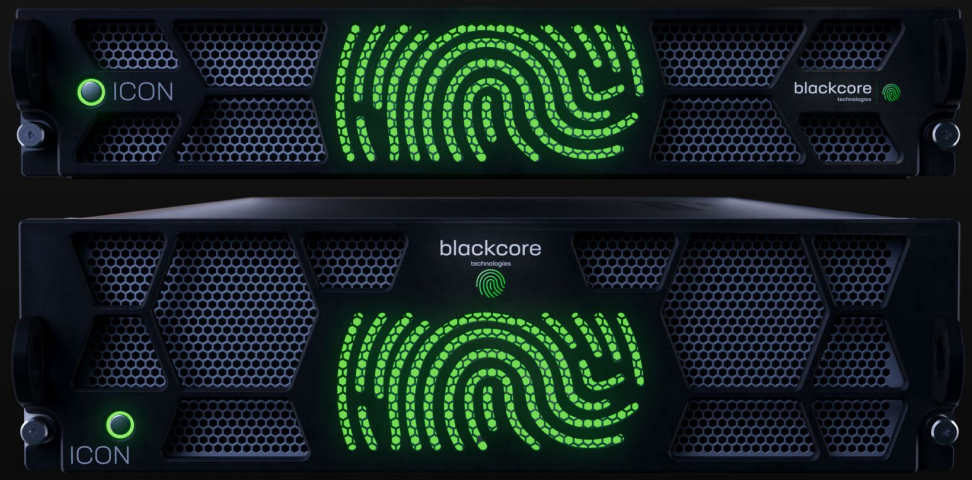
# ICON 3100-SM+

blackcore technologies

| 26 | 4.7 | 512 |
|---|---|---|
| CPU | GHz | GB |
| CORES | CLOCKSPEED | 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® w7-2595X - based on the popular "Sapphire Rapids" architecture - this is a refresh to our incredibly popular "SPR-M" system and features two additional CPU cores. This is the perfect mid-core-count system that excels in most electronic trading scenarios.




HTS-84715000

intel. XEON w7

intel partner

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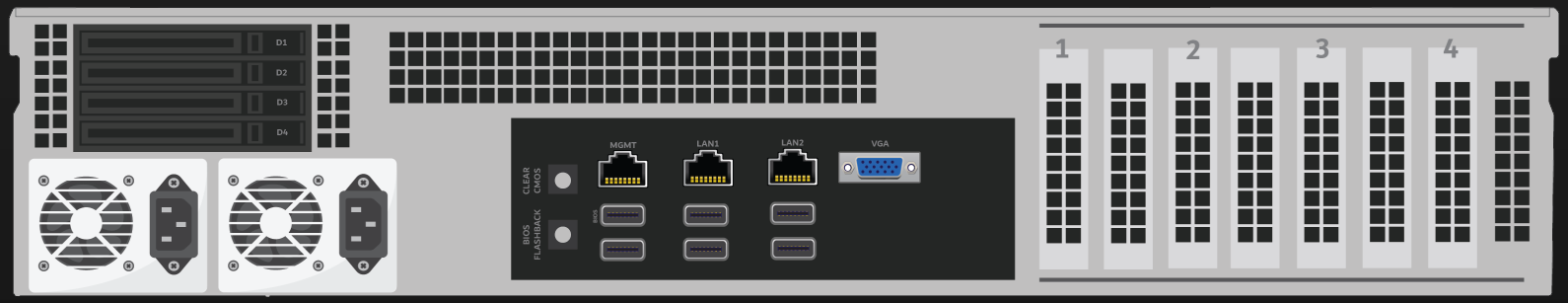
# ICON 3122-SM+

## 2U Vertical




| | |
|---|---|
| CPU | Intel® Xeon® w7-2595X |
| CPU Frequency | Up to 26 Cores @ 4.7GHz (all-core) SSE [1] |
| Cache | 48.75MB @ up to 3.2GHz |
| Chipset | W790 |
| RAM | Up to 512GB of DDR5 ECC RDIMM<br>Up to 384GB Overclocked ECC RDIMM [2] |
| PCIe | Slot 1 - Physical x16, Electrical x16, HHFL Double Width<br>Slot 2 - Physical x16, Electrical x16, HHFL Double Width<br>Slot 3 - Physical x16, Electrical x16, HHFL Double Width<br>Slot 4 - Physical x16, Electrical x16, HHFL Single Width |
| LAN | 2 x RJ45 Intel® X710 - 10Gb Ethernet<br>1 x RJ45 Dedicated IPMI LAN (AST 2600) |
| Rear I/O | 1 x VGA<br>6 x USB Ports |
| RAID | Onboard RAID 0, 1, 5, 10<br>Optional Hardware RAID 0,00,1,10 - no cache<br>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<br>1 x M.2 Socket M |

