Makito Encoder 2.4 Addendum
Makito Encoder 2.4

Makito Encoder Release 2.4 enables Makito and Barracuda encoders to be managed from the Milestone XProtect video management software (VMS) using the ONVIF protocol and API.

> **ℹ Note**
>
> References to the "Makito" can be taken to include both the Makito Classic and Barracuda encoders unless specifically stated otherwise.

This Addendum supplements the Makito User's Guide and details the ONVIF and RTSP support on the Makito. For general information on the Makito, please refer to the Makito User's Guide (available as a PDF from the InfoCenter at https://doc.haivision.com**) or the online help available from the Makito Web Interface.**

New Product Features

Makito Version 2.4 introduces the following new features and enhancements to existing capabilities:

ONVIF API Support and Milestone Integration

Customers can now manage the Makito Classic or Barracuda encoder from the Milestone XProtect video management software (VMS) using the ONVIF protocol and API. This functionality is a licensed feature and must be purchased using the SWO-290-ONVIF part number.

RTSP Support to a Milestone server

Makito Classic or Barracuda encoders can now stream video feeds to a Milestone XProtect server for archiving and analysis using the RTSP protocol.

Release 2.4 Overview

Makito Encoder Release 2.4 is designed to be used in applications where surveillance cameras connect to the Makito. Milestone XProtect video management software (VMS) sends commands to the Makito using the ONVIF API. The Makito sends video received from the cameras to the Milestone VMS via RTSP and Direct-RTP. The Milestone VMS stores the video as well as sends it for display.

The Makito Web Interface Services page and the CLI `service` command have been updated to allow enabling and disabling of the ONVIF management API. Enabling the ONVIF API allows the Milestone VMS to send commands to the Makito. This includes the creation of RTSP streams from the Makito to the Milestone software (client). For information about Milestone, see https://www.milestonesys.com/solutions/platform/video-management-software/xprotect-essential/.

About ONVIF

ONVIF is an open industry forum that provides and promotes standardized interfaces for effective interoperability of IP-based physical security products. For more information, see https://www.onvif.org/.

The Makito supports subsets of ONVIF API Profiles S and T. Both profiles are designed for IP-based video systems.

ONVIF Profile S is used for basic video streaming and configuration.

ONVIF Profile T is used for advanced video streaming and includes the following:

- H.264 / H.265 video compression
- Imaging settings
- Motion alarm and tampering events
- Metadata streaming
- Bi-directional audio

> **ℹ Note**
>
> In Makito Release 2.4, the ONVIF API "GET" parameters are implemented; however, the "SET" parameters are not. This means that you can use ONVIF commands to monitor Makito operations, but cannot control the Makito; for example, you cannot configure the video bit rate or resolution. For details on the ONVIF APIs, please see the ONVIF documentation:
> https://www.onvif.org/profiles/profile-s/
> https://www.onvif.org/profiles/profile-t/

ONVIF Management and RTSP Streaming to Milestone XProtect VMS

Summary of Steps

1. From the Makito Web Interface Services page or CLI `service` command, enable the ONVIF service. See Enabling Network Services on the Makito.
2. Also enable RTSP on the Makito (required for stream creation). Reboot the Makito.
3. Launch the Milestone XProtect VMS.
   - The Makito supports Auto-Discovery ("ws-discovery"), so simply select **Add Hardware → Express**.
   - Or to configure manually, select **Add Hardware → Manual → Hardware Model → ONVIF Conformant Device**.

> ✅ **Tip**
>
> To disable the ONVIF "ws-discovery" feature, you can change the value to `enabled=No` and then reboot.
> It is "On" by default when the ONVIF service is enabled.
>
> The ONVIF configuration file is stored in the following location: `/usr/share/config/onvif.cfg`
>
> `content:`
>
> `[DISCOVERY]`
>
> `enabled=Yes`

4. On the Milestone XProtect VMS, select **Devices→Camera→Makito Device→Settings**. For Streaming Method, select **RTP/UDP** (this is *not* the default).

> ⓘ **Important**
>
> Video is supported by XProtect in "RTP/UDP" mode only.

> ✅ **Tip**
>
> Navigate away from the page and then return in order to click **Save**.

Streaming should begin from the cameras.

