NUUO Crystal ™ 2.2.x Server Replacing Procedure

Contents

Revision History

Date	Modified
2015 / Jan / 22	➢ Topic 2.7: notice that enabling devices after activating license is required ➢ Topic 3.8: enhance figure 3.8.2 ➢ Topic 4.8: initialize this topic
2014 / Sep / 25	Initial version

1 The Usual Maintenance

1.1 System Installation

When installing NUUO Crystal™, it is recommended that the deployment of drives is recorded. For example, a CT-8000R(P) server attaching 8 hard drives, 1 e-SATA storage and 2 iSCSI storages may have deployment as followed, and a deployment table can be kept for maintenance:

Server IP: xx.xxx.xxx.xxx (CT-8000R(P))			
Disk1	RAID-0	Volume1	Management Server
Disk2	RAID-0	Volume2	Metadata Server
Disk3	RAID-5	Volume3	Recording Server
Disk4	RAID-5		
Disk5	RAID-5		
Disk6	RAID-5	Volume4	Recording Server
Disk7	RAID-5		
Disk8	RAID-5		
Disk9	e-SATA	Volume 5	Recording Server
Disk11	iSCSI	Volume 6	Recording Server
Disk12	iSCSI		

This deployment information can be retrieved from server's web page and the Config tab of NUUO Crystal™ NuClient.

