

ICON 3100-SX+

60

CPU
CORES

4.2

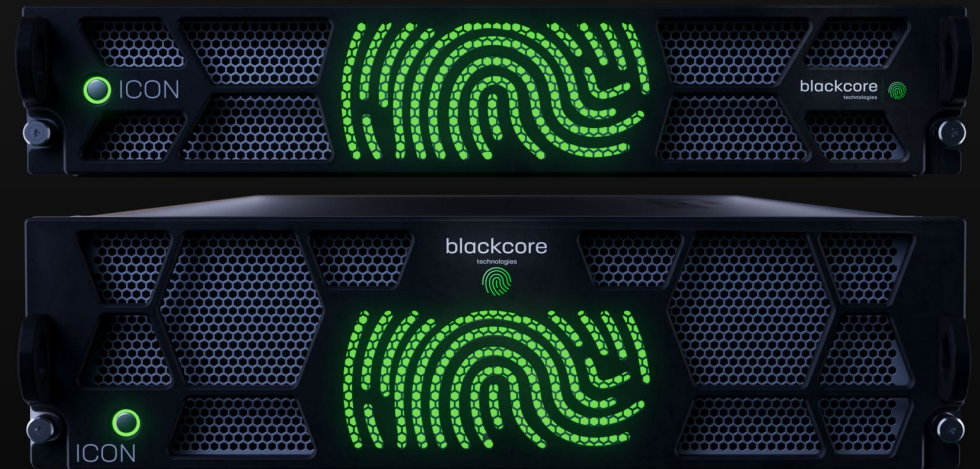
GHz
CLOCKSPEED

1

TB
RAM

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

Featuring the Intel® Xeon-W 3595X - based on the popular “Sapphire Rapids” architecture - this is a refresh to our extreme core-count “SPR-X” system, which gained popularity for replacing dual-socket systems with a single overclocked NUMA. Now boasting 60 cores.

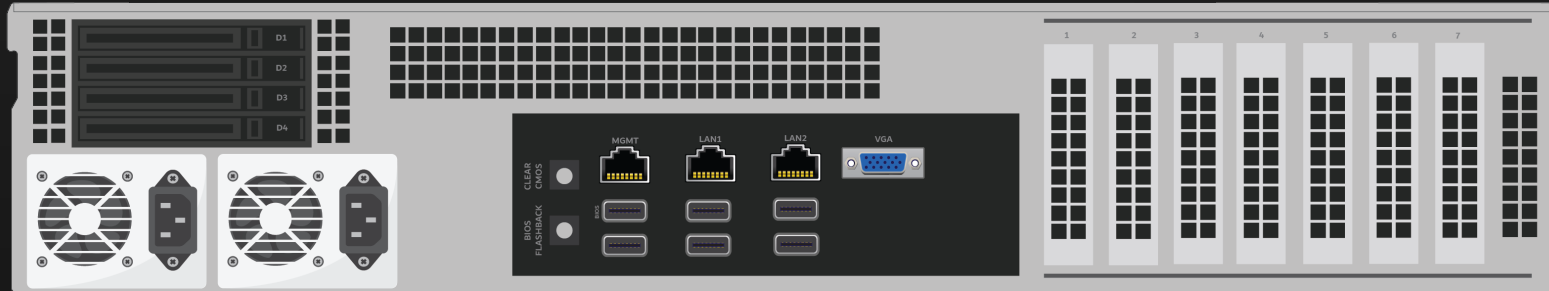


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HTS-84715000  

ICON 3122-SX+

2U Vertical



CPU	Intel® Xeon® w9-3595X
CPU Frequency	Up to 60 Cores @ 4.2GHz [all-core] SSE [1]
Cache	112MB @ up to 2.7GHz
Chipset	W790
RAM	Up to 1TB of DDR5 ECC RDIMM Up to 768GB Overclocked 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® X710 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN [AST 2600]
Rear I/O	1 x VGA 6 x USB Ports
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10 - no cache 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

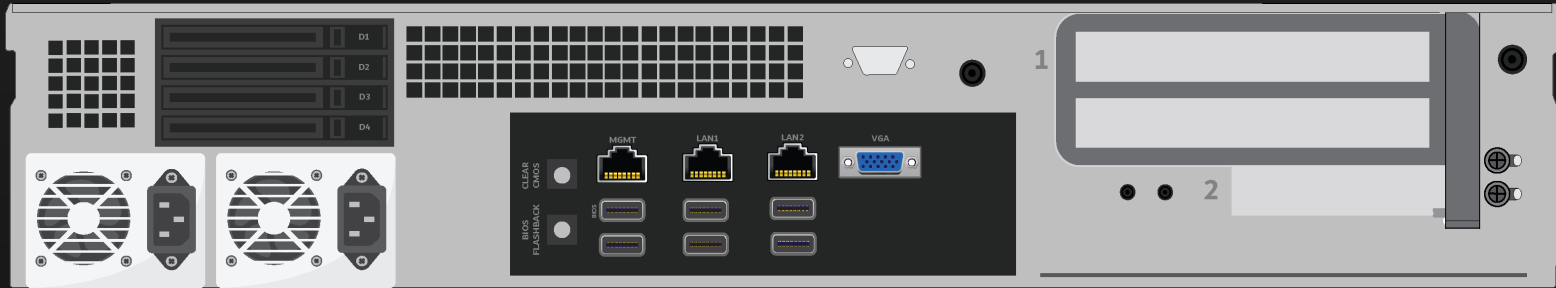
OS Compatibility	Minimum - RHEL 7.8+ Recommended - RHEL 9.1+
Management Tools	AMI SCE Redfish
PSU	2000W Dual Redundant [1+1] 230-240V~ 10A MAX. 60-50Hz
Power Connectors	IEC C15/C16
Avg. Power Usage	500W [Idle] 1500W [Load] Power draw based on synthetic load, not including add-in cards.
Operating Temperature	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	Premium or Short
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-SX+

