



#### Valid from 1.9.2022

#### Flowmon Collector

Flowmon Collector is a stand-alone appliance for collection, long-term storage and analysis of flow data (NetFlow, IPFIX, sFlow, and other standards compatible with NetFlow) from flow enabled devices (switches, routers), Flowmon Probes or other flow sources. All Flowmon Collector models are equipped with Flowmon Monitoring Center (FMC) – a tool for flow collection, viewing and analyzing, automatic reporting and more. Flowmon Monitoring Center provides complete visibility into network traffic through dashboards, long-term graphs with various perspectives, Top N statistics, user-defined profiles, possibility to drill-down to any communication and more. Flowmon Collector's functionality can be extended with Flowmon modules.

Flowmon Collector is available in the form of a hardware appliance of 1U or 2U rack unit size and as a virtual appliance for deployment into virtual environments in VMware, Hyper-V, KVM, AWS, Azure or Google Cloud.



## **Hardware Appliance**

Flowmon Collector is equipped with two copper 10/100/1000 Mbps Ethernet management ports which can be used for appliance configuration, management and flow data collection. Management ports can be upgraded to 10 Gbps Ethernet ports by purchasing an upgrade package. The upgrade package can be purchased only for new appliances (at the moment of purchase).

Flowmon Collector is also equipped with a remote control feature for remote monitoring of device conditions. It offers command-line access, a web GUI and a virtual console. All hardware-based models provide a dedicated network interface for remote control. For details, see the Flowmon –



Pre-installation Manual document available at <a href="https://support.kemptechnologies.com/">https://support.kemptechnologies.com/</a>.

Flowmon Collector models differ in storage capacity, type of RAID, performance and dimensions of the server (1U/2U).

## Virtual Appliance

Flowmon Collector in the form of a virtual appliance (VA) is designed for deployment into virtual and cloud environments (VMware, Hyper-V, KVM, AWS, Azure, Google Cloud) and provides the same functionality as a hardware-based Flowmon Collector. Flowmon Collector models differ in performance and storage capacity.

Flowmon Collector VA supports up to two management ports which can be used for appliance configuration, management and flow data collection.

In addition, a Flowmon Collector VA supports up to two 1 Gbps Ethernet monitoring ports which provide network traffic monitoring and flow data (NetFlow/IPFIX) production. Flowmon Collector VA enables network traffic monitoring in a virtual environment without the necessity for other appliances for flow data production.

#### **Distributed Architecture**

Distributed architecture (DA) provides high scalability and load balancing for large and demanding environments with high volumes of flow data and a large number of flow sources. Flow data is distributed among multiple units for profiles computation and other flow data processing. More units can be simply added to increase both performance and storage capacity. Distributed Architecture provides a central console for management and configuration of all units in remote geographical locations as well as data aggregation and visualization in one place.

There are 3 types of units in DA: Master, Proxy and Slave units. Master and Proxy units are dedicated hardware-based or virtual appliances. Slave Units are traditional Flowmon Collectors (hardware-based or virtual appliances).