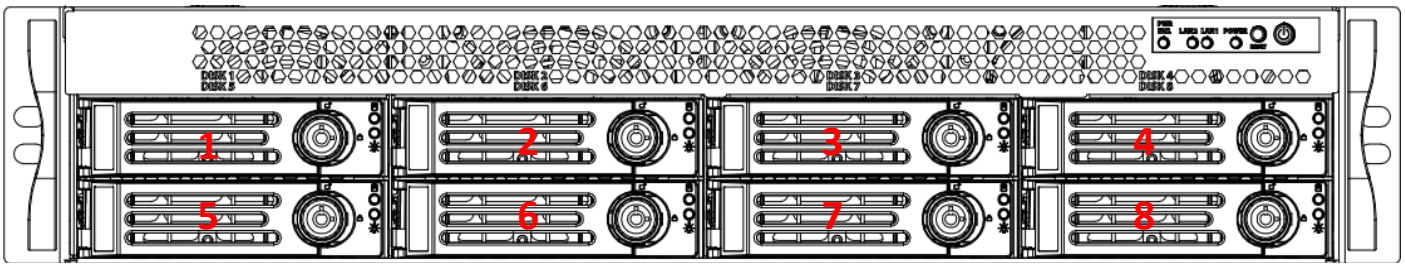

Figure 1.1.1: Positions of Disk1 to Disk8

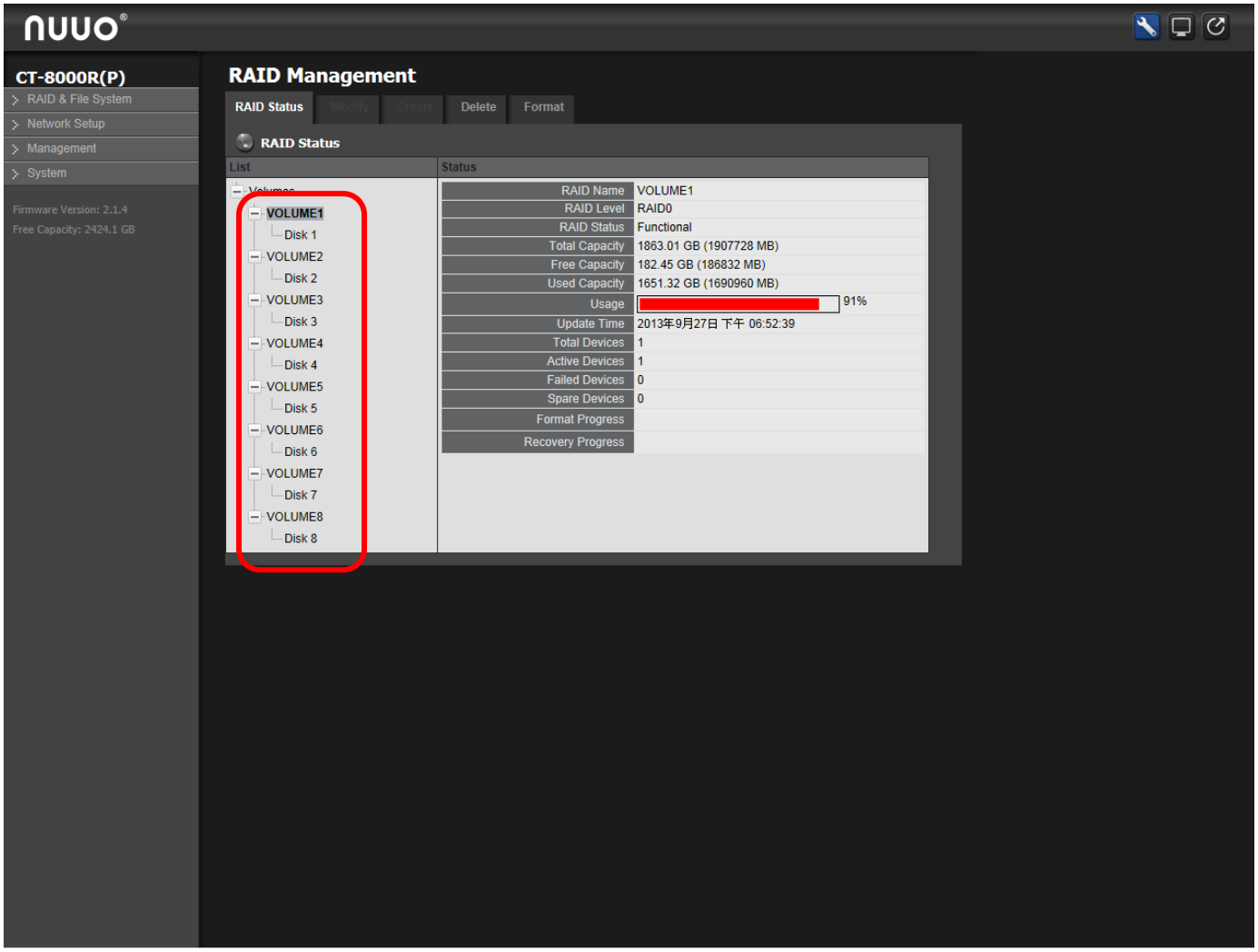

Figure 1.1.2: Web page showing mapping between physical disks and logical volumes

