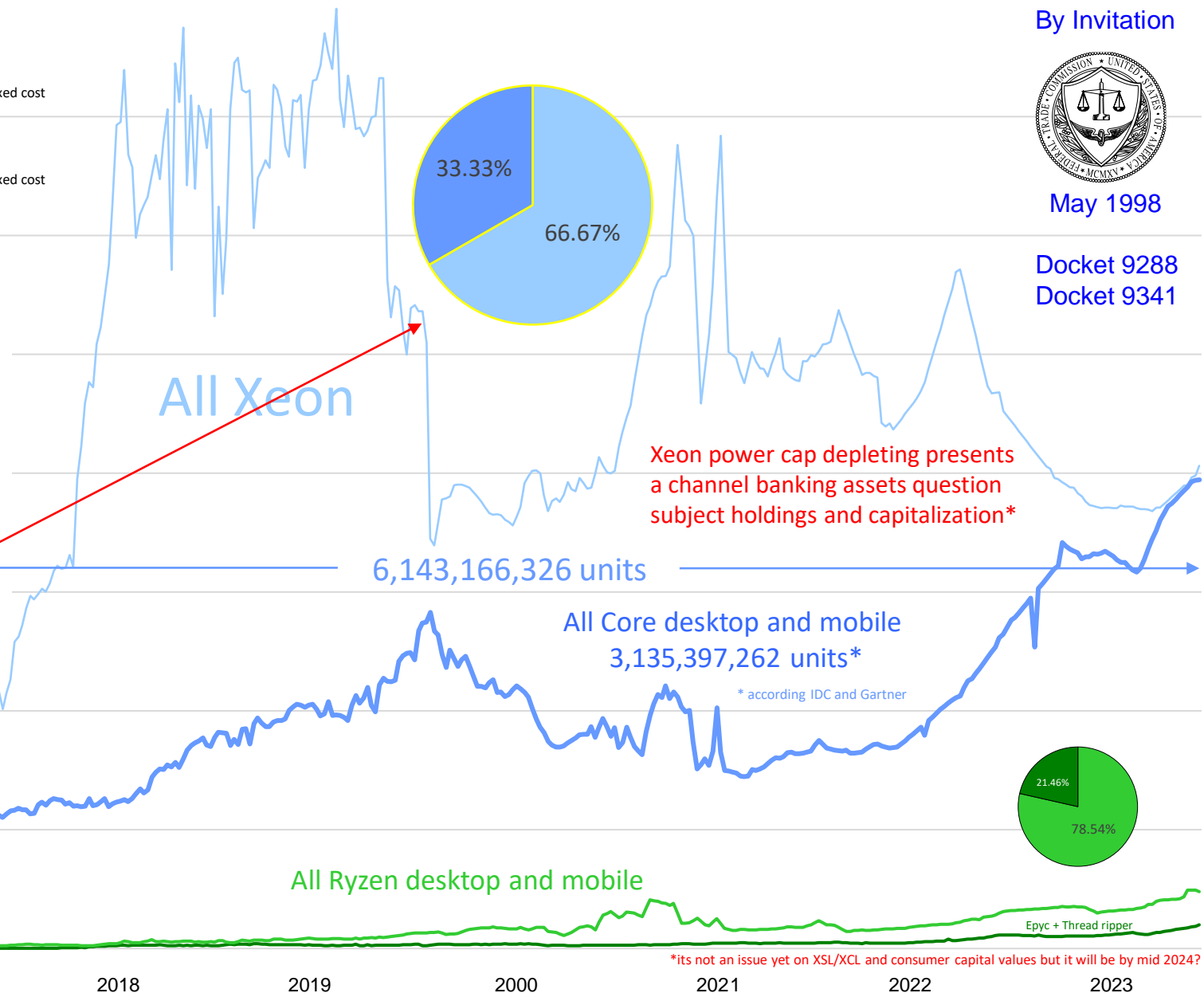
CHANNEL

SUPPLY

VOLUME



AMD Product Category	Unit Volume on Intel Volumes	% Total Channel	Unit Volume on CM Running Quarterly	% CM Tally
Epyc and Thread ripper	55,953,859	21.46%	35,404,478	7.58%
Ryzen Desktop and Mobile	223,684,162	78.54%	259,756,706	55.62%
CM PS/5 + Xbox, Valve	-	-	100,000,000	21.41%
CM dGPU	-	-	71,881,143	15.39%
	279,638,021	AMD Check	467,042,327	100.00%



Both structures show captive charge devices

Mike Bruzzone, Camp Marketing Consultancy
July 5, 2023

*its not an issue yet on XSL/XCL and consumer capital values but it will be by mid 2024?

Intel Xeon and Core alternative full run with AMD Epyc + TR and all Ryzen

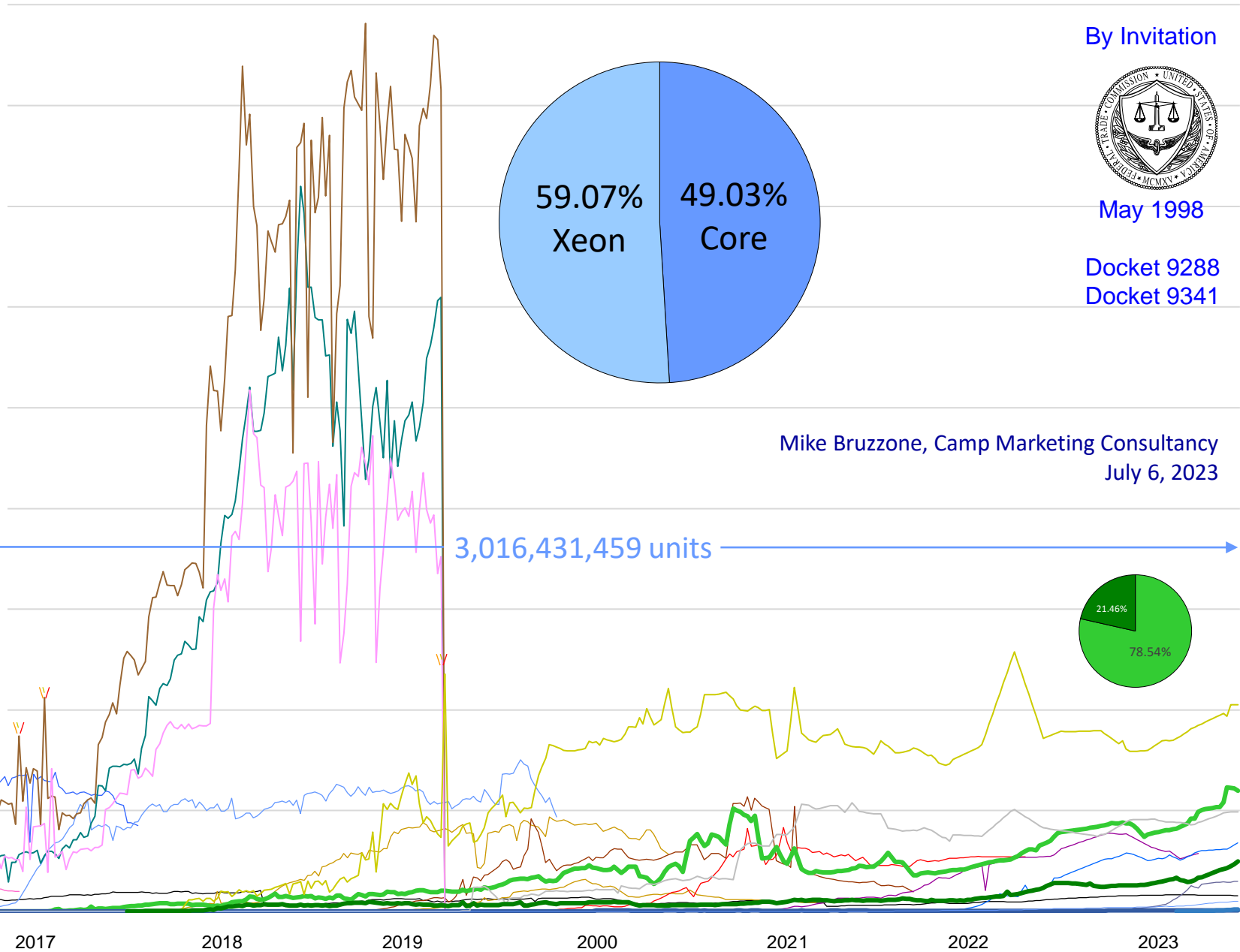
CHANNEL SUPPLY VOLUME

Xeon	Unit Volume	% Total Channel
Ivy Bridge v2	733,375,490	24.31%
Haswell v3	966,566,111	32.04%
Broadwell v4	487,744,249	16.17%
Pentium D	1,975,541	0.07%
Skylake	614,079,144	20.36%
Cascade Lakes	207,664,808	6.88%
Ice Lake	4,838,854	0.16%
Sapphire Rapids	187,261	0.01%
On Channel Data subject IDC	3,016,431,459	100.00%

Intel citing 85 M scalable produced is disinformation

Core Desktop and Mobile	Unit Volume	% Total Channel
Atoms	231,340,116	7.38%
Haswell	510,237,309	16.27%
Broadwell	80,547,028	2.57%
Skylake	382,540,074	12.20%
Kaby Lake	659,215,520	21.02%
Coffee Lake	334,764,635	10.68%
Whiskey / Amber	71,790,711	2.29%
Coffee Refresh	286,488,120	9.14%
Comet Lake	221,340,451	7.06%
Rocket / Tiger / Ice	202,404,558	6.46%
Alder Lake	132,273,838	4.22%
Raptor Lake	22,454,902	0.72%
IDC / Gartner said total	3,135,397,262	100.00%

Based on full run channel overhang is removed.



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Intel Xeon Production Laundering Theft Alternative Low

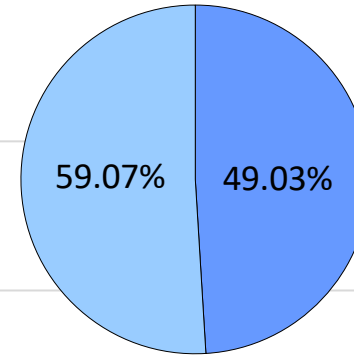
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/ 2 for hard cost loss = \$141,107,301,507



Xeon

OP Income	Year	DCG Revenue	\$1K AWP	MR = MC = P	Volume	Rev Units	on Channel Data	per Unit	Marginal Cost
\$2,300,000,000	2022	\$19,200,000,000	\$2,198.97	\$1,099.49	17,462,721			\$371.00	\$6,478,669,558.93
\$840,000,000	2021	\$22,700,000,000	\$2,198.97	\$1,099.49	20,646,030			\$225.00	\$4,645,356,689.72
\$11,100,000,000	2020	\$23,400,000,000	\$2,428.45	\$1,214.23	19,271,552			\$250.00	\$4,817,887,953.22
\$10,200,000,000	2019	\$23,500,000,000	\$2,428.45	\$1,214.23	19,353,909			\$275.00	\$5,322,324,939.78
\$11,500,000,000	2018	\$23,000,000,000	\$2,279.54	\$1,139.77	20,179,510	105,292,605	826,770,067	\$284.94	\$5,750,000,000.00
\$8,400,000,000	2017	\$19,100,000,000	\$2,279.54	\$1,139.77	16,757,767				
\$7,520,000,000	2016	\$17,236,000,000	\$1,547.59	\$773.80	22,274,633	30,653,517	487,744,249	\$193.45	\$94,353,515,211.36
\$7,847,000,000	2015	\$15,981,000,000	\$1,449.69	\$724.85	22,047,472				
\$7,380,000,000	2014	\$14,396,000,000	\$1,449.69	\$724.85	19,860,798	41,908,270	966,566,111	\$202.96	\$196,170,971,647.89
\$5,164,000,000	2013	\$11,238,000,000	\$1,336.45	\$668.23	16,817,689	16,817,689	733,375,490	\$210.57	\$154,426,877,013.53
\$72,251,000,000		\$189,751,000,000			194,672,081		3,014,455,918		\$471,965,603,014
\$371.14	\$603.58	\$974.72					\$62.95 = Fixed Low	Financial Theft	\$282,214,603,014

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July 6, 2023

All Core

Xeon production exceeds Core production volume

Xeon

Core

6.23 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Intel Xeon Production Laundering Theft on v2 / v3 / v4

End of Support and or End of Life Date

<https://www.intel.com/content/www/us/en/support/articles/000022396/processors.htm>

CHANNEL

Xeon	Unit Volume	% Total Channel
Ivy Bridge v2	1,205,691,518	22.63%
Haswell v3	2,191,476,094	41.13%
Broadwell v4	1,102,124,406	20.69%
Pentium D	1,975,541	0.04%
Skylake	614,079,144	11.53%
Cascade Lakes	207,664,808	3.90%
Ice Lake	4,838,854	0.09%
Sapphire Rapids	187,261	0.00%
On Channel Data subject IDC	5,328,037,627	100.00%

Now with highest precision by generation volumes.

SUPPLY VOLUME

Core Desktop and Mobile	Unit Volume	% Total Channel
Atoms	231,340,116	7.38%
Haswell	510,237,309	16.27%
Broadwell	80,547,028	2.57%
Skylake	382,540,074	12.20%
Kaby Lake	659,215,520	21.02%
Coffee Lake	334,764,635	10.68%
Whiskey / Amber	71,790,711	2.29%
Coffee Refresh	286,488,120	9.14%
Comet Lake	221,340,451	7.06%
Rocket / Tiger / Ice	202,404,558	6.46%
Alder Lake	132,273,838	4.22%
Raptor Lake	22,454,902	0.72%
IDC / Gartner said total	3,135,397,262	100.00%

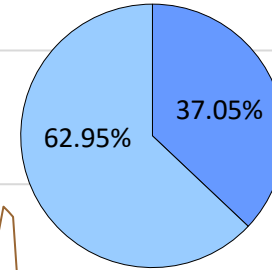
Based on full run channel Core overhang removed, Xeon on EOL.

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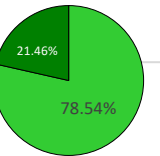


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6.23 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Intel Xeon Production Laundering Theft Alternative Analyst's Pick on Intel EOL

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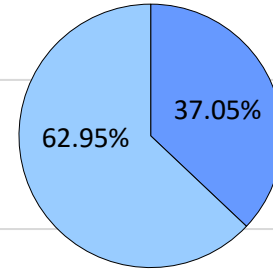
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Either a castle or twin castle

/ 2 for hard cost loss = \$374,562,413,886

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July 6, 2023



Documents the so said 20 million unit annual server market industry lie

Volume	Rev Units	Production Units on Channel Data	Marginal Cost per Unit	Marginal Cost
17,462,721			\$371.00	\$6,478,669,558.93
20,646,030			\$225.00	\$4,645,356,689.72
19,271,552			\$250.00	\$4,817,887,953.22
19,353,909			\$275.00	\$5,322,324,939.78
20,179,510	105,292,605	826,770,067	\$284.94	\$5,750,000,000.00
16,757,767	30,653,517	1,102,124,406	\$193.45	\$213,204,588,664.33
22,274,633	41,908,270	2,191,476,094	\$202.96	\$444,774,537,063.03
22,047,472	16,817,689	1,205,691,518	\$210.57	\$253,882,462,903.15
19,860,798				
16,817,689				
194,672,081		5,326,062,085		\$938,875,827,772
		\$62.95 = Fixed Low	Financial Theft	\$749,124,827,772

Based on Intel said 85 M

in reality

OP Income	Year	DCG Revenue	\$1K AWP	MR = MC = P
\$2,300,000,000	2022	\$19,200,000,000	\$2,198.97	\$1,099.49
\$840,000,000	2021	\$22,700,000,000	\$2,198.97	\$1,099.49
\$11,100,000,000	2020	\$23,400,000,000	\$2,428.45	\$1,214.23
\$10,200,000,000	2019	\$23,500,000,000	\$2,428.45	\$1,214.23
\$11,500,000,000	2018	\$23,000,000,000	\$2,279.54	\$1,139.77
\$8,400,000,000	2017	\$19,100,000,000	\$2,279.54	\$1,139.77
\$7,520,000,000	2016	\$17,236,000,000	\$1,547.59	\$773.80
\$7,847,000,000	2015	\$15,981,000,000	\$1,449.69	\$724.85
\$7,380,000,000	2014	\$14,396,000,000	\$1,449.69	\$724.85
\$5,164,000,000	2013	\$11,238,000,000	\$1,336.45	\$668.23
\$72,251,000,000		\$189,751,000,000		
\$371.14	\$603.58	\$974.72		

