Appliance Specifications

ForeScout CounterACT® can be deployed on virtual or physical appliances. For virtualized environments, VMware® ESXi, Microsoft® Hyper-V, and KVM hypervisors are supported. Large networks that require multiple physical or virtual appliances can be centrally managed by the Enterprise Manager.

---------- VCT AND VCEM VIRTUAL APPLIANCES ----------
(Appliance-based Licensing)

ForeScout virtual appliances operating in the appliance-based licensing mode are offered in several different sizes to meet your specific needs. This section provides specifications for these virtual appliances on CounterACT 8.0.

ForeScout CounterACT and Enterprise Manager virtual appliances are supported on the following hypervisors:
- VMware ESXi v5.1, v5.5, v6.0, v6.5
- Microsoft Hyper-V Server 2012, 2012 R2, 2016
- KVM on Red Hat Enterprise Linux (RHEL)/CentOS 7.0

Hardware Requirements
- Maximum disk latency of 5ms
- Recommended I/O Read 200MB/s or higher, I/O Write 200MB/s or higher
- No CPU over commitment on virtual hosts
- The CPUs and memory must be dedicated/reserved to the virtual appliance
- Additional disk space may be required to store local debug logs; virtual drives up to 2TB are supported

Note: In virtual environments, many factors, such as the type of CPU, hypervisor version, memory and network I/O options may impact the virtual appliance performance.

Note: The results shown below were tested using a 2.7Ghz CPU

Virtual CounterACT Specifications

Performance Specifications	VCT-R	VCT-100	VCT-1000	VCT-2000	VCT-4000	VCT-10000
Devices[2,3]	Up to 100	Up to 500	Up to 1,000	Up to 2,500	Up to 4,000	Up to 10,000
Switch/WLAN devices[3]	Up to 4	Up to 20	Up to 20	Up to 100	Up to 100	Up to 200
802.1x Authentications/sec[8]	Up to 5	Up to 10	Up to 10	Up to 42 (+2 vCPUs & 4GB Memory)[4]	Up to 42 (+2 vCPUs & 4GB Memory)[4]	Up to 86 (+4 vCPUs & 4GB Memory)[4]

Traffic Monitoring[5] + Captive Portals HTTP logins/min	Up to 100 [Mb/s] 25 [KPPS] 5 HTTP logins/min	Up to 1 [Gb/s] 250 [KPPS] 10 HTTP logins/min (+2 vCPUs & 4GB Memory)[4]	Up to 1 [Gb/s] 250 [KPPS] 10 HTTP logins/min (+2 vCPUs & 4GB Memory)[4]	Up to 3 [Gb/s] 750 [KPPS] 88 HTTP logins/min (+8 vCPUs & 12GB Memory)[4]	Up to 3 [Gb/s] 750 [KPPS] 88 HTTP logins/min (+8 vCPUs & 12GB Memory)[4]	Up to 3 [Gb/s] 750 [KPPS] 88 HTTP logins/min (+8 vCPUs &12GB Memory)[4]
Virtual Machine Specifications[1]	**VCT-R**	**VCT-100**	**VCT-1000**	**VCT-2000**	**VCT-4000**	**VCT-10000**
vCPUs	4 vCPUs	6 vCPUs	6 vCPUs	10 vCPUs	10 vCPUs	14 vCPUs
Memory	8 GB	14 GB	14 GB	24 GB	24 GB	32 GB
Minimum Hard Drive Storage	200 GB	200 GB	200 GB	200 GB	200 GB	200 GB

Virtual Enterprise Manager Specifications

Enterprise Manager Performance Specifications	VCEM-05	VCEM-10	VCEM-25	VCEM-50	VCEM-100	VCEM-150	VCEM-200
CounterACT Appliances[1]	5	10	25	50	100	150	200
Virtual Machine Specifications	VCEM-05	VCEM-10	VCEM-25	VCEM-50	VCEM-100	VCEM-150	VCEM-200
vCPUs	4 vCPUs	4 vCPUs	8 vCPUs	8 vCPUs	8 vCPUs	10 vCPUs	10 vCPUs
Memory	12 GB	12 GB	16 GB	16 GB	16 GB	24 GB	24 GB
Minimum Hard Drive Storage	200 GB	200 GB	200 GB	200 GB	200 GB	200 GB	200 GB

Dedicated Virtual Appliance for managing switch devices
When a CounterACT virtual appliance does not manage any endpoints, but instead, only manages switch devices, the maximum number of switch devices that the appliance can manage is as follows:

Performance Specifications	VCT-100	VCT-1000	VCT-2000	VCT-4000	VCT-10000
Maximum Number of Managed Switches[3,9]	Up to 120	Up to 120	Up to 280	Up to 280	Up to 400
Virtual Machine Specifications	VCT-100	VCT-1000	VCT-2000	VCT-4000	VCT-10000
vCPUs	6 vCPUs	6 vCPUs	10 vCPUs	10 vCPUs	14 vCPUs
Memory	14 GB	14 GB	24 GB	24 GB	32 GB
Minimum Hard Drive Storage	200 GB	200 GB	200 GB	200 GB	200 GB

------ CT AND CEM SERIES PHYSICAL APPLIANCES ------
(Appliance-based Licensing)

ForeScout CT and CEM Series appliances operate in appliance-based licensing mode and are offered in several different sizes to meet your specific needs.

