VECTRA

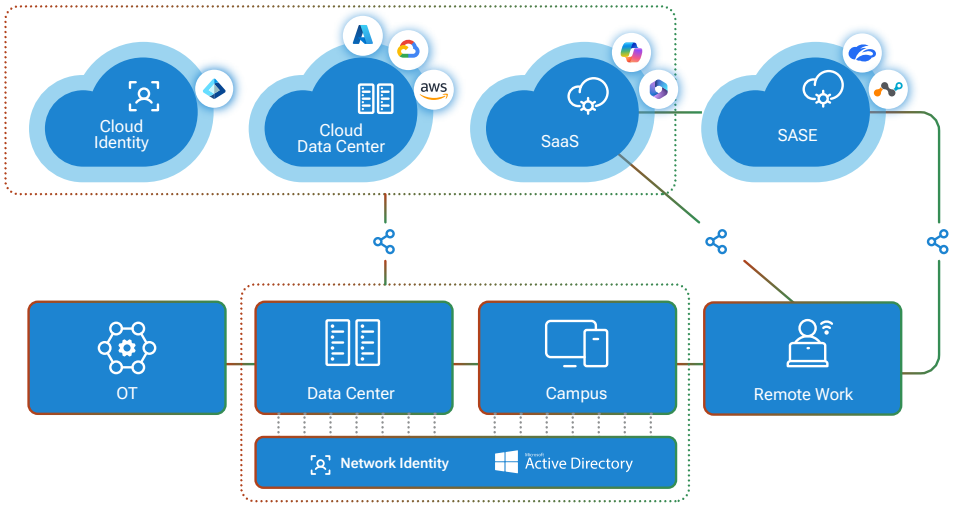
Appliance and Sensor specifications

The Vectra AI Platform provides coverage, clarity, and control across the entire modern network. Coverage for attackers' moves across all of your network, identity, and cloud threat surfaces. AI signal clarity prioritizes attacks with AI assistants to automatically triage, correlate, and prioritize threats across domains. We put you in control with context to discover, hunt, investigate, and stop attacks early in their progression - all while spending less time prioritizing alerts.

Software updates, including new threat intelligence and detection algorithms, are included with your license. They are delivered to your system on a regular basis to ensure continuous protection from the latest threats. Vectra Match customers can also choose to enable automated curated ruleset updates that provide signature updates.

Vectra appliances are supported in traditional physical on-prem, virtual hypervisor, and IaaS cloud environments. Vectra supports AWS, Azure, and GCP clouds along with VMware, Hyper-V, Nutanix, and KVM hypervisors. Vectra continually evaluates customer demand for support of new environments. Please check with your account team for questions on future plans.

X-Series and S-Series appliances can perform "Sensor" duties, passively capturing network traffic out-of-band and forwarding a metadata stream to the "Brain" appliance for further processing. B-Series and X-Series appliances can serve as the Brain for your deployment. They run network detection models locally and serve as customer side integration point for added coverage,



response, and context enhancement options. The Brain appliance is connected to the Vectra cloud where the Respond UX provides the UI along with advanced features such as Instant Investigation and AI-Assisted Search. In Quadrant UX deployments, the Brain appliance serves the classic Vectra UI locally.

Network traffic can be directed to appliances through physical SPAN/Copy/Mirror ports, TAPs, and packet brokers. Native cloud packet forwarding options are supported such as VPC Traffic Mirroring (AWS), VTAP (Azure), and NSI (GCP). Hypervisor based packet forwarding options are also supported. Vectra Sensors support a variety of encapsulation methods such as VXLAN and GENEVE. For additional detail, please see the Vectra NDR (Detect) and Network Identity Architecture Overview.

