Axis Firmware Overview

This document shall provide a high-level overview about major firmware updates on AXIS video products and describe new and modified capabilities in AXIS firmware releases. Kindly refer to the release notes for each product for more detailed information about new features, modified capabilities as well as corrections and limitations.

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Introduction

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

By updating to the latest firmware release, we ensure that the listed products get new features and updates made since their current firmware release.

The updates are based on market feedback and ensures compatibility towards the latest versions of Axis Software Solutions as well as our partner solutions. Moreover, you will get the advantages from the continuous effort in moving our feature portfolio forward.

1 Axis Firmware 9.50

This section describes new and modified capabilities in the 9.50 Firmware Release. Please note that available functionality varies depending on the product model. Check the release notes for details for each product.

1.1 General Information

Release date: 2019-11-11

1.2 Apache web server update

Apache web server has been updated to version 2.4.41 to increase overall minimum cyber security level.

1.3 OpenSSL update

OpenSSL has been updated to version 1.1.1d to increase overall minimum cyber security level.

1.4 SIP Support

The following products have now support for Session Initiation Protocol (SIP): AXIS M3057-PLVE, AXIS M3058-PLVE.

1.5 Updated AXIS VMD to version 4.4.2

AXIS Video Motion Detection version 4.4.2 includes improvements and corrections.

1.6 Support for disabling the web interface

Added possibility to disable the web UI to increase overall minimum cyber security level.
The web UI can be disabled under System -> Plain config -> System -> System Web Interface Disabled.
To enable the web UI after it has been disabled, the VAPIX parameter System.WebInterfaceDisabled must be set to "no".

1.7 Updated Web interface

Added support for Image Frequency in Event Settings.

2 Axis Firmware 9.40

This section describes new and modified capabilities in the 9.40 Firmware Release. Please note that available functionality varies depending on the product model. Check the release notes for details for each product.

2.1 General Information

Release date: 2019-09-12

2.2 Initial Device Access Changes

Removed the root users default password in factory defaulted firmware. The password of the root user must be set first in order to initialize VAPIX and ONVIF interfaces to allow further configuration. This change only affects products in its factory defaulted state, products that are already deployed in production systems are not affected by this update until factory defaulted. For more information please see https://www.axis.com/support/faq/FAQ116429.

2.3 Average Bitrate Control

Added support for average bitrate control (ABR). With average bitrate enabled you can set a bandwidth budget that the camera will keep over time, allowing for high peaks of bandwidth and if necessary adjusting the quality for the entire period.

2.4 SIP Support

The following products have now support for Session Initiation Protocol (SIP): AXIS P3227-LV/-LVE, AXIS P3228-LV/-LVE, AXIS Q3515-LV/-LVE, AXIS Q3517-LV/-LVE/-SLVE and AXIS Q3518-LVE.

2.5 Firmware Rollback Verification

Added support for automatic firmware rollback verification. The user can choose to select this option prior to performing an firmware upgrade. When chosen, the product will perform the upgrade and then wait a pre-defined time for the user to acknowledge the upgrade in the web-interface. If not acknowledged in time, the product will roll back to its previous firmware.

2.6 Secondary NTP Server

Added support for the possibility to configure a secondary NTP server in web-interface under Settings -> System -> Date & Time or via VAPIX Time API.

2.7 ONVIF Profile T

The following products have now support for ONVIF Profile T: AXIS Q6125-LE, AXIS P5655-E, AXIS Q1785-LE, AXIS Q1786-LE, AXIS M4206-LV/-LVE.

2.8 Updated AXIS VMD to version 4.4.0

AXIS Video Motion Detection version 4.4.0 includes improvements and corrections.

2.9 Updated AXIS Fence Guard and Motion Guard to version 2.2.0

AXIS Fence Guard and Motion Guard includes improvements and corrections. Fence Guard 2.2.0 and Motion Guard 2.2.0 is pre-installed on Q-line products and P12-Thermal.

2.10 Updated AXIS Loitering Guard to version 2.2.0

AXIS Loitering Guard 2.2.0 includes improvements and corrections. Loitering Guard 2.2.0 is pre-installed on the following products: Q1645, Q1647, Q1785/-LE, Q3515, Q3517, Q3518, Q6075/-E, Q6125-LE and Q6215-LE.

3 Axis Firmware 9.30

This section describes new and modified capabilities in the 9.30 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

3.1 General Information

Release date: 2019-06-14

3.2 Updated AXIS VMD to version 4.3.5

AXIS Video Motion Detection version 4.3.5 includes improvements and corrections.