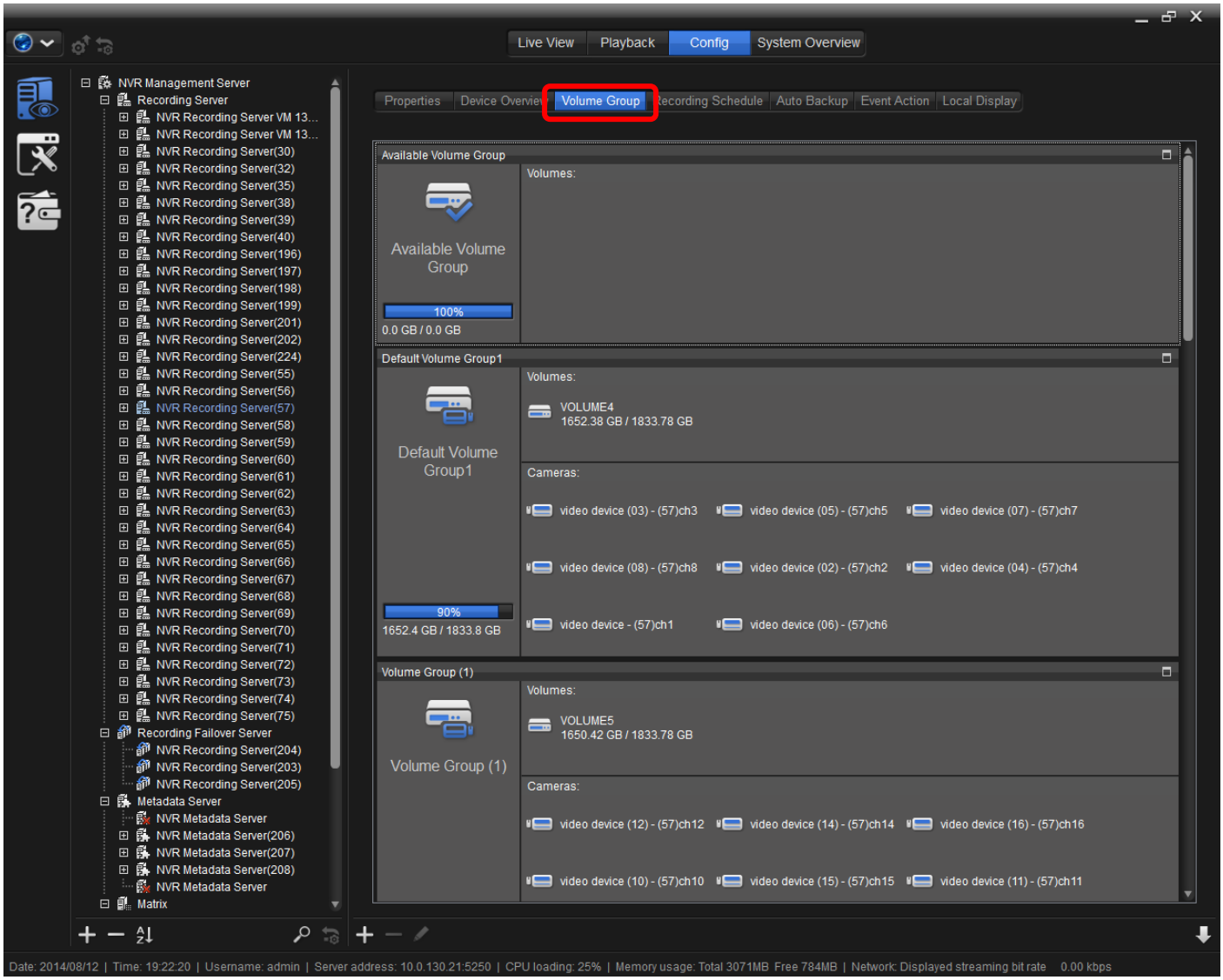

Figure 1.1.3: Listings of how volumes are occupied by recording servers

1.2 System Configuration

Before and after altering system configuration, it is recommended that total system configuration is exported and saved. It would be more convenient to recover system by importing a previous backup configuration.

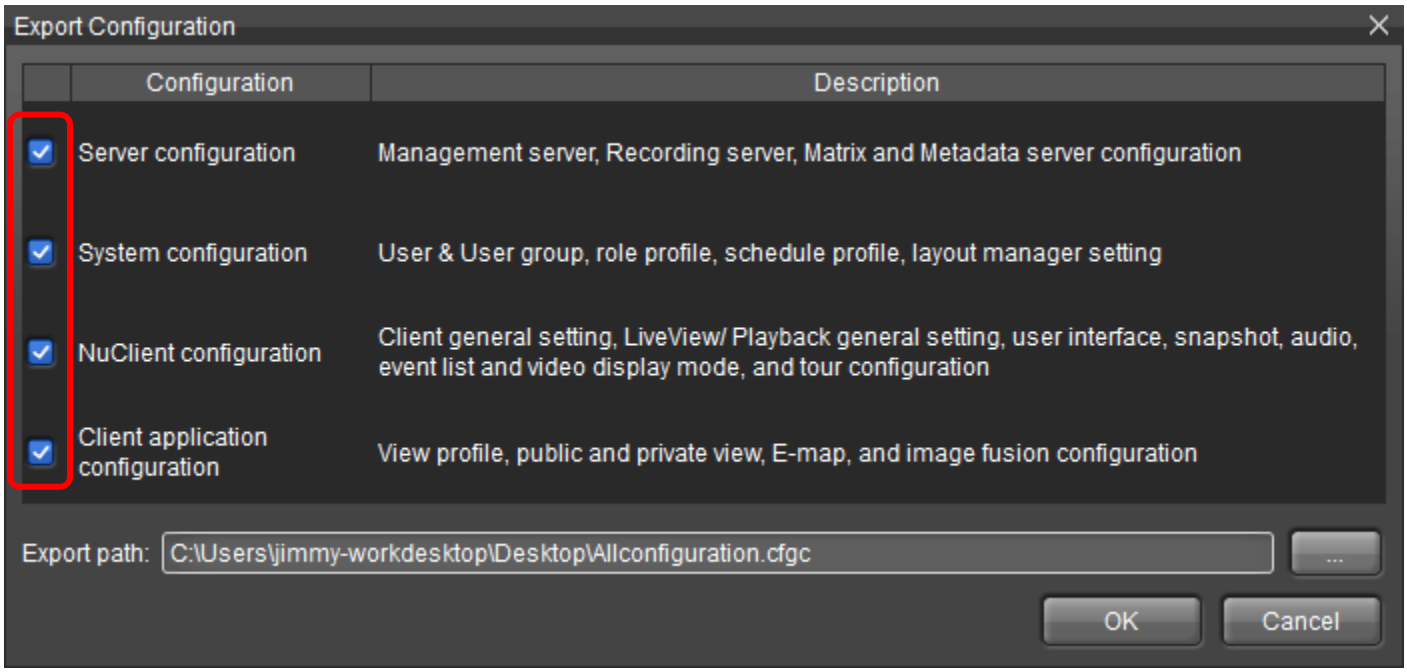

Figure 1.2.1: Exporting all configurations

2 Replacing a Management Server

In the following procedure, an out-of-order management server is represented by Server A, and Server B is a new one to replace Server A.

2.1 Save Configuration

If Server A is still operational, export and save its total configuration.

If Server A is not operational, please prepare previous backup configuration. This configuration file will be applied in step 2.6.

2.2 Transfer License

If Server A is still operational, manually transfer its license.