All Core

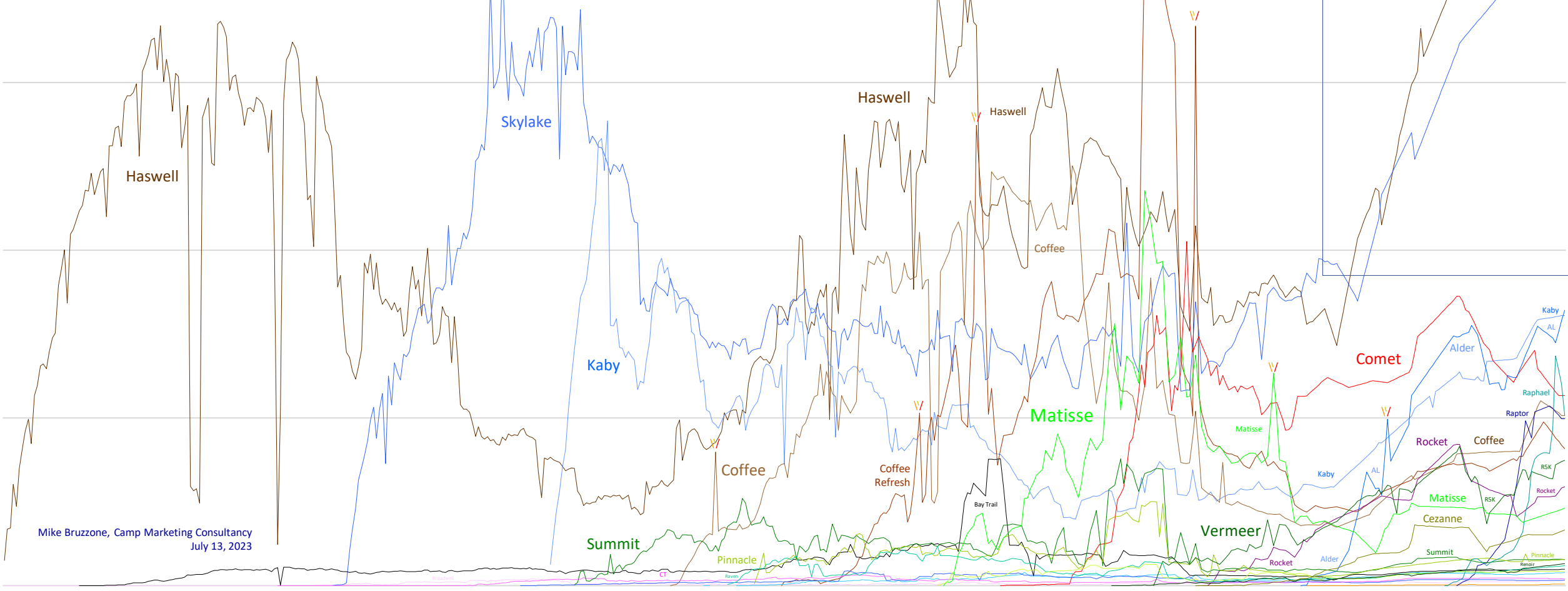
6.23 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Raptor	0.54%	55.57%	↑	Matisse Desktop	3.72%	↑	Summit Desktop	2.04%	↑
Raphael Desktop	0.43%	44.43%	↑	Renoir Desktop	0.22%	40.56%	Coffee Lake	8.53%	↑
Alder	2.37%	100.00%	58.48%	Comet Lake	5.32%	59.44%	Atom Apollo Lake	0.33%	↑
Vermeer Desktop	1.63%	41.52%	↑	Atom Gemini Lake	0.36%	100.00%	Raven Desktop	0.72%	29.62%
Cezanne Desktop	0.59%	100.00%	38.04%	Pinnacle Desktop	1.26%	100.00%	Cherry Trail Braswell	0.32%	70.38%
Rocket	1.42%	61.96%	↑	Picasso Desktop	0.41%	32.71%			100.00%
Tiger B Nuc	0.01%	100.00%	↑	Coffee Refresh	6.98%	67.29%			
						100.00%			

Desktop Today Bonus Slide

Did AMD and Intel miss most of the Haswell and Skylake PC desktop replacement opportunity?

Quarterly share matters less then long run sustaining market share across generations

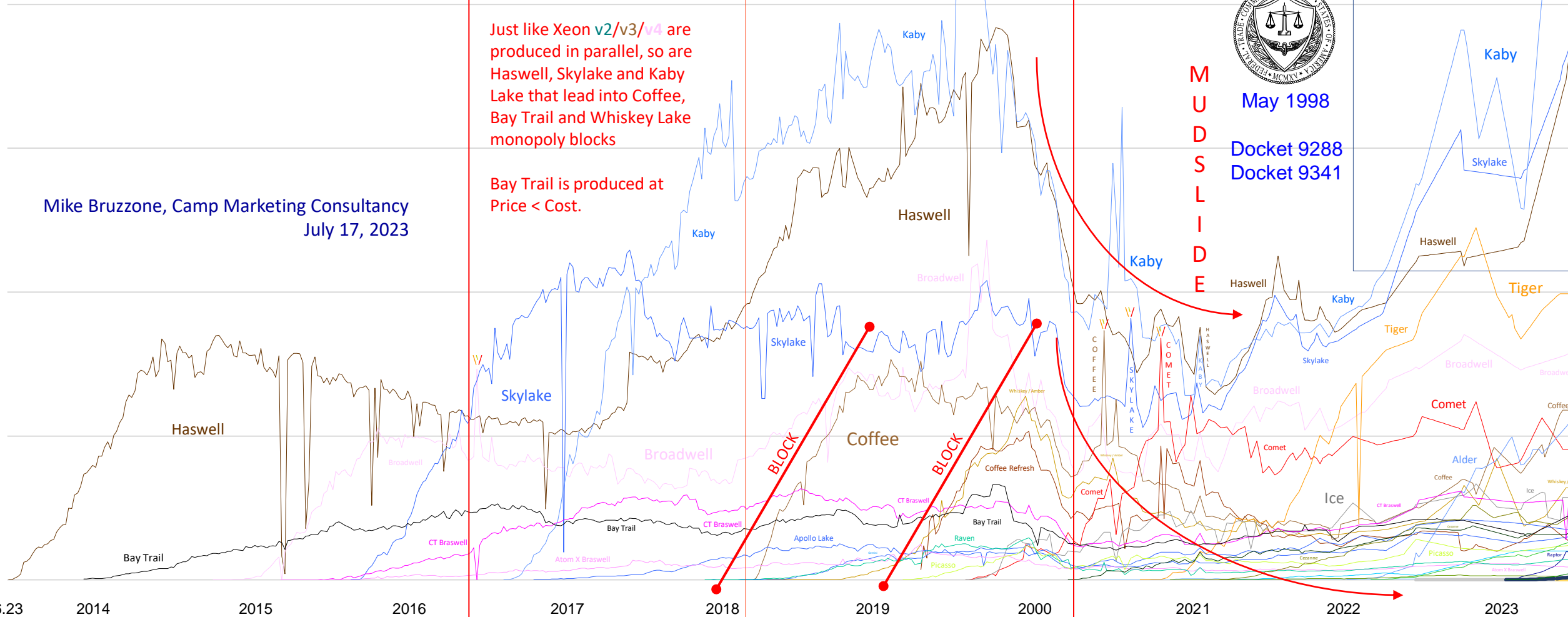


Mike Bruzzone, Camp Marketing Consultancy
July 13, 2023

Raptor Mobile	0.13%	↑	Tiger Mobile	14.53%	↑	Comet Mobile	13.70%	↑	Whiskey / Amber	10.37%	↑	Apollo Lake	5.12%	↑
All Ryzen 6K Mobile	0.04%	↑	Ice Lake Mobile	6.75%	↑	Renoir Mobile	3.18%	13.30%	Picasso Mobile	2.89%	13.26%	Coffee Lake	19.04%	87.74%
Alder Mobile	3.35%	↑	Cezanne + R3K CB	2.97%	12.45%	Gemini Lake	5.14%	86.70%	Coffee Refresh	8.74%	86.74%	Raven Mobile	2.55%	12.26%
Rembrandt + 5K CB	0.64%	13.64%	Lakefield Mobile	0.08%	87.55%			100.00%						100.00%
Tremont Mobile	0.79%	86.36%			100.00%									100.00%

Mobile Today Bonus Slide

Quarterly share matters less then long run sustaining market share across generations



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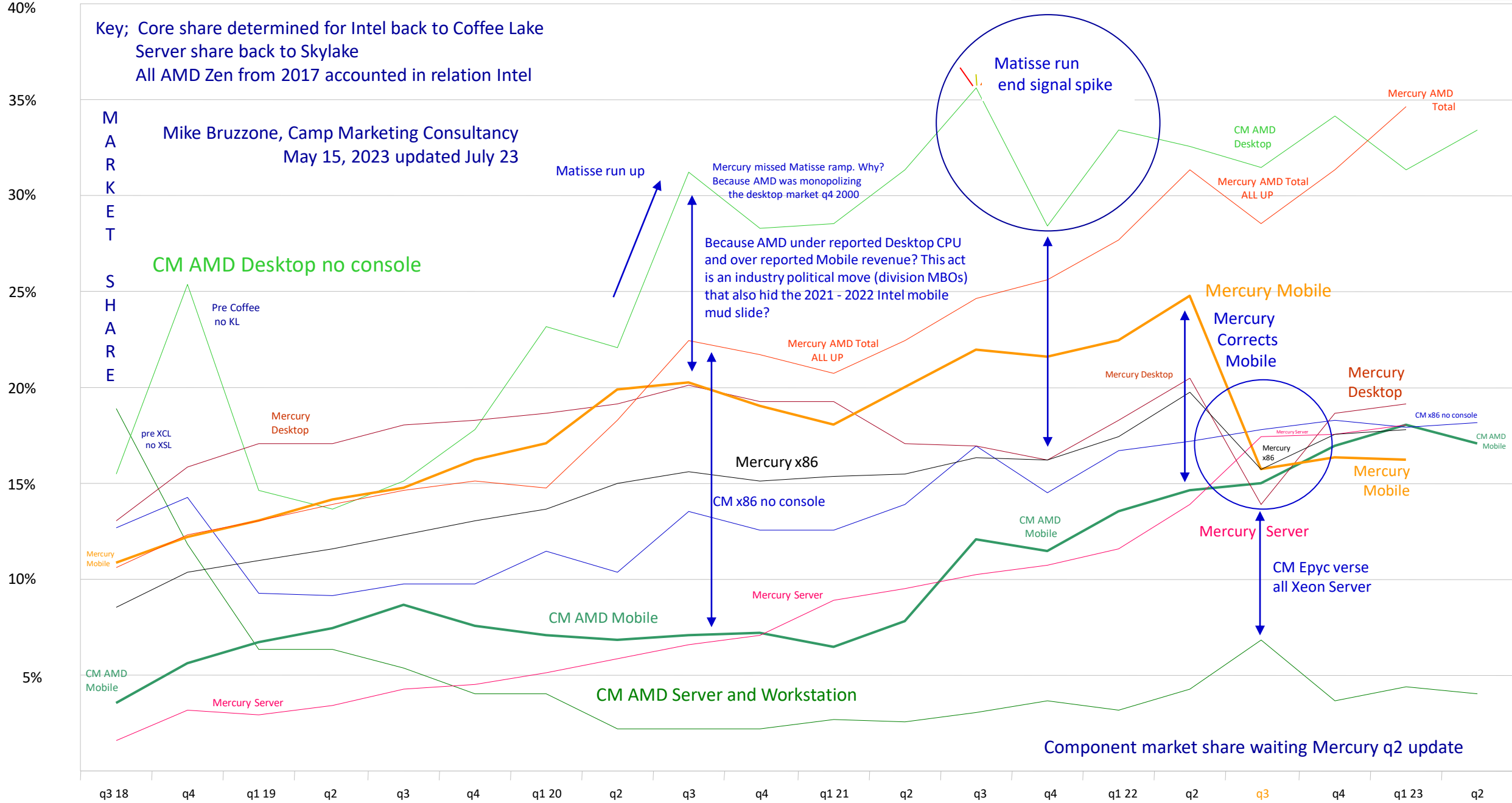


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Did AMD and Intel miss most of the Haswell and Skylake PC laptop Replacement opportunity?

Key; Core share determined for Intel back to Coffee Lake
 Server share back to Skylake
 All AMD Zen from 2017 accounted in relation Intel

Mike Bruzzone, Camp Marketing Consultancy
 May 15, 2023 updated July 23



Component market share waiting Mercury q2 update

Server today continues first break out slides prior 12 months supply by product cores and SKUs

Mike Bruzzone, Camp Marketing Consultancy
July 5, 2023

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Server no uniprocessor workstation; all SKU AMD Rome, Milan, Genoa on Intel XCL, Ice, Sapphire Rapids

By grade SKU

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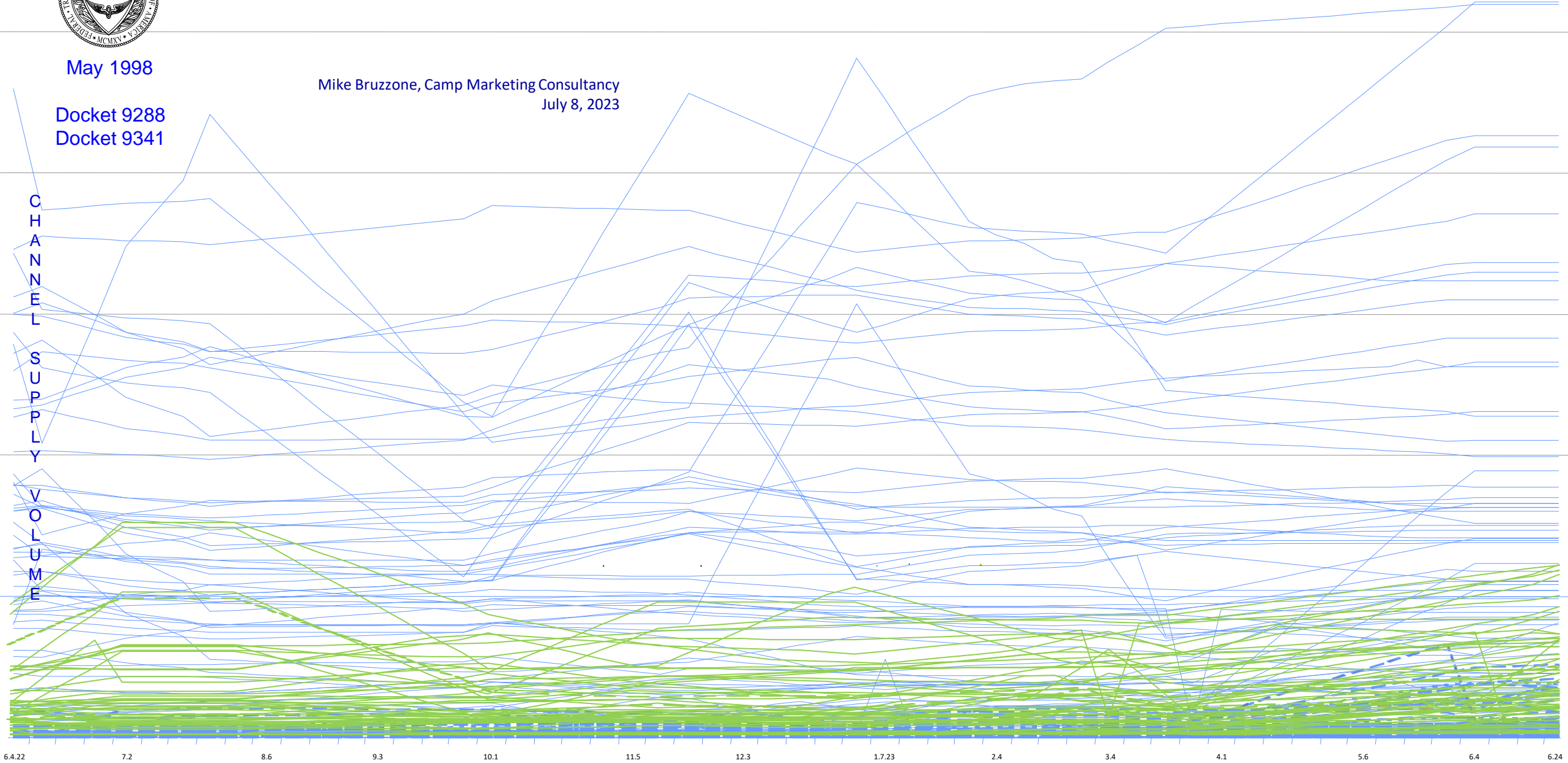
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Mike Bruzzone, Camp Marketing Consultancy
July 8, 2023

