# How to setup and schedule backup to iSCSI

storage in Linux NVR

**Application Notes** 

Version <1.0>



Yeon Technical Support Team

### Preface

Surveon Linux NVR can backup and archive the recorded video to iSCSI storage. Local and remote backups are available to expand the video retention period. Archiving with playback function is also supported to ensure data integrity, improve operational efficiency and simplify disaster-recovery operations.

In this application guide we are going to introduce three steps: how to setup the iSCSI storage device, how to add iSCSI device into Linux NVR, and how to schedule backup for Linux NVR.

The topics are as below:

- 1. Setup iSCSI storage.
- 2. Add on iSCSI storage into Linux NVR.
- 3. Schedule backup for Linux NVR.

Appendix : What is schedule Task mode?

#### Note:

- 1. This procedure is only applied on Linux NVR **3.1.0.A04** or later version.
- 2. One Linux NVR can only link one iSCSI device used for one purpose only (Either for storage or backup).
- 3. When iSCSI storage space is full, the oldest record will be overwritten, even the backup record to iSCSI storage is already set up .

### 1. Setting in iSCSI storage

- 1.1 Add new storage device.
- 1.2 Create new logical volume.
- 1.3 Create new partitions.
- 1.4 Host LUN Mapping.

Enter SANWatch device (default password is root).

<b>OInfortrend</b>
Connect
Management Host
Password
••••

### 1.1 Add new storage device.

User can click "Auto Discovery" to search your iSCSI device or choose "Add Device" to manually add the iSCSI device.

-						0	
< 🕘 🔮 http://127.0.0	1:8818/;jsessionid=1ii3	h5688eui411uud5ep48td5	,Q + C SANWatch	×			
System Settings Lang	uage About		🚰 Replica	ation Manager	Help	O Data Reload	
Device	Device	e Status				_	
Device List	Default Group	lame - 🥠 Status -	System Perform	ance	Capacity		
	Tasks						
	-	Add Device		<b>6</b>	Remove Device		
		Add a device using its IP	address or host name.		Remove a device from	the list.	
		Auto Discovery		100	Quick Setup for New	Device	
		<ul> <li>Discover all devices that via in-band or out-of-ban</li> </ul>	are connected to this server ind connections.	100	Discover and configure by-step setup wizard	a new device through this ste	ap-
		Edit Group					
	2	Group devices together I	to simplify device				

For "Auto Discovery" please assign the IP address scan range.

o Discovery				
Please specify the IP addre	ess and scan range fo	or device discov	ery.	
IP Address Range from	172.30.10.1	to 172.30	.10.254	
Assign Group	Default Group	<b>~</b>	Create Gro	quo

- 1.2 Create new logical volume.
- After adding on the new storage device, click "Create Logical Volume".

ystem Settings Languag	e About		Replication Manager	Help	O Data Reload
Device	Logical Volum	e List		-	
Device List Defe	sult Group 🔲 Name 🔺	😲 Status 🔺	Logical Drive Amount +	Capacity	
DS S12E-G2140-4 Cogical Volumes Drives Channels Data Hosts Schedules			No Data		
	Tester				
	Tasks	naté Locial Volume 8 e new logital volume using e systems connected to the serv	valiable drives in the R	elete Logical Volume emove the selected log	je al volume.

Select the HDD for this new logical volume, then click "Next".



■ Click "OK" then close it.



■ Select "No" and not configure this logical volume now.



### 1.3 Create new partitions.

■ In the new logical volume click Partition / Create Partition.

	xut	Peplication Manager		Jata Reload
Device	Partition List			
Device List Default Group	Name 🔺 🛃 Thin Pr 🛪	Map - Data Protection -	Capacity -	
Logical Volumes Logical Volume 1 Logical Volume 1 Logical Drives Partitions Chapteria		No Data		
Channels Data Hosts Schedules				
	Tacks			
	Tasks Create Partition		ete Partition	
	Tasks Create Partition Add a new partition using volume.	available space to a logical	elete Partition move an existing partition.	

Create new partitions and assign the size for it.

Partition Name:	Partition 1	Logical Volume Information
Size:	1.81 × TB ×	Volume Name: Logical Volume 1
Initialize Partition A	fter Creation	Free Size: 1.81 TB
Enable Thin-Provis	lioning	
Minimum Reserved Sp	pace	
	0 TB 🗸 0 %	
Map Partition to Ho	ust	
-		

Click "Yes".



