

ICON 3100-GM



48

CPU
CORES

4.7

GHz
CLOCKSPEED

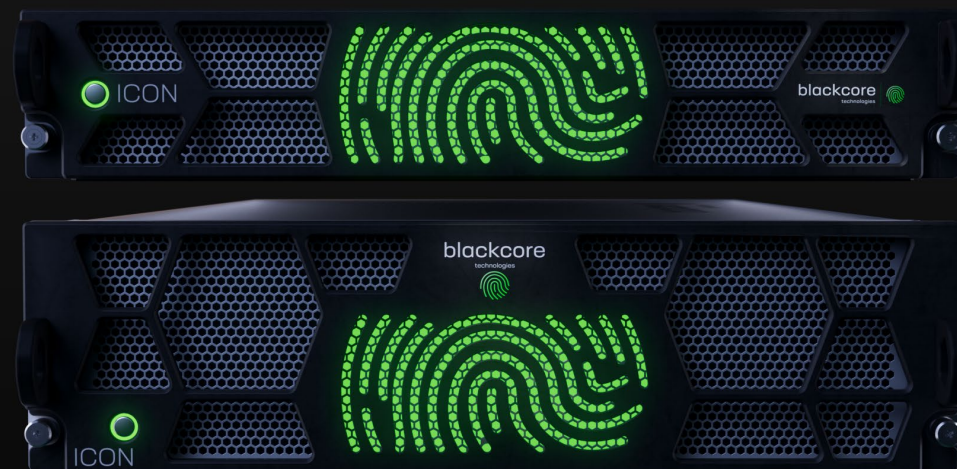
192

MB
CACHE

The Blackcore ICON range is an overclocked, liquid-cooled server platform for Intel CPUs. Generating ultimate performance for low-latency use cases.

Featuring the new Intel® Xeon® 600 Processors, this 48-core system provides 192MB of L3 cache, AMX FP16 support, and high clock speeds in a surprisingly efficient power envelope.

Perfect for more complex workloads that are latency sensitive.



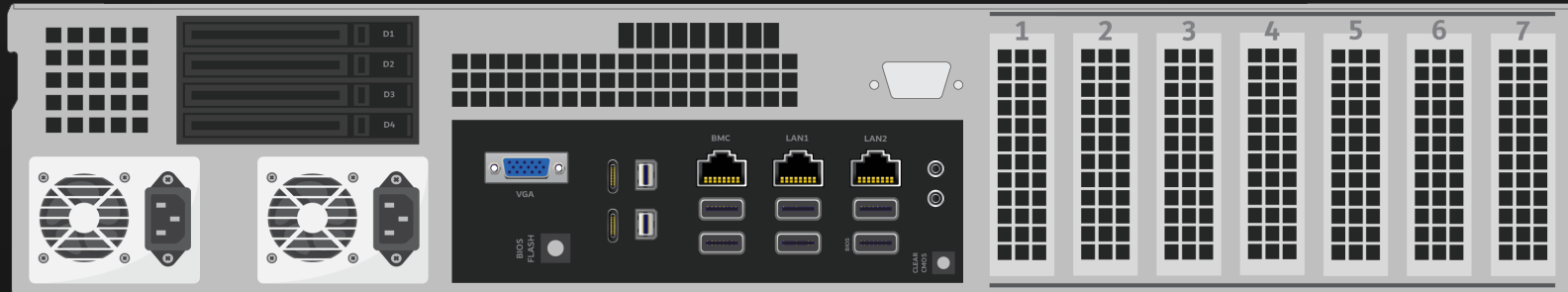
HTS-84715000 UK

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ICON 3122-GM

2U Vertical



CPU	Intel® Xeon® 678X
CPU Frequency	Up to 48 Cores @ 4.7GHz [all-core] SSE [1]
Cache	192MB @ 2.8GHz
Chipset	W890
RAM	Up to 512GB of overclocked DDR5 ECC RDIMM [2]
PCIe	Slot 1 - Physical x16, Electrical x16, HHFL Single Width Slot 2 - Physical x16, Electrical x16, HHFL Single Width Slot 3 - Physical x16, Electrical x16, HHFL Single Width Slot 4 - Physical x16, Electrical x16, HHFL Single Width Slot 5 - Physical x16, Electrical x16, HHFL Single Width Slot 6 - Physical x16, Electrical x8, HHFL Single Width Slot 7 - Physical x16, Electrical x16, HHFL Single Width
LAN	2 x RJ45 Intel® E610 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN (AST 2600)
Rear I/O	1 x VGA 6 x USB3.2 Gen 2 (Type-A) 2 x USB4 (Type-C)
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10,5,6,60 - 4GB cache
Storage	4 x 2.5" SATA OR 2 x 2.5" NVMe hot-swap caddy 4 x M.2 Socket [2x 2280 slots / 2x 22110 slots]

