

VAPIX® version 3

Axis H.264 SEI Header – User Data

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Table of Contents

1	Overview	5
1.1	Description	5
1.2	History	5
2	Prerequisites	5
2.1	Identification	5
3	The H.264 Header	5
3.1	User data	6
3.1.1	Product information	6
3.1.2	Time stamp	6
3.1.3	Trigger data	7
4	References	7

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1 Overview

1.1 Description

This document describes the format of the user data available in the H.264 SEI headers in H.264 streams generated from Axis video products.

The user data contains product information, time stamps and trigger data.

1.2 History

Version	Date	Comment
1.00	2009-Mar-02	Initial version

2 Prerequisites

2.1 Identification

Property: Properties.API.HTTP.Version=3
Properties.Image.Format=h264

Firmware: 5.00 and above

3 The H.264 Header

The H.264 user data is stored in SEI NAL units marked as type user data unregistered and is sent at regular intervals in the H.264 stream.

The first field is an UUID identifier filled with 16 consecutive 0xAA bytes. The next three fields are the payload data block including the length of the data block, an identifier and the actual user data. Each SEI may contain several payload data blocks.

Field	Value*	Size (bytes)	Description
uuid_iso_iec_11578	0xAA,0xAA,0xAA,0xAA, 0xAA,0xAA,0xAA,0xAA, 0xAA,0xAA,0xAA,0xAA, 0xAA,0xAA,0xAA,0xAA	16	UUID identifier
Length	0x##, 0x##	2	Length of this data block (starting from Axis ID)
Axis ID	0x0A, 0x##	2	Axis ID (See 3.1)
Data	...	Length – 2	User data

* The #s are replaced by the symbols 0...9,A...F.

3.1 User data

Three different types of user data can be included in the SEI message:

- product information
- time stamps
- trigger data

To include product information and time stamps in the user data, set the Image.I#.MPEG.UserDataEnabled parameters (one for each image configuration) to yes. To include trigger data, set the Image.TriggerDataEnabled parameter to yes.

The Axis ID field identifies the type of user data:

Axis ID	Description
0x0A,0x00	Product information user data
0x0A,0x01	Time stamp user data
0x0A,0x03	Trigger data

3.1.1 Product information

The product information user data field contains information such as hardware ID, firmware version and serial number.

Value*	Size (bytes)	Description
0x##,0x##	2	Hardware ID (0...65535)
0x##,0x##	2	Firmware version (0x##,0x##)
0x##	1	Firmware build number (0...255)
0x00,0x40,0x8c,0x##,0x##,0x##	6	Serial number (00:40:8c:##:##:##)

* The #s are replaced by the symbols 0...9,A...F.

3.1.2 Time stamp

The time stamp user data field contains information about the user time and unit time. For products with firmware 5.00 and above, the unit and user times are equivalent, but both are kept for backwards compatibility. Note that products without RTC (Real Time Clock) do not have a correct unit time.

Value*	Size (bytes)	Description
0x##, 0x##,0x##,0x##	4	User Time – Seconds since EPOCH (2...2 ³² -1)
0x##	1	User Time – 1/100 seconds (0..99)
0x##,0x##,0x##,0x##	4	Unit Time. The unit time is equal to the user time
0x##	1	Unit Time – 1/100 seconds.

Value*	Size (bytes)	Description
0x##	1	Unit Time – invalid (1)

* The #s are replaced by the symbols 0...9,A...F.

3.1.3 Trigger data

The trigger data field is an optional field that can be included in the header. See the document "Trigger data in the Video Stream" for more information.

4 References

All VAPIX references are available at

http://www.axis.com/techsup/cam_servers/dev/cam_http_api_index.php

VAPIX® Trigger Data in the Video Stream

VAPIX® HTTP API version 3

VAPIX® Parameter Specification

VAPIX® RTSP API