If Server A is not operational, please contact NUUO Support Team for service about license. (www.nuuo.com/eHelpdesk.php)

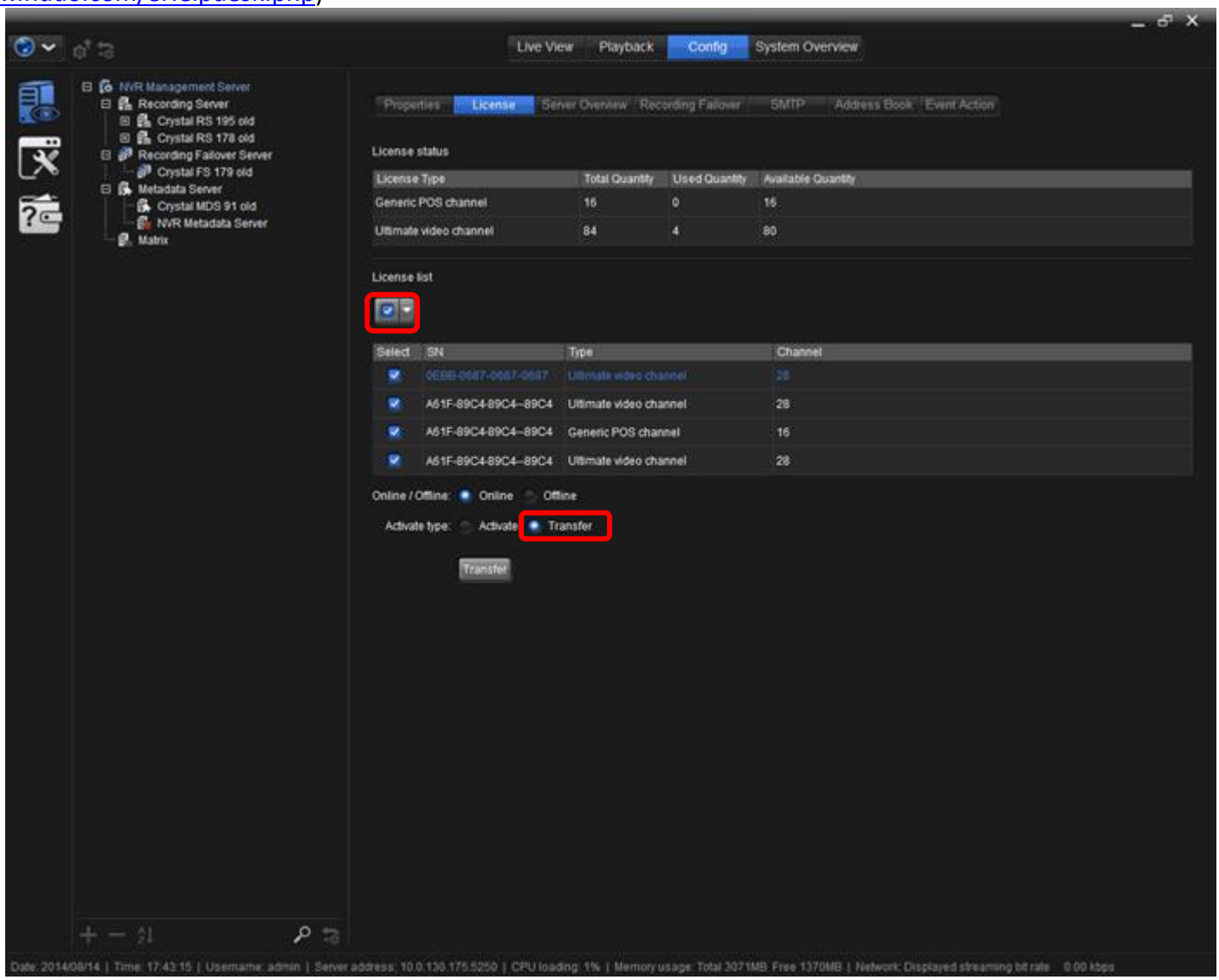

Figure 2.2.1: How to transfer license

2.3 Shut Down Server

If Server A is still operational, shut down its power.

If Server A is not operational, please go to step 2.4 directly.