3.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.9

AXIS Fence Guard and Motion Guard 2.1.9 includes improvements and corrections. Fence Guard and Motion Guard 2.1.9 is pre-installed on Q-line products and P12-Thermal.

3.4 Updated AXIS Loitering Guard to version 2.1.9

AXIS Loitering Guard 2.1.9 includes improvements and corrections. Loitering Guard 2.1.9 is pre-installed on the following cameras: Q1645, Q1647, Q1785/-LE, Q3515, Q3517, Q3518, Q6215-LE.

3.5 Apache web server update

Apache web server has been updated to version 2.4.39 to increase overall minimum cyber security level.

3.6 Support for TLSv1.3

The camera platform now supports TLSv1.3 in Apache for improved performance and increased overall minimum cyber security level. TLS1.0 and TLS1.1 is now disabled per default.

3.7 Support for source-specific multicast

Added support for source-specific multicast (SSM) via http://ip-address/axis-media/ssm/media.amp. The following parameters need to be configured prior to initiating a video stream via SSM: Network.RTP.R#.VideoAddress, Network.RTP.R#.VideoPort, Network.RTP.R#.AudioAdress, Network.RTP.R#.AudioPort.

3.8 Support for T6101 Audio and I/O Interface

Added support for the Portcast feature which enables usage of the T6101 I/O box with the following cameras: P3717-PLE.

3.9 Updated Web-Interface

Added support for On-screen controls in the web-interface. On-screen controls give the user quick and easy access to commands to the camera, not only from the web-interface but also from VMS software that support this functionality. Some cameras have pre-defined On-screen controls, but it is also possible to add user-defined On-screen controls.

The video stream is now paused per default to save bandwidth and to make the web-interface more responsive when working over slow connections.

The classic web pages are now completely removed.

4 Axis Firmware 9.20

This section describes new and modified capabilities in the 9.20 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

4.1 General Information

Release date: 2019-04-17

4.2 Updated AXIS VMD to version 4.3.4

AXIS Video Motion Detection version 4.3.4 includes improvements and corrections.

4.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.8

AXIS Fence Guard and Motion Guard 2.1.8 includes improvements and corrections. Fence Guard and Motion Guard 2.1.8 is pre-installed on Q-line products and P12-Thermal.

4.4 Updated AXIS Loitering Guard to version 2.1.8

AXIS Loitering Guard 2.1.8 includes improvements and corrections. Loitering Guard 2.1.7 is pre-installed on the following cameras: Q1645, Q1647, Q1785/-LE, Q3515, Q3517, Q3518, Q6215-LE.

4.5 Apache web server update

Apache web server has been updated to version 2.4.38 to increase overall minimum cyber security level.

4.6 OpenSSL update

OpenSSL has been updated to version 1.1.1a to increase overall minimum cyber security level.

4.7 Signed firmware

Firmware is now signed by AXIS to increase overall minimum cybersecurity level. More information about Signed Firmware can be found here: https://www.axis.com/support/faq/FAQ116424.

4.8 LLDP PoE Consumption

Added support for dynamic power allocation via Link Layer Discovery Protocol (LLDP) in addition to PoE-class based power allocation. This allows the switch to allocate less power to the camera and potentially a greater number of PoE devices can be connected to the switch.
LLDP can be enabled in Settings -> System -> PlainConfig -> Network -> LLDP POE -> LLDP Send Max PoE. Available for the following cameras: Companion Eye-L, Companion Eye Mini-L, Companion Cube-L, Companion Dome-V, M1065-L, M1125, M2025-LE, M2026-LE MkII, M3015, M3016, M3044, M3045, M3046, M3058, M3105-L, M3106-L MkII, P12 MkII, P12 Thermal, P1364, P1365 MkII, P1367, P1368-E, P1436-E, P1445-LE, P1445-LE-3, P1447-LE, P1448-LE, P3225-V/-LV MkII, P3238-LV, P3375-VE/-LVE, P3807-PVE, Q1615 MkII, Q1645, Q1647, Q1785-LE, Q1941-E/-E PT Mount, Q1942-E/-E PT Mount, Q3515, Q3517, Q3518, Q3615, Q3617.