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Server no uniprocessor workstation; all SKU Intel XCL, Ice, Sapphire Rapids on AMD Rome, Milan, Genoa

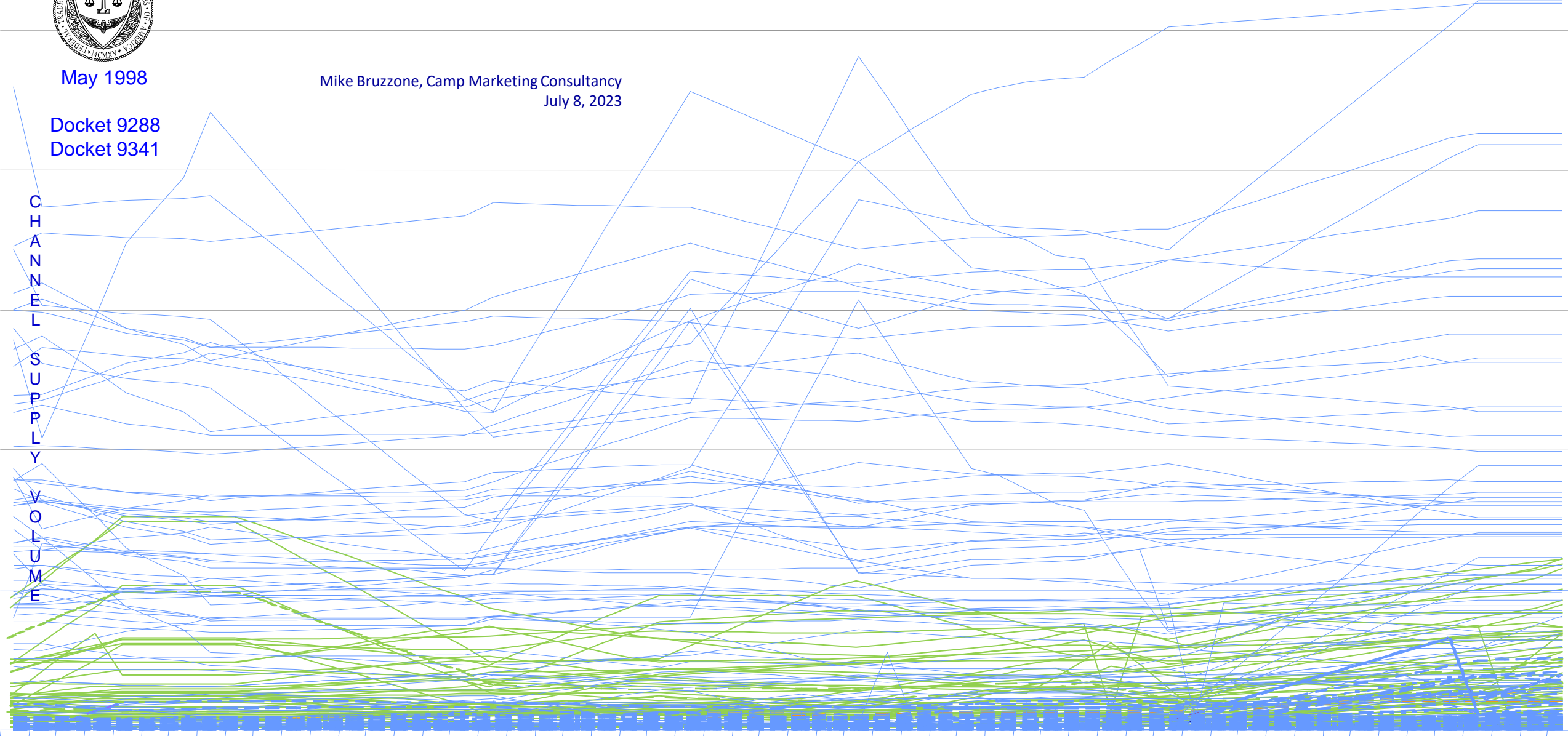
By grade SKU

Mike Bruzzone, Camp Marketing Consultancy
July 8, 2023

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Server no uniprocessor workstation; all SKU ADDS Intel XSL on XCL, Ice, Sapphire Rapids on AMD Rome, Milan, Genoa
By grade SKU

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Competitive landscape seen in glyphs?

Mike Bruzzone, Camp Marketing Consultancy
July 13, 2023

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Uniprocessor workstation only; all SKU AMD TR2K, 3K, 5K and Intel XCL, Ice, Sapphire Rapids

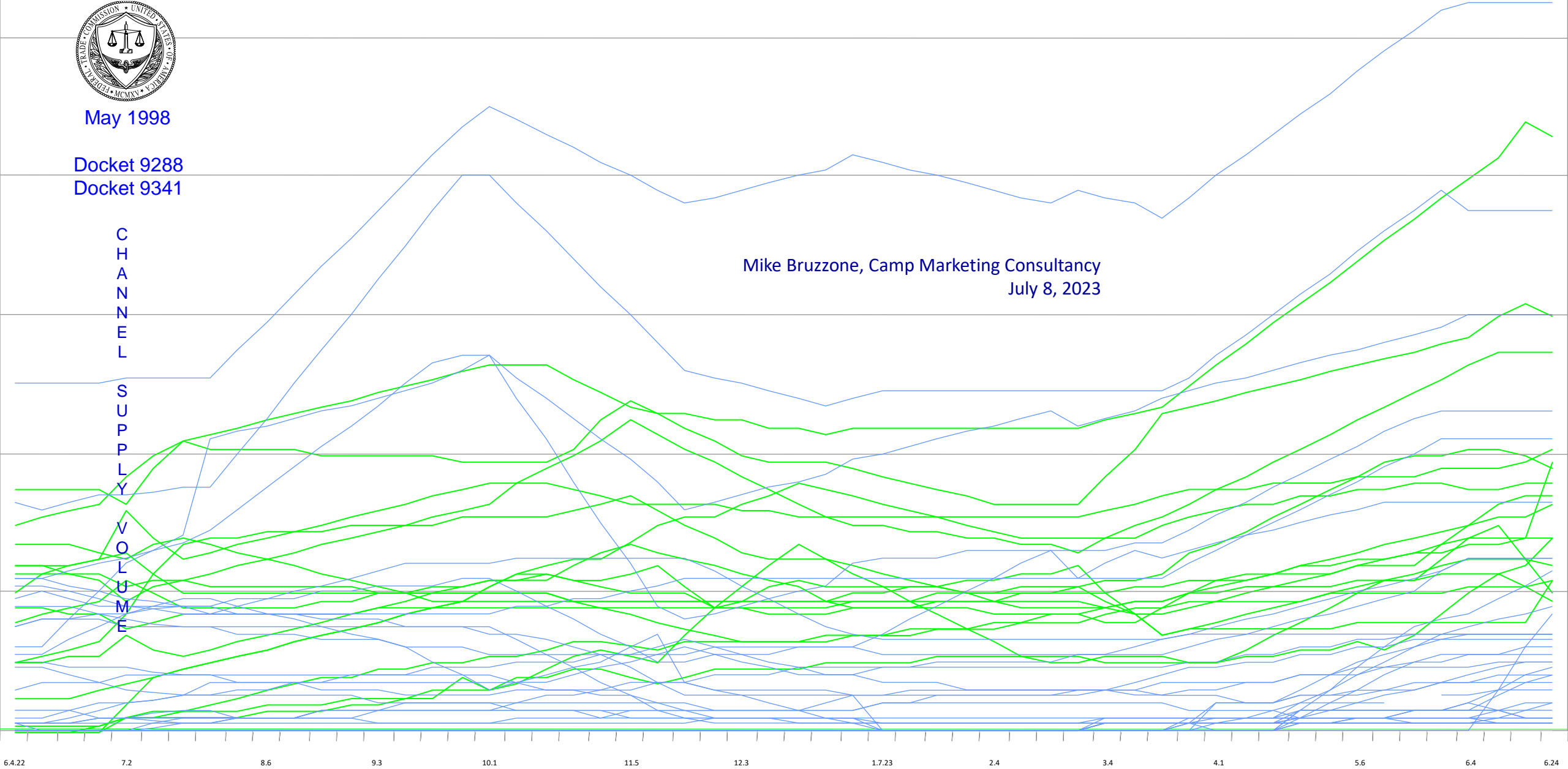
By grade SKU

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July 8, 2023

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Uniprocessor workstation only; all SKU AMD TR2K, 3K, 5K and Intel adding XSL to XCL, Ice, Sapphire Rapids

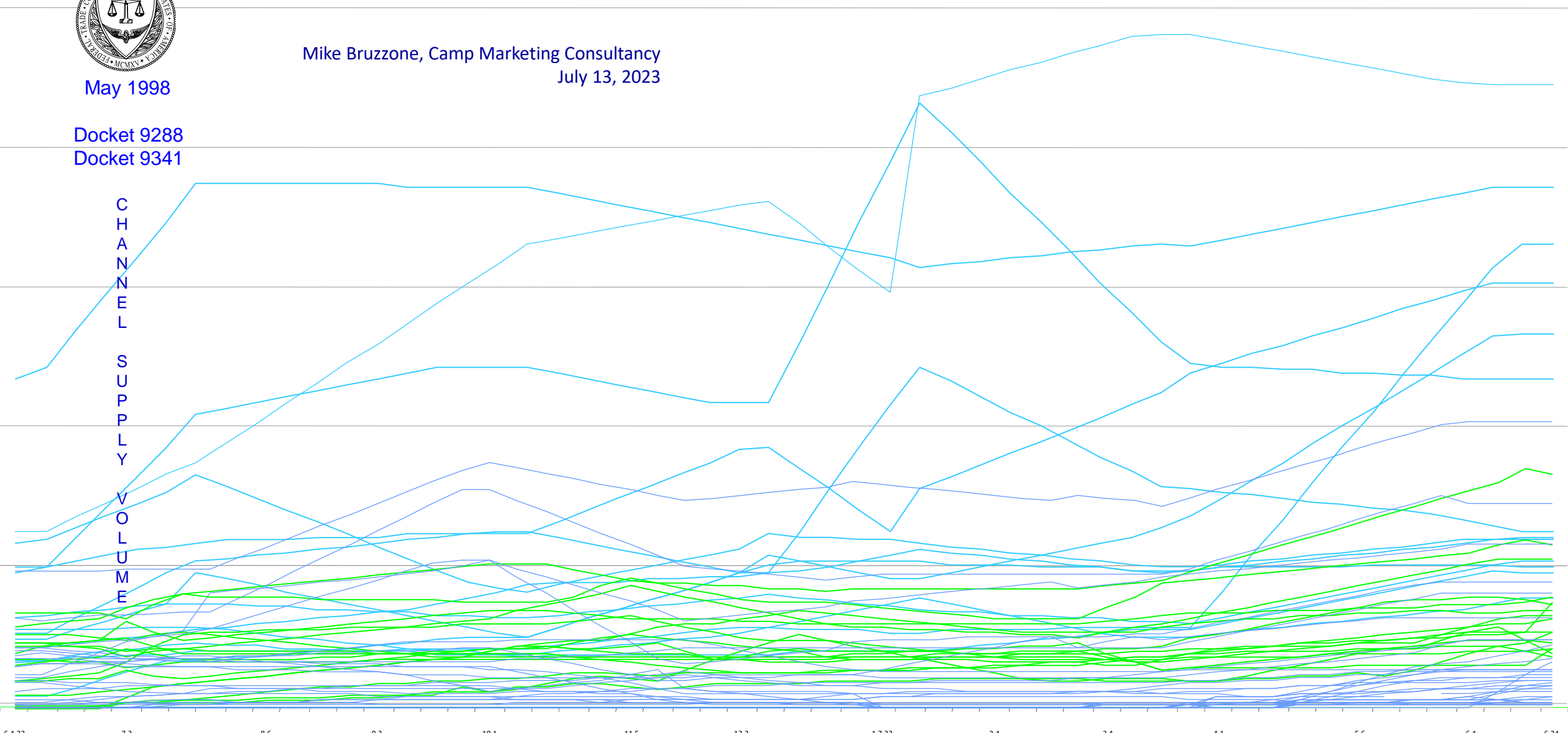
By grade SKU

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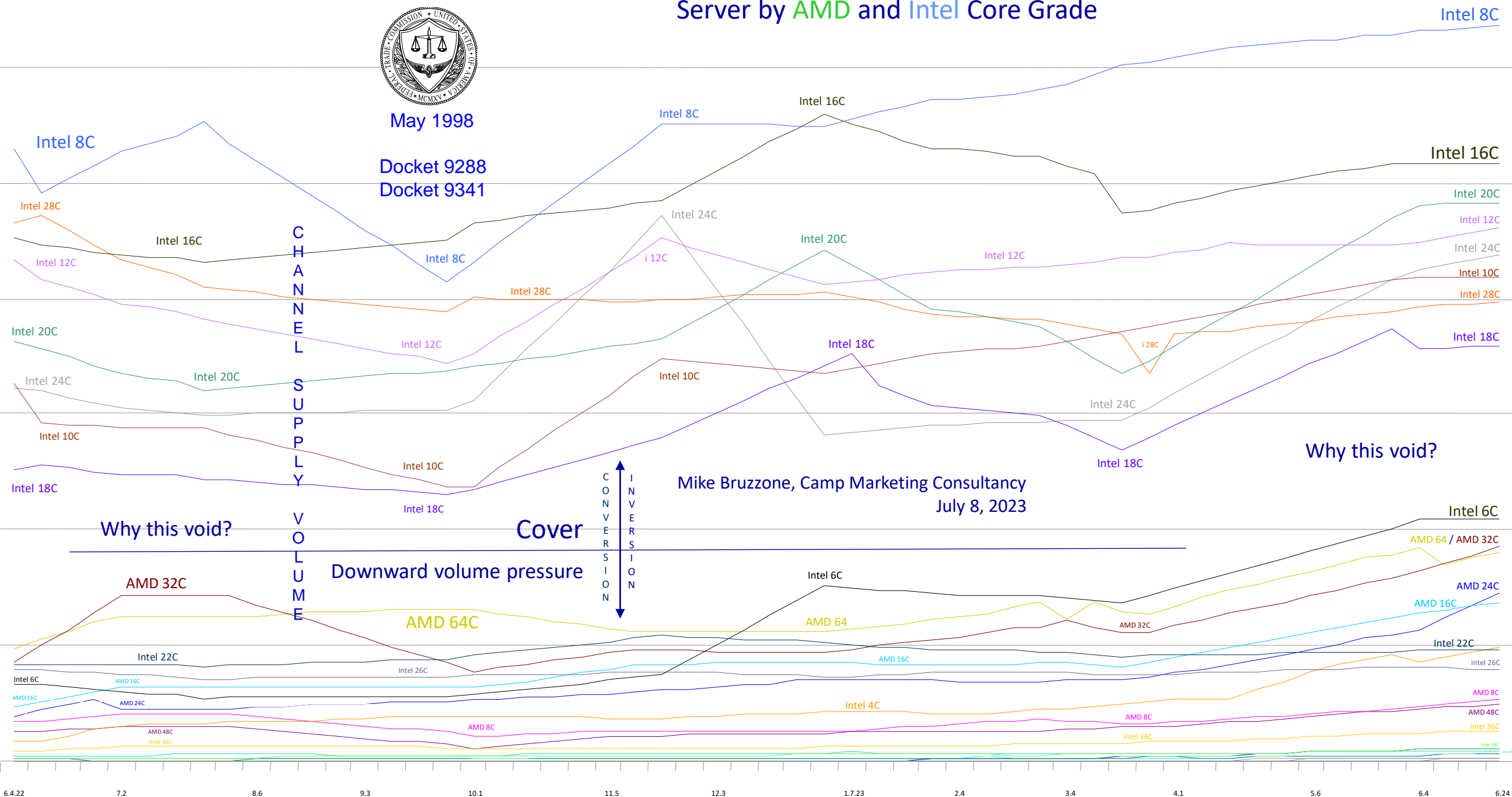
By Invitation



