

Flexible and reliable recording solutions

Edge storage



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1. What is edge storage?

Edge storage enables video recording directly to an onboard SD™ card in Axis network products, such as cameras and video encoders, or to a network-attached storage (NAS) device. This technology offers an affordable remote site recording solution wherever bandwidth is limited or absent. High-quality images are stored directly on the SD card in the camera, eliminating the need for an onsite server.

Edge storage makes it possible to design flexible and reliable recording solutions, optimize bandwidth usage, and lower the cost and effort for remote site recording. It enables high-quality video in low-bandwidth installations and recording for remote and onboard surveillance. If Axis Zipstream technology is used together with edge storage, bandwidth and storage requirements are lowered even more. In addition, edge storage increases system reliability by ensuring continuous recording and complete archives of video evidence in case of network or server failures, so called failover recording.

Edge storage can be integrated with leading video management software (VMS) and AXIS Camera Station. Typical applications are video surveillance where network coverage is limited or intermittent and mission-critical installations, such as airport or mass transit hubs, where edge storage in cameras covering entrances and exits could be a critical part of the strategic backup plan.

See Section 6 for more information on Axis Zipstream.

2. Why use edge storage?

Using edge storage, a network video device can create, control, and manage recordings either locally to an SD/SDHC card, or to shared network storage such as a NAS. There are several advantages to using edge storage such as recording redundancy and the possibility to store video in low-bandwidth environments and remote installations. In addition, it enables recording in onboard surveillance.

2.1 Recording redundancy

Edge storage – sometimes referred to as local storage or onboard recording – works as a complement to central storage. It can record video locally whenever the central system is not available or continuously record video in parallel with the VMS.

Edge storage enables failover recording, which means that images can be temporarily stored on the SD card on board the camera during network disruptions or system maintenance. When the network connection has been restored and the system returns to normal operation, the central VMS can automatically retrieve missing video clips from the camera and seamlessly merge them with video recordings, as illustrated in Figure 1. This way, the user gets uninterrupted video recordings even if the network connection is down. With edge storage, system reliability is increased and system operation safeguarded.

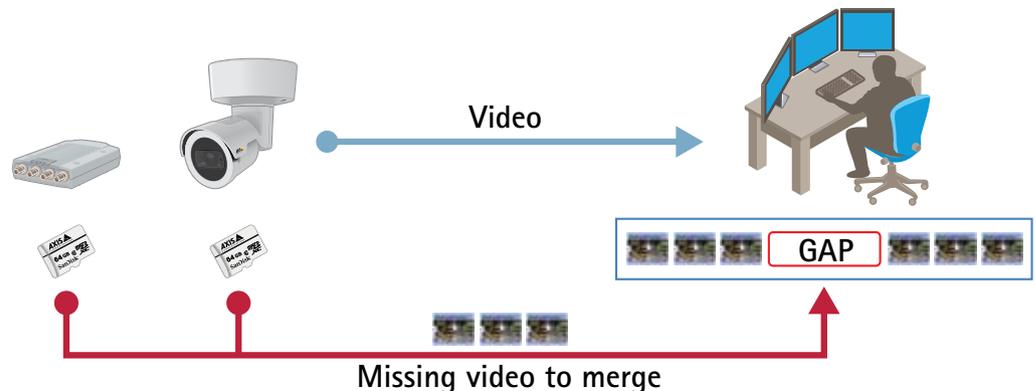


Figure 1: Edge storage video merged after a network failure.

Edge storage for redundancy is compatible with the majority of NAS products. A large number of Axis network products support edge storage for system redundancy. Use Axis product selector to find Axis SD cards and products that support them. See Section 6 for more information on Axis product selector and the latest firmware.

2.2 Low-bandwidth environments

Edge storage improves video analysis for systems with low network bandwidth where video cannot be streamed with the highest quality. Typical applications are when using mobile viewing apps, but also in large-scale systems such as city surveillance.

By combining low-bandwidth monitoring with high-quality local recordings, the user can optimize bandwidth usage but still retrieve high-quality video from incidents for detailed identification of objects and persons, for later forensic use.

2.3 Remote installations and onboard surveillance

Edge storage can manage high-quality video recordings in remote locations and installations where network availability is not constantly available or missing entirely, for example, in mobile surveillance installations, such as on a train. In onboard installations, edge storage can record video when the vehicle is in operation. The recording can then easily be transferred to the central system when the vehicle stops at a depot.



Figure 2: A camera with edge storage in an onboard installation.

3. Video management software

When integrated with VMS, edge storage helps create more robust and flexible video surveillance systems for mission-critical installations, remote locations, or mobile situations.

3.1 AXIS Camera Station

AXIS Camera Station supports edge storage for recording redundancy. See Section 6 for more information on AXIS Camera Station.

3.2 VMSs from Axis ADP partners

Edge storage is supported by leading Axis Application Development Partners (ADP) including Aimetis, Genetec, Milestone, OnSSI, and SeeTec. See Section 6 for more information on Axis ADP partners.

4. Conclusion

Edge storage is a technology used in Axis network products that enables video recording directly to an onboard SD card or a NAS. With edge storage, the user can design flexible and reliable recording solutions, optimize bandwidth usage, and enable cost-efficient remote site recording.

See Section 6 for even more information on edge storage.

5. Acronyms and abbreviations

ADP	Application Development Partners
NAS	Network-attached storage
SD	Secure Digital
SDHC	Secure Digital High Capacity
VMS	Video management software

6. Useful links

For more information, see the following links:

Aimetis: www.aimetis.com

Axis Communications – 'Application Development Partner (ADP) Program':
www.axis.com/partners/adp-partner-program

Axis Communications – 'AXIS Camera Station':
www.axis.com/products/axis-camera-station

Axis Communications – 'Axis Zipstream technology':
www.axis.com/technologies/zipstream

Axis Communications – 'Edge storage':
www.axis.com/technologies/edge-storage

Axis Communications – 'Firmware':
www.axis.com/support/firmware

Axis Communications – 'Product selector':
www.axis.com/products/product-selector

Genetec: www.genetec.com

Milestone: www.milestonesys.com

OnSSI: www.onssi.com

SeeTec: www.seetec-video.com

About Axis Communications

Axis offers intelligent security solutions that enable a smarter, safer world. As the market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform - delivering high value to customers through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets.

Axis has more than 2,600 dedicated employees in more than 50 countries around the world, supported by a global network of over 90,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

For more information about Axis, please visit our website www.axis.com