> ⓘ **Note**
>
> If the video playback does not start, the first troubleshooting step is to completely disable the firewall on the PC that has the Milestone XProtect software. If this works, then ask your system administrator to edit the firewall rules accordingly.
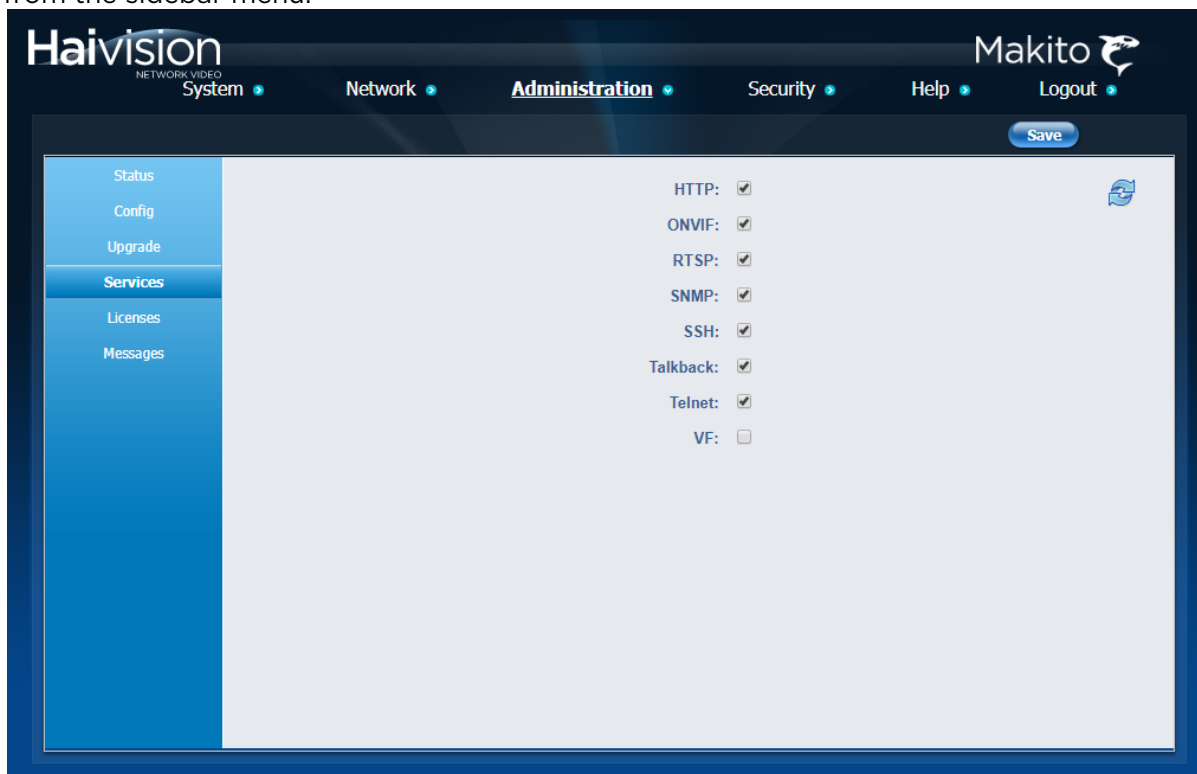
Related Topics:

- Enabling Network Services on the Makito
- CLI service Command

Enabling Network Services on the Makito

To enable Network Services on the Makito (Release 2.4):

1. On the Makito Web Interface, click **Administration** from the main menu, and then click **Services** from the sidebar menu.

2. To enable the ONVIF service, check the **ONVIF** checkbox.
3. To enable RTSP on the Makito (required for stream creation), check the **RTSP** checkbox.
4. Click **Save**.

CLI service Command

To enable ONVIF and RTSP using the CLI `service` command, see updates to the Synopsis and Examples below.

Synopsis

```
service svcname action
```
where `svcname` can be: `all, http, onvif, rtsp, snmp, ssh, talkback, telnet, vf`

`action` can be:

- `start` - activates the service right away and configures the unit so that the service will be started automatically when the unit is rebooted.
- `stop` - de-activates the service right away and configures the unit so that the service will be disabled when the unit is rebooted.
- `restart` - restarts the service and configures the unit so that the service will be started automatically when the unit is rebooted.
- `status` - displays the current and startup status of the service.

Examples

```
# service onvif start
```
Enables the ONVIF management API to allow the Milestone VMS to send commands to the Makito.

```
# service rtsp start
```
Enables RTSP on the Makito (required for stream creation).

```
# service all status
```
Returns the following:
```
http service is currently enabled
http service is enabled at system startup
onvif service is currently enabled
onvif service is enabled at system startup
rtsp service is currently enabled
rtsp service is enabled at system startup
snmp service is currently enabled
snmp service is enabled at system startup
ssh service is currently enabled
ssh service is enabled at system startup
talkback service is currently enabled
talkback service is enabled at system startup
telnet service is currently enabled
telnet service is enabled at system startup
vf service is currently disabled
vf service is disabled at system startup
```

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