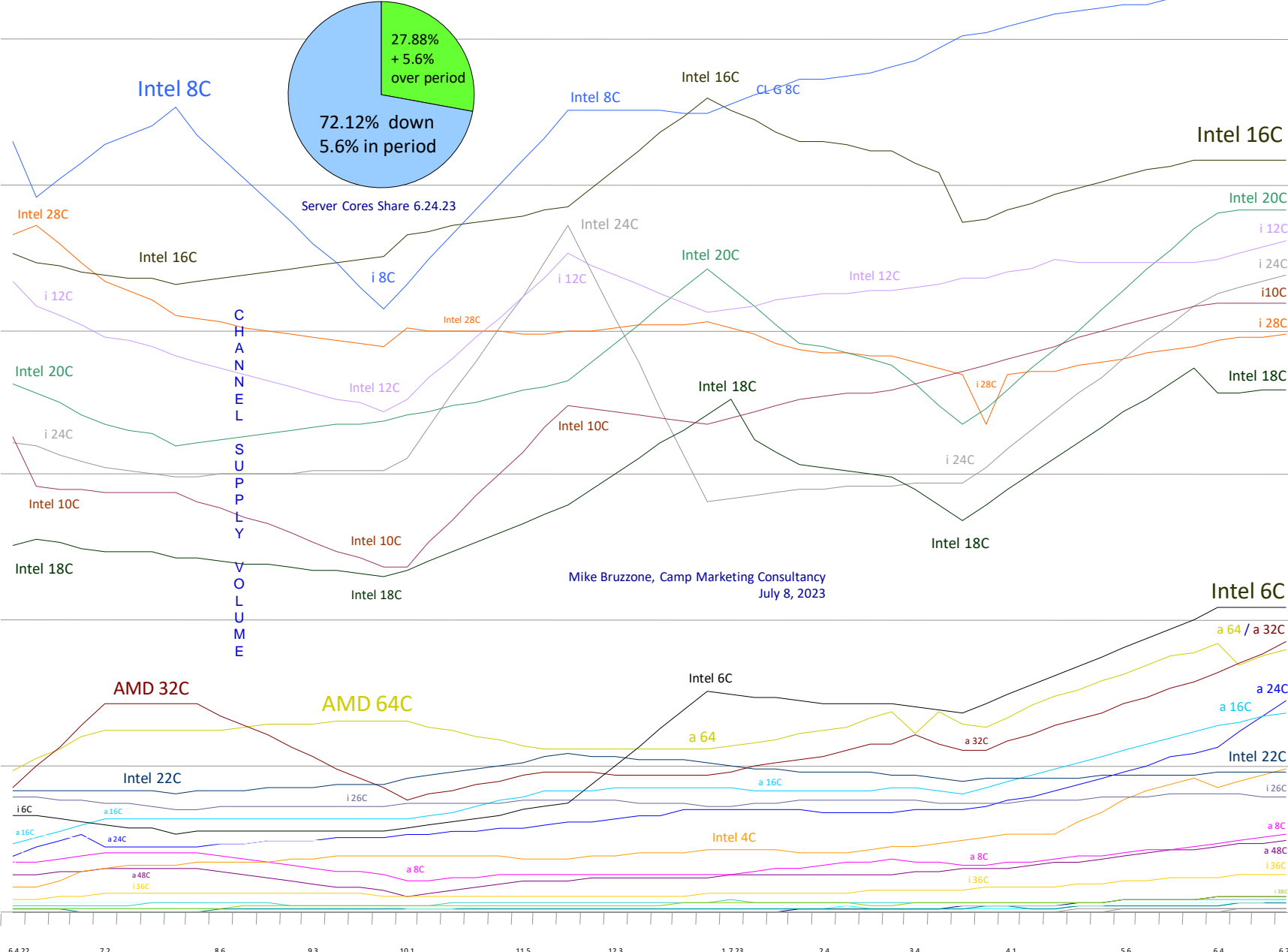
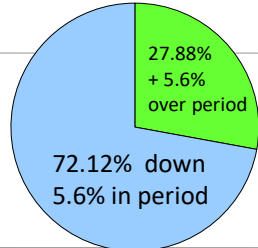
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Server by AMD and Intel Core Grade

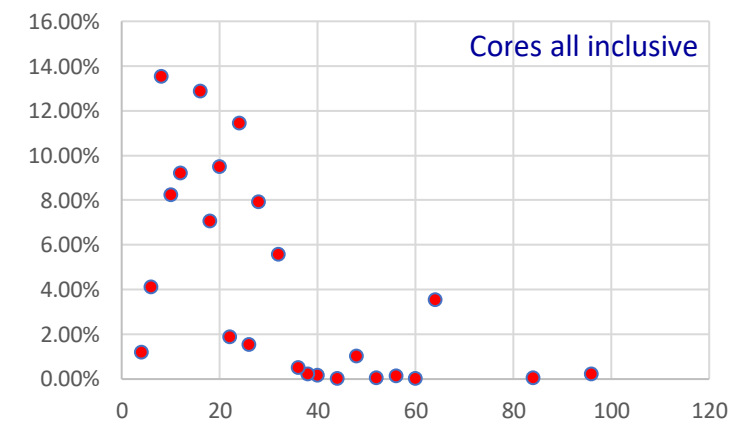


Server by AMD and Intel Core Grade



AMD Core Grade	% in Period	% 6.24.23		
96	0.06%	0.22%		
84	0.01%	0.03%		
64	3.21%	3.55%	3.27%	3.79%
56	0.08%	0.11%		
48	0.68%	0.96%	0.76%	1.07%
32	2.87%	3.66%		
28	0.07%	0.15%		
24	1.69%	2.84%	4.63%	2.99%
16	2.04%	2.71%		
12	0.11%	0.15%		
8	0.83%	1.06%	2.98%	3.92%
	11.63%	15.43%		

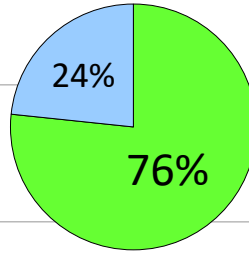
Intel Core Grade	% in Period	% 6.24.23		
60	0.00%	0.01%		
56	0.00%	0.01%		
52	0.00%	0.05%		
48	0.01%	0.04%	0.02%	0.11%
44	0.00%	0.02%		
40	0.16%	0.17%		
38	0.13%	0.22%		
36	0.35%	0.52%	0.64%	0.91%
32	1.14%	1.92%		
28	9.77%	7.79%		
26	1.86%	1.54%		
24	8.35%	8.61%	21.12%	19.86%
22	2.29%	1.88%		
20	9.30%	9.50%		
18	7.08%	7.05%	18.67%	18.44%
16	11.97%	10.17%		
12	10.17%	9.06%		
10	8.17%	8.23%		
8	13.49%	12.50%	43.81%	39.96%
6	2.79%	4.10%		
4	1.32%	1.18%	4.11%	5.28%
	88.37%	84.57%		



Uni processor workstation by AMD and Intel Core Grade

Note Intel 2P workstation are minimally 7x over uniprocessor volume and represent 9% of all Cascade Lakes on June 24, 2023

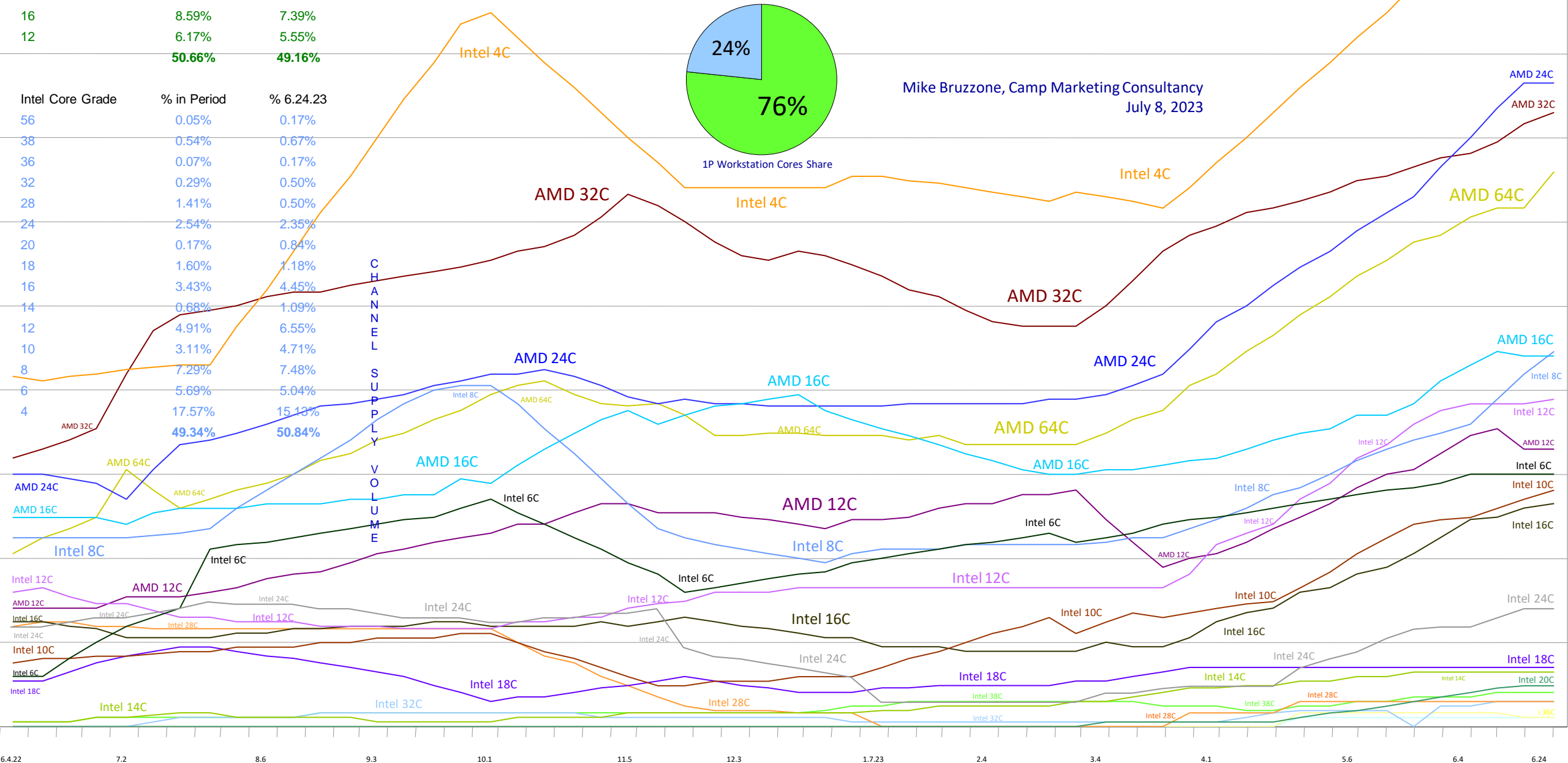
Mike Bruzzone, Camp Marketing Consultancy
July 8, 2023



AMD Core Grade	% in Period	% 6.24.23
64	10.07%	11.09%
32	14.43%	12.27%
24	11.39%	12.86%
16	8.59%	7.39%
12	6.17%	5.55%
	50.66%	49.16%

Intel Core Grade	% in Period	% 6.24.23
56	0.05%	0.17%
38	0.54%	0.67%
36	0.07%	0.17%
32	0.29%	0.50%
28	1.41%	0.50%
24	2.54%	2.35%
20	0.17%	0.84%
18	1.60%	1.18%
16	3.43%	4.45%
14	0.68%	1.09%
12	4.91%	6.55%
10	3.11%	4.71%
8	7.29%	7.48%
6	5.69%	5.04%
4	17.57%	15.13%
	49.34%	50.84%

CHANNEL SUPPLY VOLUME



Intel 4C

AMD 24C

AMD 32C

AMD 64C

AMD 16C

Intel 8C

Intel 12C

Intel 12C

Intel 6C

Intel 10C

Intel 16C

Intel 24C

Intel 16C

Intel 24C

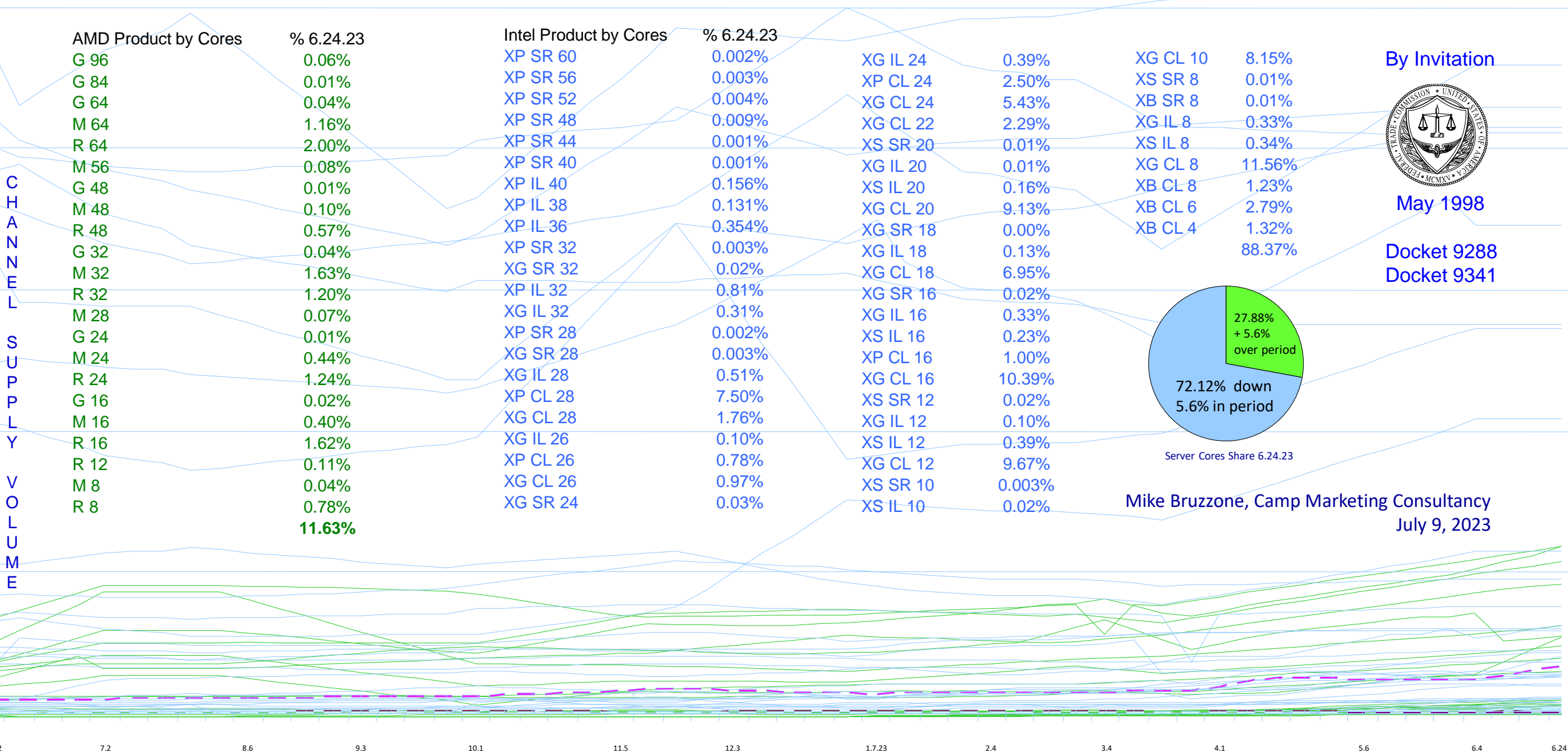
Intel 18C

Intel 20C

136C

Server no uniprocessor workstation; all SKU Intel XCL, Ice, Sapphire Rapids on AMD Rome, Milan, Genoa

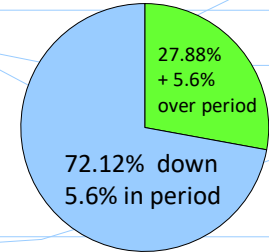
By Core grade broken out by product generation and Intel Core grade into Platinum, Gold, Silver, Bronze



AMD Product by Cores	% 6.24.23
G 96	0.06%
G 84	0.01%
G 64	0.04%
M 64	1.16%
R 64	2.00%
M 56	0.08%
G 48	0.01%
M 48	0.10%
R 48	0.57%
G 32	0.04%
M 32	1.63%
R 32	1.20%
M 28	0.07%
G 24	0.01%
M 24	0.44%
R 24	1.24%
G 16	0.02%
M 16	0.40%
R 16	1.62%
R 12	0.11%
M 8	0.04%
R 8	0.78%
Total	11.63%

Intel Product by Cores	% 6.24.23
XP SR 60	0.002%
XP SR 56	0.003%
XP SR 52	0.004%
XP SR 48	0.009%
XP SR 44	0.001%
XP SR 40	0.001%
XP IL 40	0.156%
XP IL 38	0.131%
XP IL 36	0.354%
XP SR 32	0.003%
XG SR 32	0.02%
XP IL 32	0.81%
XG IL 32	0.31%
XP SR 28	0.002%
XG SR 28	0.003%
XG IL 28	0.51%
XP CL 28	7.50%
XG CL 28	1.76%
XG IL 26	0.10%
XP CL 26	0.78%
XG CL 26	0.97%
XG SR 24	0.03%