| | |
|---|---|
| OS Compatibility | Minimum - RHEL 7.8+<br>Recommended - RHEL 9.1+ |
| Management Tools | AMI SCE<br>Redfish |
| PSU | 2000W Dual Redundant (1+1)<br>230-240V~ 10A MAX. 60-50Hz |
| Power Connectors | IEC C15/C16 |
| Avg. Power Usage | 500W (Idle)<br>1000W (Load)<br>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)<br>Boxed: 270 x 580 x 990mm (H x W x D) |
| Chassis Weight | System: 20KG<br>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.

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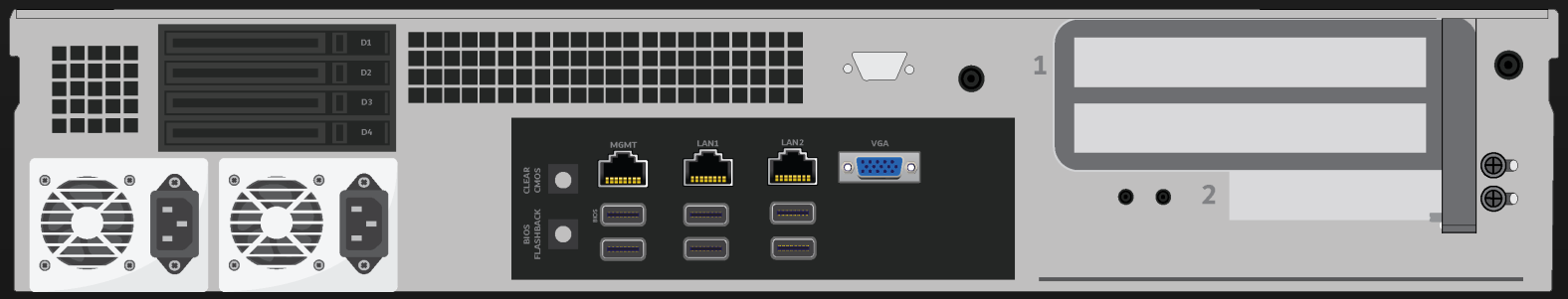
# ICON 3123-SM+

## 2U Horizontal




| | |
|---|---|
| CPU | Intel® Xeon® w7-2595X |
| CPU Frequency | Up to 26 Cores @ 4.7GHz (all-core) SSE [1] |
| Cache | 48.75MB @ up to 3.2GHz |
| Chipset | W790 |
| RAM | Up to 512GB of DDR5 ECC RDIMM<br>Up to 384GB Overclocked ECC RDIMM [2] |
| PCIe | Slot 1 - Physical x16, Electrical x16, FHFL Double Width<br>Slot 2 - Physical x16, Electrical x16, HHFL Single Width |
| LAN | 2 x RJ45 Intel® X710 - 10Gb Ethernet<br>1 x RJ45 Dedicated IPMI LAN (AST 2600) |
| Rear I/O | 1 x VGA<br>6 x USB Ports |
| RAID | Onboard RAID 0, 1, 5, 10<br>Optional Hardware RAID 0,00,1,10 - no cache<br>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<br>1 x M.2 Socket M |

| | |
|---|---|
| OS Compatibility | Minimum - RHEL 7.8+<br>Recommended - RHEL 9.1+ |
| Management Tools | AMI SCE<br>Redfish |
| PSU | 2000W Dual Redundant (1+1)<br>230-240V~ 10A MAX. 60-50Hz |
| Power Connectors | IEC C15/C16 |
| Avg. Power Usage | 500W (Idle)<br>1000W (Load)<br>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)<br>Boxed: 270 x 580 x 990mm (H x W x D) |
| Chassis Weight | System: 20KG<br>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.

