



**S2 Security Corporation NetBox™
and
On-Net Surveillance Systems (OnSSI)
Network Video Recorder**

Install, Setup, and Integration Guide

Version 2.5

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Requirements for OnSSI NVR/S2 NetBox Integration

The hardware, software, and licenses required for your S2 NetBox™ NVR features are listed below.

In addition to those items it will be necessary for you to have:

- Direct access to the OnSSI Server machine.
- Login username and password to the S2 Network Controller with setup privileges.

Hardware

At this release the NVR feature is tested to work with the following devices:

- **S2 NetBox:** Version 2.5 or higher.
- **PC with Windows XP Pro SP2:** You will need an administrative account on the PC in order to install software.
- **Large Disk Drive:** The OnSSI web site at <http://www.OnSSI.com> has online calculators to assist you in estimating the disk capacity you will need for both the server and storage. The variables to be considered in selecting drive capacities include: number of cameras, frames per second, image size and resolution, days of storage required, and the number of recording hours per day.

Software and Licenses

- **S2 VMS license file:** In new systems this feature is already enabled in the I-button. To enable the Video Management System feature in existing systems upload and apply the file `ibutton.lic` to the Network Controller. Obtain this file from S2 Security. You will need to provide the iButton Serial Number from the [Support/Utility : About](#) page of the security application.
- **OnSSI NetDVMS™ v 6.0c or above:** This includes the OnSSI NetDVMS Administrator, OnSSI Image Server Administrator, and the OnSSI Monitor or OnSSI Recording Service applications.
- **Browser:** Internet Explorer 6+ is needed because of the use of an Active X component.
- **S2 OnSSI Service:** This service handles communications between the OnSSI NetDVMS and the S2 NetBox. This service creates its own event log and will add itself to the Windows Firewall. (Windows XP Pro SP2 required.)
- **S2 OnSSI Generic Event Builder:** This utility creates correct Start, Stop, and PTZ events on the OnSSI NetDVMS for each camera.

Upgrading NetBox Systems for NVR Video Management

NOTE: If you are doing NVR Setup on a system that already has a “VMS” license and is version 2.5 or higher, skip this page and begin on the next page at “**OnSSI NVR Setup.**”

How do I check a system for a VMS license and version number?

1. In the S2 Security Application select **Support/Utility : About.**
2. Look next to **Software Version** for the version number. If the version is V_2_2 or lower you will have to upgrade the S2 NetBox software. Call Support at 781 237-4555.
3. In the **Licenses** list look for **VMS**. If “VMS” is not in the list then this system is not yet licensed for the video management feature. You will need to proceed with the steps below to apply the license file.

NOTE: Be sure to backup the Controller database before applying the license file.

Backup Network Controller database and save to PC

1. Log in to the Security Application.
2. Select **Administration : Utilities : Backup Database.**
3. In the **Backup Database** section enter an explanatory comment about this backup. This comment will later appear above under **Existing Backups.**
4. Click **Backup Now** and the current security database is copied to ROM on the Network Controller and to the network storage location (local share) if one is configured.

NOTE: The Controller may require several minutes to complete this operation.

5. When this new backup appears in the **Existing Backups** section click the **get** link.
6. In the **File Download** dialog click **Save.**
7. In the **Save As** dialog browse to the location where you wish to save this backup.
8. Click **Save.**

Apply the VMS feature license file

1. Log in to the Security Application.
2. Select **Setup : Site Settings : Add Software Licenses.**
3. Browse to the VMS license file (ibutton.lic) and click **Save.**

NOTE: This step both uploads and applies the license file. When the process is complete the system returns a message to the user about the success/failure of the licensing process.

4. Log out of the Security Application.

NOTE: All users must log out so that the application of updates will be completed.

5. Log back in to the Security Application and select **Support/Utility : About.**
6. In the **Licenses** list look for **VMS**. The presence of the word **VMS** confirms the successful application of the license file.

Setting up the OnSSI NVR and S2 NetBox Integration

1. Complete the Setup of the OnSSI NVR

Refer to the OnSSI documentation for installation and setup of the NetDVMS Server, cameras, and events. For support contact OnSSI at www.OnSSI.com or call 845 369-6400.

