Verkada

FAQ

Command Connector

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I. Overview

01 What is Command Connector?

Verkada Command Connector is a hardware device that bridges non-Verkada cameras to the Verkada cloud-based Command platform.

02 How many models of Command Connector exist?

Command Connector is offered in following models, each supporting a number of channels and degrees of onboard storage. See the table below for an overview of models, supported channels, storage, and pricing:

Models	Resolution	Days of onboard storage	Supported channels	Price
CC300-4TB	5MP (or less)	30	10	$2,999
	4K		5	
CC300-8TB	5MP (or less)	60	10	$3,499
	4K		5	
CC500-8TB	5MP (or less)	30	25	$5,499
	4K		12	
CC500-16TB	5MP (or less)	60	25	$6,499
	4K		12	
CC700-16TB[1]	5MP (or less)	30	50	$8,499
	4K		25	
CC700-32TB	5MP (or less)	60	50	$10,499
	4K		25	

1. A government-grade version of the CC700-16TB is also available.

03 Why did we build Command Connector?

It is clear that the future of video security is cloud-based, but transitioning to the cloud can prove challenging from both a technical (i.e., executing a successful cloud migration of on-prem systems) and financial perspective. We often hear from customers that they would love to cloud-manage their entire video security operation within Command: it's easy to use, has powerful analytics, and enables a single pane-of-glass view across sites. Using Command would, however, require them to replace much of their existing camera fleet with Verkada cameras–an often cost-prohibitive undertaking. Command Connector seamlessly bridges non-Verkada cameras to our Command platform, and serves as a stepping stone for companies seeking a gradual, budget-friendly transition to our fully-integrated, cloud-based system. With Command Connector, non-Verkada customers can now receive many benefits of our Command platform as they work to consolidate systems and execute a successful cloud migration.

04 Do I need to purchase any licenses to operate my Command Connector device?

Yes. A Command Connector customer will need to purchase the Command Connector hardware device (as illustrated in the table above in question 2), as well as a license for each non-Verkada camera channel feed running through Command Connector. Licenses are offered on a per-channel basis, available in 1, 3, 5 or 10-year intervals, and cost the same as existing Command video security licenses. See here for additional pricing information.

05 What defines a "channel?"

A channel is a feed from a single sensor of a camera. A single dome camera with one sensor, for instance, constitutes one channel. A single multisensor camera with four sensors, on the other hand, constitutes four channels, and each requires a license.

06 Do cameras that operate through Command Connector receive the same features and capabilities as native Verkada devices?

No. Non-Verkada cameras will not have the same access to features, capabilities, maintenance and support as that of natively-integrated Verkada devices. See Command Connector overview for a detailed comparison of the differences in Command experiences.

07 What is the warranty policy for Command Connector?

Each model of Command Connector comes with a 5-year warranty. We do not provide a warranty for non-Verkada cameras operating on Command Connector.

08 Which non-Verkada cameras does Command Connector support?

Command Connector is built to support both ONVIF Profile S conformant devices and non-ONVIF conformant RTSP-compatible devices. As devices from different vendors vary in terms of specific features and configurations, validated compatible devices are populated on our Hardware Compatibility List (HCL) to ensure optimal performance. We are regularly adding new ONVIF Profile S conformant and RTSP-compatible cameras to our HCL–cameras we know to work with Command Connector. The HCL specifies the manufacturers, model numbers, supported firmware versions and any clarifying notes on known issues or additional configurations that might be needed.

09 Can I trial Command Connector?

Yes. An organization can trial Command Connector for 30 days, with an option to extend the trial for 90 days total.

10 Can I request a non-Verkada camera be added to the HCL if it is currently not listed?

Yes. Customers can submit a Request for Compatibility Assessment (RFCA) by visiting the HCL page and completing the RFCA form at the bottom.

Verkada's Compatibility Lab will then review the RFCA to determine compatibility. If the assessment request is accepted, Verkada will provide an estimated timeframe for completing the evaluation and the necessary steps to ensure the camera's integration with Command Connector via email.

11 How long does an RFCA take?

An RFCA can take anywhere from weeks to months, depending on camera availability, the age of the firmware, staffing, and other factors.

12 Can an RFCA be expedited?

An RFCA can be expedited by shipping the unit(s) seeking RFCA to Verkada. To help maintain compatibility with future firmware versions, Verkada will keep the camera.