CounterACT Appliance Specifications

Performance Specifications	CT-R	CT-100	CT-1000	CT-2000	CT-4000	CT-10000
Endpoints[3]	Up to 100	Up to 500	Up to 1,000	Up to 2,500	Up to 4,000	Up to 10,000
Switches/Wireless devices[3]	Up to 4	Up to 10	Up to 20	Up to 50	Up to 80	Up to 200
Traffic Monitoring	Up to 100 [Mb/s] 25 [KPPS]	Up to 500 [Mb/s] 125 [KPPS]	Up to 1 [Gb/s] 250 [KPPS]	Up to 2 [Gb/s] 500 [KPPS]	Up to 4 [Gb/s][1] 1000 [KPPS]	Up to 6 [Gb/s][1] 2000 [KPPS]
Hardware Specifications	CT-R	CT-100	CT-1000	CT-2000	CT-4000	CT-10000
Chassis	1U desktop (steel slim line case)	1U 19" rack mount	1U 19" rack mount	2U 19" rack mount	2U 19" rack mount	2U 19" rack mount
Network Ports Options[7]	4 Copper	6 Copper	8 Copper	8 Copper	8 Copper	8 Copper
		4 Copper + 2 Fiber	4 Copper + 4 Fiber	4 Copper + 4 Fiber	4 Copper + 4 Fiber	4 Copper + 4 Fiber
					6 Copper + 2 Fiber 10G	6 Copper + 2 Fiber 10G
I/O Support	1 serial port (RJ45)	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)
USB Ports	2, USB 2.0-compliant	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0
Video (VGA)	1 (DB15)	1 (DB15)	1 (DB15)	1 (DB15)	1 (DB15)	1 (DB15)
DVD-ROM	N/A	1	1	1	1	1
Hard Drives	1 HDD	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)
Environmental Specifications	CT-R	CT-100	CT-1000	CT-2000	CT-4000	CT-10000
Power Supply	1 @ up to 60W 100-240VAC (External)	1 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC
Power Consumption (max)	45.3W	744W	744W	744W	744W	744W
Operating Temperature	5°C to 40°C (41°F to 104°F)	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH), with 26°C max dew point.	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH), with 26°C max dew point.	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity
Storage Temperature	0°C to 70 °C (32°F to 158°F)	–40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C (68°F) per hour	–40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C (68°F) per hour	–40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C (68°F) per hour	–40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C (68°F) per hour	–40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C (68°F) per hour
Heat Dissipation (max)	n/a	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr
Humidity	20% – 90%	20% to 80% (noncondensing) at a maximum wet bulb temperature of 29°C (84.2°F)	20% to 80% (noncondensing) at a maximum wet bulb temperature of 29°C (84.2°F)	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH),	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH),	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH),

				with 26°C (78.8°F) max dew point	with 26°C (78.8°F) max dew point	with 26°C (78.8°F) max dew point
Appliance Dimensions	Height: 4.2cm (1.65 inches) Width: 18.0cm (7.1 inches) Depth: 15.0cm (5.9 inches)	Height: 4.3cm (1.69 inches) Width: 48.2cm (18.99 inches) Depth: 70.1cm (27.61 inches)	Height: 4.3cm (1.69 inches) Width: 48.2cm (18.99 inches) Depth: 70.1cm (27.61 inches)	Height: 8.7cm (3.44 inches) Width: 48.2cm (18.99 inches) Depth: 72.3cm (28.46 inches)	Height: 8.7cm (3.44 inches) Width: 48.2cm (18.99 inches) Depth: 72.3cm(28.46 inches)	Height: 8.7cm (3.44 inches) Width: 48.2cm (18.99 inches) Depth: 72.3cm (28.46 inches)
Shipment Package (Length,Width,Height) +Weight	Size: 29.2cm x 23.5cm x 10.2cm (11.5 x 9.25 x 4 inches) Weight: 4 pounds	Size: 91.4cm x 61.0cm x 27.9cm (36.0 x 24.0 x 11.0 inches) Weight: 56 pounds	Size: 91.4cm x 61.0cm x 27.9cm (36.0 x 24.0 x 11.0 inches) Weight: 57 pounds	Size: 91.4cm x 61.0cm x 27.9cm (36.0 x 24.0 x 11.0 inches) Weight: 65 pounds	Size: 91.4cm x 61.0cm x 27.9cm (36.0 x 24.0 x 11.0 inches) Weight: 66 pounds	Size: 91.4cm x 61.0cm x 27.9cm (36.0 x 24.0 x 11.0 inches) Weight: 67 pounds

