

# INTERNATIONAL STANDARD

Information technology — UPnP Device Architecture —  
Part 5-10: Digital Security Camera Device Control Protocol —  
Digital Security Camera Motion Image Service

ISO/IEC 29341-5-10:2008

<https://standards.iteh.ai/catalog/standards/sist/f6d440e3-7ac7-46b1-b836-8e544f3eebea/iso-iec-29341-5-10-2008>



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## INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

### Part 5-10: Digital Security Camera Device Control Protocol – Digital Security Camera Motion Image Service

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The list of all currently available parts of the ISO/IEC 29341 series, under the general title *Universal plug and play (UPnP) architecture*, can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

## ORIGINAL UPnP DOCUMENTS (informative)

Reference may be made in this document to original UPnP documents. These references are retained in order to maintain consistency between the specifications as published by ISO/IEC and by UPnP Implementers Corporation. The following table indicates the original UPnP document titles and the corresponding part of ISO/IEC 29341:

UPnP Document Title	ISO/IEC 29341 Part
UPnP Device Architecture 1.0	ISO/IEC 29341-1
UPnP Basic:1 Device	ISO/IEC 29341-2
UPnP AV Architecture:1	ISO/IEC 29341-3-1
UPnP MediaRenderer:1 Device	ISO/IEC 29341-3-2
UPnP MediaServer:1 Device	ISO/IEC 29341-3-3
UPnP AVTransport:1 Service	ISO/IEC 29341-3-10
UPnP ConnectionManager:1 Service	ISO/IEC 29341-3-11
UPnP ContentDirectory:1 Service	ISO/IEC 29341-3-12
UPnP RenderingControl:1 Service	ISO/IEC 29341-3-13
UPnP MediaRenderer:2 Device	ISO/IEC 29341-4-2
UPnP MediaServer:2 Device	ISO/IEC 29341-4-3
UPnP AV Datastructure Template:1	ISO/IEC 29341-4-4
UPnP AVTransport:2 Service	ISO/IEC 29341-4-10
UPnP ConnectionManager:2 Service	ISO/IEC 29341-4-11
UPnP ContentDirectory:2 Service	ISO/IEC 29341-4-12
UPnP RenderingControl:2 Service	ISO/IEC 29341-4-13
UPnP ScheduledRecording:1	ISO/IEC 29341-4-14
UPnP DigitalSecurityCamera:1 Device	ISO/IEC 29341-5-1
UPnP DigitalSecurityCameraMotionImage:1 Service	ISO/IEC 29341-5-10
UPnP DigitalSecurityCameraSettings:1 Service	ISO/IEC 29341-5-11
UPnP DigitalSecurityCameraStillImage:1 Service	ISO/IEC 29341-5-12
UPnP HVAC_System:1 Device	ISO/IEC 29341-6-1
UPnP HVAC_ZoneThermostat:1 Device	ISO/IEC 29341-6-2
UPnP ControlValve:1 Service	ISO/IEC 29341-6-10
UPnP HVAC_FanOperatingMode:1 Service	ISO/IEC 29341-6-11
UPnP FanSpeed:1 Service	ISO/IEC 29341-6-12
UPnP HouseStatus:1 Service	ISO/IEC 29341-6-13
UPnP HVAC_SetpointSchedule:1 Service	ISO/IEC 29341-6-14
UPnP TemperatureSensor:1 Service	ISO/IEC 29341-6-15
UPnP TemperatureSetpoint:1 Service	ISO/IEC 29341-6-16
UPnP HVAC_UserOperatingMode:1 Service	ISO/IEC 29341-6-17
UPnP BinaryLight:1 Device	ISO/IEC 29341-7-1
UPnP DimmableLight:1 Device	ISO/IEC 29341-7-2
UPnP Dimming:1 Service	ISO/IEC 29341-7-10
UPnP SwitchPower:1 Service	ISO/IEC 29341-7-11
UPnP InternetGatewayDevice:1 Device	ISO/IEC 29341-8-1
UPnP LANDevice:1 Device	ISO/IEC 29341-8-2
UPnP WANDevice:1 Device	ISO/IEC 29341-8-3
UPnP WANConnectionDevice:1 Device	ISO/IEC 29341-8-4
UPnP WLANAccessPointDevice:1 Device	ISO/IEC 29341-8-5
UPnP LANHostConfigManagement:1 Service	ISO/IEC 29341-8-10
UPnP Layer3Forwarding:1 Service	ISO/IEC 29341-8-11
UPnP LinkAuthentication:1 Service	ISO/IEC 29341-8-12
UPnP RadiusClient:1 Service	ISO/IEC 29341-8-13
UPnP WANCableLinkConfig:1 Service	ISO/IEC 29341-8-14
UPnP WANCommonInterfaceConfig:1 Service	ISO/IEC 29341-8-15
UPnP WANDSLLinkConfig:1 Service	ISO/IEC 29341-8-16
UPnP WANEthernetLinkConfig:1 Service	ISO/IEC 29341-8-17
UPnP WANIPConnection:1 Service	ISO/IEC 29341-8-18
UPnP WANPOTSLinkConfig:1 Service	ISO/IEC 29341-8-19
UPnP WANPPPPConnection:1 Service	ISO/IEC 29341-8-20
UPnP WLANConfiguration:1 Service	ISO/IEC 29341-8-21
UPnP Printer:1 Device	ISO/IEC 29341-9-1
UPnP Scanner:1.0 Device	ISO/IEC 29341-9-2
UPnP ExternalActivity:1 Service	ISO/IEC 29341-9-10
UPnP Feeder:1.0 Service	ISO/IEC 29341-9-11
UPnP PrintBasic:1 Service	ISO/IEC 29341-9-12
UPnP Scan:1 Service	ISO/IEC 29341-9-13
UPnP QoS Architecture:1.0	ISO/IEC 29341-10-1
UPnP QoSDevice:1 Service	ISO/IEC 29341-10-10
UPnP QoSManager:1 Service	ISO/IEC 29341-10-11
UPnP QoSPolicyHolder:1 Service	ISO/IEC 29341-10-12
UPnP QoS Architecture:2	ISO/IEC 29341-11-1
UPnP QOS v2 Schema Files	ISO/IEC 29341-11-2