Physical Appliance Specifications

	X3	X29/M29*	X47/M47*
Management Interfaces (MGT)	2 x 1GbE Copper	2 x 1 GbE Copper	2 x 1 GbE Copper
Capture Interfaces†	2 x 1 GbE Copper 2 x 10 GbE SFP+	2 x 1 GbE Copper 2 x 10 GbE SFP+	2 x 1 GbE Copper 2 x 10/25 GbE SFP28
Alternate Interface Configuration	N/A	Yes, see footnote	Yes, see footnote
Paired Sensors††	150	150	150
Tracked Hosts[1]	100,000	150,000	150,000
Sensor Mode Performance	9 Gbps	15 Gbps	20 Gbps
Mixed Mode Performance	8 Gbps	8 Gbps	15 Gbps
Brain Mode Performance	14 Gbps	20 Gbps	30 Gbps
Match Throughput	Sensor 3 Gbps Mixed 1 Gbps	Sensor 9 Gbps Mixed 4.6 Gbps	Sensor 13 Gbps Mixed 6 Gbps
Input Voltage	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz
Power	Normal: 277 W (945 BTU/h) Max: 392 W (1338 BTU/h)	Normal: 296 W (10010 BTU/h) Max: 337 W (1150 BTU/h)	Normal: 602 W (2204 BTU/h) Max: 866 W (2966 BTU/h)
Current	3.5 A at 110 VAC 1.7 A at 220 VAC	2.9 A at 110 VAC 1.5 A at 220 VAC	8.0 A at 110 VAC 3.9 A at 220 VAC
Dimensions	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 662.19 mm (26.070 inches) D	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 787.04 mm (30.99 inches) D	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 787.04 mm (30.99 inches) D
Weight	16.6 kg (36.6 lb	17.5 kg (38.6 lb)	20.3 kb (44.8 lb)
Environment	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 26 CFM = 12.3 l/s Sound Power 3.8 bels	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 35.8 CFM = 16.9 l/s Sound Power 7.2 bels	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 111.8 CFM = 52.8 l/s Sound Power 8.4 bels
MTBCF	45,700 hours	87,600 hours	97,300 hours

Alternate Interface Configuration:

* For the X29/M29 and X47/M47 appliances, one of the 10 GbE SFP+ ports that are normally used for capture traffic can be configured to be used as a management interface. When configured as such, the original MGT1 copper port would be unused.

Please see the quick start guides for these appliances for full details and how to configure the alternate interface configurations.

	S1**	S11	S101	S127
Management Interfaces (MGT)†	2 x 1 GbE Copper	2 x 1 GbE Copper	2 x 10 GbE SFP+	2 x 10/25 GbE SFP28
Capture Interfaces†	4 x 1 GbE Copper 2 x 10 GbE SFP+	2 x 1 GbE Copper	2 x 10 GbE SFP+ 2 configurable to: 10/25 GbE SFP28, 40 GbE QSFP, 100 GbE QSFP28	2 configurable to: 10/25 GbE SFP28, 40 GbE QSFP, 100 GbE QSFP28
Alternate Interface Configuration	Yes, see footnote	N/A	N/A	N/A
Sensor Mode Performance	1 Gbps	2 Gbps	50 Gbps	58 Gbps
Match Throughput	600 Mbps	1.2 Gbps	33 Gbps	30 Gbps
Input Voltage	Single external power supply, auto-sensing 100-240VAC, 50-60 Hz	Single power supply, auto-sensing 100-240VAC, 50-60 Hz	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz
Power	Normal: Not available Max: 45W (154 BTU/h)	Normal: 152 W (519 BTU/h) Max: 186 W (635 BTU/h)	Normal: 615 W (2098 BTU/h) Max: 868 W (2962 BTU/h)	Normal: 769 W (2624 BTU/h) Max: 1073 W (3661 BTU/h)
Current	2.0 A at 100 VAC 1.0 A at 240 VAC	1.7 A at 110 VAC 0.8 A at 220 VAC	7.9 A at 110 VAC 3.8 A at 220 VAC	9.8 amps at 110 VAC 4.8 amps at 220 VAC
Dimensions	52 mm (2.04 in) H 208 mm (8.18 in) W - 200 mm (7.87 in) D	42.8 mm (1.685 inches) H 434 mm (17.1 inches) W 535 mm (22.6 inches) D	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 808.5 mm (31.8 inches) D	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 787.04 mm (30.99 inches) D
Weight	Without power supply unit (PSU): 1.4 kg (3.1 lb) Including power supply and packaging: 4.9 kg (10.8 lb)	12.2 kg (26.9 lb)	21 kb (46.3 lb)	20.3 kg (44.8 lb)
Environment	Operating temperature 0° to 40° C (32° to 104° F) Non-operating temperature -40° to 70° C (-40° to 158° F) Airflow: In bottom, out sides and back, 10 CFM = 4.7 l/s Sound Power 4.8 bels	Operating temperature 0° to 40° C (32° to 104° F) Non-operating temperature -40° to 70° C (-40° to 158° F) Airflow: Front to back, 11.4 CFM = 5.4 l/s Sound Power 5.7 bels	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 61.6 CFM = 29.1 l/s Sound Power 7.6 bels	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 111.8 CFM = 52.8 l/s Sound Power 8.4 bels
MTBCF	445,000 hours	109,000 hours	107,000 hours	102,000 hours