II. Getting started with Command Connector

13 How does Command Connector connect to non-Verkada Cameras using ONVIF Profile S?

Command Connector integrates with many non-Verkada cameras by leveraging the ONVIF Profile S standard, which enables the discovery, connection, and management of ONVIF Profile S conformant IP cameras. For successful integration, ensure that the non-Verkada cameras conform to this standard and have bidirectional communication with Command Connector. Authentication requires the username and password for each camera to enable management. In some cases, additional configuration from the camera's web user interface may be necessary to set up IP addresses, stream profiles, and other network settings.

14 What power cables do I need to operate my Command Connector?

All Command Connector units ship with a 2-meter C13 North America Type B Plug AC power cable. If customers are ordering from outside North America, they will need to order the correct power cable for their region.

15 How does Command Connector live alongside legacy video management software (VMS)?

Command Connector can be operated in parallel with a legacy VMS only if the underlying camera devices support streaming video to two separate NVRs. Support for streaming to multiple NVRs varies widely by camera manufacturer and model. Customers are advised to refer to the technical documentation of their cameras to verify if their cameras can support streaming to multiple NVRs.

16 Can Command Connector integrate with a non-Verkada VMS or NVRs?

No. Command Connector integrates with only non-Verkada camera devices. It does not integrate with other VMS or NVR appliances.

17 Can non-Verkada cameras be added to and managed from an existing site in Command containing Verkada cameras?

Yes. A Verkada organization and any site within that organization can have Verkada cameras alongside non-Verkada cameras.

18 Can I connect Verkada cameras to Command Connector to backup video footage locally?

No. Verkada cameras store footage locally on the included onboard storage with the option of backing up footage in the cloud. Customers cannot currently backup video to a Command Connector appliance for local backup.

19 Can I purchase Verkada cameras without any onboard storage to connect to Command Connector?

No. Currently Verkada cameras are not compatible with Command Connector.

III. Technical integration, support, and functionality for non-Verkada cameras

20 What level of support and troubleshooting can be expected for non-Verkada cameras?

If a non-Verkada model is on the HCL and has the right firmware, Verkada will provide full support and assist with troubleshooting. If the camera is not on the HCL, however, Verkada will not be able to provide support. Verkada does not provide any security patches and firmware updates for non-Verkada cameras.

21 Do all Command Connector models support the same HCL?

Yes. Each version of Command Connector has the same HCL.

22 Can I still connect a non-Verkada camera to Command if it isn't listed on the HCL?

An ONVIF Profile S conformant camera may work if it is not on the HCL. Compatibility is, however, not guaranteed for ONVIF Profile S conformant cameras not on the HCL or those running an unsupported firmware version or configuration. If customers have a camera that they wish to connect to Command Connector we recommend filling out the Request for Compatibility Assessment form on the HCL page.

23 Does Verkada manage firmware for non-Verkada cameras?

Customers must manage a non-Verkada camera's firmware through the camera's web interface or via whatever tool the camera manufacturer provides. Note that downgrading the camera firmware to a version earlier than what is listed in the compatibility list could disrupt compatibility if the older version is not on the HCL.

24 Is audio supported?

Audio is supported on most third-party cameras connected to Command Connector using ONVIF Profile S. Cameras must support the G.711 μ-law audio codec.

25 Are thermal cameras supported?

The thermal camera models listed in the HCL are supported and the thermal video channels are visible in Command. People and vehicle analytics features are only supported on visible (or non-thermal) video streams. If the camera supports a unified or stitched view with visible and thermal video channels merged into one stream, analytics will only run on the visible video channel.

26 What view modes are available for fisheye cameras, and how can they be changed?

Fisheye cameras typically support multiple view modes, such as raw or circle mode (the full fisheye view), panoramic mode (wide-angle view), and four-way split mode (view divided into four separate images for broader coverage).

Verkada Command allows customers to easily switch between circle view and electronic Pan-Tilt-Zoom (ePTZ) view for fisheye cameras listed in HCL using in-browser dewarping. ePTZ allows customers to digitally pan, tilt, and zoom within the video feed, providing more flexible viewing options without physically moving the camera. Home positions and presets for ePTZ, moreover, can be set within Command to enable quick transitions between different areas of interest.

The view modes for fisheye cameras cannot currently be changed from within Command and customers must configure these settings directly from the camera's web interface. This process involves accessing the camera's configuration page through its IP address and adjusting the aspect ratio and view mode settings as needed.