4.9 Support for ONVIF Profile T.

Added support for ONVIF Profile T in more cameras. More information about Profile T can be found at https://www.onvif.org/profiles/profile-t/. Available for the following cameras: Companion Cube-L/-LW, Companion Dome-V/-W, M1045-LW, M1065-L/-LW, M2026-LE MkII, M3015, M3016, M3044/-W, M3045/-W, M3046, M3046-1.8mm, M3106-L MkII, Q6125-LE.

5 Axis Firmware 9.10

This section describes new and modified capabilities in the 9.10 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

5.1 General Information

Release date: 2019-02-19

5.2 Updated AXIS VMD to version 4.3.3

AXIS Video Motion Detection version 4.3.3 includes improvements and corrections.

5.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.7

AXIS Fence Guard and Motion Guard 2.1.7 includes improvements and corrections. Fence Guard and Motion Guard 2.1.7 is pre-installed on Q-line products and P12-Thermal.

5.4 Updated AXIS Loitering Guard to version 2.1.7

AXIS Loitering Guard 2.1.7 includes improvements and corrections. Loitering Guard 2.1.7 is pre-installed on the following cameras: Q1645, Q1647, Q1785/-LE, Q3515, Q3517, Q3518, Q6215-LE.

5.5 Apache web server update

Apache web server has been updated to version 2.4.37 to increase overall minimum cyber security level.

5.6 OpenSSL update

OpenSSL has been updated to version 1.0.2q to increase overall minimum cyber security level.

5.7 Support for rollback of ACAP apps in Firmware Recovery

Firmware recovery, AKA Firmware rollback, now also includes ACAP applications and their respective settings.

6   Axis Firmware 8.50

This section describes new and modified capabilities in the 8.50 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

6.1 General Information

Release date: 2018-11-30

6.2 Updated AXIS VMD to version 4.3.2

AXIS Video Motion Detection version 4.3.2 includes improvements and corrections.

6.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.5

AXIS Fence Guard and Motion Guard 2.1.5 includes improvements and corrections. Fence Guard and Motion Guard 2.1.5 is pre-installed on Q-line products.

6.4 Updated AXIS Loitering Guard to version 2.1.5

AXIS Loitering Guard 2.1.5 includes improvements and corrections. Loitering Guard 2.1.5 is pre-installed on the following cameras: Q1645, Q1647, Q3515, Q3517, Q3518.

6.5 Apache web server update

Apache web server has been updated to version 2.4.35 to increase overall minimum cyber security level.

6.6 OpenSSL update

OpenSSL has been updated to version 1.0.2p to increase overall minimum cyber security level.

6.7 CDP Support for PoE Negotiation

Added support for Power-over-Ethernet (PoE+ 30W, IEEE 802.3at type 2 class 4 Power-over-Ethernet) negotiations over Cisco Discovery Protocol (CDP). If LLDP and CDP are enabled simultaneously on the switch port, the camera will take the protocol that is first advertised by the switch for PoE negotiation. Available for the following cameras: Q1645-LE, Q1647-LE, Q1659.

6.8 Support for ONVIF Profile T.

Added support for ONVIF Profile T. More information about Profile T can be found at https://www.onvif.org/profiles/profile-t/. Available for the following cameras: M1124/-E/M1125/-E, M2025-LE, M3104-L/-LVE/M3105-L/-LVE, P1364/-E, P1365 Mk II/-E Mk II, P1367-E, P1368-E, P1405-LE Mk II, P1425-LE Mk II, P1435-E/LE, P1445-LE, P1445-LE-3, P1447-LE, P1448-LE, P3224-LV Mk II/-LVE Mk II/P3225-LV Mk II/-LVE Mk II, P3224-V Mk II/-VE Mk II/P3225-V Mk II/-VE Mk II, P3235-LV/-LVE, P3227-LV/-LVE/P3228-LV/LVE, P3374-V/-LV/P3375-V/-LV/-LVE/VE, Q1615 Mk II/-E Mk II, Q1645/-LE, Q1647/-LE, Q3515-LV/LVE, Q3517-LV/LVE, Q3615-VE, Q3617-VE.

6.9 Support for API Discovery Service

Added support for API Discovery Service that allows a device to retrieve information of the products supported APIs via http://ip-address/axis-cgi/apidiscovery.cgi.

It is recommended to use the API Discovery Service as new functionalities and APIs will be made available on a regular basis in future firmware releases. More information can be found in our VAPIX library on https://www.axis.com/vapix-library.