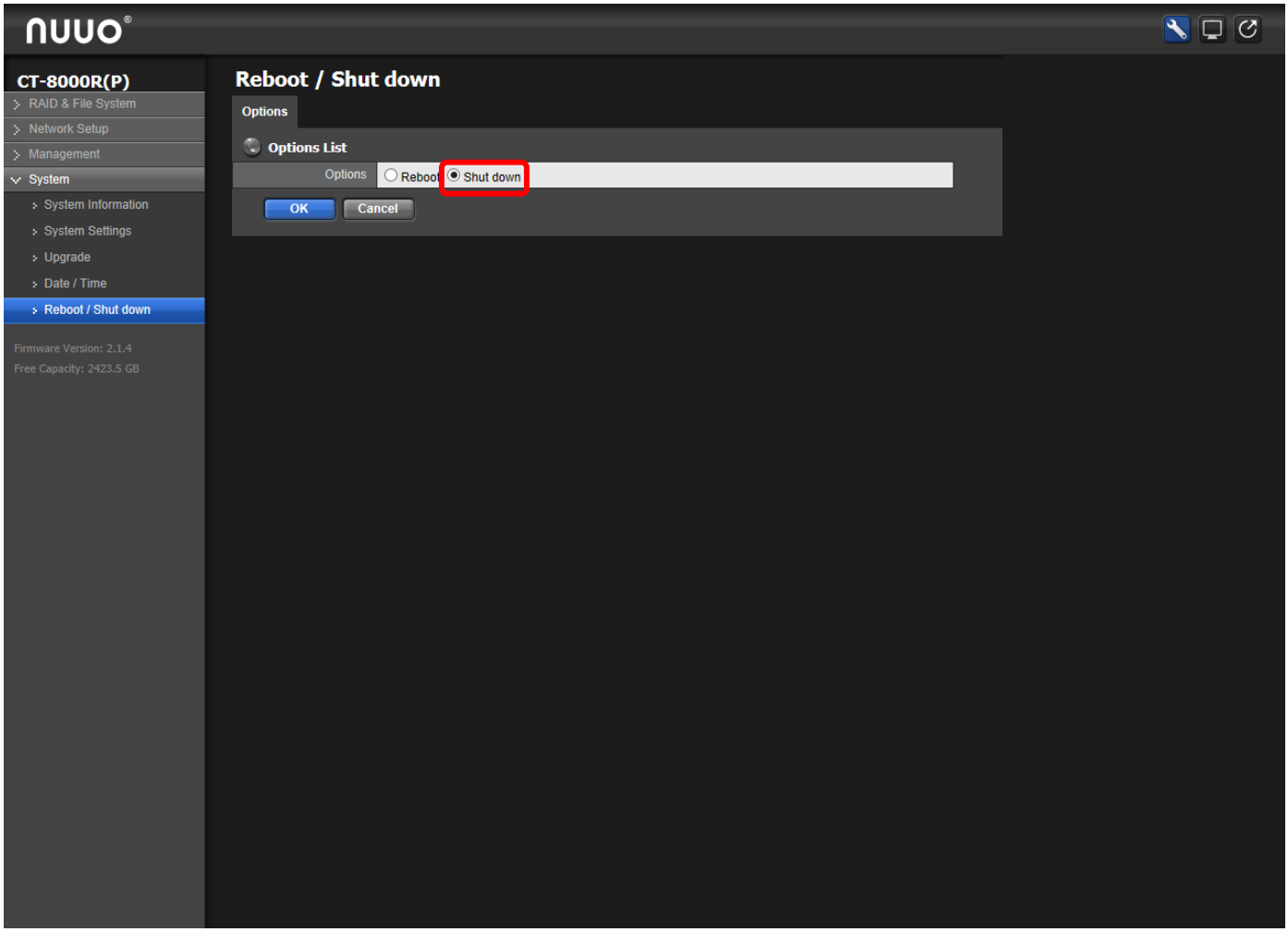

Figure 2.3.1: How to shut down a server

2.4 Move Volumes

Move all volumes from Server A to Server B.

2.5 Enable Management Server Service

Power-on Server B first. Enable Management Service via Server B's web page or Install Wizard. It is strongly recommended that Server B is assigned with identical IP address of Server A.