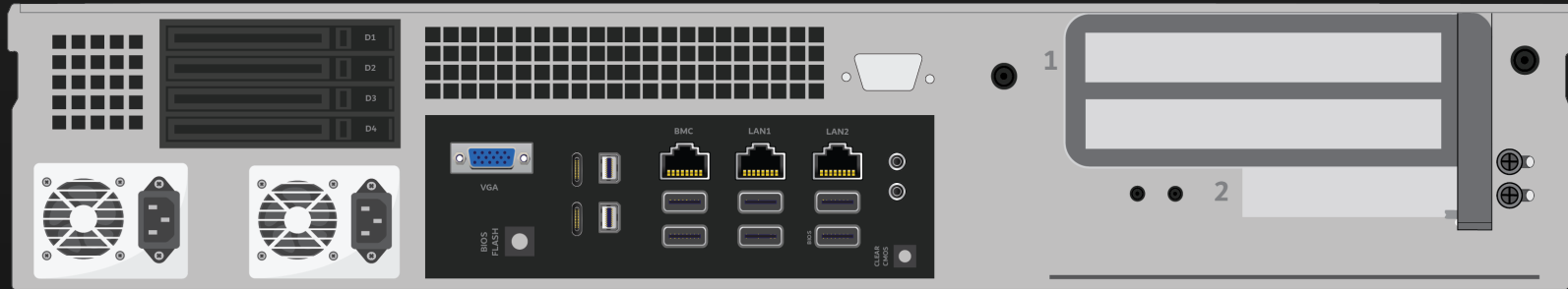
OS Compatibility	Minimum - RHEL 8.7+ Recommended - RHEL 9.4+
Management Tools	AMI SCE Redfish
PSU	2000W Dual Redundant [1+1] 230-240V~ 10A MAX. 60-50Hz
Power Connectors	IEC C15/C16
Avg. Power Usage	550W [Idle] 1100W [Load] Power draw based on synthetic load, not including add-in cards.
Operating Temperature	10°C - 27°C [50°F - 80°F]
Dimensions	System: 88 x 438 x 720mm [H x W x D] Boxed: 270 x 580 x 990mm [H x W x D]
Chassis Weight	System: 20KG Boxed: 25KG
Rail Kit	Included
Certifications	UKCA, CE
Export Code	HTS-84715000

[1] AVX speeds may differ. Contact Blackcore for more information.

[2] Tested capacity. Platform supports higher capacity, contact Blackcore for custom solutions.

ICON 3123-GM

2U Horizontal



CPU	Intel® Xeon® 678X
CPU Frequency	Up to 48 Cores @ 4.7GHz [all-core] SSE ^[1]
Cache	192MB @ 2.8GHz
Chipset	W890
RAM	Up to 512GB of overclocked DDR5 ECC RDIMM ^[2]
PCIe	Slot 1 - Physical x16, Electrical x16, FHFL Double Width Slot 2 - Physical x16, Electrical x16, HHFL Single Width
LAN	2 x RJ45 Intel® E610 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN [AST 2600]
Rear I/O	1 x VGA 6 x USB3.2 Gen 2 [Type-A] 2 x USB4 [Type-C]
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10,5,6,60 - 4GB cache
Storage	4 x 2.5" SATA OR 2 x 2.5" NVMe hot-swap caddy 3 x M.2 Socket M [1x 2280 Slots, 2x 22110 Slot]

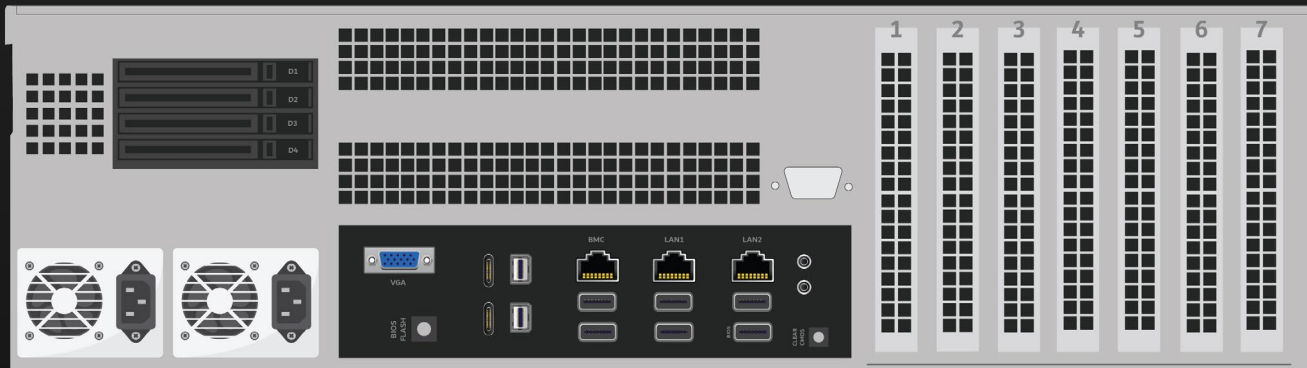
OS Compatibility	Minimum - RHEL 8.7+ Recommended - RHEL 9.4+
Management Tools	AMI SCE Redfish
PSU	2000W Dual Redundant [1+1] 230-240V~ 10A MAX. 60-50Hz
Power Connectors	IEC C15/C16
Avg. Power Usage	550W [Idle] 1100W [Load] Power draw based on synthetic load, not including add-in cards.
Operating Temperature	10°C - 27°C [50°F - 80°F]
Dimensions	System: 88 x 438 x 720mm [H x W x D] Boxed: 270 x 580 x 990mm [H x W x D]
Chassis Weight	System: 20KG Boxed: 25KG
Rail Kit	Included
Certifications	UKCA, CE
Export Code	HTS-84715000