7   Axis Firmware 8.40

This section describes new and modified capabilities in the 8.40 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

7.1 General Information

Release date: 2018-09-20

7.2 Updated AXIS VMD to version 4.2.5

AXIS Video Motion Detection version 4.2.5 includes improvements and corrections.

7.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.4

AXIS Fence Guard and Motion Guard 2.1.4 includes improvements and corrections. Fence Guard and Motion Guard 2.1.4 is pre-installed on Q-line products.

7.4 Updated AXIS Loitering Guard to version 2.1.4

AXIS Loitering Guard 2.1.4 includes improvements and corrections. Loitering Guard 2.1.4 is pre-installed on the following cameras: Q1645, Q1647, Q3515, Q3517, Q3518, Q6125-LE.

7.5 Apache web server update

Apache web server has been updated to version 2.4.33 to increase overall minimum cyber security level.

7.6 Support for T6101 Audio and I/O Interface

Added support for the Portcast feature which enables usage of the T6101 I/O box with the following cameras: P3227-LV/-LVE/P3228-LV/LVE, M3057-PLVE/M3058-PLVE.

7.7 Support for 256-bit SD card encryption

Added support for AES-CBC 256-bit SD card encryption. Available for the following cameras: Companion Bullet LE, Companion Eye L/LVE, M1124/-E/M1125/-E, M2025-LE, M3104-L/-LVE/M3105-L/-LVE, M5525-E, P12 Mk II, P1280-E/P1290-E, P1364/-E, P1365 Mk II/-E Mk II, P1405-LE Mk II, P1425-LE Mk II, P1435-E/LE, P3224-LV Mk II/-LVE Mk II/P3225-LV Mk II/-LVE Mk II, P3224-V Mk II/-VE Mk II/P3225-V Mk II/-VE Mk II, P3235-LV/-LVE, P3374-V/-LV/P3375-V/-LV/-LVE/VE, P5514/-E, P5515/-E, P5624-E Mk II, P5635-E Mk II, Q1615 Mk II/-E Mk II, Q1775/-E, Q1941-E/-E PT Mount, Q1942-E/-E PT Mount, Q3504-V/-VE/Q3505-V Mk II/-VE Mk II, Q3615-VE, Q3617-VE, Q6052/-E, Q6054/ Mk II, Q6054-E/-E Mk II/-E Mk III/-Mk III, Q6055-series, Q6124-E, Q6155-E, Q8641-E, Q8642-E.

8   Axis Firmware 8.30

This section describes new and modified capabilities in the 8.30 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

8.1 General Information

Release date: 2018-06-25

8.2 Updated AXIS VMD to version 4.2.4

AXIS Video Motion Detection version 4.2.4 includes improvements and corrections.

8.3 Updated AXIS Fence Guard and Motion Guard to version 2.1.3

AXIS Fence Guard and Motion Guard 2.1.3 includes improvements and corrections. Fence Guard and Motion Guard 2.1.3 is pre-installed on Q-line products.

8.4 Updated AXIS Loitering Guard to version 2.1.3

AXIS Loitering Guard 2.1.3 includes improvements and corrections. Loitering Guard 2.1.3 is pre-installed on the following cameras: Q1645, Q1647, Q3515, Q3517, Q3518, Q6125-LE.

8.5 Added Camera Tampering to Q-Line Thermal Cameras

The tampering event will be the same as for vision cameras. Settings will be the same as vision cameras, with the exception for the Dark image detection setting which is removed.

8.6 Support for ONVIF Audio Backchannel

Added support for ONVIF Audio Backchannel with support for G711 and G726 audio codec. Cameras are able to retrieve audio while sending an audio capable video stream with metadata in the same RTSP session.

8.7 Support for automatic negotiation of SMB/CIFS version

Added support for negotiating the preferred SMB protocol version of 2.10, 3.0 or 3.02 to increase overall minimum cybersecurity level. Please refer to the following FAQ for more information -> https://www.axis.com/support/faq/FAQ116392.

8.8 Support for 256-bit SD card encryption

Added support for AES-XTS-512 256-bit SD card encryption. Available for the following cameras: M3058, P1367, P1368-E, P1447-LE, P1448-LE, P3228-LV, Q1645, Q1647, Q3515 and Q3517

8.9 Google Analytics

Added the possibility for the user to share anonymous usage data with AXIS developers. The information collected is for example which pages are visited, the firmware version of the product, language setting, video format, aspect ratio, browser and operating system. This is done in order to continue to improve the products and the user experience. The data collected helps us to optimize and streamline the interface and make it easier to install and configure our products. This feature is disabled per default but can be enabled during installation or under System -> Maintenance.

