AXIS Firmware Overview

This document describes new and modified capabilities in the Axis Firmware Releases. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

1 Axis Firmware 5.90

This section describes new and modified capabilities in the 5.90 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

1.1 General information

Following products will receive 5.90, with the proceeding release in ():

Axis M7011 (5.75.1)	Axis Q1765-LE (5.55.2.4)
Axis Q7411 (5.80.1)	Axis Q1765-LE-PT (5.55.2.3)
Axis Q7436 (5.55.3.7)	Axis Q8665-LE/L (5.55.1.1)
Axis M1145/-L (5.55.3.4)	Axis P5414-E (5.55.1.5)
Axis P1354/-E (5.60.1.4)	Axis P5415-E (5.55.1.5)
Axis P1357/-E (5.70.1.1)	

Please note that some products may also include more features than described in this section depending on their prior release.

Release date: 2015-10-16

1.2 General lift

With this release will the included products get the latest and most advanced features. This will ensure compatibility with the latest versions of Axis Software Solutions.

2 AXIS Firmware 5.80 Overview

This section describes new and modified capabilities in the 5.80 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

2.1 General information

Following products will receive 5.80, with the proceeding releases in ():

P1405-E/-LE (5.55.3.3)   P3904/05-R/-RE (5.55.3.1)
P1425-E/-LE (5.55.3.3)   P3905-R (5.55.3)
P1427-E/-LE (5.55.3.3)   P3915-R (5.55.3)
P1428-E (5.55.5.1)   Q1615/Q1635 (5.75.2)
P3214/15 -V/VE (5.55.3.2)   Q3505-V/-VE (5.55.3.6)
P3365-V/-VE/-LV/-LVE (5.55.3.2) Q7411 (5.40.13)

Please note that there might be a later release for certain products.

Release Date: 2015-05-22

2.2 Axis Zipstream Technology

Optimized for video surveillance, Axis Zipstream technology is a radically more efficient H.264 implementation, lowering bandwidth and storage requirements by an average 50% or more.

Axis Zipstream is available in selected Axis products.

Axis Zipstream technology conforms to the H.264 standard and is compatible with third-party clients and VMS solutions that decode H.264 video. To use the Zipstream dynamic GOP mode, some clients might need to adapt their H.264 playback implementation. The fixed GOP mode works with all implementations.

The VAPIX Library have been updated with new information and new APIs.

2.3 AXIS VMD 3 replaces the built-in VMD

AXIS Video Motion Detection 3, which includes Axis False Alarm Filtering, is now a pre-installed ACAP application and it replaces the built-in Video Motion Detection in the product Web GUI in all products except PTZ cameras and Encoders. PTZ cameras and Encoders will still use the built in Video Motion detections.

The built-in Video Motion Detection is still available via VAPIX so VMS solutions using it are not affected. The built-in Video Motion Detection application API is deprecated and will eventually be removed.

Axis strongly recommends current users of the Video Motion Detection API to plan for transfer to the AXIS Video Motion Detection 3 API, please see VAPIX Library.

2.4   ONVIF Media Profiles

Available ONVIF Media Profiles are now presented and configurable using the product Web GUI.

2.5   SD Card Encryption

With SD Card Encryption, it is now possible to enable encryption of the SD card to protect your data. This encryption is transparent to users and VMS solutions making it possible to activate without adaptations.

This feature is presented and configurable both in the Web GUI and via VAPIX.

2.6   Improved time to video

Start-up of the product is now optimized and the time until the first video is delivered from the product is reduced by an average 20%.

3   AXIS Firmware 5.70 Overview

This section describes new and modified capabilities in the 5.70 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product. Note that this is for internal use only.

3.1   General information
Following products will receive in 5.70.

Axis M3006-V	Axis Q6044-C
Axis M3007	Axis Q6044-E
Axis M3026-VE	Axis Q6044-S
Axis M3027-PVE	Axis Q6045
Axis P1357/-E	Axis Q6045-C
Axis P3367/-V/-VE	Axis Q6045-C-MkII
Axis Q6042	Axis Q6045-E
Axis Q6042-C	Axis Q6045-E-MkII
Axis Q6042-E	Axis Q6045-MkII
Axis Q6042-S	Axis Q6045-S
Axis Q6044	Axis Q6045-S-MkII

Please note that there might be a later release for certain products.

Release Date: 2015-03-05

3.2 Secure FTP (SFTP)

Systems using Secure FTP (SFTP) notifications and uploads from the product can now do this in a secure way over FTP.

3.3 Storage Improvements

Matroska fixer

It is possible to get broken recordings if a recording is ongoing during a power loss or a storage media was removed without proper disconnection i.e. unmounts.

