ONVIF™
Network Video Transmitter Device Definition

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1 Scope

This document contains the definition for the ONVIF Network Video Transmitter device type. This document describes the mandatory and optional services for this entity but does not include the description of the services themselves. The services are described in separate documents. Use the ONVIF Specification Document Map to locate the documentation for the relevant services.

2 Normative references

ONVIF Core Specification Version 2.1
<http://www.onvif.org/specs/core/ONVIF-Core-Spec-v210.pdf>
ONVIF Device I/O Service Specification Version 2.1
<http://www.onvif.org/specs/srv/io/ONVIF-DeviceIo-Service-Spec-v210.pdf>
ONVIF Media Service Specification Version 2.1
<http://www.onvif.org/specs/srv/media/ONVIF-Media-Service-Spec-v210.pdf>
ONVIF Streaming Specification Version 2.1
<http://www.onvif.org/specs/stream/ONVIF-Streaming-Spec-v210.pdf>
ONVIF Imaging Service Specification Version 2.1
<http://www.onvif.org/specs/srv/img/ONVIF-Imaging-Service-Spec-v210.pdf>
ONVIF PTZ Service Specification Version 2.1
<http://www.onvif.org/specs/srv/ptz/ONVIF-PTZ-Service-Spec-v210.pdf>
ONVIF Video Analytics Service Specification Version 2.1
<http://www.onvif.org/specs/srv/analytics/ONVIF-VideoAnalytics-Service-Spec-v210.pdf>

3 Terms and Definitions

3.1 Definitions

Network Video Transmitter (NVT)	Network video server (an IP network camera or an encoder device, for example) that sends media data over an IP network to a client.

3.2 Abbreviations

NVT	Network Video Transmitter
ONVIF	Open Network Video Interface Forum

4 Overview

A Network Video Transmitter (NVT) is an ONVIF device that sends media data over an IP network to a client. For example, an NVT may be an IP network camera or an encoder device.

An NVT exposes its functionality through a number of services that are provided by the ONVIF standard. A number of services are mandatory for each type of ONVIF device. The device may support other services and the device signals availability of optional services via the device discovery service.

An NVT implements the following services to provide its core functionality:

Device service enables an NVT to provide device management functionality such as device capabilities, system and network settings, security settings and firmware upgrade. <xref to service specification>

Event service enables an NVT to send events to clients. <xref to service specification>

Media service enables an NVT to stream media data to clients. Media data includes video, audio, video analytics and other metadata. <xref to service specification>

Device IO service enables an NVT to support physical inputs and outputs. <xref to service specification>

An NVT can also implement the following services to provide extended functionality:

PTZ service enables an NVT to provide PTZ control if the device is a PTZ camera. <xref to service specification>

Imaging service enables an NVT to provide configuration of image settings which affect the visual appearance of the video, for example, exposure time, gain and white balance, focus control. <xref to service specification>

Video Analytics service enables an NVT to provide video analytics functionality. <xref to service specification>

Beyond this, an NVT can also include additional ONVIF services, for example the Recording service if support for local storage is required.

<Picture showing NVT and NVC>

5 NVT Requirements (normative)

5.1 Services

Table 1 shows which services are required for the NVT device type. Mandatory services are marked with ‘M’ and services that are mandatory if a related feature is supported by the device are marked with ‘C’. Optional services are marked with ‘O’.

Table 1: Service requirements for the NVT device type

	Required?
Device	M

Event	M
Media	M
PTZ	C
Imaging	O
Video Analytics	O
Device IO	M

An NVT may include additional ONVIF services not shown in Table 1.

5.2 Device Discovery

An NVT shall implement device discovery as specified in the ONVIF Core Specification.

The basic capabilities and other properties of a device are defined by a number of scope parameters. The NVT shall include the general scope parameters as defined in the ONVIF Core Specification <insert xref here>. In addition an NVT shall include the specific scope parameters as presented in Table 2. Apart from these pre-defined parameters, it shall be possible to set any scope parameter as defined by the device owner.

Scope parameters can be listed and set through the commands provided by the Device service as defined in the ONVIF Core Specification.

Table 2: Scope parameters

Category	Defined values	Description
type	video_encoder	A video_encoder scope indicates that this device is a network video encoder device. A device with network video support, shall include the video_encoder type in its scope list.
	ptz	A ptz scope indicates that the device is a ptz device. A device with PTZ support shall include a scope entry with this value in its scope list.
	audio_encoder	The audio_encoder scope indicates that this device is an audio encoder and a device with audio encoder support shall include a scope entry with this value in its scope list.
	video_analytics	The video analytics scope indicates that this device supports video analytics as defined in <insert xref here>. A device with video analytics support shall include a scope entry with this value in its scope list.
	Network_Video_Transmitter	The network video transmitter scope indicates if the device is an NVT compliant device. An NVT shall include a scope entry with this value in its scope list.

5.2.1 Types

Section “Discovery definitions” of the ONVIF Core Specification defines a generic tds:Device for the Types declaration.

For backward compatibility reason an ONVIF compliant NVT shall also include dn:NetworkVideoTransmitter in the <d:Types> declaration.