■ Click "Ok" and "finish" to create the new partitions.

	-	
View the summary of the newly created part	ition.	
Partition		
Name:	Partition 1	
Size:	1.8 TB	
Minimum Reserved Space:	1.8 TB	
Initialize Volume After Creation:	Yes	
Logical Volume		
Name:	Logical Volume 1	
Size:	1.81 TB	
Available:	1.81 TB	
Host Mapping	1.	
Map:	NO	
	Back OK	Cancel
	Back OK	Cancel
formation	Back OK	Cancel
formation	Back OK	Cancel
formation	Back OK	Cancel
iformation	Back OK	Cancel
formation	Back OK	Cancel
formation	Back OK	Cancel
Iformation	Back OK	Cancel
iformation	Back OK	Cancel
formation	Back OK	Cancel
iformation	Back OK	Cancel
formation	Back OK	Cancel

### 1.4 Host LUN Mapping

■ Select new partition and enter "Host LUN Mapping".

yaran oannya Language Au	out		😭 Replica	tion Manager	Help	G Data Reload	
Device	Partition Status						
Device List Default Grow	Partition Int	formation		Capaci	ity		
DS 512E-02140-4 Logical Volume 1 Logical Volume 1 Logical Drives Logical Drive 1 Partition 1 Partition 1	Partition 1	Size: ID: Status: Map: Replication:	1.8 TB 41FE7E67000 The volum No		Total C Us Fre	apacity: 1.8 TB ed Space: 1.8 TB (100% ee Space: 0 MB (0%)	)
Channels	LUN Mappin	ig Information		Snapsh	ot of Selected Pa	Irtition	
E Schedules	Channel	Host ID	Assignmen	Snapshot Im	age ID Activate	ad Time Size	
		No Data			No Dat	2	
			,				
	Tasks						
	Tasks Expansion Space	Ind Partition Ind the capacity of this pa Fin a logical volume.	rtition using available		Delete Partition Remove this partition.		_
	Tasks Expa Expansion Expo Edit to	Ind Partition Ind the capacity of this pa e in a logical volume. Source Partition he configuration of this pa	ritiion using available		Delete Partition Remove this partition. Host LUN Mapping Map this partition to the mappings.	e host or manage existing l	.UN

Choose "Customize the host LUN mapping configurations" then select the Channel, click "OK" and "Close".

Create Host LUN Mapping	×
Create LUN Mapping to host	
<form>  cete a tost LUN mapping set automatically.   Customize the host LUN mapping configurations.   Sin</form>	Cancel
Information	×
The task has been completed.	
	Close

■ In the list table, we can see the CH that isjust created. Click "Cancel" to leave.

Host LUN	Mapping							×
Map thi	s partition to th	e host or ma	anage existing l	LUN mappin	gs.			
CH 🔺	Target 🔻	LUN 🕶	Host ID 🔻	Alias 🔻	Group 🔻	Priority 🔻	Filter Type 👻	Access Mode 🕶
1	1	0(0)					Include	-
					Crea	ite	Delete	Cancel

■ Select Channel / Host Channel Settings.

ystem Settings Language	About		Peplication Manager	() Help	G Data Reload	
Device	Channel List					
Device List Default	t Group					
DS S12E-G2140-4	Channel ID 🔺	Data Rate 🔺	Max Speed 🛥	Current Speed *	Status 🔺	
Ecoleal Volume 1	Channel 0	Auto	1.0 Gbps	-	Link Down	
Partitions Partition 1 Prition 1 Drives	Channel 1	Auto	1.0 Gbps	The link has been n	Link Up	
	Channel 2	Auto	1.0 Gbps	-	Link Down	
Data Hosts	Expansion					
E Schedules	Channel ID	5	ipeed	Status		
Schedules			No Data			
	Task	hannel Settings re the default controller data r	rate and controller	Check Connection Stat	tus nnection or expansion	-

■ Select the channel we just created then click "Configure".

ost Channel	Settings						
Channel 0 C	Channel 1	Channel 2	Channel 3				
Parameters				ID		 MCS Group	
Current Data R	ate:	The link ha	s been negoti				
Current Transfe	er Bandwidth	iscsi		0		0	
IPv4 Type:		Static		✓ 1		<ul> <li>1</li> </ul>	
SlotA IPv4 IP A	ddress:	192.168.10	.70	2		<u> </u>	
IPv6 Type:		Disabled		3		<u> </u>	
SlotA IPv6 Add	ress:			4			
Configure	e			5			
	_			6			
				7	~		
							c 1
						Л	Cancel

■ Setup this Channel's IP address here then click "OK" and "Yes".