UPnP Document Title	ISO/IEC 29341 Part
UPnP QosDevice:2 Service	ISO/IEC 29341-11-10
UPnP QosManager:2 Service	ISO/IEC 29341-11-11
UPnP QosPolicyHolder:2 Service	ISO/IEC 29341-11-12
UPnP RemoteUIClientDevice:1 Device	ISO/IEC 29341-12-1
UPnP RemoteUIServerDevice:1 Device	ISO/IEC 29341-12-2
UPnP RemoteUIClient:1 Service	ISO/IEC 29341-12-10
UPnP RemoteUIServer:1 Service	ISO/IEC 29341-12-11
UPnP DeviceSecurity:1 Service	ISO/IEC 29341-13-10
UPnP SecurityConsole:1 Service	ISO/IEC 29341-13-11

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## 1. Overview and Scope

This service definition is compliant with the UPnP Device Architecture version *1.0*.

The service enables delivery and control of live snapshot images from a digital security camera.

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## 2. Service Modeling Definitions

### 2.1. ServiceType

A service that is compliant with this template is identified with the following service type: **urn:schemas-upnp-org:service:** DigitalSecurityCameraMotionImage:1.

### 2.2. State Variables

Table 1: State Variables

Variable Name	Req. or Opt. <sup>1</sup>	Data Type	Allowed Value	Default Value	Eng. Units
<u>AvailableEncodings</u>	<u>R</u>	<u>string</u>			
<u>DefaultEncoding</u>	<u>R</u>	<u>string</u>			
<u>AvailableCompressionLevels</u>	<u>R</u>	<u>string</u>			
<u>DefaultCompressionLevel</u>	<u>R</u>	<u>string</u>			
<u>AvailableResolutions</u>	<u>R</u>	<u>string</u>			
<u>DefaultResolutions</u>	<u>R</u>	<u>string</u>			
<u>VideoURL</u>	<u>R</u>	<u>string</u>			
<u>VideoPresentationURL</u>	<u>R</u>	<u>string</u>			
<u>MaxBandwidth</u>	<u>R</u>	<u>ui4</u>	<u>0..</u>	<u>(Maximum)</u>	
<u>TargetFrameRate</u>	<u>R</u>	<u>ui4</u>	<u>0..</u>	<u>(Maximum)</u>	
Non-standard state variables implemented by an UPnP vendor go here.	X	TBD	TBD	TBD	TBD

<sup>1</sup> R = Required, O = Optional, X = Non-standard.

#### 2.2.1. AvailableEncodings

The value of this string should be a list of all by the vendor specific service supported MIME-type still image types. The types in the list should be separated by a “,”.

Example: image/jpeg, image/gif, image/bmp

This is a read only property.

#### 2.2.2. DefaultEncoding

The value of this string must be a MIME-type still image type. Any MIME still image type listed in AvailableEncodings may be used as an allowed value.

#### 2.2.3. AvailableCompressionLevels

Compression level describes how much an image should be compressed. Since a wide variety of compression methods and algorithms are available compression levels become subjective values that are hard to quantify. The value of this string should be a list of all supported compression levels separated by a “,”. The list order should be the lowest compression level first.

Example1: 0, 1, 2, 3, 4, 5

Example2: Lowest, Highest

This is a read only property.

#### 2.2.4. DefaultCompressionLevel

The value of this string must be one of the supported compression levels specified in AvailableCompressionLevels.

AvailableEncodings may be used as an allowed value.

#### 2.2.5. AvailableResolutions

Resolution is the actual number of horizontal and vertical pixels an image contains. It does not tell anything of the image quality apart from the size in pixels. There must be at least one resolution available. Presented in ascending order based on first the value of X multiplied by Y and as second order the value of X. Always formatted as "XxY". Where X is the horizontal number of pixels and Y the vertical number of pixels.

Example: 320x240, 640x480

This is a read only property.

Resolution is always based on Rotation = 0.

(See: Security Camera Settings Service for more information)

#### 2.2.6. DefaultResolutions

The value of this string must be one of the supported resolutions specified in AvailableResolutions.

#### 2.2.7. VideoURL

The VideoURL is the URL for the video stream itself.

This is a read only property.

#### 2.2.8. VideoPresentationURL

This is the URL for an html presentation page of the current video stream. The typical implementation would be an html page that includes the VideoURL. This field must exist but may contain the empty string.

#### 2.2.9. MaxBandwidth

This is the maximum bandwidth allowed for this service to use for *each* video connection. Unit used is Kbit/s. If set to 0 this service would be disabled. MaxBandwidth has priority over TargetFrameRate frame rate.

#### 2.2.10. TargetFrameRate

Frame rate in frames/minute. Target frame rate should never be exceeded by the device. If an attempt to set outside scope of device the nearest supported legal value will be set.