The procedures below recommend specific settings and actions known to improve the S2 NetBox/OnSSI Server integration and behavior.

Install OnSSI NetDVMS and S2 Generic Event Builder software on the server

1. Obtain and install a licensed copy of OnSSI NetDVMS 6.0c or above.
2. Using the NetDVMS documentation install the NetDVMS Image Server, Administrator, and the Monitor or Recording Service. We recommend that you check the box **Add HTTP servers to Startup group** at the end of the install.

NOTE: We recommend that the PC used for the NetDVMS server have a static IP address.

3. Copy the **S2 Generic Event Builder** utility (there is no install routine for this) to the server.

NOTE: This can be taken from the CD provided or downloaded from the S2 Security FTP site. Call S2 support at 781 237-4555 for access to S2's FTP site.

Install the S2 OnSSI Service software

NOTE: The **S2 OnSSI Service** software must be installed on the same machine as the NetDVMS Server.

1. Open the **S2 OnSSI Service** folder. Double-click the **Setup.exe**.

NOTE: This can be taken from the CD provided or downloaded from the S2 Security FTP site. Call S2 support at 781 237-4555 for access to S2's FTP site.

2. Complete the installation of the S2 OnSSI Service software.

Complete S2 OnSSI Service setup

1. From the **Control Panel** open the **Administrative Tools**.
2. Open the **Event Viewer** applet from the Administrative Tools and select the **S2 OnSSI Log**.
3. Right-click and select **Properties** to open the Property page for that event log.
4. In the **Log Size** section select **Overwrite events as needed**.
5. Click **Apply** and then click **OK** to save the changes.
6. To verify that the S2 OnSSI Service has put an entry in the log, click **S2 OnSSI Log** in the Event Viewer.
7. Two events should appear in the S2 OnSSI Log. Double-click these events to display the Event Properties window. The descriptions of these two events will be, **S2 OnSSI Setup Listener started** (version 2.5.2), and **S2 OnSSI Service started**.

Complete Windows Firewall Setup

1. Open the **Windows Firewall** applet from the **Control Panel**.
2. Select the **Exceptions** tab and make sure that the **S2 OnSSI Service** is selected in the list of exceptions.

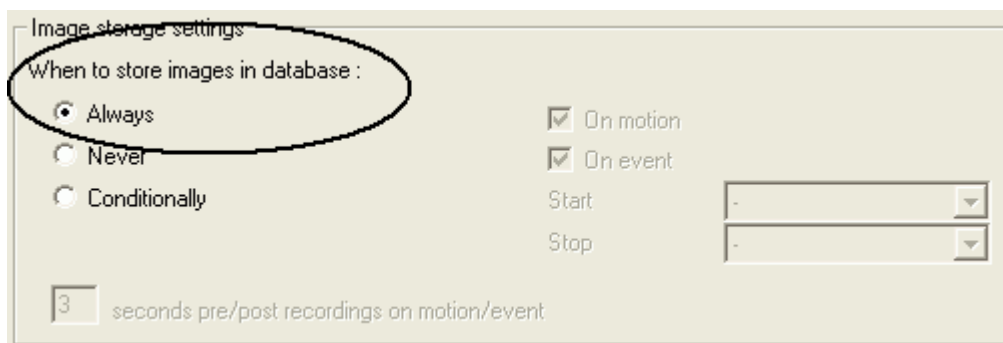
Configure Cameras in the NetDVMS Administrator Settings screen

1. Configure all cameras including PTZ presets.

NOTE: S2 limits camera names to 64 characters. Note that the NetDVMS system appends "Camera 1" to each camera name that you enter, and it places brackets [] before and after the name that you entered. Therefore each name that you enter can be no longer than 53 characters.

NOTE: It is possible to edit what NetDVMS adds to your camera names. See the NetDVMS documentation for assistance with this.

2. We recommend that each camera be set to store images **Always** in the **Image storage settings** section of the NetDVMS **Camera Settings** dialog. This ensures that video is always available for any time period including both before and after events.