Select the type of the IP ad	ress and related settings for the network interface.	
- IPv4		
Type:  Static		
(MAC Address: 00:	0:23:40:1F:39)	
IP Address:	192.168.10.11	
Subnet Mask:	255.255.255.0	
Default Gateway:	192.168.10.254	
Type: O Static O	Auto   Disable	 
IPv6 Type: O Static O IPV6 Address:	Auto ) Disable	
IPv6- Type: ) Static ) IPV6 Address:	Auto  Disable	
Type: O Static O IPV6 Address: Subnet Prefix Leng	Auto  Disable 1:	
IPv6 Type: O Static O IPv6 Address: Subnet Prefix Leng Route:	Auto  Disable	
IPv6 Type: O Static O IPv6 Address: Subnet Prefix Leng Route:	Auto  Disable	
IPv6 Type: () Static () IPv6 Address: Subnet Prefix Leng Route:	Auto  Disable	



## 2. Add on iSCSI storage into Linux NVR.

■ Select Record / Storage.



■ Click "Setting".

Storage Usage Usage Used(1.98%) 72.86(GB).total 3684.95(GB) Details Disk Type Logical Drive RAID Level Drive Size(GB) Available Size(GB) Online Data Type Enable Dis I RAID E RAID 5 3684.95 3612.09 Yes LOG,VIDEO Enable	
Details Diak Type Logical Drive RAID Level Drive Size(GB) Available Size(GB) Online Data Type Enable Dia RAID E RAID 5 3684.95 3612.09 Yes LOG,VIDEO Enable	
Disk Type         Logical Drive         RAID Lavel         Drive Size(GB)         Available Size(GB)         Online         Data Type         Enable Disk           1         RAID         E         RAID 5         3684.95         3612.09         Yes         LOG,VIDEO         Enable	
T RAID E RAID 5 3684.95 3612.09 Yes LOG,VIDEO Enable	sable S
	No
Information Edit	Delete

■ Choose IP Storage / Add.

			Advanced	l Settings		×
ľ	General IP	Storage N	IAS			
	Initiator Name					
	iqn.1993-08.or	lebian:01:2	7b07515321			
	To authenticate secret.	argets using	CHAP, click C	HAP to specify	a CHAP	CHAP
	Target Partol					
	Host	ddress	Add	ress	Port	
	Add	C	Delete	Refresh		Targets
						Close

■ Enter the iSCSI IP (the IP address we just assign to the channel).

Add Targe	et Portal		×
Type the Host Address to config your ISCSI			
iscsi			
Data Address	* Port		
192.168.10.11	3260		
		ок	Cancel

### Choose "Targets".

	Advanced Setting	s	×
General IP Storage N	AS		
Initiator Name			
iqn.1993-08.org.debian:01:27	b07515321		
To authenticate targets using secret.	CHAP, click CHAP to spec	ify a CHAP CHAP	
Host Address	Address	Port	
ISCSI	192.168.10.11	3260	
Add D	elete Befre	sh Targets	
		raiget	
		Clos	e

Click "Connect". After connecting the status will become Connected, then click "Close".



### Enter General / Check.

	Advanced	Settings	×
General IP Storage	e NAS		
Raid			
Free Space	OMB		
RAID Level			<b>_</b>
		Create Logic	al Drive
Check Storage			
SAS/iSCSI/HBA, run avoid NVR Server re	time unplug again bra start, (description)	in, through beck storage rest	umed, to
		<u> </u>	
		L	Check
			Close

After finishing all steps, it will request to restart the NVR. Click "OK".



After reboot, enter Setup / Record / Storage again; make sure the iSCSI has been added successfully.