XG IL 24	0.39%	XG CL 10	8.15%
XP CL 24	2.50%	XS SR 8	0.01%
XG CL 24	5.43%	XB SR 8	0.01%
XG CL 22	2.29%	XG IL 8	0.33%
XS SR 20	0.01%	XS IL 8	0.34%
XG IL 20	0.01%	XG CL 8	11.56%
XS IL 20	0.16%	XB CL 8	1.23%
XG CL 20	9.13%	XB CL 6	2.79%
XG SR 18	0.00%	XB CL 4	1.32%
XG IL 18	0.13%		88.37%
XG CL 18	6.95%		
XG SR 16	0.02%		
XG IL 16	0.33%		
XS IL 16	0.23%		
XP CL 16	1.00%		
XG CL 16	10.39%		
XS SR 12	0.02%		
XG IL 12	0.10%		
XS IL 12	0.39%		
XG CL 12	9.67%		
XS SR 10	0.003%		
XS IL 10	0.02%		



By Invitation



May 1998

Docket 9288

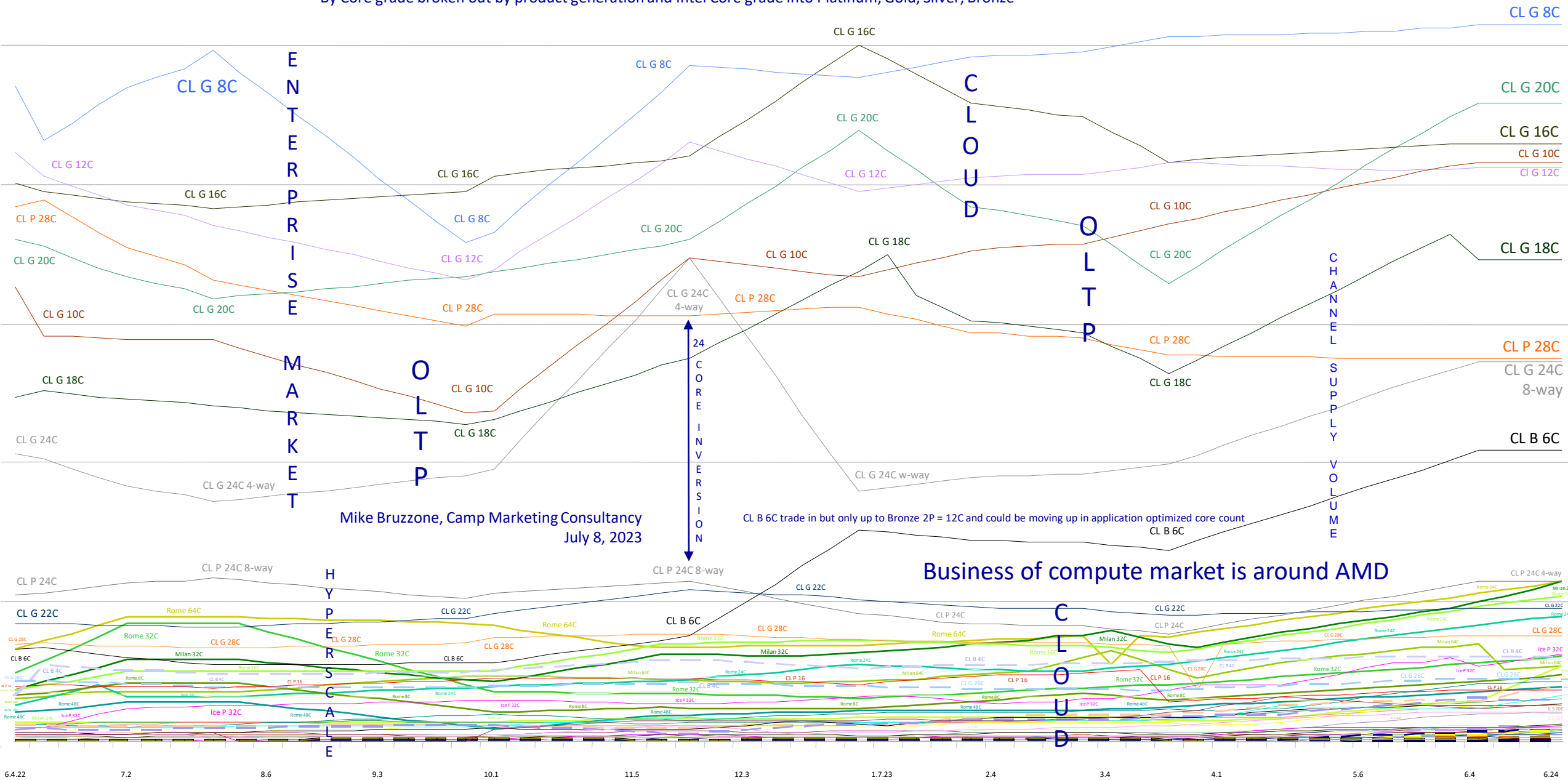
Docket 9341

Mike Bruzzone, Camp Marketing Consultancy

July 9, 2023

Server no uniprocessor workstation; all SKU Intel XCL, Ice, Sapphire Rapids on AMD Rome, Milan, Genoa

By Core grade broken out by product generation and Intel Core grade into Platinum, Gold, Silver, Bronze



Mike Bruzzone, Camp Marketing Consultancy
July 8, 2023

Business of compute market is around AMD

CL B 6C trade in but only up to Bronze 2P = 12C and could be moving up in application optimized core count

Server today continues break out slides by individual product SKUs, note in period component share;

	7.2.22	10.1.22	11.5.22	12.10.22	1.7.23	2.25.23	3.25.23	4.15.23	5.27.23	6.4.23	6.24.23	Average
Genoa, TR5K, Milan SR, Ice, RE												
AMD	42.81%	39.83%	38.68%	37.29%	36.71%	39.12%	33.32%	33.03%	31.79%	32.40%	33.12%	36.19%
Intel	57.19%	60.17%	61.32%	62.71%	63.29%	60.88%	66.68%	66.97%	68.21%	67.60%	66.88%	63.81%
Genoa, TR5K, Milan, TR3K, Rome SR, Ice, RE n/c												
AMD	79.67%	73.02%	71.23%	70.58%	69.52%	68.33%	65.48%	63.75%	60.33%	60.85%	61.27%	67.64%
Intel	20.33%	26.98%	28.77%	29.42%	30.48%	31.67%	34.52%	36.25%	39.67%	39.15%	38.73%	32.36%
Genoa, TR5K, Milan, TR3K, Rome + TR2K, Naples SR, Ice, RE + XCL												
AMD	16.62%	16.90%	14.86%	14.23%	15.01%	18.21%	16.00%	16.85%	18.51%	18.92%	19.58%	16.88%
Intel	83.38%	83.10%	85.14%	85.77%	84.99%	81.79%	84.00%	83.15%	81.49%	81.08%	80.42%	83.12%
Genoa, TR5K, Milan, TR3K, Rome, TR2K, Naples SR, Ice RE, XCL + XSL												
AMD	6.05%	5.92%	5.81%	5.87%	6.17%	7.32%	6.10%	6.61%	7.59%	7.77%	7.93%	6.65%
Intel	93.95%	94.08%	94.19%	94.13%	93.83%	92.68%	93.90%	93.39%	92.41%	92.23%	92.07%	93.35%
Genoa, TR5K, Milan, TR3K, Rome, TR2K, Naples SR, Ice RE, XCL, XSL + CRE, CLE, E3 v6, E3 v5, BW												
AMD	3.15%	3.14%	3.09%	3.12%	3.31%	4.02%	3.36%	3.66%	4.15%	4.24%	4.29%	3.59%
Intel	96.85%	96.86%	96.91%	96.88%	96.69%	95.98%	96.64%	96.34%	95.85%	95.76%	95.71%	96.41%
Genoa, TR5K, Milan, TR3K, Rome, TR2K, Naples SR, Ice RE, XCL, XSL, CRE, CLE, E3 v6, E3 v5, BW + HW												
AMD	1.65%	1.83%	1.82%	1.87%	2.00%	2.43%	2.04%	2.27%	2.66%	2.73%	2.80%	2.19%
Intel	98.35%	98.17%	98.18%	98.13%	98.00%	97.57%	97.96%	97.73%	97.34%	97.27%	97.20%	97.81%
Genoa, TR5K, Milan, TR3K, Rome, TR2K, Naples SR, Ice RE, XCL, XSL, CRE, CLE, E3 v6, E3 v5, BW, HW + IB												
AMD	1.43%	1.56%	1.57%	1.62%	1.74%	2.14%	1.81%	2.02%	2.39%	2.45%	2.53%	1.93%
Intel	98.57%	98.44%	98.43%	98.38%	98.26%	97.86%	98.19%	97.98%	97.61%	97.55%	97.47%	98.07%

By Invitation



May 1998

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Docket 9341

Current Epyc and Xeon Production Generation run to date
AMD Genoa and Intel Sapphire Rapids by grade SKU

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Mike Bruzzzone, Camp Marketing Consultancy
July 18, 2023

G 9654 96C

SR S 4410Y 12C

G 9554P 64C

SR S 4416+ 20C

G 9334 32C

SR W 2425 6C

G 9554P 64C

G 9554 64C

G 9554 64C

G 9534 64C

SR W 2435 8C

G 9654P 64C

G 9554 32C

SR G 5415+ 8C

SR G 5418Y 24C

SR G 5411N 24C

SR G 5411N 24C

G 9554 64C

SR G 5415S 16C

SR P 8468 48C

SR W 2405X 24C

SR W 2465X 10C

G 9124 16C

SR W 2455X 12C

SR 8490H 60C

SR W 3425 12C

SR G 6421N 32C

G 9554P 64C

SR P 8480+ 56C

SR W 3475X 36C

G 9334 32C

SR G 6414U 20C

SR G 6416H 18C

G 9334 32C

G 9334 32C

SR G 6414U 20C

G 9554 64C

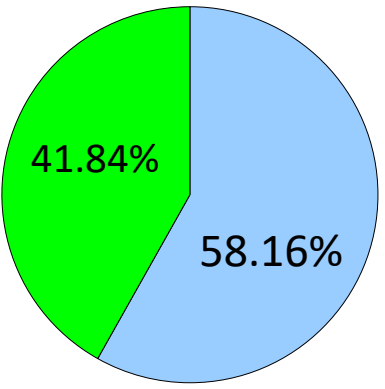


Intel SKU	Cores	% in Period
XMAX 9470	52	0.01%
XMAX 9468	48	0.07%
XP 8490H	60	0.65%
XP 8480+	56	0.70%
XP 8470Q	52	0.53%
XP 8470N	52	0.47%
XP 8470	52	0.18%
XP 8469C	48	0.03%
XP 8468V	48	0.56%
XP 8461V	48	0.73%
XP 8468H	48	0.43%
XP 8468	48	0.80%
XP 8462Y+	32	0.27%
XP 8460Y+	40	0.18%
XP 8458P	44	0.36%
XP 8454H	32	0.43%
XP 8450H	28	0.43%
		Platinum 6.83%
XG 6454S	32	0.43%
XG 6448Y	32	0.49%
XG 6448H	32	0.43%
XG 6444Y	16	0.22%
XG 6442Y	24	0.55%
XG 6438Y+	32	0.42%
XG 6438N	32	0.37%
XG 6438M	32	0.10%
XG 6434	8	0.31%
XG 6430	32	1.11%
XG 6426Y	16	1.70%
XG 6421N	32	1.66%
XG 6418H	24	0.43%
XG 6416H	18	0.46%
XG 6414U	32	0.42%
XG 5420+	28	0.87%
XG 5418Y	24	2.68%
XG 5418N	24	1.62%
XG 5416S	16	2.19%
XG 5415+	8	2.82%
XG 5412U	24	0.25%
XG 5411N	24	2.18%
		Gold 21.72%
XS 4416+	20	2.46%
XS 4410Y	12	4.09%
XS 4410T	10	0.92%
XB 3408U	8	1.76%
		Silver 9.24%
W9 3495X	56	0.39%
W9 3475X	36	0.64%
W7 3465X	28	0.58%
W7 3455	24	0.55%
W5 3435X	16	0.95%
W5 3425	12	0.65%
W5 3423	12	0.04%
W7 2495X	24	1.97%
W7 2475X	20	1.50%
W5 2465X	16	1.65%
W5 2455X	12	2.40%
W5 2445X	12	0.31%
W5 2445	10	3.25%
W5 2435	8	1.41%
W3 2425	6	2.99%
W3 2423	6	1.10%
		W 20.37%
		58.16%

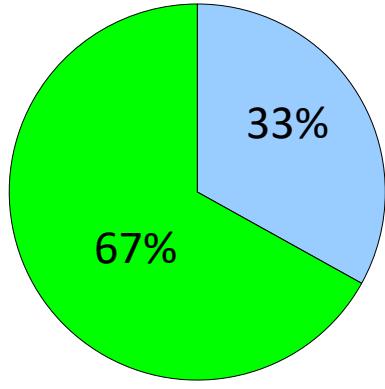
AMD Genoa and Intel Sapphire Rapids by grade SKU

Mike Bruzzone, Camp Marketing Consultancy
July 18, 2023

AMD SKU	Cores	% in Period
G 9754	128	0.09%
G 9654	96	9.06%
G 9654P	96	2.97%
G 9634	84	1.79%
G 9554	64	4.64%
G 9554P	64	3.22%
G9535	64	2.24%
G 9474F	48	0.52%
G 9454	48	0.95%
G 9454P	48	0.59%
G 9374F	32	1.79%
G 9354	32	3.40%
G 9354P	32	1.41%
G 9334	32	3.19%
G 9274F	24	1.19%
G 9254	24	0.46%
G 9224	24	0.62%
G 9174F	16	0.53%
G 9124	16	3.19%
		All AMD 41.84%



In period component share



In period cores share

By Invitation

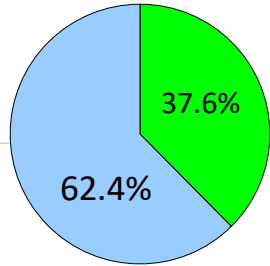


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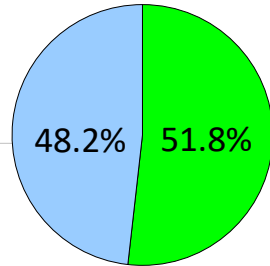
Docket 9288

Docket 9341

Primary Epyc and Xeon Production Generation run to date AMD Milan and Intel Ice Lake by grade SKU



Components



Cores

Mike Bruzzone, Camp Marketing Consultancy
July 22, 2023

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1.7.23 2.4 3.4 4.1 5.6 6.4 7.2 7.15

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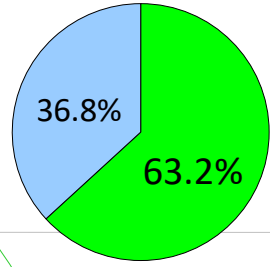
By Invitation

Secondary Epyc and Primary Xeon Production Generation run to date AMD Rome and Intel Ice Lake by grade SKU