Dedicated Appliance for managing switch/wireless devices

When a CounterACT Appliance does not manage any endpoints, but instead only manages wireless/switch devices, the maximum number of wireless/switch devices that the appliance can manage is as follows:

Performance Specifications	CT-R	CT-100	CT-1000	CT-2000	CT-4000	CT-10000
Switch dedicated appliance Maximum Number of Managed Switches[3]	5	25	300	500	1,000	1,500
Wireless dedicated appliance Maximum Number of WLAN devices[3]	4	20	100	150	200	1,000

[1] Extended Modules are not included as part of the VM specification. In order to run extended modules on virtual appliances, it is required to allocate more hardware resources to the VM depending on the module required and usage.

[2] Device count, as determined by ForeScout appliance, is the number of devices known to the appliance by either their MAC address and/or their IP address. Devices may be detected by the appliance when on-site or off-site, or they may be made known to the appliance via third-party integrations. A device may be counted more than once if it uses multiple IP addresses and/or multiple MAC addresses. Devices include user endpoints (such as laptops, tablets and smartphones), network infrastructure devices (such as switches, routers and access points), non-user devices (such as printers, IP phones, security equipment, medical devices, manufacturing equipment) and virtual machines. Device information is retained in the appliance from initial discovery until such time the information is purged, based on aging preferences set in the product.

[3] Each CounterACT appliance, physical or virtual, is licensed for a specified device count. However, the maximum number of devices manageable will vary based on several factors, including but not limited to, network environment, product configuration and use cases. It is recommended to manage the switch devices and the connected endpoints with the same appliance to achieve optimal performance. The recommended maximum number of switches that an appliance can manage assumes that 50 endpoints connect to a switch on average. In cases where the average switch device has more endpoints connected to it, such as stacked switch devices, the overall number of managed switch devices will be lower (e.g., if the average switch device has 100 endpoints connected to it, each switch device will be accounted as two switches).

[4] The hardware resources specified in brackets for different functions in the specification table refer to the resources that need to be added to the basic VM specification in case this functionality is required.

[5] The maximum bandwidth per E1000/ Hyper-V Network Adapter vNIC is 750Mb/s using 1G interface, and up to four (4) E1000/ Hyper-V Network Adapter vNICs are supported on a single virtual appliance to obtain 3Gb/s aggregate monitoring bandwidth. Support for VMXNET3 interfaces is available for the VCT-2000/4000/10000: The maximum bandwidth per VMXNET3 vNIC is 1Gb/s using 10G interface, and up to two (2) VMXNET3 vNICs are supported on a single virtual appliance to obtain 2Gb/s aggregate monitoring bandwidth. Support for Hyper-V Network Adapter is available for the VCT-2000/4000/10000: The maximum bandwidth per interface is 1.2Gb/s using a 10G interface, and up to three (3) Hyper-V Network Adapters are supported on a single virtual appliance to obtain 3.6Gb/s aggregate monitoring bandwidth. HTTP login is done by injecting HTTP redirect into an endpoint's browser session and authenticating it using Active Directory.

[6] Requires ForeScout CounterACT 7.0 Service Pack 3.0 and above

[7] Copper ports are 10/100/1000 RJ-45; Fiber ports are 1Gb/s, 1000Base-SX SFP; Fiber 10G ports are 10Gb/s, 10Gbase-SR SFP+

[8] Performance shown in the table is for 802.1x EAP-TLS authentications without Fast Reconnect.

[9] The appliance should be manually configured to a fixed number of subprocesses to work as a dedicated switch appliance. The number of subprocesses should be set to 10 for VCT-100/VCT-1000, to 15 for VCT-2000/VCT-4000 to 20 for VCT-10000. Instructions for configuring the number of subprocesses can be found in the Switch Plugin manual, under section "Determining the Number of Sub-Processes to Run".