Alternate Interface Configuration:

**For the S1 appliance, both management and capture ports can be configured to use one of the 10 GbE SFP+ ports for either management or capture use. In the default configuration, only the copper interfaces are used. This results in 4 different potential interface configurations for the S1 appliance.

Please see the quick start guides for these appliances for full details and how to configure the alternate interface configurations.

	B101	B127
Management Interfaces (MGT)†	2 x 10 GbE SFP+	2 x 10/25 GbE SFP28
Capture Interfaces	N/A	N/A
Alternate Interface Configuration	N/A	N/A
Paired Sensors††	500	500
Tracked Hosts[1]	300,000	300,000
Sensor Mode Performance	N/A	N/A
Mixed Mode Performance	N/A	N/A
Brain Mode Performance	75 Gbps	75 Gbps
Match Throughput	N/A	N/A
Input Voltage	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz	Dual power supplies, auto sensing 100-240 VAC, 50-60 Hz
Power	Normal: 604 W (2061 BTU/h) Max: 846 W (2887 BTU/h)	773 W (2638 BTU/h) Max: 1149 W (3920 BTU/h)
Current	7.7 amps at 110 VAC 3.7 amps at 220 VAC	10.7 amps at 110 VAC 5.3 amps at 220 VAC
Dimensions	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 808.5 mm (31.8 inches) D	42.8 mm (1.685 inches) H 482 mm (18.976 inches) W 787.04 mm (30.99 inches) D
Weight	21 kg (46.3 lb)	20.3 kg (44.8 lb)
Environment	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 61.6 CFM = 29.1 l/s Sound Power 7.6 bels	Operating temperature 10° to 35° C (50° to 95° F) Non-operating temperature -40° to 65° C (-40° to 149° F) Airflow: Front to back, 111.8 CFM = 52.8 l/s Sound Power 8.4 bels
MTBCF	109,000 hours	132,000 hours

† SFP Options : For any appliance that supports SFP interface (SFP+, SFP28, QSFP, QSFP28, etc), please see the SFPs and QSFPs supported in Vectra appliances article on the Vectra support site for additional details and note the following regarding which can be included free as part of your order, or added to your order for an additional cost:

- Up to 2 (if supported by your appliance model), SFP, SFP+, or SFP28 modules can be included at no additional cost in your appliance order.
  - This is valid for each appliance in your order.
  - Additional SFPs above a count of the two per appliance specified above, will incur additional cost.
- All 40/100G QSFPs will incur additional cost over the base price of the appliance.

†† Paired Sensors : Refers to how many Sensors (physical, virtual, or cloud) an appliance can pair with.

[1] Tracked Hosts : Refers to how many hosts the appliance running in Brain or Mixed mode can track simultaneously (open host sessions).
Brains can typically retain and display data for larger numbers of hosts, this only refers to how many hosts the system can process metadata for simultaneously.

Performance – Refers to the amount of network traffic observed by Sensors that a Sensor can produce metadata for, or the amount of traffic observed by Sensors that a Brain can process metadata for. The performance numbers are based upon average throughput a given Sensor/Brain can process. Actual performance may vary depending on traffic composition. Please contact Vectra AI to discuss further.