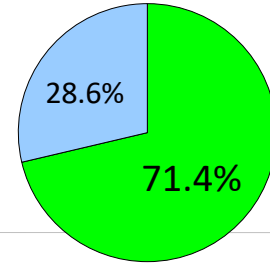


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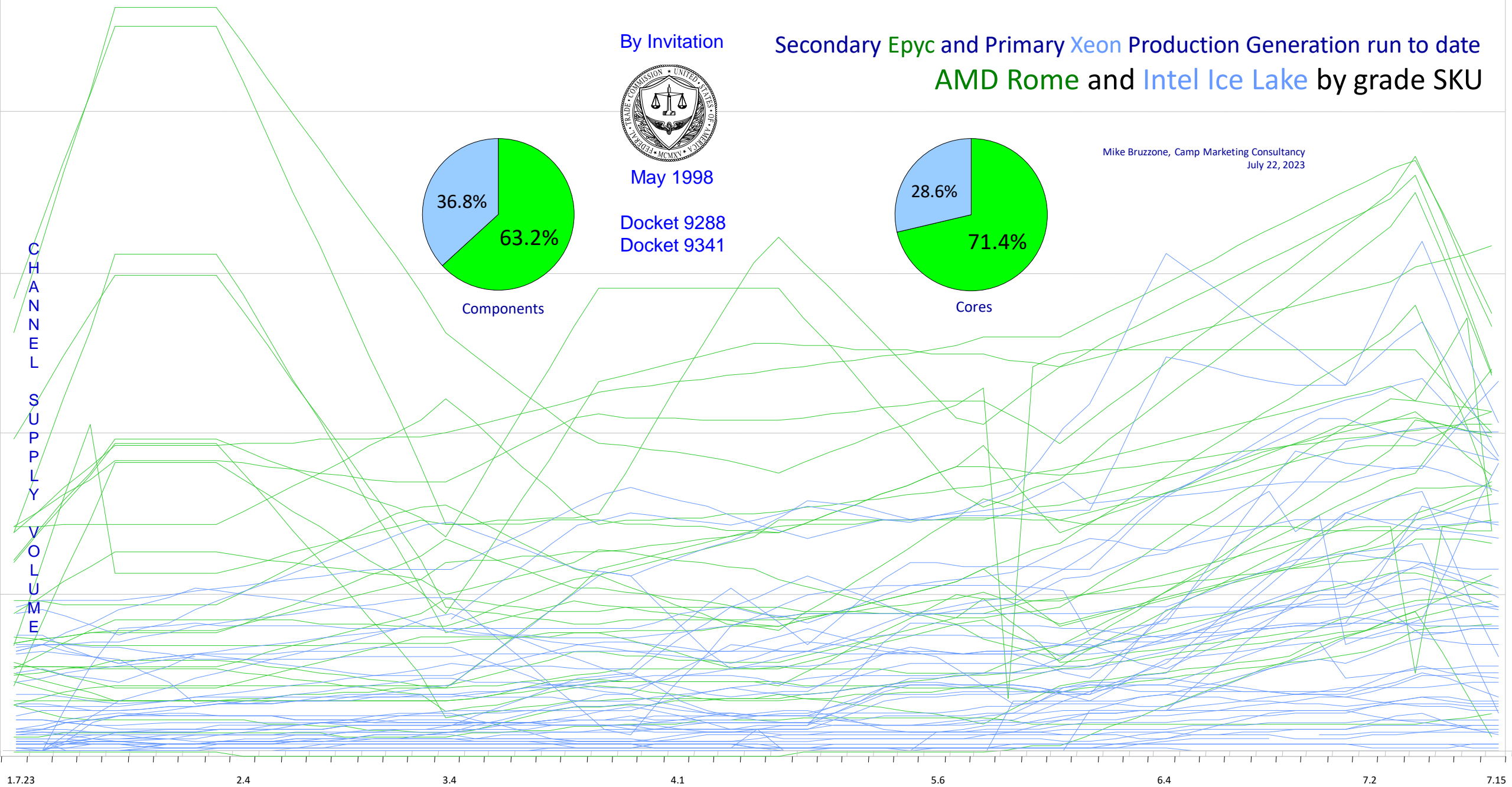


Components



Cores

Mike Bruzzone, Camp Marketing Consultancy
July 22, 2023



1.7.23 2.4 3.4 4.1 5.6 6.4 7.2 7.15

CHANNEL SUPPLY VOLUME

By Invitation

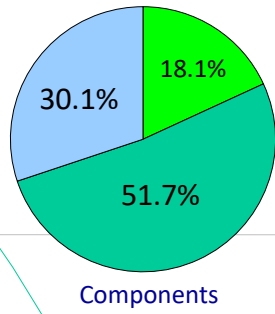


May 1998

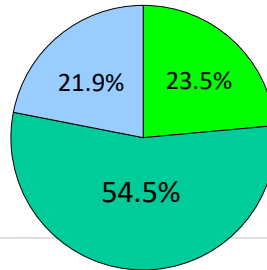
Docket 9288
Docket 9341

AMD Rome + Milan and Intel Ice Lake by grade SKU

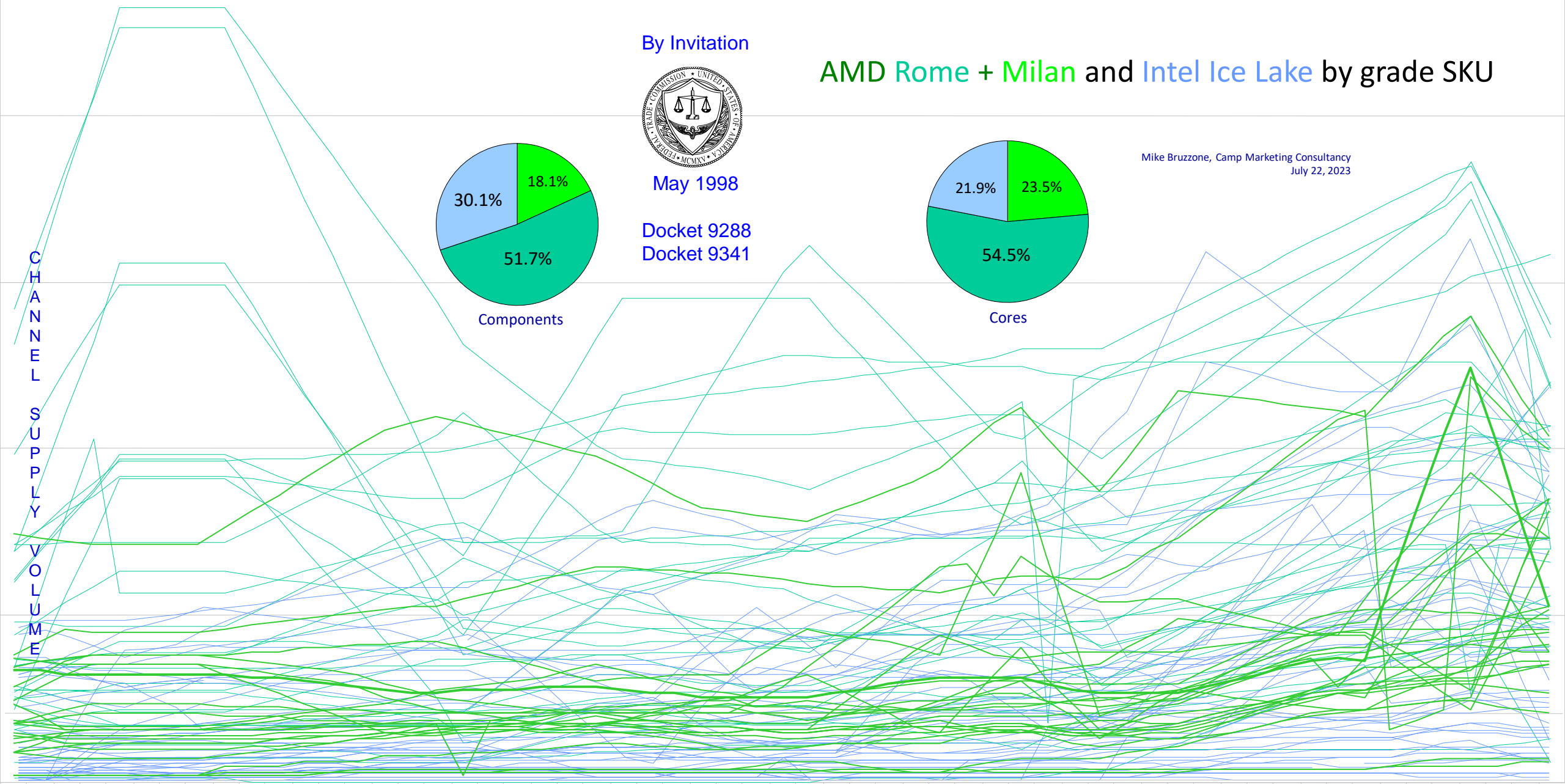
Mike Bruzzone, Camp Marketing Consultancy
July 22, 2023



Components



Cores



1.7.23 2.4 3.4 4.1 5.6 6.4 7.2 7.15

AMD SKU	Cores	% in Period
R 7V13	64	0.22%
R 7V12	64	0.27%
R 7H12	64	2.09%
R 7742	64	2.55%
R 7662	64	1.73%
R 7702	64	3.88%
R 7702P	64	1.24%
R 7K62	48	0.55%
R 7642	48	1.58%
R 7552	48	1.37%
R 7542	32	3.19%
R 7532	32	3.21%
R 7502	32	2.41%
R 7502P	32	1.46%
R 7452	32	3.23%
R 7F72	24	1.56%
R 7402	24	3.05%
R 7402P	24	1.76%
R 7352	24	1.27%
R 7F52	16	0.91%
R 7302	16	3.23%
R7302P	16	2.01%
R7282	16	3.55%
R7272	12	0.69%
R7532	8	0.91%
R 7262	8	2.04%
R 7252	8	1.04%
R 7232P	8	0.74%
M 7773X	64	0.64%
M 7763	64	1.79%
M 7742	64	2.82%
M 7713	64	1.14%
M 7713P	64	0.76%
M 7663	56	0.49%
M 7643	48	0.62%
M 7573X	32	0.18%
M 7543	32	1.24%
M 7543P	32	0.61%
M 75F3	32	0.66%
M 7513	32	0.85%
M 7453	28	0.48%
M 7473X	24	0.04%
M 74F3	24	0.50%
M 7443	24	0.60%
M 7443P	24	1.01%
M 7413	24	0.78%
M 7373X	16	0.05%
M 763F3	16	0.47%
M 7343	16	0.46%
M 7313	16	0.87%
M 7313P	16	0.76%
M 72F3	8	0.31%
		All AMD
		69.88%

AMD Rome and Milan and Intel Ice Lake by grade SKU

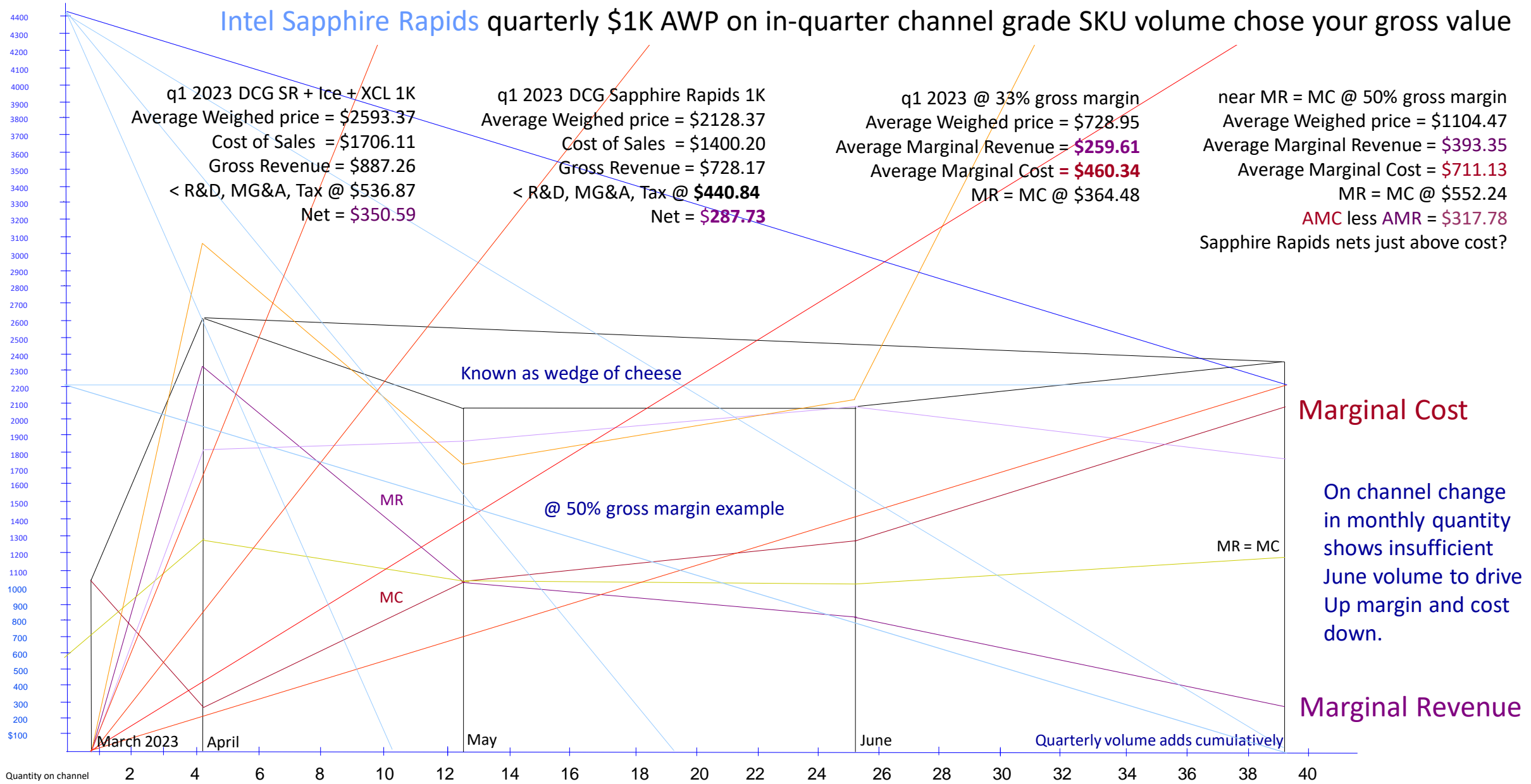
Mike Bruzzone, Camp Marketing Consultancy
July 22, 2023

Intel SKU	Cores	% in Period
IP 8380	40	0.93%
IP 8368	38	0.66%
IP 8368Q	38	0.16%
IP 8360Y	36	1.33%
IP 8352V	36	0.47%
IP 8351N	36	0.37%
IP 8375C	32	1.00%
IP 8362	32	0.38%
IP 8358P	32	0.48%
IP 8358P	32	1.24%
IP 8350C	32	0.15%
IP 8352Y	32	1.07%
IP 8352S	32	0.41%
IP 8352M	32	0.24%
IG 6338N	32	0.35%
IG 6338N	32	1.48%
IG 6314U	32	0.12%
IG 6348	28	0.69%
IG 6330	28	2.12%
IG 6330N	28	0.28%
IG 5320	26	0.63%
IG 5318Y	24	0.65%
IG 6338T	24	0.01%
IG 6336Y	24	0.48%
IG 6342	24	1.05%
IG 6312U	24	0.16%
IG 5318N	24	0.10%
IG 5318S	24	0.01%
IG 5320T	20	0.05%
IG 6354	18	0.80%
IG 6346	16	0.70%
IG 6326	16	1.36%
IG 5317	12	0.61%
IG 6334	8	0.66%
IG 5315Y	8	1.43%
IS 4316	20	1.02%
IS 4314	16	1.45%
IS 4310	12	2.35%
IS 4310T	10	0.13%
IS 4309Y	8	2.08%
IW 3375	38	0.13%
IW 3365	32	0.07%
IW 3345	24	0.18%
IW 3335	16	0.05%
IW 3323	12	0.05%
		Ice Lake
		30.12%

Server today continues with production economic component cost : price / margin assessment

Mike Bruzzone, Camp Marketing Consultancy
July 22, 2023

Intel Sapphire Rapids quarterly \$1K AWP on in-quarter channel grade SKU volume chose your gross value



q1 2023 DCG SR + Ice + XCL 1K
 Average Weighed price = \$2593.37
 Cost of Sales = \$1706.11
 Gross Revenue = \$887.26
 < R&D, MG&A, Tax @ \$536.87
 Net = \$350.59

q1 2023 DCG Sapphire Rapids 1K
 Average Weighed price = \$2128.37
 Cost of Sales = \$1400.20
 Gross Revenue = \$728.17
 < R&D, MG&A, Tax @ \$440.84
 Net = \$287.73

q1 2023 @ 33% gross margin
 Average Weighed price = \$728.95
 Average Marginal Revenue = \$259.61
 Average Marginal Cost = \$460.34
 MR = MC @ \$364.48

near MR = MC @ 50% gross margin
 Average Weighed price = \$1104.47
 Average Marginal Revenue = \$393.35
 Average Marginal Cost = \$711.13
 MR = MC @ \$552.24
 AMC less AMR = \$317.78
 Sapphire Rapids nets just above cost?

Known as wedge of cheese

@ 50% gross margin example

MR = MC

Marginal Cost

On channel change in monthly quantity shows insufficient June volume to drive Up margin and cost down.