9 Axis Firmware 8.20

This section describes new and modified capabilities in the 8.20 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

9.1 General Information

Release date: 2018-05-03

9.2 Updated AXIS VMD to version 4.2.1

AXIS Video Motion Detection version 4.2 includes improvements and corrections. AXIS VMD 4.2.1 is compatible with ONVIF Imaging Spec 17.06.

9.3 Updated AXIS Fence Guard and Motion Guard to version 2.1

AXIS Fence Guard and Motion Guard 2.1 includes the "Burnt-in Alarm Overlay" feature that gives the user the possibility to select a resolution for which a bounding box is burnt in over alarming objects in the video streams. Fence Guard and Motion Guard 2.1 is pre-installed on Q-line products.

9.4 Changed default audio bitrate to 32 kbps

All products that support audio now have 32 kbps bitrate per default.

9.5 Support for Portcast technology

Support for the new Axis Portcast technology makes it possible to add audio and I/O ports via a new network utility box (T6101). Available for the following cameras: M3044-V, M3044-W, M3045-V, 3045-W, M3046-V and M3046-1.8mm.

9.6 Support for polygon privacy masks

The following products now supports polygon privacy masks: P1367, P1367-E, P1368-E, P1447-LE, P1448-LE, P3227-LV/-LVE, P3228-LV/-LVE, Q1645/-LE, Q1647/-LE, Q3515-LV/-LVE, Q3517-LV/-LVE.

9.7 Support for Dynamic Overlays

The older overlays are now replaced with the new Dynamic Overlays. This new solution adds more capabilities to overlays, like free positioning, more fonts sizes and colors. It is also possible to migrate existing overlays to dynamic overlays. This is included in all cameras except the following: Companion Cube L/LW, Companion Dome V/WV, M10-series, M2026-LE/-LE Mk II, M30-series, M3106-L/-LVE/-L Mk II/-LVE Mk II and Q6125-LE.

9.8 Support for showing hidden resolutions

Added support for showing hidden resolutions via API. The parameter Properties.Image.ShowSuboptimalResolutions has been added which will, when enabled, i.e. set to "true" instead of "false", make the parameter Properties.Image.Resolution show all of the products supported resolutions. This is useful for various VMS's and other clients.

9.9 Exposure Data provided as Exif tags

Exposure data is now provided as Exif tags in JPEG and Motion JPEG. This is intended for customers that require a richer set of sensor data to be used in advanced analytics applications.

10   Axis Firmware 8.10

This section describes new and modified capabilities in the 8.10 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

10.1   General Information

Release date: 2018-02-16

10.2   Updated AXIS VMD to version 4.2

AXIS Video Motion Detection version 4.2 includes improvements and corrections. AXIS VMD 4.2 is compatible with ONVIF Imaging Spec 17.06.

10.3   Apache web server update

Apache web server has been updated to version 2.4.29 to increase overall minimum cyber security level.

11 Axis Firmware 7.40

This section describes new and modified capabilities in the 7.40 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

11.1 General information

Release date: 2017-12-11

11.2 Motion Guard and Fence Guard pre-installed

AXIS Motion Guard and AXIS Fence Guard is now pre-installed on all Q-line products. More information about the applications can be found here.

11.3 Support for Firmware Recovery

Support for Firmware Recovery under Settings -> System -> Maintenance. The product is saving a restore point every time the firmware is updated, allowing the user to roll back to a previous firmware and its configuration.

11.4 Support for HTTP keep-alive connections via ONVIF

PTZ products can now be controlled via HTTP keep-alive connections. This increases PTZ control accuracy, reduces overhead communication and therefore lowers the risk for security focused network infrastructure or unstable networks to block or drop PTZ control commands.

11.5 Support for OPUS audio codec

Support for OPUS audio codec. The codec can be selected e.g. in the web-interface under Settings -> Audio -> Encoding or via VAPIX API.

The OPUS audio codec is supported by all audio products except C-CUBE-L/-LW.

11.6 Support for browser stream statistics

Support for browser stream statistics in Live View. Stream statistics lists: Resolution, Stream type, Encoding, Frame rate, bitrate, Uptime, Buffer, Dropped frames and Refreshed.