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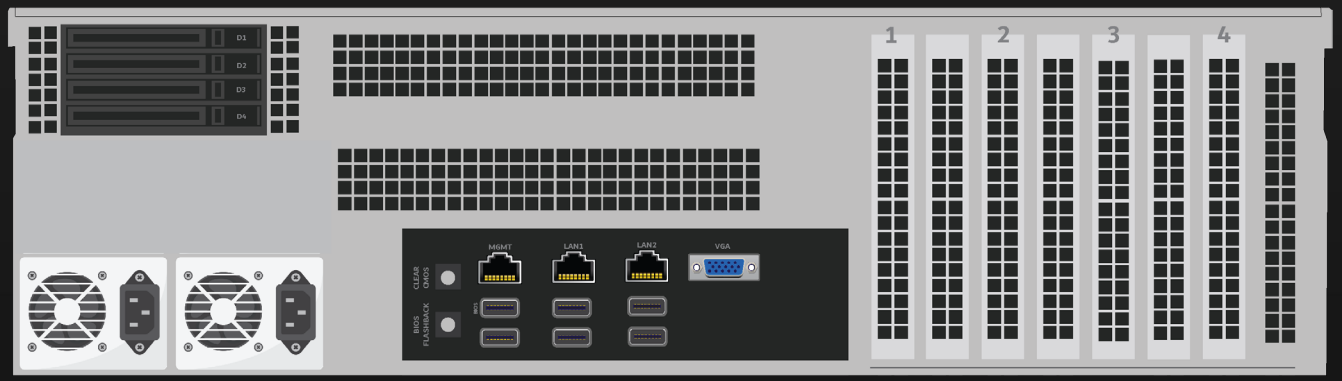
# ICON 3132-SM+

## 3U Vertical




| | |
|---|---|
| CPU | Intel® Xeon® w7-2595X |
| CPU Frequency | Up to 26 Cores @ 4.7GHz (all-core) SSE [1] |
| Cache | 48.75MB @ up to 3.2GHz |
| Chipset | W790 |
| RAM | Up to 512GB of DDR5 ECC RDIMM<br>Up to 384GB Overclocked ECC RDIMM [2] |
| PCIe | Slot 1 - Physical x16, Electrical x16, FHFL Double Width<br>Slot 2 - Physical x16, Electrical x16, FHFL Double Width<br>Slot 3 - Physical x16, Electrical x16, FHFL Double Width<br>Slot 4 - Physical x16, Electrical x16, FHFL Single Width |
| LAN | 2 x RJ45 Intel® X710 - 10Gb Ethernet<br>1 x RJ45 Dedicated IPMI LAN (AST 2600) |
| Rear I/O | 1 x VGA<br>6 x USB Ports |
| RAID | Onboard RAID 0, 1, 5, 10<br>Optional Hardware RAID 0,00,1,10 - no cache<br>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<br>1 x M.2 Socket M |

| | |
|---|---|
| OS Compatibility | Minimum - RHEL 7.8+<br>Recommended - RHEL 9.1+ |
| Management Tools | AMI SCE<br>Redfish |
| PSU | 2000W Dual Redundant (1+1)<br>230-240V~ 10A MAX. 60-50Hz |
| Power Connectors | IEC C15/C16 |
| Avg. Power Usage | 500W (Idle)<br>1000W (Load)<br>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)<br>Boxed: 270 x 580 x 990mm (H x W x D) |
| Chassis Weight | System: 25KG<br>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.

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# Specification Comparison

| | ICON 3122-SM+ | ICON 3123-SM+ | ICON 3132-SM+ |
|---|---|---|---|
| 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 | 4* x16 (Physical) HHFL | 1* x16 (Physical) FHFL<br>1* x16 (Physical) HHFL | 4* x16 (Physical) FHFL |
| PCIe Orientation | Vertical | Horizontal | Vertical |
| PSU | 2000W | 2000W | 2000W |
| Clock Speed | Up to 26 Cores @ 4.7GHz (SSE) | Up to 26 Cores @ 4.7GHz (SSE) | Up to 26 Cores @ 4.7GHz (SSE) |

# Benchmarks

| 128GB. 4.18 Kernel | 2595X Stock | 2595X Blackcore |
|---|---|---|
| mlc -r --latency_matrix (ns) [Lower is better] | 102.3 | 73.5 |
| L2->L2 HIT (ns) [Lower is better] | 62.3 | 46.1 |
| PCIe Latency (X2522) - slot1 (ns) [Lower is better] | 432 | 404 |
| PCIe Latency (X4522) - slot1 (ns) [Lower is better] | 348 | 306 |
| All-core Clock-speed (SSE, GHz) [Higher is better] | 3.5 | 4.8 |
| 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.*