2U Horizontal



CPU	Intel® Xeon® w9-3595X
CPU Frequency	Up to 60 Cores @ 4.2GHz [all-core] SSE [1]
Cache	112MB @ up to 2.7GHz
Chipset	W790
RAM	Up to 1TB of DDR5 ECC RDIMM Up to 768GB Overclocked 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® X710 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN (AST 2600)
Rear I/O	1 x VGA 6 x USB Ports
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10 - no cache 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

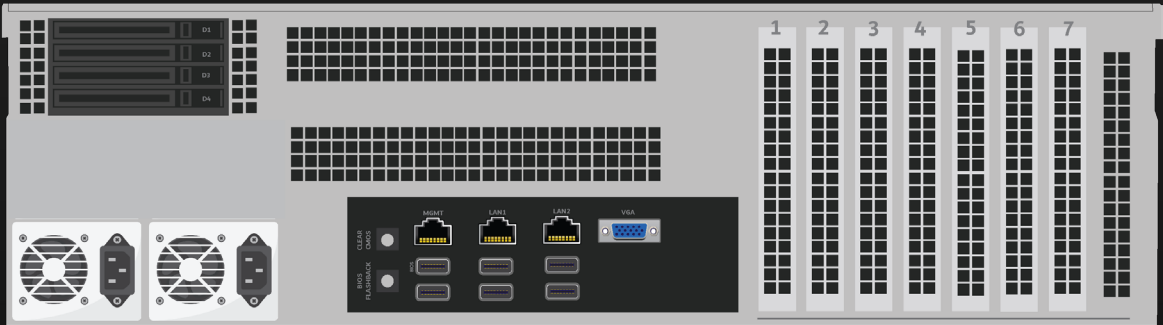
OS Compatibility	Minimum - RHEL 7.8+ Recommended - RHEL 9.1+
Management Tools	AMI SCE Redfish
PSU	2000W Dual Redundant [1+1] 230-240V~ 10A MAX. 60-50Hz
Power Connectors	IEC C15/C16
Avg. Power Usage	500W [Idle] 1500W [Load] Power draw based on synthetic load, not including add-in cards.
Operating Temperature	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	Premium or Short
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-SX+

3U Vertical



CPU	Intel® Xeon® w9-3595X
CPU Frequency	Up to 60 Cores @ 4.2GHz [all-core] SSE ^[1]
Cache	112MB @ up to 2.7GHz
Chipset	W790
RAM	Up to 1TB of DDR5 ECC RDIMM Up to 768GB Overclocked 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® X710 - 10Gb Ethernet 1 x RJ45 Dedicated IPMI LAN [AST 2600]
Rear I/O	1 x VGA 6 x USB Ports
RAID	Onboard RAID 0, 1, 5, 10 Optional Hardware RAID 0,00,1,10 - no cache 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
OS Compatibility	Minimum - RHEL 7.8+ Recommended - RHEL 9.1+
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	500W [Idle] 1500W [Load] Power draw based on synthetic load, not including add-in cards.
Operating Temperature	10°C - 27°C (50°F - 80°F)
Dimensions	System: 132 x 438 x 720mm [H x W x D] Boxed: 270 x 580 x 990mm [H x W x D]
Chassis Weight	System: 25KG Boxed: 30KG
Rail Kit	Premium or Short
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.

Specification Comparison

	ICON 3122-SX+	ICON 3123-SX+	ICON 3132-SX+
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 60 Cores @ 4.2GHz (SSE)	Up to 60 Cores @ 4.2GHz (SSE)	Up to 60 Cores @ 4.2GHz (SSE)

Benchmarks

	128GB, 4.18 Kernel	3595X Stock	3595X Blackcore
mlc -r --latency_matrix (ns) [Lower is better]		119.6	92.9
L2->L2 HIT (ns) [Lower is better]		88.6	77.0
PCIe Latency (X2522) - slot1 (ns) [Lower is better]		507	447
PCIe Latency (X4522) - slot1 (ns) [Lower is better]		368	340
All-core Clock-speed (SSE, GHz) [Higher is better]		2.5	4.2
Peak IPC (prime95, SSE, per thread) [Higher is better]		2.3	4.9

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