Marginal Revenue

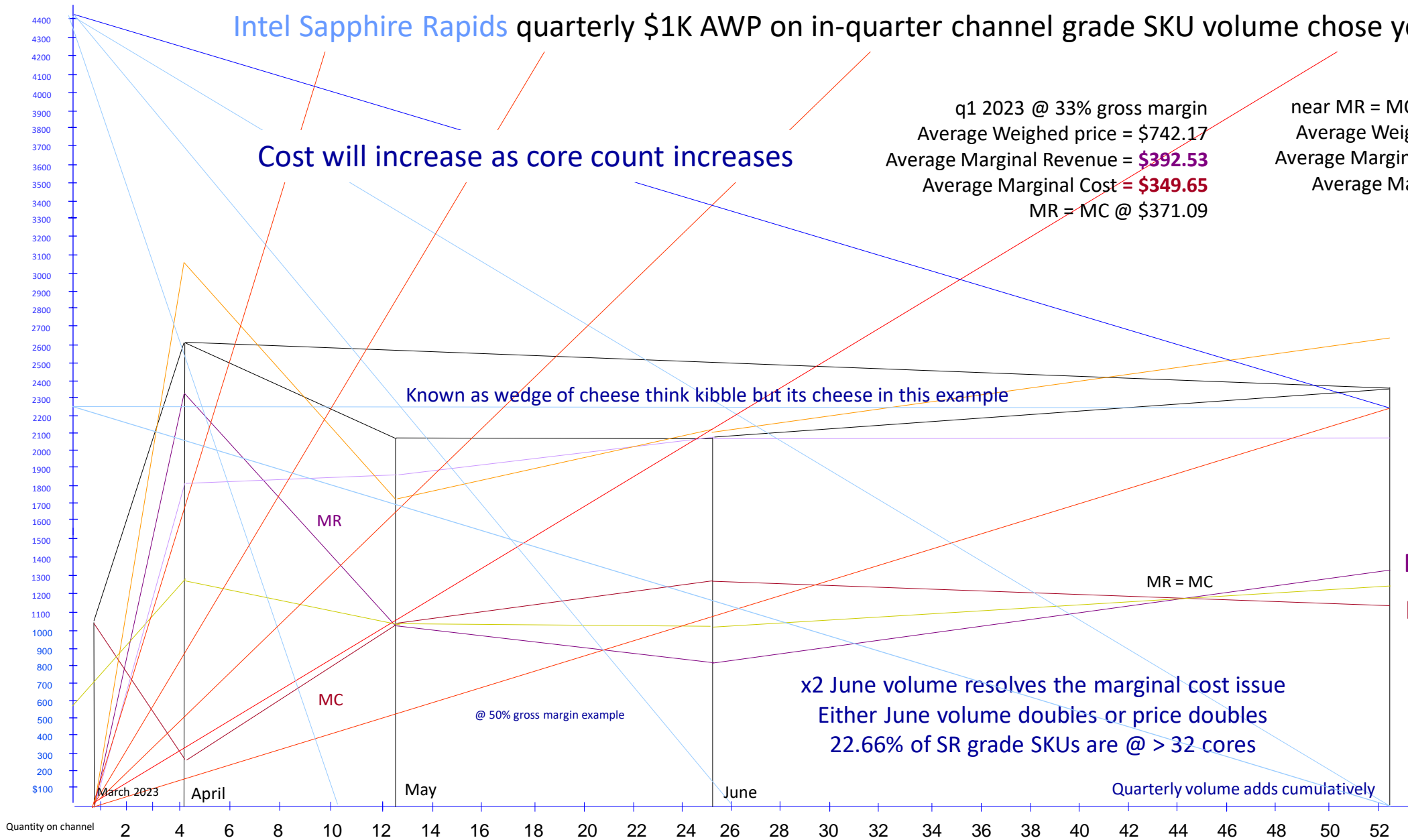
Quarterly volume adds cumulatively

Intel Sapphire Rapids quarterly \$1K AWP on in-quarter channel grade SKU volume chose your gross value

Cost will increase as core count increases

q1 2023 @ 33% gross margin
 Average Weighed price = \$742.17
 Average Marginal Revenue = **\$392.53**
 Average Marginal Cost = **\$349.65**
 MR = MC @ \$371.09

near MR = MC @ 50% gross margin
 Average Weighed price = \$1124.50
 Average Marginal Revenue = **\$594.74**
 Average Marginal Cost = **\$529.77**
 MR = MC @ \$562.25



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Marginal Revenue
 Marginal Cost

Most efficient
 AMC = \$339.88
 on current mix
 of product SKUs,
 current volume.

Sapphire Rapids XCC / MCC quarterly \$1K AWP on in-quarter channel grade SKU volume chose your gross value

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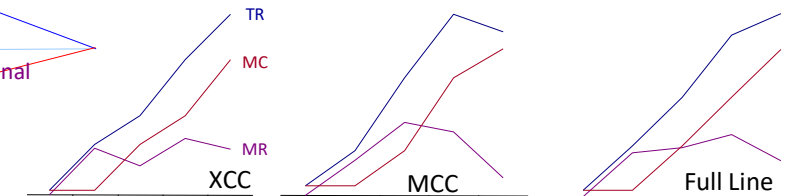
XCC q1 2023 @ 33% gross margin
Average Weighed price = \$1952.32
Average Marginal Revenue = **\$766.46**
Average Marginal Cost = **\$1185.86**
MR = MC @ \$976.16
Cost per mm2 = \$0.74

MCC q1 2023 @ 33% gross margin
Average Weighed price = \$420.47
Average Marginal Revenue = **\$153.52**
Average Marginal Cost = **\$266.95**
MR = MC @ \$210.23
Cost per mm2 on Intel price = \$0.38

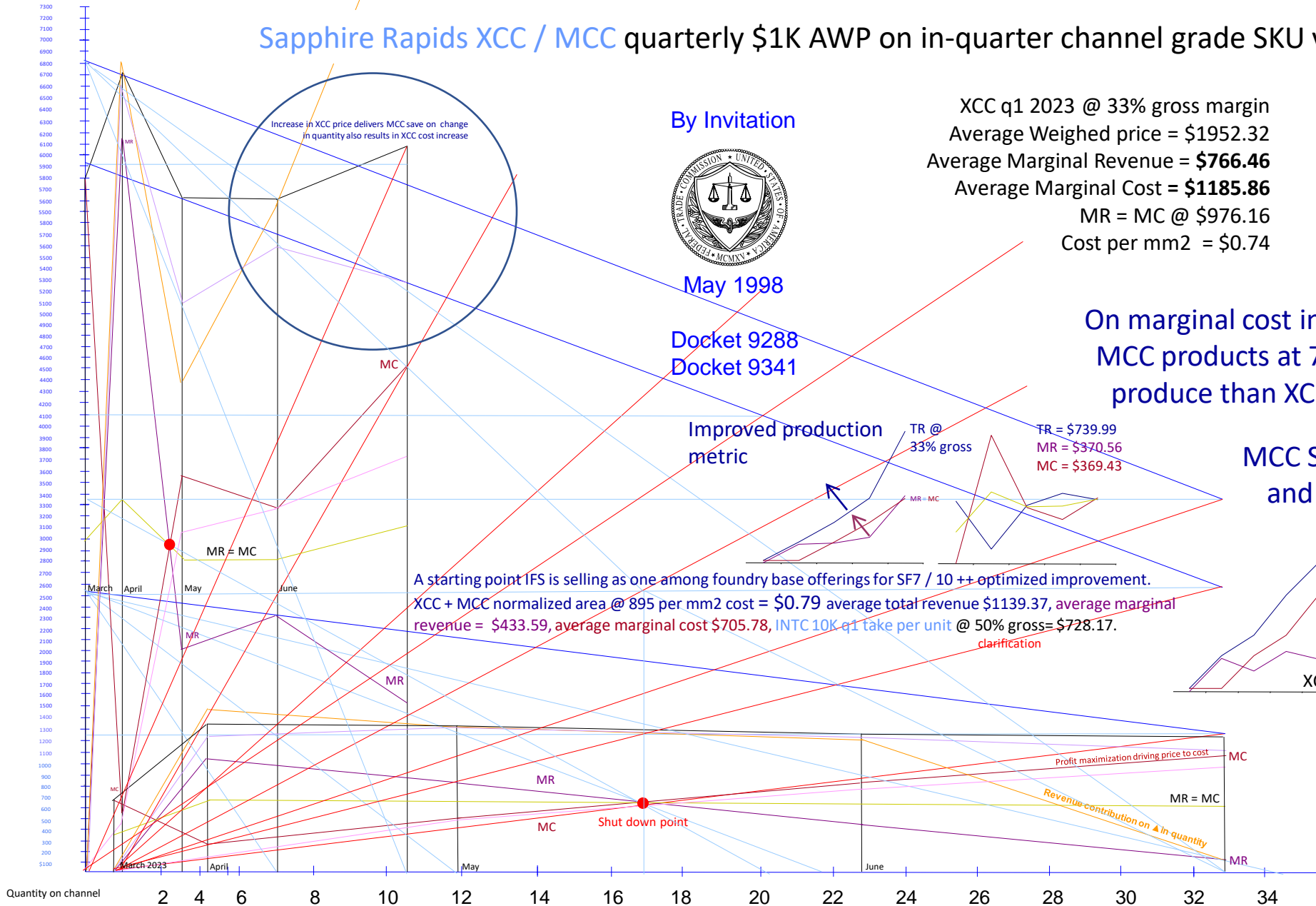
On marginal cost in relation marginal revenue basis
MCC products at 770 mm2 are 19% more costly to produce than XCC relied as an MCC price support

MCC SKUs are essentially under priced and have been hovering around cost

A starting point IFS is selling as one among foundry base offerings for SF7 / 10 ++ optimized improvement.
XCC + MCC normalized area @ 895 per mm2 cost = \$0.79 average total revenue \$1139.37, average marginal revenue = \$433.59, average marginal cost \$705.78, INTC 10K q1 take per unit @ 50% gross = \$728.17.



Channel data cannot confirm Intel achieving MCC efficient production beyond supply maximization that drives price to cost



Intel Sapphire Rapids XCC / MCC on Gelsinger "almost 1 million units" on channel \$1K and change in monthly quantity

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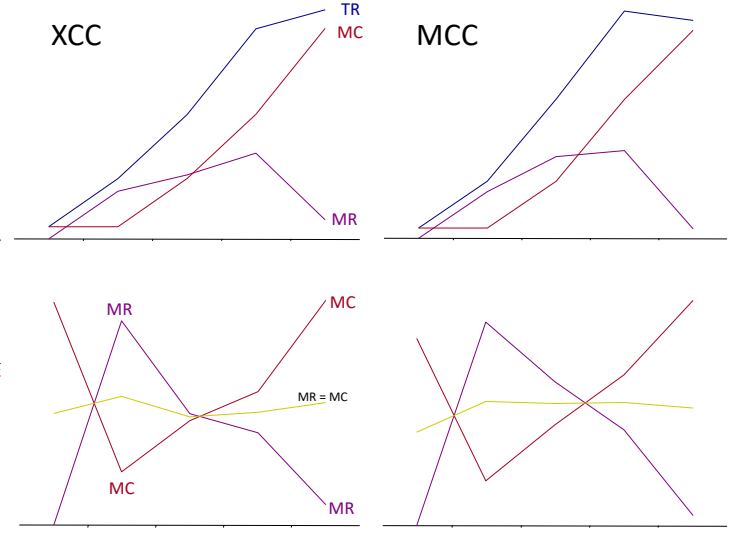
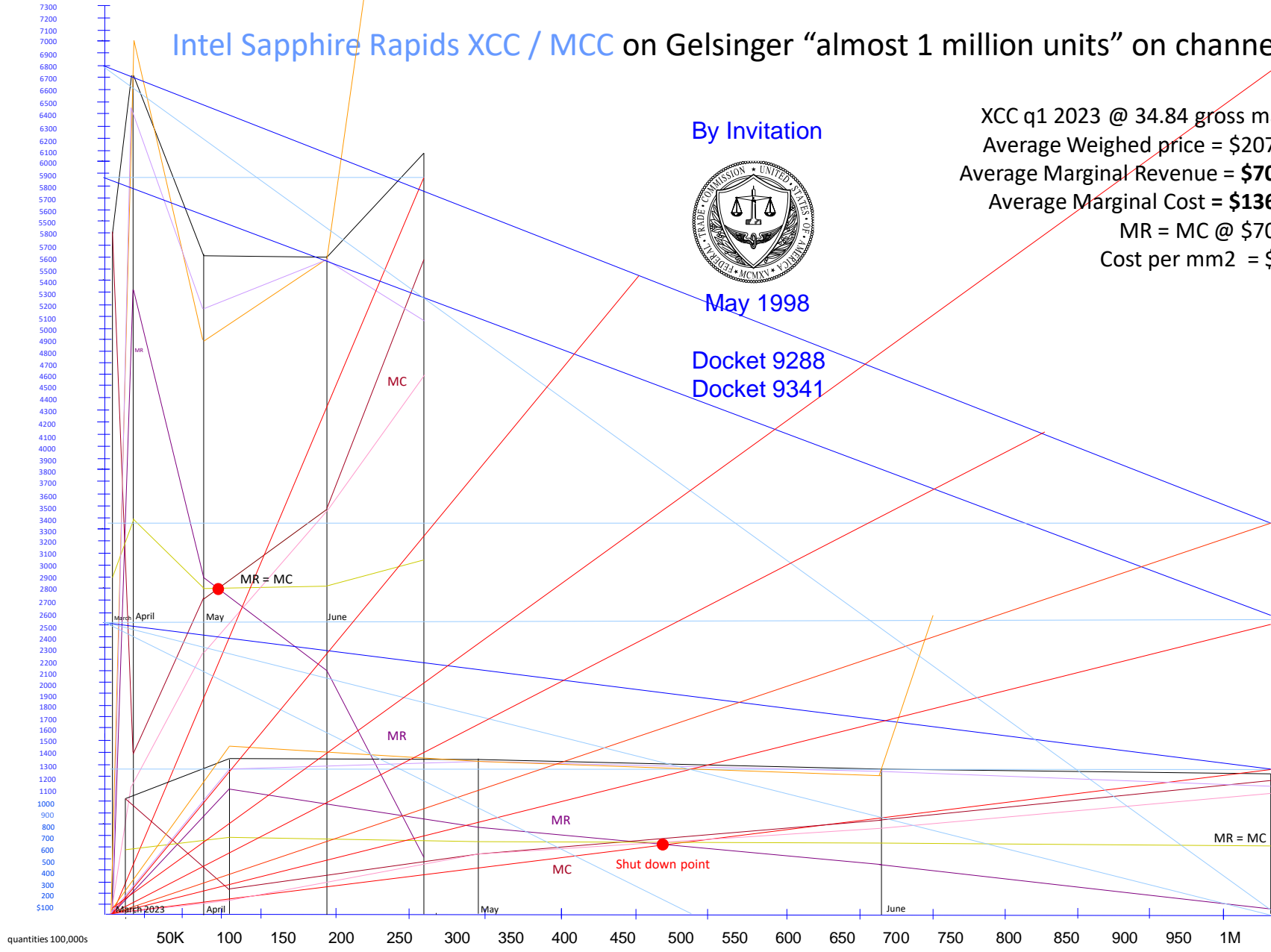


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XCC q1 2023 @ 34.84 gross margin
 Average Weighed price = \$2075.27
 Average Marginal Revenue = **\$706.83**
 Average Marginal Cost = **\$1368.44**
 MR = MC @ \$706.83
 Cost per mm2 = \$0.86

MCC q1 2023 @ 34.84 gross margin
 Average Weighed price = \$449.47
 Average Marginal Revenue = **\$156.02**
 Average Marginal Cost = **\$293.25**
 MR = MC @ \$224.73
 Cost per mm2 on Intel price = \$0.42



On CEO Gelsinger "almost 1 M units with 10K adjusted gross per unit cost increases and revenue decreases slightly."

