

# ONVIF™ Network Video Storage Device Definition

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## 1 Scope

This document contains the definition for the ONVIF Network Video Storage 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 Recording Control Service Specification Version 2.1

<<http://www.onvif.org/specs/srv/rec/ONVIF-RecordingControl-Service-Spec-v210.pdf>>

ONVIF Recording Search Service Specification Version 2.1

<<http://www.onvif.org/specs/srv/rsrch/ONVIF-RecordingSearch-Service-Spec-v210.pdf>>

ONVIF Replay Control Service Specification Version 2.1

<<http://www.onvif.org/specs/srv/replay/ONVIF-Replay-Service-Spec-v210.pdf>>

ONVIF Receiver Service Specification Version 2.1

<<http://www.onvif.org/specs/srv/rcv/ONVIF-Receiver-Service-Spec-v210.pdf>>

## 3 Terms and Definitions

### 3.1 Definitions

**Network Video Storage (NVS)** A device that records media and metadata received from a streaming device, such as an NVT, over an IP network to a permanent storage medium. The NVS also enables clients to review the stored data

### 3.2 Abbreviations

NVS	Network Video Storage
ONVIF	Open Network Video Interface Forum

## 4 Overview

A Network Video Storage (NVS) is an ONVIF device that records media and metadata received from a streaming device, such as an NVT, over an IP network to a permanent storage medium. The NVS also enables clients to review the stored data. For example, an NVS could be a network video recorder (NVR), a digital video recorder (DVR) or a camera with embedded storage.

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

**Device service** enables an NVS to provide device management functionality such as device capabilities, system and network settings, security settings and firmware upgrade.

**Event service** enables an NVS to send events to clients.

**Receiver service** enables an NVS to receive media streams from a media source e.g. a Network Video Transmitter (NVT), to be recorded.

**Recording Control service** enables a client to manage recordings, and to configure the transfer of data from data sources to recordings. Managing recordings includes creation and deletion of recordings and tracks.

**Recording Search service** enables a client to find information about the recordings on the storage device, for example to construct a “timeline” view, and to find data of interest within a set of recordings. The latter is achieved by searching for events that are included in the metadata track recording.

**Replay Control service** enables a client to play back recorded data, including video, audio and metadata. Functions are provided to start and stop playback and to change speed and direction of the replayed stream. It also enables a client to download data from the storage device so that export functionality can be provided.

## 5 NVS Requirements (normative)

### 5.1 Services

Table 1 shows which services are required for the NVS 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 NVS device type**

	Required?
Device	M
Event	M
Recording Control	C
Recording Search	M

Replay Control	M
Receiver	C

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

## 5.2 Device Discovery

An NVS 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 NVS shall include the general scope parameters defined in the ONVIF Core Specification. In addition an NVS 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, defined in the ONVIF Core Specification.

**Table 2: Scope parameters**

Category	Defined values	Description
type	Network_Video_Storage	The network video storage scope indicates if the device is an NVS compliant device. An NVS shall include a scope entry with this value in its scope list.