27 Can the view be switched between circle (or raw) view and ePTZ view for fisheye cameras in Command?

Yes. Customers can switch between circle view and ePTZ view from Command.

28 Are PTZ cameras supported?

Yes. Command Connector can support live and historical video recording and streaming from PTZ cameras. Customers can control physical movements of non-Verkada PTZ cameras from within Command (via their mouse, keyboard, or a third-party controller).

29 Are multisensor cameras supported?

Yes. There are a number of multisensor cameras listed on the HCL. Customers will need to purchase a license for each channel (i.e., feed) running from each sensor of a multisensor device. So, for example, if four channels from a single multisensor device are running through Command Connector then the customer is required to purchase four licenses.

30 Can cameras that are non-ONVIF conformant but support RTSP (e.g., Meraki) be connected to Command Connector?

Yes, non-ONVIF conformant cameras that support RTSP (e.g., Meraki) can be connected to Command Connector. Each Command Connector can support a maximum of 25 RTSP channels.

31 If a camera supports ONVIF Profile S, can it be connected to Command Connector using RTSP only?

Yes, but it's recommended to connect the camera using ONVIF Profile S as it will set ideal streaming parameters. In addition, connecting the camera using ONVIF Profile S requires less processing power, enabling resources to be allocated to other features.

32 Does Command Connector support every camera that is covered under the ONVIF Profile S standard?

While ONVIF Profile S is a standard with a defined specification and interface guide, the actual implementation of the various features and capabilities rests with the camera manufacturer. Even if a camera is ONVIF Profile S conformant, some camera models may need additional configuration from the camera's webpage to connect to Command Connector. For some camera manufacturers, the implementation of ONVIF Profile S features and capabilities also varies by the firmware version. As a result, any ONVIF Profile S camera may not work with Command Connector out-of-the-box. Verkada's internal compatibility lab continuously tests various non-Verkada cameras for compatibility and regularly updates the HCL to provide a smooth plug-and-play experience.

33 Are there any known compatibility issues with specific brands or models of cameras?

Known compatibility issues and workarounds (if any) for each camera are documented in the HCL.

34 Is there a self-service tool or program to verify compatibility with a customer's non-Verkada cameras?

Verkada currently does not offer such a tool.

35 Can certain camera manufacturers (e.g., Axis, Hanwha, etc.) verify compatibility and add models to HCL via a self-service tool?

Camera manufacturers can contact Verkada directly to discuss certification requests.

IV. Technical support for Command Connector

36 What should I do if I forget the login credentials for my non-Verkada cameras?

Customers must have the credentials (usernames and passwords) of their non-Verkada cameras to successfully connect them to Command Connector. If the credentials are forgotten or unavailable, customers will need to manually reset the cameras. The instructions for resetting cameras vary by manufacturer and model, so customers should refer to the customer manual specific to their non-Verkada camera models for detailed reset procedures.

37 What happens if there's a drive failure on my Command Connector?

CC300, CC500 and CC700 Command Connector units are equipped with RAID, which offers high redundancy and will continue to store footage in the event of a single drive failure.

Verkada monitors the Command Connector's storage health for any issues. If an issue is detected, Command will notify the user and include details about the nature of the problem and the affected drive. If a new drive is needed, Command Connector customers can contact Verkada Tech Support to receive a replacement drive at no cost as long as the Command Connector device is still under warranty.

Upon receiving the replacement drive, follow the instructions in Command or via the QR code on the physical unit to replace the faulty drive. After powering down the Command Connector, replacing the drive, and turning the device back on, Command will automatically recognize the new drive. It will then begin the data synchronization process to restore RAID 10 integrity and indicate when the storage system is back to optimal performance.

Note: it is highly recommended to reach out to Verkada Tech Support after installing a replacement drive to confirm that the data synchronization process was successful.

38 Can I install my own drive in Command Connector?

No. Customers cannot install their own drives and must use the drives that Verkada provides. If a drive fails, Verkada will send a replacement drive.

39 How do firmware updates for Command Connector work?

Firmware updates for Command Connector are delivered via over-the-air updates, similar to other Verkada products. Verkada does not manage firmware updates for any non-Verkada cameras and recommends customers refer to the camera manufacturers' websites for the latest firmware updates. Firmware updates typically require a reboot and can be scheduled to occur at certain days and times. During a firmware update, the cameras connected to Command Connector will not record footage.