Create events for each camera in the NetDVMS

Use the S2 OnSSI Generic Event Builder Utility to create all the required events.

We recommend that you complete the set up of all the NetDVMS cameras (except for the creation of generic events) and then run this tool once. It will save much time and ensure that no typographical errors are made in the creation of the events.

Using the S2 OnSSI Generic Event Builder

1. Run the GenericEventBuilder.exe. A message box is posted to remind you to exit the NetDVMS Monitor and Administrator. The Generic Event Builder will not create events if NetDVMS Monitor, Recording Service, or Administrator are running.

NOTE: S2's Generic Event Builder requires Microsoft's .NET Framework 1.1 and it must have write access to the files on the NetDVMS server. We recommend running the tool on the server itself.

- The default path to the NetDVMS Server is automatically entered in the **OnSSI Path** text box. If you installed your NetDVMS Server elsewhere then click the **Browse...** button to find and select the correct path.
- The three checked boxes in the image below are checked by default. Creating Stop/Start Events, PTZ Events, and connecting the events to the cameras are actions that will almost always need to be completed.

NOTE: If you set the cameras to always store images as recommended above in the **Configure Cameras** procedure then generic Start and Stop events will not be necessary. However, you must set up at least one generic event or the OnSSI Server will not allow communications over the Engine Trigger Port. By default this port is 1234.

- If you have already connected events to cameras in the NetDVMS they will not be overwritten unless you check the **Overwrite existing events** box.

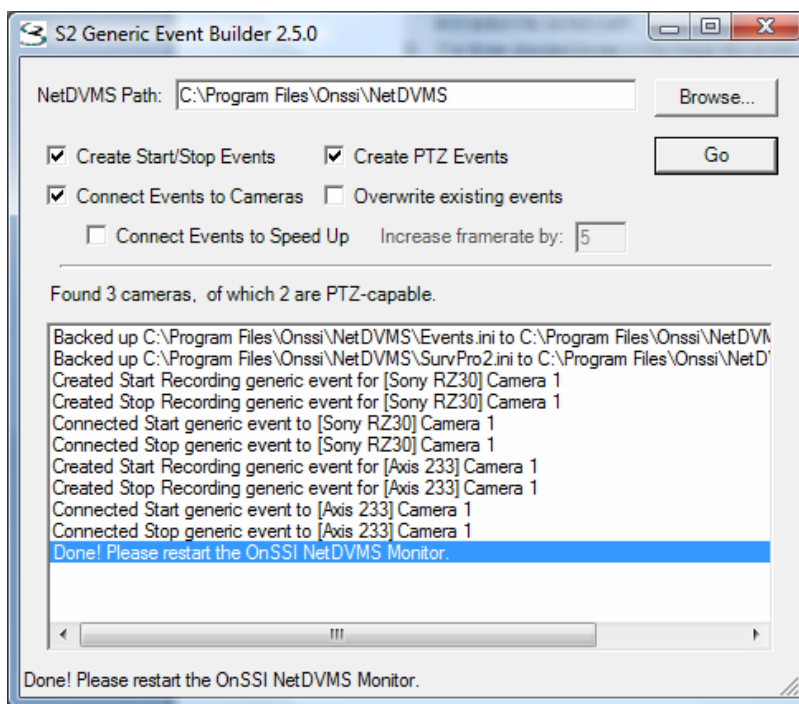
NOTE: If you have not set your cameras to always store images and you do not allow the GenericEventBuilder to overwrite the existing connected events, then the NetBox will not be able to trigger recording video relating to NetBox events.

- The **Connect Events to Speed Up** box would only be checked if you want cameras in your NetDVMS to normally run at a low frame rate (e.g. 1 frame/sec.) but to increase the frame rate for the duration of any triggered event. If you choose this option you can enter in the **Increase framerate by** textbox the number of frames per second that should be added to the camera's normal frame rate.

For example: If you enter 5 and the normal frame rate is 1 frame/sec then following a triggered event the cameras will run at 6 frames per second.