11.7 Updated AXIS VMD to version 4.1.8

AXIS Video Motion Detection to version 4.1.8 includes improvements and corrections.

11.8 Support for Password Security Confirmation Check

To increase the overall cybersecurity awareness, a user-configured password that is considered "weak" need to be confirmed actively twice by the user.

12 Axis Firmware 7.30

This section describes new and modified capabilities in the 7.30 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

12.1 General information

Release date: 2017-09-22

12.2 Support for SRTP

Support for SRTP (Encrypted Video Streaming) according to RFC 3711. The cameras video stream can be received via secure end-to-end encrypted transportation method only by authorized clients.

SRTP is supported by all products except the following: C-CUBE-L/-LW, C-DOME-V/-VW, M10x5-L/-LW, M2026-LE/-LE-MkII, M304x/-W, M3106-L/-LVE/-L-MkII

12.3 Zipstream Dynamic FPS and GOP

Support for Zipstream Dynamic FPS - Lower Limit
Support for Zipstream Dynamic GOP - Upper Limit

It is now possible to further adjust and set limits for Dynamic FPS and Dynamic GOP settings for Zipstream.

12.4 FTP disabled by default

FTP disabled by default to increase overall minimum security standards as it is not used during normal operation and may pose a security risk. The FTP Server may be enabled during advanced maintenance or troubleshooting.

12.5 Brute Force Delay Protection

Support for Brute Force Delay Protection. The product can block a client for a period of time if too many login attempts failed. Brute Force Delay Protection can be configured under System -> PlainConfig -> System -> System PreventDoSAttack.

12.6 Support for Noise Reduction

Support for Noise Reduction in Q1755-Series and Q605x-Series.

12.7 Updated Web-Interface

Support for Adaptive Resolution. Adaptive Resolution is enabled per default and takes only effect when viewing live stream in the web-interface. The viewing client will receive an image resolution that is adapted or close to the viewing clients real display resolution to higher the user experience.

Support for automatic license key installation when installing an ACAP.

Support for Flash_All via web-interface. It is now possible to choose Flash All (i.e. factory default) when doing a firmware upgrade from the web interface.

Support for jumping in recordings. It is now possible to fast forward/backward jump to any time position of the selected recording within the recording list in the web-interface.

Support for entering manual SSIDs in WIFI settings.

Improved PTZ control in the in the live view to let the camera, either mechanical or digital, PTZ into its desired position.

The area zoom functionality has been removed from the web interface to improve the overall PTZ usability. Area zoom was used to draw a rectangle in the live view to let the camera PTZ to this desired position.

13 Axis Firmware 7.20

This section describes new and modified capabilities in the 7.20 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

13.1 General information

13.2 Support for AXIS SD card health API

Support for AXIS SD card health API. The SD card health API allows a client to track and request the health and wear-out state of a camera with AXIS Surveillance SD Card.

13.3 Support for 24-bit LPCM audio

Support for 24bit LPCM audio mode. This mode is disabled by default.

13.4 Keep-alive for PTZ-products

PTZ products can now be controlled via HTTP 1.1 keep-alive connections which increases PTZ control accuracy and reduces overhead communication. Therefore the risk is lowered for PTZ control commands to be blocked when controlling a PTZ camera.

13.5 HTTPS enabled by default

Upon a factory default, the camera will generate a self-signed certificate at boot and can enable HTTPS. This allows clients to use encrypted access from start.
If HTTPS is to be used in daily operations, it is recommended to replace the generated self-signed certificate with a CA-signed certificate.

13.6 OpenSSL update

OpenSSL has been updated to version 1.0.2k to increase overall minimum cyber security level.

13.7 Apache web server update

Apache web server has been updated to version 2.4.25.

14 Axis Firmware 7.10

This section describes new and modified capabilities in the 7.10 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

14.1 General information

14.2 AXIS VMD 4.1 pre-installed

AXIS Video Motion Detection 4.1 is now pre-installed on all products replacing the VMD 3. AXIS VMD 4.1 comes with better analytics engine and mechanical PTZ camera support.

14.3 Audio Streaming Capabilities API

A new Audio Streaming Capabilities API has been implemented for better handling of the products supported codecs, sample rates, bit rates and channels. Products will show now only supported audio combinations.

14.4 OpenSSL version updated to 1.0.2j

OpenSSL has been lifted to 1.0.2j to increase overall cybersecurity level.

