UK Biobank Research Analysis Platform

Rate Card

All costs are quoted in GBP / £

RAP Storage and Egress Rate Card

Storage: 0.0155 £ per GB per month (excludes data dispensed by UKB RAP)

Egress: 0.0436 £ per GB

RAP Compute Rate Card

DNAnexus Instance Type	EC2 Instance Type	GPUs	vCPUs	Memory (GiB)	Storage (GiB)	Storage Type	On-demand GBP/hr	Spot GBP/hr
mem1_ssd1							**0.0273***	**0.0073**
mem1_ssd1_v2_x2	c5d.large		2	4	50	SSD	0.0546	0.0146
mem1_ssd1_v2_x4	c5d.xlarge		4	8	100	SSD	0.1092	0.0292
mem1_ssd1_v2_x8	c5d.2xlarge		8	16	200	SSD	0.2184	0.0584
mem1_ssd1_v2_x16	c5d.4xlarge		16	32	400	SSD	0.4368	0.1168
mem1_ssd1_v2_x36	c5d.9xlarge		36	72	900	SSD	0.9828	0.2628
mem1_ssd1_v2_x72	c5d.18xlarge		72	144	1800	SSD	1.9656	0.5256
mem1_ssd2							**0.0351**	**0.0184**
mem1_ssd2_v2_x2	c5.large		2	4	159	EBS-gp2	0.0702	0.0368
mem1_ssd2_v2_x4	c5.xlarge		4	8	318	EBS-gp2	0.1404	0.0736
mem1_ssd2_v2_x8	c5.2xlarge		8	16	639	EBS-gp2	0.2808	0.1472
mem1_hdd1							**0.0346**	**0.0137**
mem1_hdd1_v2_x2	c5.large		2	4	200	EBS-st1	0.0692	0.0274
mem1_hdd1_v2_x4	c5.xlarge		4	8	400	EBS-st1	0.1384	0.0548
mem1_hdd1_v2_x8	c5.2xlarge		8	16	800	EBS-st1	0.2768	0.1096
mem1_hdd1_v2_x16	c5.4xlarge		16	32	1600	EBS-st1	0.5536	0.2192

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mem1_hdd1_v2_x36	c5.9xlarge		36	72	3600	EBS-st1	1.2456	0.4932
mem1_hdd1_v2_x72	c5.18xlarge		72	144	7200	EBS-st1	2.4912	0.9864
mem1_hdd1_v2_x96	c5.24xlarge		96	192	9600	EBS-st1	3.3216	1.3152
mem1_hdd1_x2	c4.large		2	3.75	200	EBS-st1	0.0692	0.0274
mem1_hdd1_x4	c4.xlarge		4	7.5	400	EBS-st1	0.1384	0.0548
mem1_hdd1_x8	c4.2xlarge		8	15	800	EBS-st1	0.2768	0.1096
mem1_hdd1_x16	c4.4xlarge		16	30	1600	EBS-st1	0.5536	0.2192
mem1_hdd1_x36	c4.8xlarge		36	60	3600	EBS-st1	1.2456	0.4932
mem2_hdd2							**0.0581**	**0.0390**
mem2_hdd2_v2_x2	m5.large		2	8	1000	EBS-st1	0.1162	0.0780
mem2_hdd2_v2_x4	m5.xlarge		4	16	2000	EBS-st1	0.2324	0.1560
mem2_ssd1							**0.0311**	**0.0073**
mem2_ssd1_v2_x2	m5d.large		2	8	75	SSD	0.0622	0.0146
mem2_ssd1_v2_x4	m5d.xlarge		4	16	150	SSD	0.1244	0.0292
mem2_ssd1_v2_x8	m5d.2xlarge		8	32	300	SSD	0.2488	0.0584
mem2_ssd1_v2_x16	m5d.4xlarge		16	64	600	SSD	0.4976	0.1168
mem2_ssd1_v2_x32	m5d.8xlarge		32	128	1200	SSD	0.9952	0.2336
mem2_ssd1_v2_x48	m5d.12xlarge		48	192	1800	SSD	1.4928	0.3504
mem2_ssd1_v2_x64	m5d.16xlarge		64	256	2400	SSD	1.9904	0.4672
mem2_ssd1_v2_x96	m5d.24xlarge		96	384	3600	SSD	2.9856	0.7008
mem2_ssd2							**0.0387**	**0.0184**
mem2_ssd2_v2_x2	m5.large		2	8	160	EBS-gp2	0.0774	0.0368
mem2_ssd2_v2_x4	m5.xlarge		4	16	320	EBS-gp2	0.1548	0.0736
mem2_ssd2_v2_x8	m5.2xlarge		8	32	640	EBS-gp2	0.3096	0.1472
mem2_ssd2_v2_x16	m5.4xlarge		16	64	1280	EBS-gp2	0.6192	0.2944
mem2_ssd2_v2_x32	m5.8xlarge		32	128	2560	EBS-gp2	1.2384	0.5888
mem2_ssd2_v2_x48	m5.12xlarge		48	192	3840	EBS-gp2	1.8576	0.8832
mem2_ssd2_v2_x64	m5.16xlarge		64	256	5120	EBS-gp2	2.4768	1.1776
mem2_ssd2_v2_x96	m5.24xlarge		96	384	7480	EBS-gp2	3.7152	1.7664
mem2_ssd2_x2	m4.large		2	8	160	EBS-gp2	0.0774	0.0368
mem2_ssd2_x4	m4.xlarge		4	16	320	EBS-gp2	0.1548	0.0736