NOTE: This setting will be applied to all cameras in the NetDVMS. If this is not your intention then you will have to configure camera frame rate increases individually in the NetDVMS Administrator by selecting **Settings** for each camera.

- Click **Go**.



7. The image above shows that the list box records each action that the Generic Event Builder completed. In addition, the tool indicates how many cameras were found and how many were PTZ-capable. Be sure that the camera and PTZ-capable numbers agree with what you have set up.

NOTE: The **Events.ini** file (which contains the Start/Stop events) and the **SurvPro2.ini** file (which contains the PTZ events and Camera/Event connections) are backed up by the Generic Event Builder tool.

8. A message box appears to remind you to restart the **NetDVMS Monitor**. If you have been using the **NetDVMS Recording Service** this will have to be restarted now.

NOTE: If more cameras are added to the NetDVMS at a later date then the Generic Event Builder tool can be re-run. It will create only the needed new events.

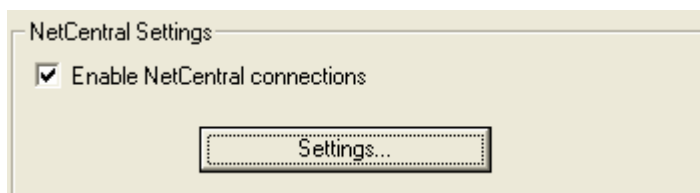
Complete the NetDVMS Setup

1. If you have not already done so create a User and Password with the **Image Server Administrator**. Create a “basic” user, not a “Windows” user. Make sure the **Full access for all users** checkbox is checked. The S2 NetBox defaults to the user name “S2Netbox” and the password “Netbox.” We recommend that you use these defaults.

NOTE 1: If you choose a different user name and password, be sure to change the NetBox defaults when you configure the S2 NetBox OnSSI NVR page.

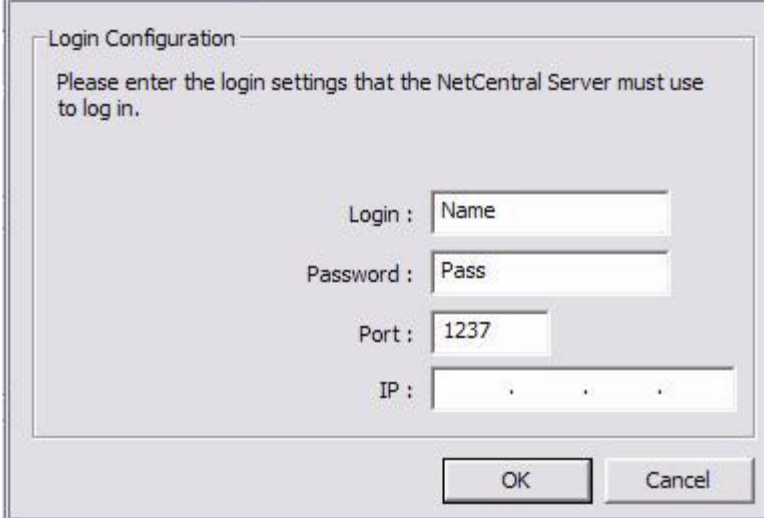
NOTE 2: If you do not want to give all users full access you can give the S2NetBox user full access to all cameras instead. However, if any new cameras are added to the system later you will have to grant the S2NetBox user access to these new cameras.

2. In the NetDVMS **Administrator** click the **General Settings** button and check **Enable OnSSI NetCentral connections**. This is necessary in order for the NetBox to receive camera configuration and events from NetDVMS.



3. Click the **Settings** button and in the **Engine IP** box fill in the static address of the PC where the NetDVMS Server is installed.

NOTE: Take note of the entries in the **Engine Login** and **Engine Password** text boxes in the dialog box below. These entries must match the entries in the **Engine Username** and **Engine Password** text boxes on the S2 NetBox OnSSI NVR page.



Login Configuration

Please enter the login settings that the NetCentral Server must use to log in.

Login :

Password :

Port :

IP : . .