With the Matroska fixer, an attempt to fix broken recordings is performed. When a storage media is connected (mounted), any broken recording is detected and operations to fix the recording start. The recordings are fixed in a queue fashion i.e. a recording is fixed at a time. After the recording is being fixed its stop time and duration are amended (increased).

Storage Limit

Adding ability to control storage allocation quotas on Edge Storage devices, i.e. NAS. A storage allocation quota parameter will decide how much storage a camera is allowed to allocate.

NAS drives over 2TB

Axis Network Cameras now support NAS disk drives up to 8 ZB.

Automatic repair

It is now possible to configure automatic repair of ext4 file system if it has become corrupt. This increase the level of robustness of the SD Edge Storage feature.

3.4 Apache web server

Changing from BOA to Apache web server due to maintenance reason.

3.5 Init removed

Systemd has replaced init. Init is deprecated since earlier releases but is now completely removed and replaced with systemd.

4   5.60 Firmware Release

This section describes new and modified capabilities in the 5.60 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product. Note that this is for internal use only.

4.1   General information

Following products will receive 5.60.

Axis M1143-L/44-L   Axis P3367/-V/-VE
Axis P1353/54/-E   Axis P3384/-V/-VE
Axis P1355/-E   Axis Q1602/-E
Axis P3353/54   Axis Q1604/-E
Axis P3363/-V/-VE/   Axis Q1614/-E
Axis P3364-V/-VE/-LV/-LVE

Please note that there might be a later release for certain products.

Release Date: 2015-03-05

4.2   ACAP Application

Firmware 5.60 extends the ACAP SDK which gives new possibilities to develop ACAP's. It is also possible to enable multiple ACAP applications to run simultaneously. The combination of applications should however be validated by the system integrator before deployment.

4.3   Axis Video MIB

Axis is now extending the SNMP offering with an AXIS Video MIB (Management Information Base). The Video MIB is targeting system integrators and end-users that are using SNMP. The Video MIB enables network administrators to detect possible malfunctions in Axis products such as fan failure, temperature limits, storage disruptions, tampering, video/audio connectors disconnect, etc via SNMP traps. Available traps are depending on the AXIS Product.

A MIB is released for Axis products. See http://www.axis.com/techsup/software/index.htm for more information.

The Video MIB is supported from various 5.55 firmware releases.

4.4   Edge Storage Auto-format SD card

Axis firmware now has the ability to auto-format an SD card to a specified file system upon insertion. This will allow an easy installation of a new SD card that automatically will be formatted to a preselected file system, mounted and recording will be resumed. Less manual intervention is needed on installation and service.

Edge Storage Auto-format is supported from the 5.55 firmware.

4.5   Edge Storage Recording Indicator

With the Edge Storage recording indicator it's possible to indicate, e.g. on the Live view, that an edge storage recording is ongoing. This allows the operator to be notified if a recording of scene is ongoing or not.

Edge Storage Recording Indicator is supported from the 5.55 firmware.

4.6   Optimal Live View Resolution

The Live View page is updated with responsive design and scales with different screen resolutions and browser window sizes. This will allow the user to always see the complete page without the need to scroll.

4.7   Quick HDTV Live View Demonstration

For all megapixel products, a new default viewing profile for HDTV resolution has been added. This viewing profile is visible in the Live View and is beneficial for demonstration purposes, especially in full screen mode.

4.8   Export Video Clip

The Export Video Clip capability enables the export of recordings directly from the camera to a PC or a smartphone.

Select the wanted portion of an Edge Storage recording from your camera and export them as playable video file to a client. The exported recording will be one playable Matroska file.

4.9   SSH

SSH command line interface to the products that may be used for specific support and maintenance activities was introduced in 5.50. SSH is now the only supported protocol to establish a connection and telnet is not supported anymore. SSH is not enabled by default but can be activated by an API.

4.10   RTSP Server improvement - Developer information

RTSP server and Video streaming are updated and improved. This is an internal architectural improvement with minor corrections in the API to comply with the standard in RFC 2326.

4.11   ACAP Application Management - Developer information

The limitation of running only one application at a time has been removed. It's now possible (depending on available resources) to run several applications in parallel. The combination of applications should be validated by the system integrator before deployment.

A new API has been added enabling a client to get extended information of installed applications.

4.12   Generic ACAP configuration - Developer information

All applications taking advantage of the new platform can provide a URL for configuration. The intension of this is that a client such as a VMS can provide this link or embed it into the application in a generic way.

4.13   ACAP upgrade - Developer information

When upgrading an application, it's now possible to keep the configuration for the application. This is decided during implementation of the ACAP.

4.14   ACAP interfaces - Developer information

A range of new APIs has been added to the platform allowing an application to directly interface with local storage, PTZ control, I/Os and audio. In addition it is now possible to interact with the event system in a more flexible way.