Find out more about <u>Distributed Architecture</u>



## **Hardware Appliances**

		Performance (fps)								
P/N	Model	Peak <sup>2</sup>	Moderate user <sub>3</sub> experience	Best user 4 experience	Storage Capacity	RAID	Disk Type	CPU⁵	RAM	Form Factor
IFC-R1-1000	Flowmon Collector R1-1000	75 000	40 000	20 000	1TB	HW RAID1	2 x SATA Hot Swap	8	32 GB	1U
IFC-R1-2000	Flowmon Collector R1-2000	100 000	40 000	20 000	2 TB	HW RAID1	2 x SATA Hot Swap	8	32 GB	1U
IFC-R5-3000PRO	Flowmon Collector R5-3000 Pro	150 000	80 000	40 000	3 TB	HW RAID5	4 x SATA Hot Swap	32	64 GB	1U
IFC-R10-4000PRO	Flowmon Collector R10-4000 Pro	250 000	120 000	60 000	4 TB	HW RAID10	4 x SATA Hot Swap	32	64 GB	1U
IFC-R5-6000PRO	Flowmon Collector R5-6000 Pro	150 000	80 000	40 000	6 TB	HW RAID5	4 x SATA Hot Swap	32	64 GB	1U
IFC-R5-12000PRO	Flowmon Collector R5-12000 Pro	200 000	120 000	60 000	12 TB	HW RAID5	4 x SATA Hot Swap	64	128 GB	1U
IFC-R10-16000PRO	Flowmon Collector R10-16000 Pro	300 000	160 000	80 000	16 TB	HW RAID10	4 x SATA Hot Swap	64	128 GB	1U
IFC-R5-24000PRO	Flowmon Collector R5-24000 Pro	200 000	120 000	60 000	24 TB	HW RAID5	4 x SATA Hot Swap	64	128 GB	1U
IFC-R6-48000PRO	Flowmon Collector R6-48000 Pro	250 000	120 000	60 000	48 TB	HW RAID6	8 x SATA Hot Swap	72	128 GB	2U
IFC-R6-96000PRO	Flowmon Collector R6-96000 Pro	250 000	120 000	60 000	96 TB	HW RAID6	14 x SATA Hot Swap	72	128 GB	2U
IFC-R6-192000PRO	Flowmon Collector R6-192000 Pro	250 000	120 000	60 000	192 TB	HW RAID6	18 x SATA Hot Swap	72	128 GB	2U
IFC-R5-2880SSD	Flowmon Collector R5-2880 SSD	400 000	200 000	100 000	2.88 TB	HW RAID5	4 x SATA Hot Swap	72	256 GB	1U
IFC-R5-11400SSD	Flowmon Collector R5-11400 SSD	400 000	200 000	100 000	11.4 TB	HW RAID5	4 x SATA Hot Swap	72	256 GB	1U
IFC-MU	Flowmon Collector – Master Unit	-	-	-	6 TB	HW RAID5	4 x SATA Hot Swap	32	64 GB	1U
IFC-PU	Flowmon Collector – Proxy Unit	-	-	-	6 TB	HW RAID5	4 x SATA Hot Swap	32	64 GB	1U

Performance is measured in our test environment using average customer data. There are several factors that may affect your specific performance, such as enabled extensions and modules or the number of concurrently executed queries in FMC. While we do our best to represent the data as fairly and accurately as possible, your environment may experience different limits.

Number of CPU cores, with Hyper Threading enabled.



The maximum number of flows per second (fps) that a Flowmon Collector optimized for flow collection can process. In this setup, no optional features are enabled and no other modules are in use.

This setup represents a good balance between performance and user experience while using optional features or Flowmon modules.

<sup>&</sup>lt;sup>4</sup> This setup ensures the best user-experience in complex network environments while using all features, or running multiple Flowmon modules.

# Hardware Appliances – Operating conditions

	Model	Dimensions (H x W x D) cm	Weight (kg)	PSU		Power Consumption		Heat
P/N				Power	Hot Swap	CPU Idle	CPU max	Dissipation (max.)
IFC-R1-1000	Flowmon Collector R1-1000	4.3 x 43.4 x 56.3	12.5	450 W	no	89 W	164 W	559.6 BTU/h
IFC-R1-2000	Flowmon Collector R1-2000	4.3 x 43.4 x 56.3	12.5	450 W	no	89 W	164 W	559.6 BTU/h
IFC-R5-3000PRO	Flowmon Collector R5-3000 Pro	4.3 x 43.4 x 56.3	13.1	2 x 550 W	yes	158 W	358 W	2730 BTU/h
IFC-R10-4000PRO	Flowmon Collector R10-4000 Pro	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	130 W	303 W	2559 BTU/h
IFC-R5-6000PRO	Flowmon Collector R5-6000 Pro	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	130 W	303 W	2559 BTU/h
IFC-R5-12000PRO	Flowmon Collector R5-12000 Pro	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	144 W	357 W	2559 BTU/h
IFC-R10-16000PRO	Flowmon Collector R10-16000 Pro	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	144 W	357 W	2559 BTU/h
IFC-R5-24000PRO	Flowmon Collector R5-24000 Pro	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	144 W	357 W	2559 BTU/h
IFC-R6-48000PRO	Flowmon Collector R6-48000 Pro	8.7 x 43.4 x 68.2	25.4	2 x 1100 W	yes	180 W	351 W	4100 BTU/h
IFC-R6-96000PRO	Flowmon Collector R6-96000 Pro	8.7 x 43.4 x 71.6	33.1	2 x 1100 W	yes	358 W	445 W	4100 BTU/h
IFC-R6-192000PRO	Flowmon Collector R6-192000 Pro	8.7 x 43.4 x 71.6	33.1	2 x 1100 W	yes	403 W	494 W	4100 BTU/h
IFC-R5-2880SSD	Flowmon Collector R5-2880 SSD	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	144 W	357 W	2559 BTU/h
IFC-R5-11400SSD	Flowmon Collector R5-11400 SSD	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	144 W	357 W	2559 BTU/h
IFC-MU	Flowmon Collector – Master Unit	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	130 W	303 W	2559 BTU/h
IFC-PU	Flowmon Collector – Proxy Unit	4.3 x 43.4 x 69.3	17.6	2 x 550 W	yes	130 W	303 W	2559 BTU/h