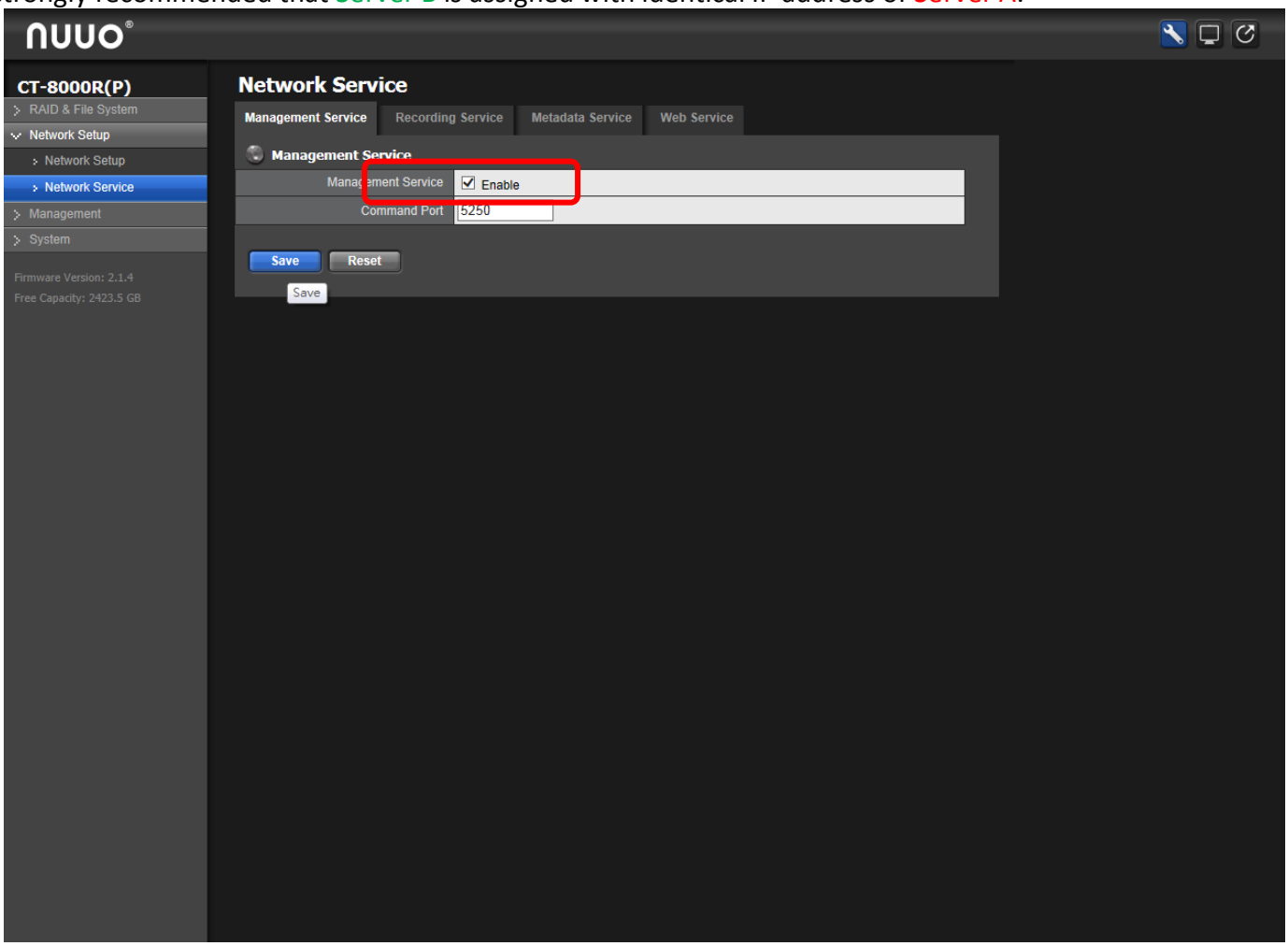

Figure 2.5.1: How to enable management service in web page

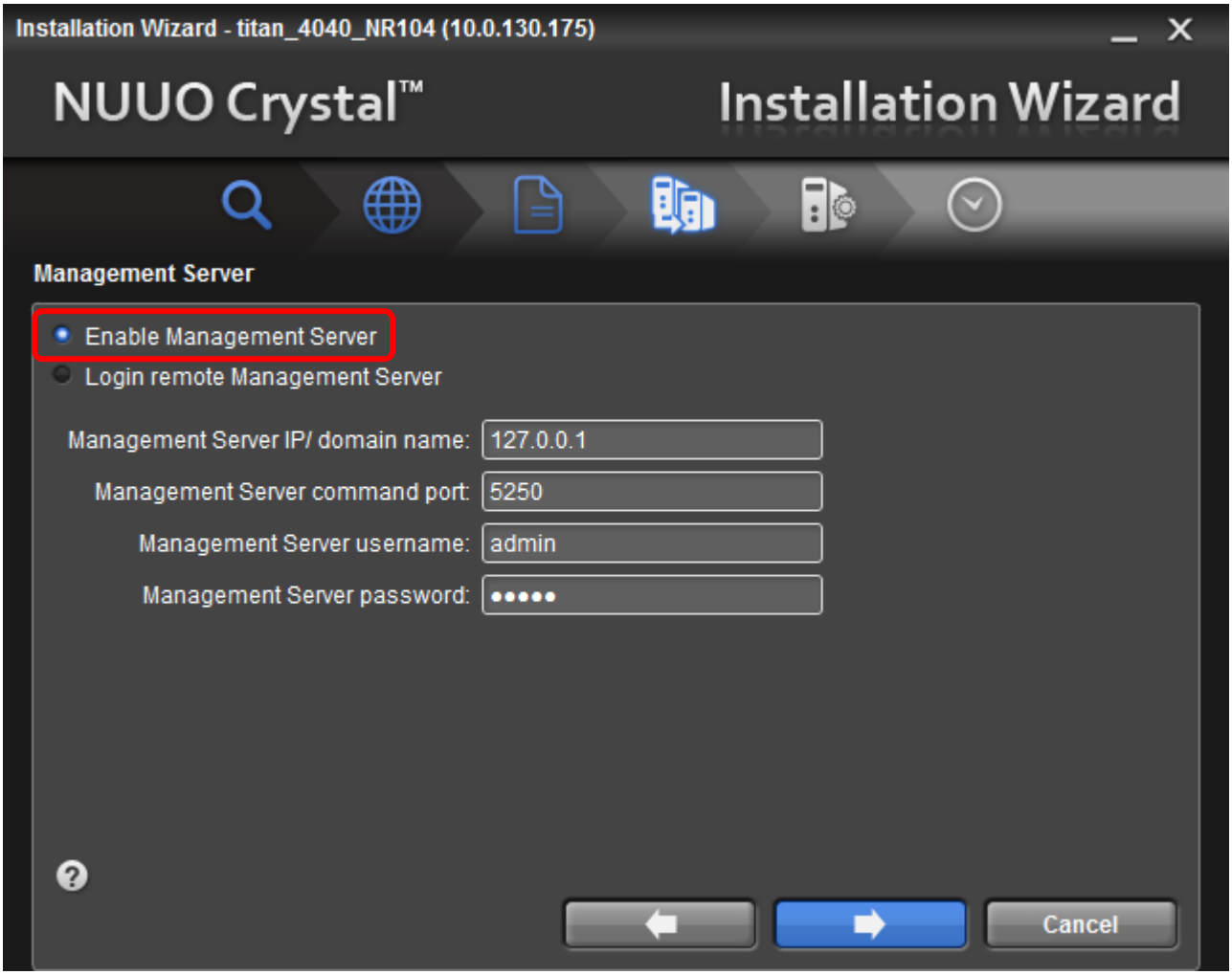

Figure 2.5.2: How to enable management server in Install Wizard

2.6 Restore Configuration

By assigning volume of Management Server, one may encounter conditions described as followed:

(1) In most cases, a dialog showing message “Apply Target Volume Configuration” will appear, and the system is restored without problem.