14.5 New Web-Interface

New web-interface with improved usability and broader support of web-clients and operating systems. The new web-interface supports 12 different pre-installed languages which will be chosen automatically based on browser settings. Uploading individual language files is not needed anymore.

Supported Languages:

English - German - French - Spanish - Italian - Portuguese - Polish - Russian -Japanese - Chinese (Mainland) - Chinese (Taiwan) - Korean

For more information please see: https://www.axis.com/global/en/support/technical-notes/browser-support.

14.6 Axis On-screen Controls

The Axis On-Screen Controls add-on makes it possible for Axis Camera Station (ACS) or a VMS to get information about various features of the camera. This information is available through a JSON API via a CGI.

14.7 LLDP

Support for LLDP neighbor announcements. Products announce themselves now in the network via LLDP protocol.

15 Axis Firmware 6.50

This section describes new and modified capabilities in the 6.50 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

15.1 General information

15.2 AXIS Video Motion Detection 4

AXIS Video Motion Detection 4 is preinstalled in all products. AXIS VMD 4 offers improved detection with a possibility to configure multiple detection areas.

This pre-installation will not affect any current installation or configuration of previous Axis VMD versions.

16 Axis Firmware 6.40

This section describes new and modified capabilities in the 6.40 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

16.1   General information

Release date: 2016-10-10

17 Axis Firmware 6.30

This section describes new and modified capabilities in the 6.30 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

17.1   General information

Release date: 2016-0X-XX

17.2   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.

17.3   ONVIF Profile G conformance

Support for ONVIF Profile G added. For more details please visit www.onvif.org

17.4   Improved Zipstream using dynamic frame rate

The latest enhancement of Axis' Zipstream technology now offers even more storage and bandwidth savings in video surveillance applications without compromising on important image details. It dynamically adjusts the frame rate, instantly adapting to any changes in the scene.

18 AXIS Firmware 6.20

This section describes new and modified capabilities in the 6.20 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

18.1 General information

Release date: 2016-03-22

18.2 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.

18.3 AXIS Zipstream for PTZ

Improved AXIS Zipstream technology for PTZ cameras.

19 AXIS Firmware 6.10

This section describes new and modified capabilities in the 6.10 Firmware Release. Please note that available functionality varies depending on camera and encoder model. Check the release notes for details for each product.

19.1 General information

Release date: 2016-02-22

19.2 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.

19.3 Removed predefined stream profiles

Removed predefined stream profiles Quality, HDTV, Balanced, Bandwidth, Mobile. Note that if a user upgrades from a previous firmware (where the stream profiles exists) the stream profiles are kept until a factory reset has been done.

19.4 Removed the parameter based event api – Developer information

If you used this old Event Handling API to set up the events in the product, you will have to convert the events before upgrading to firmware 6.10, else they will be lost. Convert button is available in the products web GUI, in the section for Events setup.

20 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.

20.1 General information

Release date: 2015-10-16

20.2 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.

21 AXIS Firmware 5.80

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.

21.1 General information

Release Date: 2015-05-22

21.2 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.

21.3 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.

21.4 ONVIF Media Profiles

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

21.5 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.

21.6 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%.

22 AXIS Firmware 5.70

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.

22.1 General information

Release Date: 2015-03-05

22.2 Secure FTP (SFTP)

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

22.3 Storage Improvements

22.3.1 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).

22.3.2 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.

22.3.3 NAS drives over 2TB

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

22.3.4 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.

22.4 Apache web server

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

22.5 Init removed

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

23 Axis Firmware 5.60

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.

23.1 General information

Release Date: 2015-03-05

23.2 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.

23.3 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.

23.4 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.

23.5 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.

23.6 Extended Edge Storage Support

Supporting memory cards up to 512 GByte.

23.7 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.

23.8 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.

23.9 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.

23.10 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.

23.11 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.

23.12 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.

23.13 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.

23.14 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.

23.15 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.

23.16 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.

23.17 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.

24 Axis Firmware 5.50

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.

24.1 General information

Release Date: 2015-03-05

24.2 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.

24.3 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.

24.4 Extended Edge Storage Support

Supporting memory cards up to 64 GB.

24.5 Text Overlay character set extension

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

24.6 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.

24.7 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

24.8 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.

24.9 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.

24.10 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.

24.11 HTTPS Recipient

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

24.12 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.

24.13 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.

24.14 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.

24.15 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.

24.16 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.

24.17 Improved Constant Bitrate Control

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

24.18 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.

24.19 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.

24.20 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.