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mem2_ssd2_x8	m4.2xlarge		8	32	640	EBS-gp2	0.3096	0.1472
mem2_ssd2_x16	m4.4xlarge		16	64	1280	EBS-gp2	0.6192	0.2944
mem2_ssd2_x40	m4.10xlarge		40	160	3200	EBS-gp2	1.5480	0.7360
mem2_ssd2_x64	m4.16xlarge		64	256	5120	EBS-gp2	2.4768	1.1776
mem2_ssd1_gpu							**0.0418**	**0.0341**
mem2_ssd1_gpu_x16	g4dn.4xlarge	1	16	64	225	SSD	0.6688	0.5456
mem2_ssd1_gpu1							**0.0378**	**0.0309**
mem2_ssd1_gpu1_x32	g4dn.8xlarge	1	32	128	900	SSD	1.2096	0.9888
mem2_ssd1_gpu1_x64	g4dn.16xlarge	1	64	256	900	SSD	2.4192	1.9776
mem2_ssd1_gpu4							**0.0453**	**0.0370**
mem2_ssd1_gpu4_x48	g4dn.12xlarge	4	48	192	900	SSD	2.1744	1.7760
mem3_hdd2							**0.0510**	**0.0232**
mem3_hdd2_v2_x2	r5.large		2	16	500	EBS-st1	0.1020	0.0464
mem3_hdd2_v2_x4	r5.xlarge		4	32	1000	EBS-st1	0.2040	0.0928
mem3_hdd2_v2_x8	r5.2xlarge		8	64	2000	EBS-st1	0.4080	0.1856
mem3_ssd1							**0.0401**	**0.0073**
mem3_ssd1_v2_x2	r5d.large		2	16	75	SSD	0.0802	0.0146
mem3_ssd1_v2_x4	r5d.xlarge		4	32	150	SSD	0.1604	0.0292
mem3_ssd1_v2_x8	r5d.2xlarge		8	64	300	SSD	0.3208	0.0584
mem3_ssd1_v2_x16	r5d.4xlarge		16	128	600	SSD	0.6416	0.1168
mem3_ssd1_v2_x32	r5d.8xlarge		32	256	1200	SSD	1.2832	0.2336
mem3_ssd1_v2_x48	r5d.12xlarge		48	384	1800	SSD	1.9248	0.3504
mem3_ssd1_v2_x64	r5d.16xlarge		64	512	2400	SSD	2.5664	0.4672
mem3_ssd1_v2_x96	r5d.24xlarge		96	768	3600	SSD	3.8496	0.7008
mem3_ssd1_gpu							**0.2156**	**0.1765**
mem3_ssd1_gpu_x8	p3.2xlarge	1	8	61	160	EBS-gp2	1.7248	1.4120
mem3_ssd1_gpu_x32	p3.8xlarge	4	32	244	640	EBS-gp2	6.8992	5.6480
mem3_ssd1_gpu_x64	p3.16xlarge	8	64	488	1280	EBS-st1	13.7984	11.2960
mem3_ssd2							**0.0430**	**0.0351**
mem3_ssd2_v2_x2	i3.large		2	15.25	475	SSD	0.0860	0.0702
mem3_ssd2_v2_x4	i3.xlarge		4	30.5	950	SSD	0.1720	0.1404