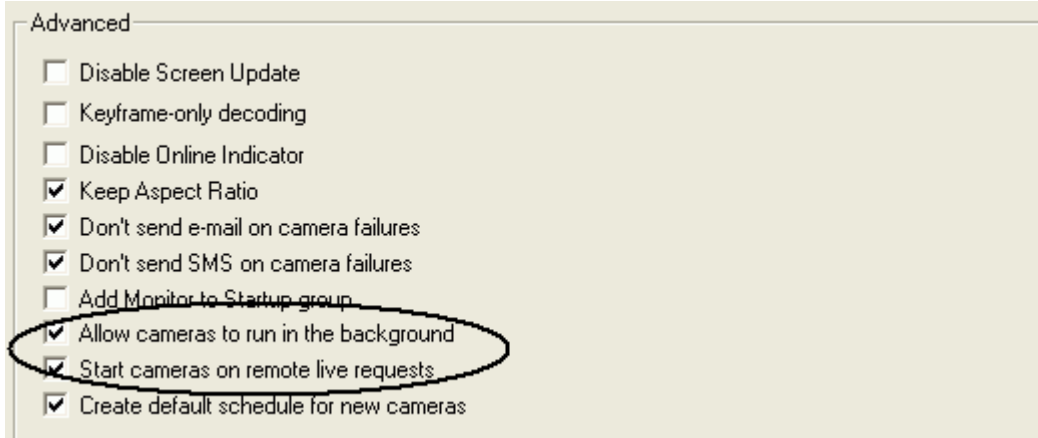
OK Cancel

- In the **Advanced** section of the **General Settings** dialog check **Allow cameras to run in the background**. See image below.

NOTE: If this is not set then all cameras must be added to the NetDVMS Monitor using the **Monitor Manager**, for the cameras to display in the S2 NetBox.

If you have not installed the NetDVMS Monitor then this box must be checked.

- If you have cameras that run only on a specified schedule, check **Start cameras on remote live requests** in the **Advanced** section. See image below.



Advanced

- Disable Screen Update
- Keyframe-only decoding
- Disable Online Indicator
- Keep Aspect Ratio
- Don't send e-mail on camera failures
- Don't send SMS on camera failures
- Add Monitor to Startup group
- Allow cameras to run in the background
- Start cameras on remote live requests
- Create default schedule for new cameras

- Click **OK** to save these settings and close the **General Settings** dialog.

Verify that the NetDVMS is functioning

- Launch the **NetDVMS Monitor** and verify that live video images are viewable. If you did not install the NetDVMS Monitor then use the OnSSI web client to verify the live video images are viewable.

2. Point the S2 NetBox to the OnSSI NVR

Configure the OnSSI NVR in the S2 NetBox

1. In the S2 Security Application select **Setup : Cameras : Configure OnSSI NVR**.
2. In the **NVR IP Address** text box enter the IP address of the NVR.
3. The **Engine Username** and **Engine Password** fields default to "Name" and "Pass" respectively. We recommend that you leave these defaults here and in the NetDVMS.
4. The **Image Server Username** and **Image Server Password** fields default to "S2Netbox" and "Netbox" respectively. Enter here the Image Server user name and password that you created when setting up the NetDVMS Image Server.
5. The **Image Server Port** defaults to 80. If you changed this in the NetDVMS you will have to change it here.
6. The **Engine Listener Port** defaults to 1237 in the NetDVMS. We recommend that you do not change this default.
7. The **Event Trigger Port** defaults to 1234 in the NetDVMS. We recommend that you do not change this default.
8. Click **Check Connection**.
9. Wait for the operation to complete and read the message box.

NOTE: The message box may indicate some error condition. This error must be fixed before you can proceed. Check the Appendix on Network Port Setup and ensure that all required ports are correctly configured.

10. If the message indicates that the NetDVMS is available for configuration then click **Save**.
11. Wait for the **VMS Definition Created** message.
12. Click the **List VMS Cameras** link at the bottom of the **Discovered Information** section. A list of camera names appears. You cannot change these names here.
13. Verify that the camera list is correct and complete. These cameras were previously set up during the configuration of the OnSSI NVR through its own UI.