4.15   Device Service Query - Developer information

An entry service has been added allowing a client to query which webservice APIs that is available in the product.

4.16   System Log enhancements - Developer information

The system log has been improved and uses a standardized logging format. Important messages will be kept longer and repeated messages will print the actual message that was repeated.

5   5.50 Firmware release

This section describes new and modified capabilities in the 5.50 Firmware Release. Note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

5.1   General information

Following products will receive 5.50.

Axis M1054	Axis P7224
Axis M1103/04/13/-E/14/-E	Axis Q1604/-E
Axis M3203/04 (-V)	Axis Q1755 (-E)
Axis M5013/14	Axis Q1910/-E
Axis M7010/M7014	Axis Q1921/-E
Axis P3346/-V/-VE	Axis Q1922/-E
Axis P3367/-V/-VE	Axis Q7401
Axis P5512	Axis Q7404
Axis P5512-E	Axis Q7406
Axis P5522	Axis Q7414
Axis P5522-E	Axis Q7424-R
Axis P7210/P7214	

Please note that there might be a later release for certain products.

Release Date: 2015-03-05

5.2   Local Language Support

Ability to alter the product user interface from English to other languages. Supported languages are; Brazilian Portuguese, French, German, Italian, Japanese, Korean, Russian, Simplified Chinese and Spanish. The local language files is available at www.axis.com for each camera model immediately after the Firmware release. The selection and installation of the files do not require any knowledge in the English language.

5.3   Extended number of Privacy Masks

Ability to configure up to 32 simultaneous privacy masks. The previous limit was 3 to 16, depending on product model. The number of available Privacy masks depends on the product model.

5.4   Extended Edge Storage Support

Supporting memory cards up to 64 GB.

5.5   Text Overlay character set extension

Ability to use non-western characters in the video text overlay. All left-to-right languages are supported.

5.6   Text Overlay Font Size

Ability to select three different font sizes for the video text overlay in order to increase readability, especially helpful at high resolution video.

5.7   ONVIF Profile S conformance

The ONVIF Profile S replaces the ONVIF Version 1.02. ONVIF has developed a Profile Concept to simplify identification of interoperable products. For more details please visit www.onvif.org

5.8   Text Overlay Message Action

A product action that provides a way to display a user defined message in the text overlay upon a detected event. The message can be used to communicate information to the operator, visually mark video for later video forensics or provide an easy way for a user to validate event detectors during installation and configuration.

5.9   Support for common email services

Ability to connect products to common email services that requires SSL/TLS security. Predefined profiles for Gmail, Hotmail, AOL and Yahoo are included in order to simplify configuration.

5.10   Edge Storage Disruption Detection

Ability to be notified when Edge Storage detects disruptions. The event is used to notify administrators to quickly resolve issues, typically disk unavailable, read/write error, disk full or disk locked.

5.11   HTTPS Recipient

Systems using HTTP notifications and uploads from the product can now do this in a secure way over HTTPS.

5.12   Send Video Clip Action

Ability to upload a video clip to an FTP server or an email recipient upon an event. A media player with support for H.264 and Matroska File Format (MKV) is required to play the clip.

5.13   Live Stream Access Detection

In some sensitive installations it may be necessary to notify people that someone is actively monitoring a camera (for example, in a conference room) using, a. The Live Stream Access Event may be used to control a nearby "alert light" connected to digital output port of the camera.

5.14   System Ready Event

Ability to get notified when the product has booted and all services are initialized. The event is typically used to notify an operator (or system) that the unit has been restarted.

5.15   Improved AXIS Camera Applications

The behavior for AXIS Cross Line Detection 1.x and AXIS Video Motion Detection 2.x will be improved in FW 5.50, compared to FW 5.40. The applications will be less prone to false detect on very small objects.

5.16   Centralized Certificate Management

Certificates for HTTPS and 802.1x are now managed in one place. The firmware also includes a number of pre-installed CA certificates such as VeriSign, Thawte and GeoTrust. It is also possible to install additional CA certificates.

5.17   Improved Constant Bitrate Control

The Constant Bit Rate (CBR) will now adjust to target bit rate quicker and smoother.

5.18   PTZ Control Error Notification

Ability to be notified if malfunction in a mechanical PTZ is detected. The event is typically used to trigger a notification to the administrator/operator for service. The error detection is available for selected mechanical PTZ units.

5.19   Virtual Inputs Virtual

Input may be used by clients to initiate Action Rules in the camera. Virtual Inputs extends the existing "Manual Trigger" with 32 additional virtual inputs.

5.20   SSH (Secure Shell)

A command line interface to the products that may be used for specific support and maintenance activities. SSH extends the Telnet capabilities in order establish a secure remote command line connection. The Telnet and SSH capabilities are not enabled by default.