Please see the quick start guides for these appliances for full details and how to configure the alternate interface configurations.

Vectra Match Performance

Appliances	Mode	Match Throughput (Detect and Match)
S1	Sensor	400 Mbps
S11	Sensor	1.2 Gbps
S101	Sensor	33 Gbps
S127	Sensor	30 Gbps
X3	Sensor	3 Gbps
X3	Mixed	1 Gbps
X29	Sensor	9 Gbps
X29	Mixed	4.6 Gbps
X47	Sensor	13 Gbps
X47	Mixed	6 Gbps
2 core vSensors (VMware, Hyper-V, KVM, Nutanix)	Sensor	250 Mbps
4 core vSensors (VMware, Hyper-V, KVM, Nutanix)	Sensor	500 Mbps
8 core vSensors (VMware, Hyper-V, KVM, Nutanix)	Sensor	1 Gbps
16 core vSensors (VMware, Hyper-V, KVM, Nutanix)	Sensor	2.5 Gbps
32 core vSensor (VMware)	Sensor	10 Gbps
2 core vSensors (AWS, Azure, GCP)	Sensor	500 Mbps
4 core vSensors (AWS, Azure, GCP)	Sensor	1 Gbps
8 core vSensors (AWS)	Sensor	2 Gbps
16 core vSensors (AWS)	Sensor	4 Gbps
16 core vSensor (GCP)	Sensor	2.5 Gbps
32 core vSensor (GCP)	Sensor	5 Gbps

Virtual Brains – Customer Premise Hypervisor Deployment

Hypervisor	VM Type	Cores	Memory	Storage (OS, Data) in GB	Paired Sensors	Tracked Hosts	Performance
VMware	vSphere 6.5 or later	4	48GB	128,512	5	25,000	150 Mbps
VMware	vSphere 6.5 or later	6	48GB	128,512	10	37,500	500 Mbps
VMware	vSphere 6.5 or later	8	64GB	128,512	15	50,000	2 Gbps
VMware	vSphere 6.5 or later	16	128GB	128,512	25	50,000	4 Gbps
VMware	vSphere 6.5 or later	32	256GB	128,512	100	150,000	10 Gbps
Nutanix	AOS 6.8.1 and higher with Prism Central (and v3 API) available	32	256GB	128,512	100	150,000	10 Gbps

Virtual Sensors - Customer Premise Hypervisor Deployment

Hypervisor	VM Type	Cores	Memory	Storage	Performance
VMware	vSphere 6.5 or later	2	8 GB	100 GB	500 Mbps
VMware	vSphere 6.5 or later	4	8 GB	150 GB	1 Gbps
VMware	vSphere 6.5 or later	8	16 GB	150 GB	2 Gbps
VMware	vSphere 6.5 or later	16	64 GB	600 GB*	5 Gbps
VMware	vSphere 6.5 or later	32	114 GB	830 GB	20 Gbps
Hyper-V	Windows Server 2016 w/ HW v8 or higher	2	8 GB	100 GB	500 Mbps
Hyper-V	Windows Server 2016 w/ HW v8 or higher	4	8 GB	150 GB	1 Gbps
Hyper-V	Windows Server 2016 w/ HW v8 or higher	8	16 GB	150 GB	2 Gbps
Hyper-V	Windows Server 2016 w/ HW v8 or higher	16	64 GB	500 GB	5 Gbp
KVM	Standard PC (Q35 + ICH9, 2009)	2	8 GB	100 GB	500 Mbps
KVM	Standard PC (Q35 + ICH9, 2009)	4	8 GB	150 GB	1 Gbps
KVM	Standard PC (Q35 + ICH9, 2009)	8	16 GB	150 GB	2 Gbps
KVM	Standard PC (Q35 + ICH9, 2009)	16	64 GB	500 GB	5 Gbps
Nutanix	AOS Version: 5.20.3.5 or later AHV Version 2021105.2267 or later	2	8 GB	100 GB	500 Mbps
Nutanix	AOS Version: 5.20.3.5 or later AHV Version 2021105.2267 or later	4	8 GB	150 GB	1 Gbps
Nutanix	AOS Version: 5.20.3.5 or later AHV Version 2021105.2267 or later	8	16 GB	150 GB	2 Gbps
Nutanix	AOS Version: 5.20.3.5 or later AHV Version 2021105.2267 or later	16	64 GB	500 GB	5 Gbps