V. Technical details

40 Can I use both ethernet ports on my Command Connector?

Yes. Command Connector includes two 2.5 Gbps RJ45 Ethernet ports. By default, Command Connector uses a single network interface – ideal for deployments where both the camera network and Internet access are available on the same subnet.

Organizations may, however, have an isolated or airgapped camera network without direct access to the Internet. In these scenarios, the second Ethernet port can be enabled and configured to connect to the camera network, while the primary Ethernet port connects directly to the Internet. This enables secure and flexible deployments without requiring routing between networks.

41 How can I configure the video retention for a video channel?

Customers can configure video retention for each camera during the "Add Device" step by selecting retention periods of 30, 60, or 90 days. Alternatively, once the cameras have been successfully added to Command Connector, the retention settings can be updated individually or in bulk from the Command Connector Settings page. Customers can set a custom retention period (30, 60, or 90 days) at a channel level and can have the flexibility of mixing and matching channels with different retention periods on the same Command Connector. The Command Connector Settings page shows total space storage reserved and total retention available in real-time so customers have full visibility of storage utilization on the device and set retention period on cameras accordingly.

42 Is there a separate limit on how many channels can be recorded and played back at a time?

Customers can simultaneously record and stream (live as well as historical video) from all channels as long as the local network has enough bandwidth to support it.

43 Which codecs are supported?

Command Connector currently only supports H.264 video encoding.

44 How does Command Connector ingest and manage video streams from non-Verkada cameras using ONVIF Profile S?

Command Connector uses ONVIF Profile S to discover and establish connections with compatible non-Verkada cameras on the same local network. This requires the camera's IP address and login credentials. After the initial connection, Command Connector detects independent video sources supported on each camera and maps them to a channel. Command Connector then creates two ONVIF stream profiles per channel: Verkada-standard and Verkada-high, corresponding to Standard Quality (SQ) and High Quality (HQ) streams. These two profiles help Verkada record in adaptive quality and offer Verkada's unique streaming and retention advantages on non-Verkada cameras. The Verkada-standard and Verkada-high profiles have similar streaming parameters (e.g., video resolution, bitrates, frame rates, GOV length, etc.) as Verkada cameras.

45 How does Command Connector stream from non-Verkada cameras that are not ONVIF Profile S conformant?

Command Connector leverages the Real Time Streaming Protocol (RTSP) to ingest streams from non-Verkada cameras.

46 What happens in cases where Verkada stream profiles can't be created?

By default, if the camera does not allow the creation of additional stream profiles, Verkada will delete existing profiles and attempt to create two new profiles for SQ and HQ video streams. If that fails, Command Connector will go into "fallback mode" and automatically choose the existing profiles that are closest to Verkada's SQ and HQ profiles based on video resolution. If Command Connector is not able to configure custom SQ video bitrates needed for guaranteed days of retention to work (300 or 600 Kbps for 5MP/4K respectively), Verkada can't ensure days of retention and users will be alerted of such from the Command UI.

47 Can custom video configurations be set for non-Verkada cameras (e.g., frame rate, GOV, resolution, etc.)?

Customers do not currently have the ability to set custom video configurations, including custom video bitrates, resolutions, frame rates, and GOV lengths, on non-Verkada cameras.

48 What happens if a non-Verkada camera only supports creation of one stream profile?

In the unlikely event that the camera doesn't allow the creation of two streaming profiles, Verkada will use the same stream for both SQ and HQ. This might affect the number of HQ days available, which will be shown in the UI. Customers are recommended to use cameras that support two independent video streams for optimal experience with Verkada Command.

49 Where can the set stream profiles be viewed?

Stream profiles, along with stream configurations such as video resolutions, video frame rate, GOV length, and bit rates, can be viewed in Command on the Camera Settings page.

50 Does Command Connector use non-Verkada device events?

Command Connector does not currently utilize any events emitted by non-Verkada cameras.

51 Will I be notified if my Command Connector device loses connection with a non-Verkada camera?

Yes. The customer will be alerted if their Command Connector device loses the stream coming from any non-Verkada channel.

52 Is Command Connector ONVIF Conformant?

Yes. Command Connector is an ONVIF Profile S conformant client.

53 Does Verkada offer a FIPS-validated Command Connector?

Yes. Verkada offers a FIPS 140-2 validated version of the CC700-16TB model (CC700-F). The CC700-F supports encryption standards required for FedRAMP Ready (Moderate) deployments and enables organizations to view non-Verkada cameras through a single, secure platform.