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mem3_ssd2_v2_x8	i3.2xlarge		8	61	1900	SSD	0.3440	0.2808
mem3_ssd2_v2_x16	i3.4xlarge		16	122	3800	SSD	0.6880	0.5616
mem3_ssd2_v2_x32	i3.8xlarge		32	244	7600	SSD	1.3760	1.1232
mem3_ssd2_v2_x64	i3.16xlarge		64	488	15200	SSD	2.7520	2.2464
mem3_ssd3							**0.0624**	**0.0510**
mem3_ssd3_x2	i3en.large		2	16	1250	SSD	0.1248	0.1020
mem3_ssd3_x4	i3en.xlarge		4	32	2500	SSD	0.2496	0.2040
mem3_ssd3_x8	i3en.2xlarge		8	64	5000	SSD	0.4992	0.4080
mem3_ssd3_x12	i3en.3xlarge		12	96	7500	SSD	0.7488	0.6120
mem3_ssd3_x24	i3en.6xlarge		24	192	15000	SSD	1.4976	1.2240
mem3_ssd3_x48	i3en.12xlarge		48	384	30000	SSD	2.9952	2.4480
mem3_ssd3_x96	i3en.24xlarge		96	768	60000	SSD	5.9904	4.8960
mem4_ssd1							**0.0623**	**0.0509**
mem4_ssd1_x128	x1.32xlarge		128	1952	3840	SSD	7.9744	6.5152
mem2_ssd2_gpu1_x4c							**0.1515**	**0.1237**
mem2_ssd2_gpu1_x4	g5.xlarge	1	4	16	250	SSD	0.6060	0.4948
mem2_ssd2_gpu1_x8c							**0.0913**	**0.0745**
mem2_ssd2_gpu1_x8	g5.2xlarge	1	8	32	450	SSD	0.7304	0.5960
mem2_ssd2_gpu1_x16c							**0.0612**	**0.0499**
mem2_ssd2_gpu1_x16	g5.4xlarge	1	16	64	600	SSD	0.9792	0.7984
mem2_ssd2_gpu1_x32c							**0.0461**	**0.0377**
mem2_ssd2_gpu1_x32	g5.8xlarge	1	32	128	900	SSD	1.4752	1.2064
mem2_ssd2_gpu1_x64c							**0.0386**	**0.0315**
mem2_ssd2_gpu1_x64	g5.16xlarge	1	64	256	1900	SSD	2.4704	2.0160
mem2_ssd2_gpu4_x48c							**0.0712**	**0.0581**
mem2_ssd2_gpu4_x48	g5.12xlarge	4	48	192	3800	SSD	3.4176	2.7888
mem2_ssd2_gpu4_x96c							**0.0511**	**0.0417**
mem2_ssd2_gpu4_x96	g5.24xlarge	4	96	384	3800	SSD	4.9056	4.0032
mem2_ssd2_gpu8_x192c							**0.0511**	**0.0417**
mem2_ssd2_gpu8_x192	g5.48xlarge	8	192	768	7600	SSD	9.8112	8.0064
mem3_ssd2_dragen_fpga1_x16c							**0.1932**	
mem3_ssd2_dragen_fpga1_x16†	f1.4xlarge		16	244†	940	SSD	3.0912	

* Numbers in bold fonts are in **GBP/core hr** and used as unit pricing in invoice calculation. For example, 3 hours of mem1_ssd1_v2_x2 usage, will be translated into 6 core hours of mem1_ssd1 usage in the final invoice.

† The DRAGEN licence rate ($1.5 per instance hour) is bundled into the mem3_ssd2_dragen_fpga1_x16 hourly rate. We do not expect mem3_ssd2_dragen_fpga1_x16 to be used for any other purposes than running the DRAGEN app (dragen_germline_ukb).

RAP Additional Compute Usage Rate

Public IPv4 Usage: 0.0044 £ per hour compute