Configure the public IP and video motion Settings

1. In the S2 Security Application select **Setup : Cameras : Configure OnSSI NVR**.
2. **Public IP Address:** This IP address automatically fills in when you save a new NVR configuration.
3. **Public HTTP port:** This port number defaults to 80. This port must map to the Image Server Port on the NetDVMS.

NOTE: If this address or port is on another subnet or behind a firewall you may have to change this to the external public address of the router or firewall. The network administrator will have to setup the port translation for communications and video to and from this address.

4. **Combine VMD events arriving within seconds:** Video Motion Detection (VMD) events occurring within the specified number of seconds are combined into one network controller event.

Example: If you set this field to 60 seconds, then additional motion detection events will not be reported by the network controller unless at least 60 seconds has passed since the last motion detection on that camera.

5. Click **Save**.

3. Verify live video from the S2 NetBox interface

Verify that you can see OnSSI video from the NetBox interface

1. Select **Monitor : Cameras**.
2. Select a camera connected to the NetDVMS.
3. You will be prompted to download the OnSSI ActiveX control. This is required. You will see a status message in the control when it connects to the NetDVMS.
4. Verify that you can see live video from this OnSSI connected camera.

4. Setup and verify Video Motion Detection from OnSSI

Verify that OnSSI VMD triggers S2 NetBox events

1. Ensure that you have configured VMD events on the NetDVMS. You can set the field of motion and sensitivity per camera.
2. Select **Setup : Alarms : Events** and define an S2 event.
3. Select **Setup : Alarms : Virtual Inputs** and assign your S2 event to an OnSSI connected camera **Video Motion Event**. Make sure the **Virtual Input** is either **Always Armed** or using a currently active time specification. Also verify that both the **Virtual Input** and the **Video Motion Event** are **Enabled**.
4. Select **Monitor : Monitoring Desktop** and create motion on that camera.
5. Verify that your S2 event was triggered.

5. Setup and verify video recording actions from S2 NetBox

Verify that S2 NetBox events record video

1. Select **Setup : Alarms : Events** and define an S2 event with a **Record Video** action. Be sure to select an OnSSI connected camera.
2. Assign a trigger to this record video event. You can select **Setup : Alarms : Inputs** and assign the event to the **Off-normal Event**, or you can select **Setup : Access Control : Portals** and assign the event to the **System-wide : Held** state of a portal.
3. Select **Monitor : Monitoring Desktop** and trigger the event. (Hold the portal open or set the input into an alarm state.)
4. Verify that the event was triggered and click the video icon to view the recorded video.

Appendix on Network Port Setup

The following ports are blocked by the Windows Firewall on the machine with the NetDVMS server installed. The S2 OnSSI Service software installed above adds itself to the list of applications allowed to open ports on the Firewall.

- Port 3001 is opened by the S2 OnSSI Service software for the S2 NetBox to initiate configuration communications to and from the NetDVMS server.
- Port 3002 is opened by the S2 OnSSI Service software for the S2 NetBox to send commands to the NetDVMS server to control cameras.
- Port 80 must be open for the browser to pull video from the NetDVMS Server. This is set in the NetDVMS Image Server Administrator.

NOTE: If you change this port in the NetDVMS Image Server Administrator you will have to change the **Image Server Port** default on the **Configure OnSSI NVR** page of the S2 Security Application as noted in the procedure above.

If the S2 NetBox and the NetDVMS Server are on different subnets then routers and firewalls need the following ports open:

- Open port 3001 on the router in front of the NetDVMS Server for the S2 NetBox to initiate configuration communications to the NetDVMS Server.
- Open port 3002 on the router in front of the NetDVMS Server for the S2 NetBox to send commands to the NetDVMS Server such as, “start/stop recording” and “move to preset.”
- Open port 3000 on the router in front of the S2 NetBox for the NetDVMS Server to report video motion events to the S2 NetBox.
- Open port 80 on the router in front of the NetDVMS Server for the browser to pull a video feed from the NetDVMS Image Server. If you changed this port in the NetDVMS Image Server Administrator you will have to open the port you specified there.

If the NetDVMS Server is behind a NAT router, then the S2 NetBox must also be behind that same NAT router.