

How does LNVR calculate storage capacities?

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Question

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Answer

The purpose of this document is to explain how storage capacity on a drive is calculated for LNVR.

Background:

In System Administration, for each video recorder, under the Capacity tab, there is a "Recorder Capacity" value that is displayed in GB. This value indicates the amount of space available to the LNVR to record and store video files. This is a cumulative value for all the storage drives configured on the LNVR.

In addition to the recorded video files, the LNVR also stores some index files and event files. The value displayed on the recorder capacity tab does not display the entire drive space available. It discounts the space reserved for storing additional files such as index and event files.

Use the "allocation factor" to adjust the space reserved for event and index files. By default, this allocation factor is 10%. The allowable range for this is from 5% to 95% and can be changed via a registry setting `[HKEY_LOCAL_MACHINE\SOFTWARE\Lenel\LNVSuite\7.1\EventAllocation]`.

Storage Capacity Calculation:

Several factors are combined in order to calculate the displayed 'Recorder Capacity':

- Actual drive sizes of all the storage drives (Actual Drive Size)
- Size of the existing video on the all the storage drives on the LNVR (Existing Video Size)
- Microsoft recommended free space for all the storage drives (Recommended Free Space)
- Actual free space on all the storage drives (Actual Free Space)
- Allocation Factor that we use to reserve space for event and index files (Allocation Factor)

The formula for calculating recorder capacity is:

$$\begin{aligned} & (\sum \text{Existing Video Size}) \\ & + (\sum (\text{Max of (Actual Free Space - Recommended Free Space), 0})) \\ & - (\sum (\text{Actual Drive Size} * \text{Allocation Factor}/100)) \end{aligned}$$

In other words, the recorder capacity is the sum of all the video already present, free space that we can utilize after we remove the space we reserve for Microsoft (10%) as well as event and index files (10%).

Storage Capacity calculation examples:

- **Scenario 1:** Brand new drive 100 GB
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 - **Actual Drive Size:** 100 GB
 - **Existing Video Size:** 0 GB
 - **Recommended Free Space:** 10GB
 - **Actual Free Space:** 100 GB
 - **Allocation Factor:** 10%
 - **Recorder Capacity:** $0 + (100 - 10) - 100 * 10 / 100 = 90 - 10 = 80$ GB
- **Scenario 2:** 2 brand new drives - One 100 GB, One 200 GB.
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 - **Actual Drive Size:** 100 GB, 200 GB
 - **Existing Video Size:** 0 GB
 - **Recommended Free Space:** 10 GB, 20 GB
 - **Actual Free Space:** 100 GB, 200 GB
 - **Allocation Factor:** 10%
 - **Recorder Capacity:** $0 + [(100 - 10) + (200 - 20)] - [(100 * 10 / 100) + (200 * 10 / 100)] = 270 - 30 = 240$ GB
- **Scenario 3:** 1 drive 500 GB, 100 GB existing video, 100 GB user files
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 - **Actual Drive Size:** 500GB
 - **Existing Video Size:** 100 GB
 - **Recommended Free Space:** 50 GB
 - **Actual Free Space:** 300 GB
 - **Allocation Factor:** 10%
 - **Recorder Capacity:** $100 + (300 - 50) - (500 * 10 / 100) = 100 + 250 - 50 = 300$ GB

Applies To

LNVR 7.0.588; Prism; OnGuard (All versions)

Additional Information