			Stora	ige Manager				
torage Usage								
Jsed(5.49%) 3	03.45(GB),total 55	530.91(GB)						
ecans			r		r			-1-
Disk Type	Logical Drive	RAID Level	Drive Size(GB)	Available Size(GB)	Online	Data Type	Enable/Disable	5
RAID	E	RAID 5	3684.95	3429.63	Yes	LOG, VIDEO	Enable	N
iscsi	F	NON RAID	1845.95	1797.83	Yes	NO	Disable	N
								-
					Into	rmation F	irili Dele	ha
					) Info	rmation E	idit Dele	te
curve Settin	ngs				Into	rmation E	idint Dele	te
Advanced Settlin	ngs	disk allocation			Info	rmation E	idit Dole Satti	te
dvanced Settin	ngs	disk allocation	)		Info	rmation E	sdit Dele Settin	te

### **3. Schedule backup for Linux NVR**

Enter Maintenance / Backup System

		VMS Setup	×
Camera	Stream Into		
External			
VI		Backup System	Clear SCC Data
Record		Database Rebuild	
Alarm		<b>`</b>	
Account			
Network			
V Malatemance	Î Î		
Maintenance	Í		

■ There will be a new iSCSI device on the list, click "Add" to create a new schedule.

d.			Backup	) Syster	m			>
Γ	Task Name	Schedule	Execution Ti	me.	Backup Dr	ver	Stat	us
h					-		THE R. L.	Discourse of
-5	torace Usace			Add	Edi		Stop	Hemove
ſ	Disk type	Drive	Drive Size/GB)	Usedi	GRI		Free(GR)	r
	SCSI	F	1845.95	92.74	17	53.21	1100(00)	
Iľ								
								Close

■ In schedule backup we can select camera and backup schedule.

	Add	task	×
CAM3371EM-2	Task name:	TaskName	
CAM4361LV-2 CAM4361LV-2	Task mode:	Once a day	•
CAM4221 CAM1320	Task start time:	2016-03-10 14:30	÷
	This task will be ex	ecuited at 14:30:00 every day.since 2016-03-10	
	Backup driver:	Ŷ	•
Select all		OK Ca	ancel

When the system starts to backup, the Status will become "Running" and user can also see the percentage for backup.

askName Once a day 2016-02-24 17:20 F Running	la.
Add Edit Stop	p Remov
storage Usage	
Disk type Drive Drive Size(GB) Used(GB) Free(GB	e(GB)
ISCSI F 1845.95 93.88 1752.08	

■ When backup is finished, it will show "Complete".

		Backup Sy	stem		
Task Name	Schedule	Execution Time	Backup Driver	Siatus	
laskName	Once a day	2016-02-24 17:20	F	Complete	

### Appendix: What isschedule Task mode?

**Once**: it will only backup once, but customers can backup any particular date or time by period.

Add	task	×
Task name:	TaskName	
Task mode:	Once	•
Task start time:	2016-03-10 14:30	-
Period		
Start time:	2016-03-0114:30	•
End time:	2016-03-10 14:40	-

#### Example:

Task time is 2016-03-10 14:30, period is between 2016/3/1 14:30 – 2016/3/10 14:40, when the time comes, it will only backup record from 2016/3/1 14:30 – 2016/3/10 14:40. (Backup only once)

**Once a day:** When task time comes, it will backup record for yesterday.

Add task		×
Task name:	TaskName	
Task mode:	Once a day	•
Task start time:	2016-03-10 14:30	-
This task will be e	xecuted at 14:30:00 every day,since 2016-03-10	

#### Example:

- Task time is 2016-03-10 14:30, when the time comes, it will backup record from 2016-03-09 14:30 to 2016-03-10 14:30. (Backup one day)
- Also every day at 14:30, it will backup record form one day ago.

**Once a week:** When the task time comes, it will start to backup record for last week.

Ade	l task	1
Task name:	TaskName	
Task mode:	Once a week	
Task start time:	2016-03-10 14:30	÷
2016-03-10 is Thu	irsday	
This task will be e	xecuted at 14:30:00 every Thursday, since 2	016-03-10

Example:

Task time is 2016-03-10 14:30, when the time comes it will backup record from 2016-03-03 14:30 to 2016-03-10 14:30. (Backup one week) Also every Thursday at 14:30, it will start to backup record form one week ago.

**Once a month:** When the task time comes, it will backup record for last month.

Ado	l task	×
Task name:	TaskName	
Task mode:	Once a month	•
Task start time:	2016-03-10 14:30	Ĵ
This task will be e	xecuted at 14:30:00 10th of every mor	hth,since 2016-03-10

- Task time is 2016-03-10 14:30, when the time comes, it will backup record from 2016-02-03 14:30 to 2016-03-10 14:30. (Backup one month)
- Also on every 10th at 14:30, it will start to backup record form one month ago.