Intel Sapphire Rapids all up on Gelsinger "almost 1 million units" on channel \$1K and change in monthly quantity

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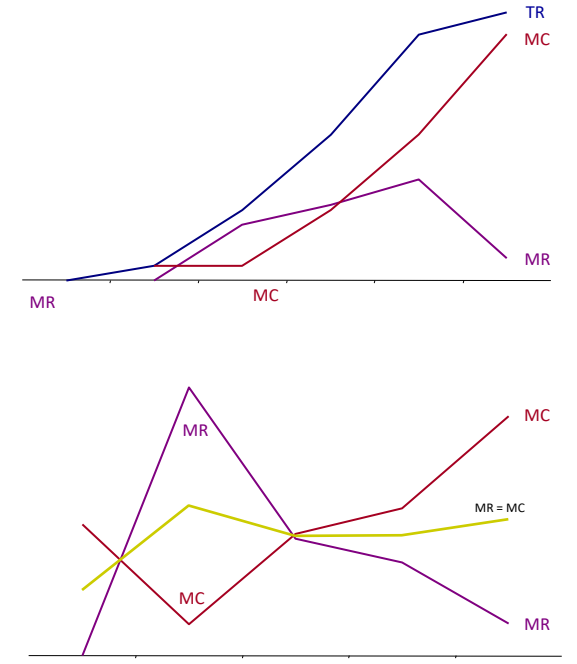
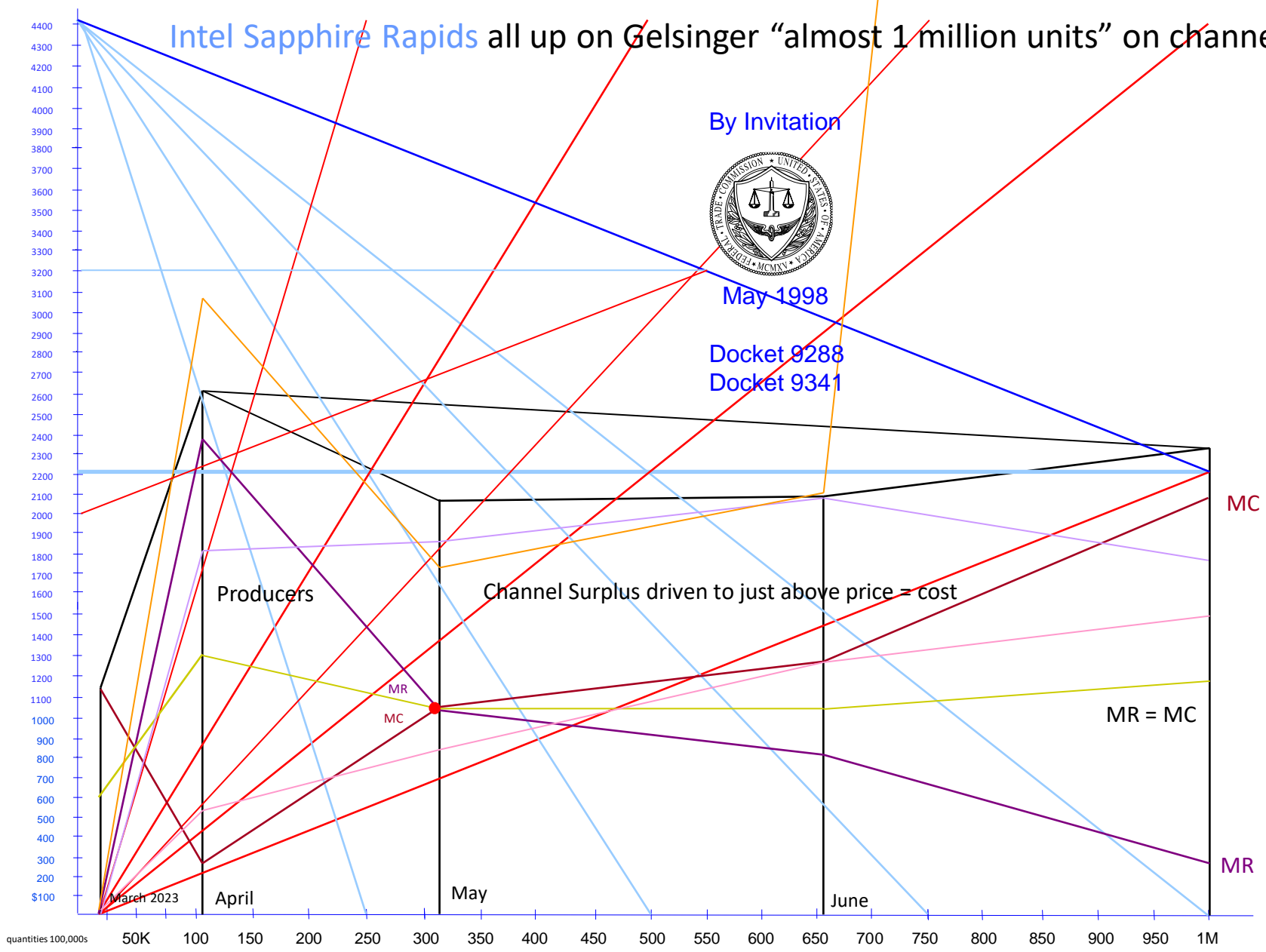


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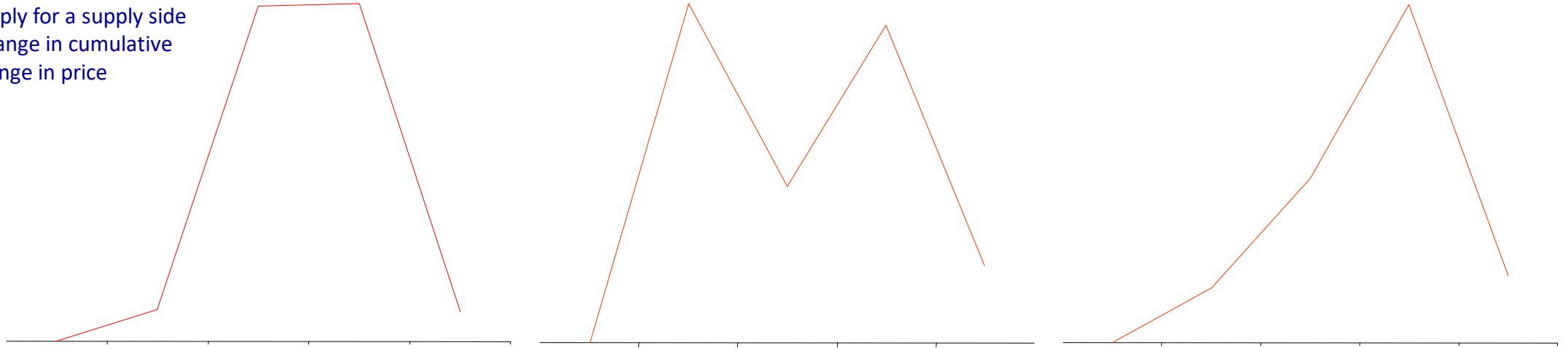
Docket 9341

Full Line @ 34.84% gross margin
 Average Weighed price = \$779.85
 Average Marginal Revenue = \$282.01
 Average Marginal Cost = \$497.84
 MR = MC @ \$389.93
 ✓ Normalized Cost per mm2 = \$0.56

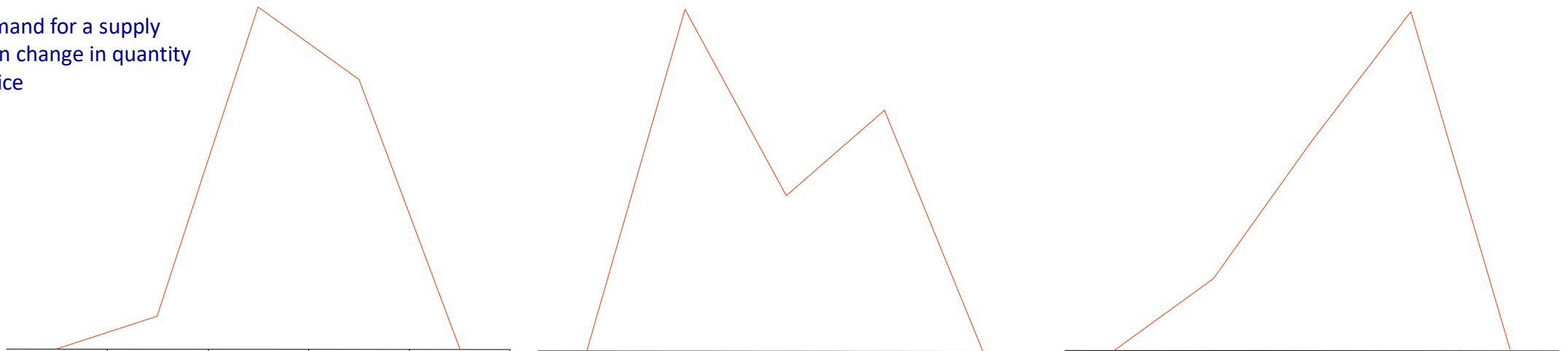


Intel Sapphire Rapids all up on Gelsinger “almost 1 million units” production metrics on channel change in quantity and price

Elasticity of Supply for a supply side producer on change in cumulative quantity on change in price



Elasticity of Demand for a supply side producer on change in quantity on change in price



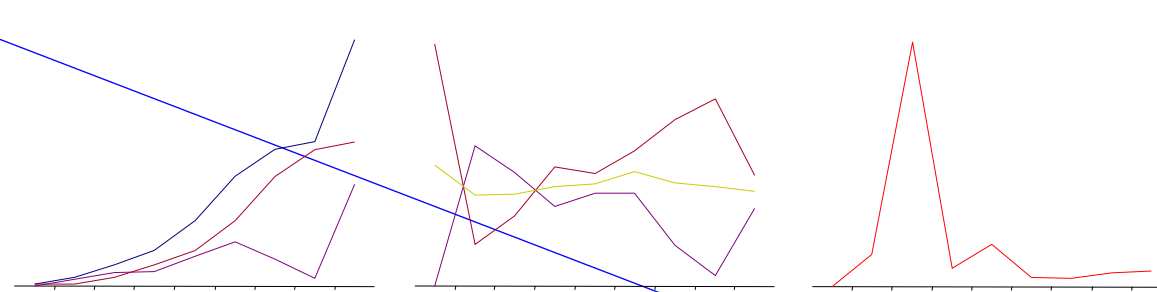
Intel Ice Lake @ x M units on quarterly \$1K AWP on in-quarter channel grade SKU volume chose your gross value

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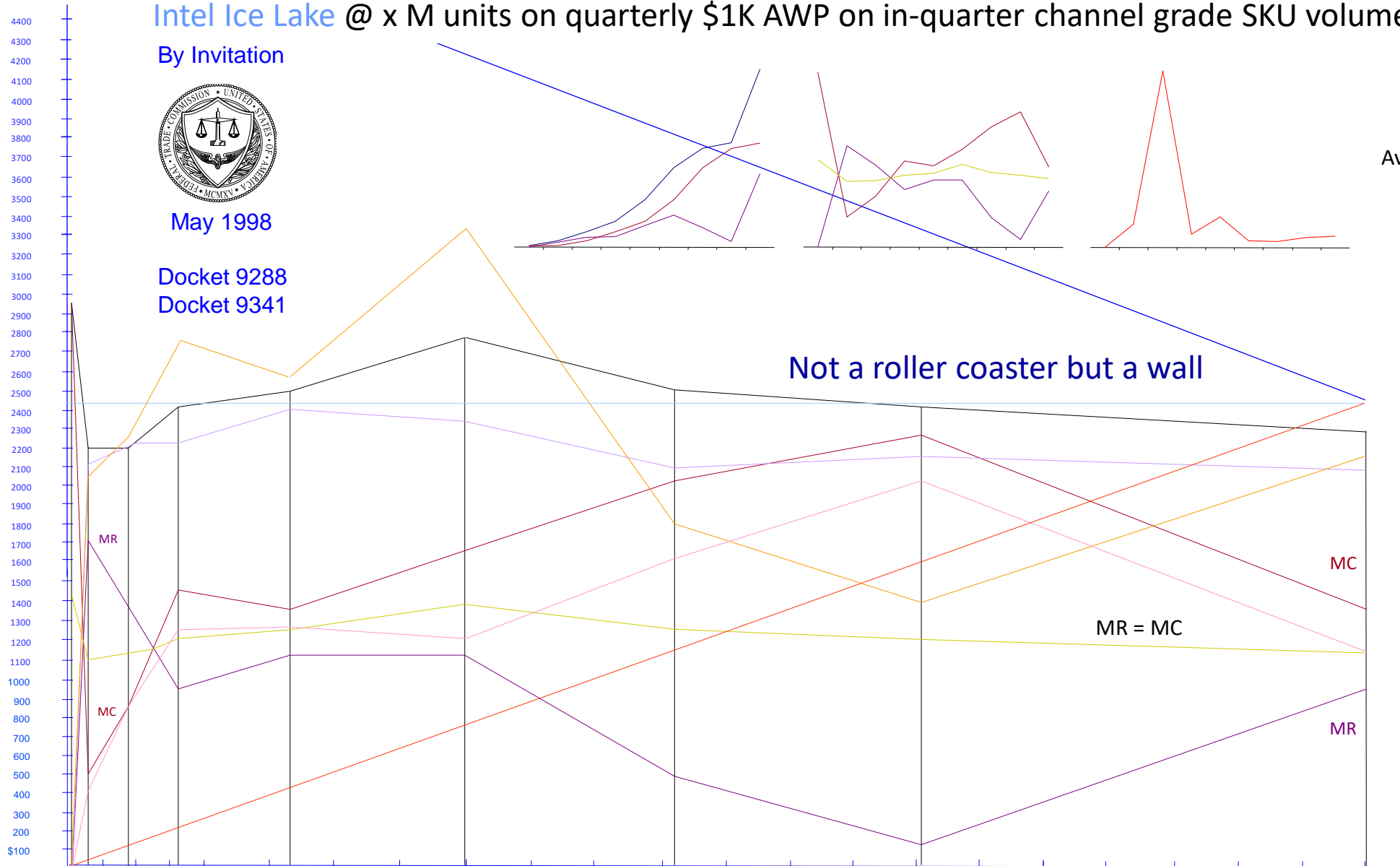
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Full Line @ 44.44% gross margin
Average Weighed price = \$939.73
Average Marginal Revenue = \$303.43
Average Marginal Cost = \$636.30
MR = MC @ \$460.87

Not a roller coaster but a wall

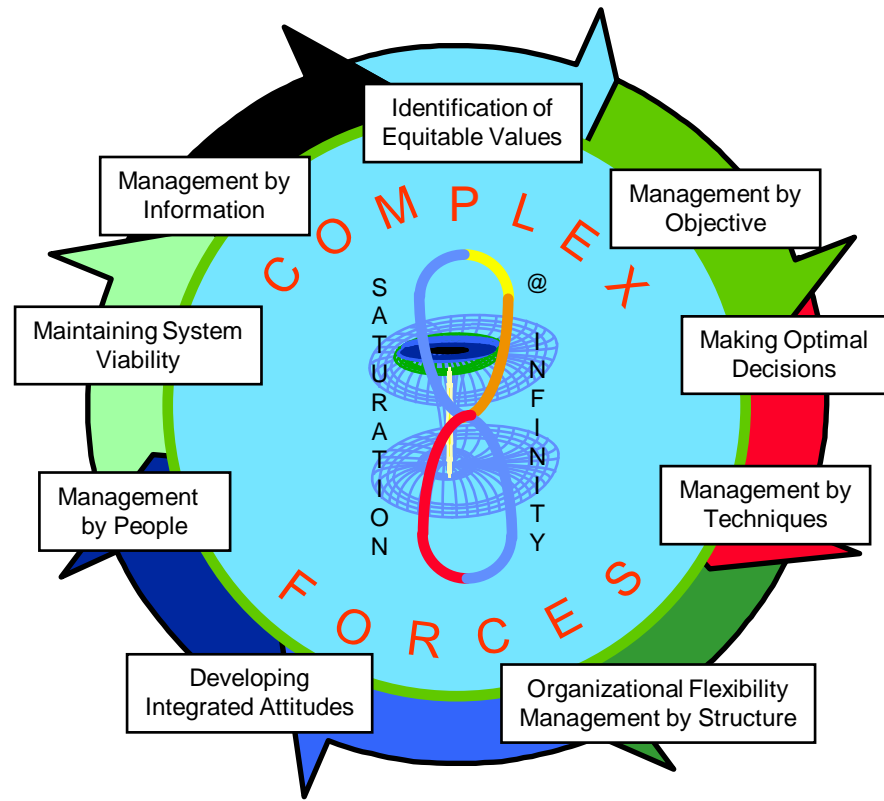


Investigating total revenue potential on nine quarters of production volume

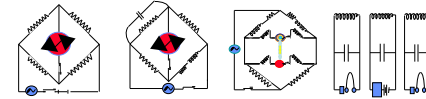
and

Die size said 505 mm² to 660 mm² for XCC and UCC respectively

Camp Marketing Consulting



Project Framework:



Move beyond the box they paint for you.

To give intelligent, responsible and capable direction for sustainable business within industry for society.

As a prerequisite for planning that serves customers and society as efficiently and effectively as possible.

Understanding technology and business possibilities to meet the needs of customers and society as *cost effectively* as possible.

With exemplar stewardship cognizant of social welfare.

By enlarging the capabilities of the operation; melding together people, process, design, fabrication and utility knowledge for competitive advantage.

To assess equal opportunity for complimentary participation; partnership, cost and reward sharing.

To recognize the obligation to investors; planning for an *adequate* economic return on their investment.

To address economic responsibility as a design and process steward in the countries of industry operation.

To further the well being of the global electronics industry as an advocate of responsible, stable and sustainable growth models that make economic sense.



MIKE BRUZZONE – Camp Marketing Consultancy

Kaizen culture, practitioner of Benkyou, no politics, get the job done. Specializing in operational research, market relations, segment management, product evangelism, planning & tactical implementation, competitor and cluster strategy, product commercialization.