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. 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.

2. Why use edge storage?

Using edge storage, a network video device can create, control, and manage recordings either locally to an SD/SDHC/SDXC card, or to a shared network storage. 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.

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.
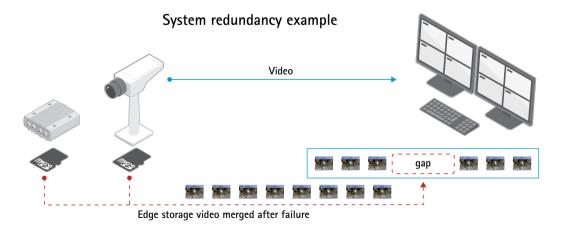

Figure 1: Edge storage video merged after a network failure.

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 accessory selector to find Axis SD cards* and products that support them.

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 (video management software), edge storage helps create more robust and flexible video surveillance systems for mission-critical installations, remote locations, or mobile situations. Edge storage is supported by AXIS Camera Station and by VMS from leading Axis Application Development Partners (ADP) including Aimetis, Genetec, Milestone, OnSSI, and SeeTec.

About Axis Communications

Axis enables a smarter and safer world by creating network solutions that provide insights for improving security and new ways of doing business. As the industry leader in network video, Axis offers products and services for video surveillance and analytics, access control, and audio systems. Axis has more than 3,500 dedicated employees in over 50 countries and collaborates with partners worldwide to deliver customer solutions. Axis was founded in 1984 and has its headquarters in Lund, Sweden.

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