#### Continuous Operation:

Temperature: 10°C ÷ 35°C

Expanded Operation :

- Temperature: 5°C ÷ 40°C
- Relative Humidity: 5% ÷ 85% at 29°C

Relative Humidity: 10% ÷ 80% at 29°C

When operating in the expanded temperature range, system performance may be impacted. Device can work in this condition for up to 1% of annual operating hour



The specified temperature is the maximum dew point temperature.

## **Virtual Appliances**

P/N	Model	Performance (fps) <sup>1,2</sup>	Storage <sub>3</sub> Capacity	VMware ESXi	Windows Hyper-V	кум	Minimum Configuration <sup>2</sup>
IFC-500-VA	Flowmon Collector 500 Virtual Appliance	up to 75 000	0.5 TB	5.5 and higher 2	er 2012 R2 and higher	KVM 3:10.0 and higher QEMU 1.5.3 and higher libvirt 4.5.0 and higher	2 CPU cores, 8 GB RAM, 500 IOPS
IFC-1000-VA	Flowmon Collector 1000 Virtual	up to 75 000	1TB				2 CPU cores, 8 GB RAM, 500 IOPS
IFC-2000-VA	Flowmon Collector 2000 Virtual	up to 75 000	2 TB				2 CPU cores, 8 GB RAM, 500 IOPS
IFC-3000-VA	Flowmon Collector 3000 Virtual	up to 150 000	3 TB				4 CPU cores, 8 GB RAM, 1000 IOPS
IFC-6000-VA	Flowmon Collector 6000 Virtual	up to 150 000	6 TB				4 CPU cores, 8 GB RAM, 1000 IOPS
IFC-12000-VA	Flowmon Collector 12000 Virtual	up to 200 000	12 TB				8 CPU cores, 16 GB RAM, 2000 IOPS
IFC-24000-VA	Flowmon Collector 24000 Virtual	up to 200 000	24 TB				8 CPU cores, 16 GB RAM, 2000 IOPS
IFC-48000-VA	Flowmon Collector 48000 Virtual	up to 200 000	48 TB				8 CPU cores, 16 GB RAM, 2000 IOPS
IFC-64000-VA	Flowmon Collector 64000 Virtual	up to 200 000	64 TB				8 CPU cores, 16 GB RAM, 2000 IOPS
IFC-VA-MU	Flowmon Collector VA – Master Unit	-	6 TB				4 CPU cores, 8 GB RAM, 1000 IOPS
IFC-VA-PU	Flowmon Collector VA – Proxy Unit	-	6 TB				4 CPU cores, 8 GB RAM, 1000 IOPS

The maximal measured performance in flows per second (fps).

#### **About Progress**

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Performance is measured in our test environment using average customer data. In virtual environments, the performance depends on allocated resources, overall system load, and environment of deployment. There are several other factors that may affect your specific performance, such as enabled extensions and modules or the number of concurrently executed queries in FMC. While we do our best to represent the data as fairly and accurately as possible, your environment may experience different limits. Maximal performance can be achieved by allocating a sufficient amount of dedicated hardware resources, see Hardware Appliances for reference.

Some configuration options, such as supported disk size, may be limited by the customer's virtual environment regardless of which Flowmon Collector model has been selected. Any such limitations should be consulted with the vendor/distributor of the virtual environment.