Physical Enterprise Manager Specifications

Enterprise Manager Performance Specifications	CEM-05	CEM-10	CEM-25	CEM-50
CounterACT Appliances[1]	5	10	25	50
Hardware Specifications	**CEM-05**	**CEM-10**	**CEM-25**	**CEM-50**
Network Ports – Copper (RJ-45)	4 10/100/1000 Mbps	4 10/100/1000 Mbps	8 10/100/1000 Mbps	8 10/100/1000 Mbps
I/O Support	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)
USB Ports	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back- panel USB 2.0 + 1 front-panel USB 2.0	2 back- panel USB 2.0 + 1 front-panel USB 2.0	2 back- panel USB 2.0 + 1 front-panel USB 2.0
Video (VGA)	1 (DB15)	1 (DB15)	1 (DB15)	1 (DB15)
CD-ROM	1	1	1	1
Hard Drives	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)
Power Supply	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC
Environmental Specifications	**CEM-05**	**CEM-10**	**CEM-25**	**CEM-50**
Power Consumption (max)	744W	744W	744W	744W
Operating Temperature	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH), with 26°C Max dew point.	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity (RH), with 26°C Max dew point.	10°C to 35°C (50%F to 95%F) at 10% to 80% relative humidity	10°C to 35°C (50%F to 95%F) at 10% to 80% relative humidity
Storage Temperature	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour
Cooling Requirement	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr
Humidity	20% to 80% (noncondensing) at a maximum wet	20% to 80% (noncondensing) at a maximum wet bulb	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity

	bulb temperature of 29°C (84.2°F)	temperature of 29°C (84.2°F)		
Chassis	1U 19" rack mount	1U 19" rack mount	2U 19" rack mount	2U 19" rack mount
Dimensions	Height: 42.92mm (1.69 inches) Width: 482.34mm (18.99 inches) Depth: 701.29mm (27.61 inches)	Height: 42.92mm (1.69 inches) Width: 482.34mm (18.99 inches) Depth: 701.29mm (27.61 inches)	Height: 87.30mm (3.44 inches) Width: 482.4mm (18.99 inches) Depth: 722.88mm (28.46 inches)	Height: 87.30mm (3.44 inches) Width: 482.4mm (18.99 inches) Depth: 722.88mm (28.46 inches)
Shipment	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 57 pounds	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 57 pounds	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 65 pounds	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 65 pounds

Performance Specifications	CEM-100	CEM-150	CEM-200
CounterACT Appliances[1]	100	150	200
Hardware Specifications	CEM-100	CEM-150	CEM-200
Network Ports – Copper (RJ-45)	8 10/100/1000 Mbps	8 10/100/1000 Mbps	8 10/100/1000 Mbps
I/O Support	1 serial port (DB9)	1 serial port (DB9)	1 serial port (DB9)
USB Ports	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0	2 back-panel USB 2.0 + 1 front-panel USB 2.0
VGA	1 (DB15)	1 (DB15)	1 (DB15)
CD-ROM	1	1	1
Hard Drives	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)	3 HDD (RAID-1+HS)
Power Supply	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC	2 @ up to 750W 100-240VAC
Environmental Specifications	CEM-05	CEM-10	CEM-25

Power Consumption (max)	744W	744W	744W
Operating Temperature	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity	10°C to 35°C (50°F to 95°F) at 10% to 80% relative humidity
Storage Temperature	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour	-40°C to 65°C (-40°F to 149°F) with a maximum temperature gradation of 20°C per hour
Cooling Requirement	2891 BTU/Hr	2891 BTU/Hr	2891 BTU/Hr
Humidity	10°C to 35°C at 10% to 80% relative humidity (RH), with 26°C (78.8°F) max dew point	10°C to 35°C at 10% to 80% relative humidity (RH), with 26°C (78.8°F) max dew point	10°C to 35°C at 10% to 80% relative humidity (RH), with 26°C (78.8°F) max dew point
Chassis	2U 19" rack mount	2U 19" rack mount	2U 19" rack mount
Dimensions	Height: 87.30mm (3.44 inches) Width: 482.4mm (18.99 inches) Depth: 722.88mm (28.46 inches)	Height: 87.30mm (3.44 inches) Width: 482.4mm (18.99 inches) Depth: 722.88mm (28.46 inches)	Height: 87.30mm (3.44 inches) Width: 482.4mm (18.99 inches) Depth: 722.88mm (28.46 inches)
Shipment	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 66 pounds	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 67 pounds	Size: 914.4 x 609.6 x 279.4mm) (36.0 x 24.0 x 11.0 inches) Weight: 67 pounds

The maximum number of CounterACT appliances that can be managed will vary based on several factors, including but not limited to, network environment, product configuration and use cases.

For customers using ForeScout CT and CEM series appliances with CounterACT 7, specifications are available at
https://www.forescout.com/wp-content/uploads/2016/11/ForeScout-Product-Specifications.pdf