Cloud - IaaS Deployment

Brain Deployment

Cloud	VM Type	Cores	Memory	Storage (OS, Data, Data, Data) in GB	Paired Sensors	Tracked Hosts	Performance
AWS	r5d.2xlarge	8	64 GB	256, 64, 128, 256	15	50,000	2 Gbps
AWS	r5d.4xlarge	16	128 GB	256, 64, 128, 256	25	50,000	5 Gbps
AWS	r5d.8xlarge	32	256 GB	256, 64, 128, 256	100	150,000	15 Gbps
AWS	r5.16xlarge	64	512 GB	2562, 64, 512, 512	500	500,000	50 Gbps
Azure	Standard_E16s_v3	16	128 GB	256, 64, 128, 256	25	50,000	5 Gbps
Azure	Standard_E32s_v3	32	256 GB	256, 64, 128, 256	100	150,000	15 Gbps
GCP	n2-highmem-16	16	128 GB	1 TB (single partition)	25	50,000	5 Gbps
GCP	n2-highmem-32	32	256 GB	1 TB (single partition)	100	150,000	15 Gbps
GCP	n2-highmem-64	64	512 GB	1.2 TB (single partition)	100	150,000	50 Gbps
GCP	n2-highmem-96	96	768 GB	4 TB (single partition)	100	500,000	85 Gbps

[2] This disk has upgraded performance over standard EBS volumes.

vSensor Deployment

Cloud	VM Type	Cores	Memory	Storage (OS, Data) in GB	Performance
AWS	r5(n).large[3]	2	16 GB	50, 128	1 Gbps
AWS	r5(n).large[3]	4	32 GB	50, 128	2 Gbps
AWS	r5(n).2xlarge[3]	8	64 GB	50, 512	4 Gbps
AWS	r5(n).4xlarge[3]	16	128 GB	50, 512	8 Gbps
AWS	c5n.18xlarge[3]	72	192 GB	50, 128 (No PCAP capability)[3]	Up to 10 Gbps[3]
Azure	Standard_DS11_v2	2	14 GB	50, 128	1 Gbps
Azure	Standard_DS3_v2	4	14 GB	50, 128	2 Gbps
GCP	e2-standard-2	2	8 GB	50, 128	1 Gbps
GCP	e2-standard-4	4	16 GB	50, 128	2 Gbps
GCP	e2-standard-16	16	64 GB	50, 128	5 Gbps
GCP	e2-standard-32	32	128 GB	50, 128	10 Gbps

[3] AWS vSensor configurations include both "n" and non "n" r5 instance types.

- Networking performance is quoted as "up to 10Gbps" on the r5 instances by AWS and can be influenced by neighboring instances allocated to the same physical hardware in AWS.
- Networking performance is quoted as "up to 25Gbps" on the r5n instances by AWS. These instances are still shared with neighbors but are optimized by AWS to have higher overall network throughput.
- Customers can work with AWS to utilize dedicated instances and distribute instances to provide the required networking throughput to their vSensor instances on that dedicated hardware.

The c5n.18x large vSensor instance type does not have a rolling capture buffer and can therefore not support PCAP generation for Detections that originate from traffic that is processed by those instances.

Due to variability in customer cloud network configurations and how mirroring may configured, it is not possible to guarantee performance on any instance with more than 2 cores (numbers are approximate and based on even distribution of packets across threads). Please contact Vectra to discuss further.

Vectra monitors instance types available from the supported IaaS vendors for cost, performance, and availability. If you have questions about specific instance types that are not supported, please contact your Vectra account team.

For more information please contact us: Email: info@vectra.ai | vectra.ai