^[1] AVX speeds may differ. Contact Blackcore for more information.

^[2] Tested capacity. Platform supports higher capacity, contact Blackcore for custom solutions.

ICON 3132-GM

3U Vertical



CPU	Intel® Xeon® 678X
CPU Frequency	Up to 48 Cores @ 4.7GHz [all-core] SSE ^[1]
Cache	192MB @ 2.8GHz
Chipset	W890
RAM	Up to 512GB of overclocked DDR5 ECC RDIMM ^[2]
PCIe	Slot 1 - Physical x16, Electrical x16, FHFL Single Width Slot 2 - Physical x16, Electrical x16, FHFL Single Width Slot 3 - Physical x16, Electrical x16, FHFL Single Width Slot 4 - Physical x16, Electrical x16, FHFL Single Width Slot 5 - Physical x16, Electrical x16, FHFL Single Width Slot 6 - Physical x16, Electrical x8, FHFL Single Width Slot 7 - Physical x16, Electrical x16, FHFL Single Width
LAN	2 x RJ45 Intel® E610 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN (AST 2600)
Rear I/O	1 x VGA 6 x USB3.2 Gen 2 (Type-A) 2 x USB4 (Type-C)
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10,5,6,60 - 4GB cache
Storage	4 x 2.5" SATA OR 2 x 2.5" NVMe hot-swap caddy 4 x M.2 Socket (2x 2280 slots / 2x 22110 slots)

OS Compatibility	Minimum - RHEL 8.7+ Recommended - RHEL 9.4+
Management Tools	AMI SCE Redfish
PSU	2000W Dual Redundant (1+1) 230-240V~ 10A MAX. 60-50Hz
Power Connectors	IEC C15/C16
Avg. Power Usage	550W (Idle) 1100W (Load) Power draw based on synthetic load, not including add-in cards.
Operating Temperature	10°C - 27°C (50°F - 80°F)
Dimensions	System: 88 x 438 x 720mm (H x W x D) Boxed: 270 x 580 x 990mm (H x W x D)
Chassis Weight	System: 20KG Boxed: 25KG
Rail Kit	Included
Certifications	UKCA, CE
Export Code	HTS-84715000

^[1] AVX speeds may differ. Contact Blackcore for more information.

^[2] Tested capacity. Platform supports higher capacity, contact Blackcore for custom solutions.

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Specification Comparison

	ICON 3122-GM	ICON 3123-GM	ICON 3132-GM
Form Factor	2U	2U	3U
Dimensions (H x W x D)	88 x 438 x 720mm	88 x 438 x 720mm	132 x 438 x 720mm
PCIe Compatibility	7* x16 [Physical] HHFL	1* x16 [Physical] FHFL 1* x16 [Physical] HHFL	7* x16 [Physical] FHFL
PCIe Orientation	Vertical	Horizontal	Vertical
PSU	2000W	2000W	2000W
Clock Speed	Up to 48 Cores @ 4.7GHz [SSE]	Up to 48 Cores @ 4.7GHz [SSE]	Up to 48 Cores @ 4.7GHz [SSE]

Benchmarks

128GB. 6.12 Kernel	WS 678X Stock	3100-GM Blackcore
mlc -r --latency_matrix [ns] [Lower is better]	127.9	91.1
L2->L2 HIT [ns] [Lower is better]	84.2	66.8
PCIe Latency - [X2522] - slot1 [ns] [Lower is better]	700-800	460-765
PCIe Latency - [X4522] - slot1 [ns] [Lower is better]	357	337
All-core Clock-speed [SSE, GHz] [Higher is better]	3.8	4.7
Peak IPC (prime95, SSE, per thread) [Higher is better]	2.6	5.1

"Stock" is Intel's default specification with no adjustments. This includes HT on.