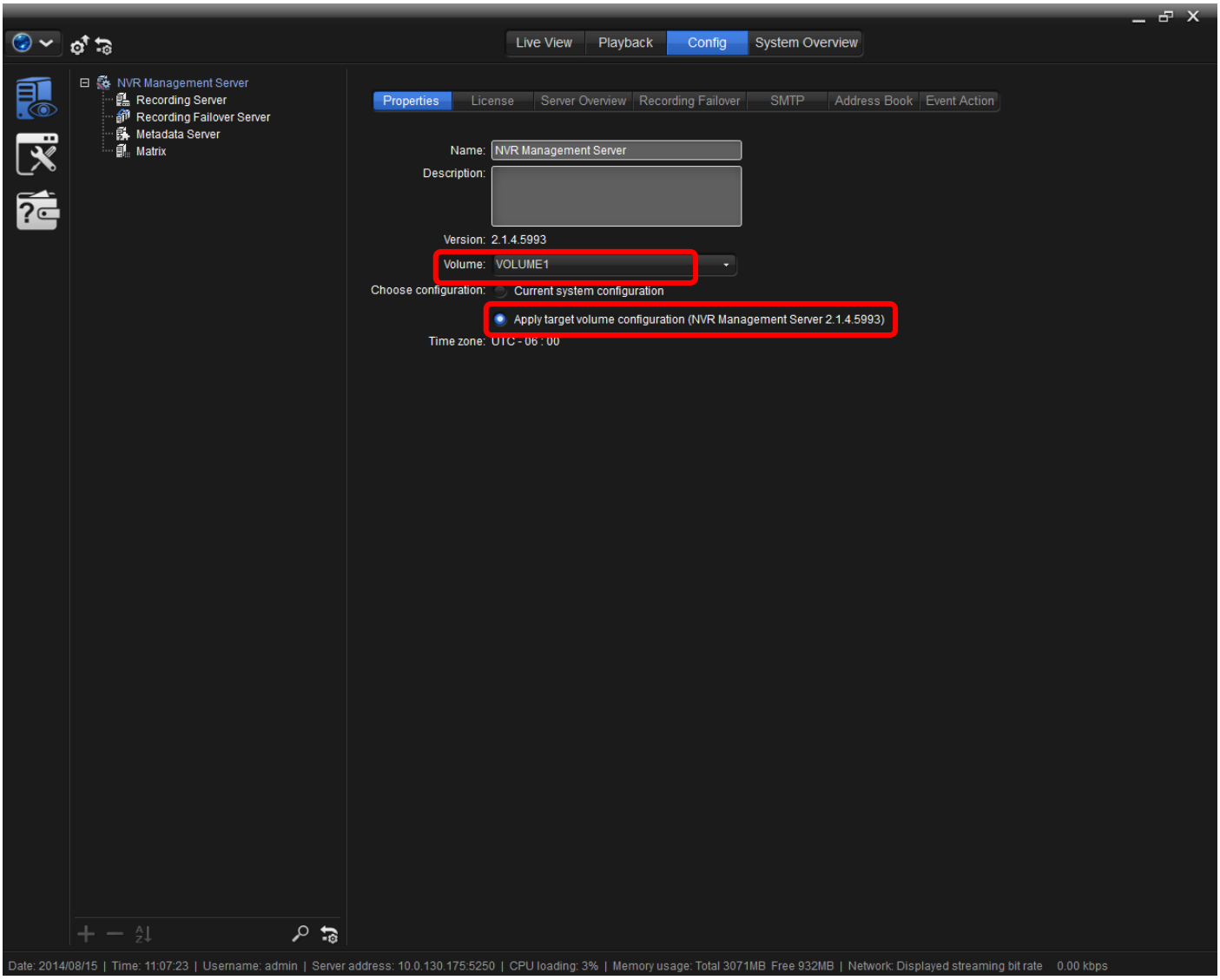

Figure 2.6.1: Assigning previous volume to management server and applying its configuration

(2) If the configuration cannot be recovered from the volume assigned, please import configuration file previously prepared in step 2.1 to restore the system.

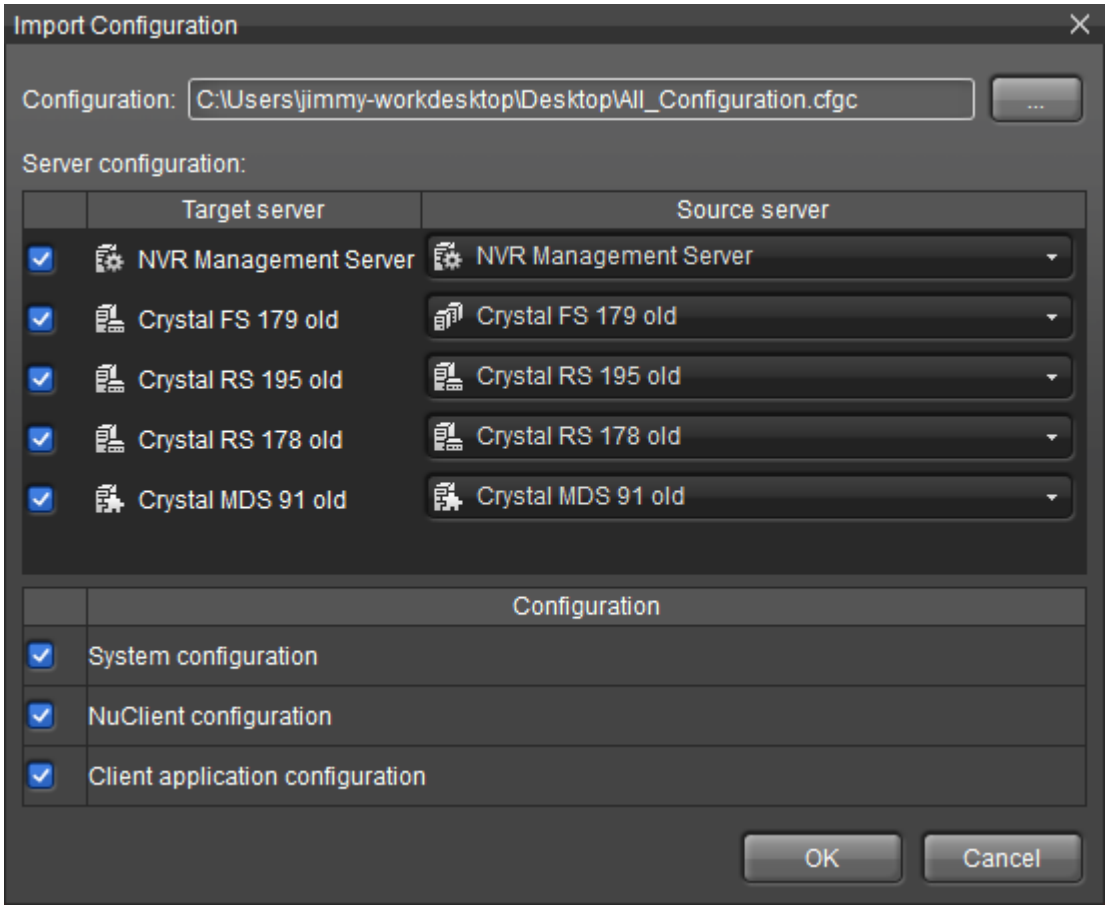

Figure 2.6.2: Importing previous saved configuration

(3) If configuration is not available, please setup the system manually.

2.7 Activate License

Login Server B via NuClient by default username and password (admin / admin). Activate license which was already transferred out in step 2.2. If the original license of Server A could not be transferred in step 2.2, please contact NUUO Support Team for service about license. (www.nuuo.com/eHelpdesk.php)

After license is activated, all devices should be enabled manually.

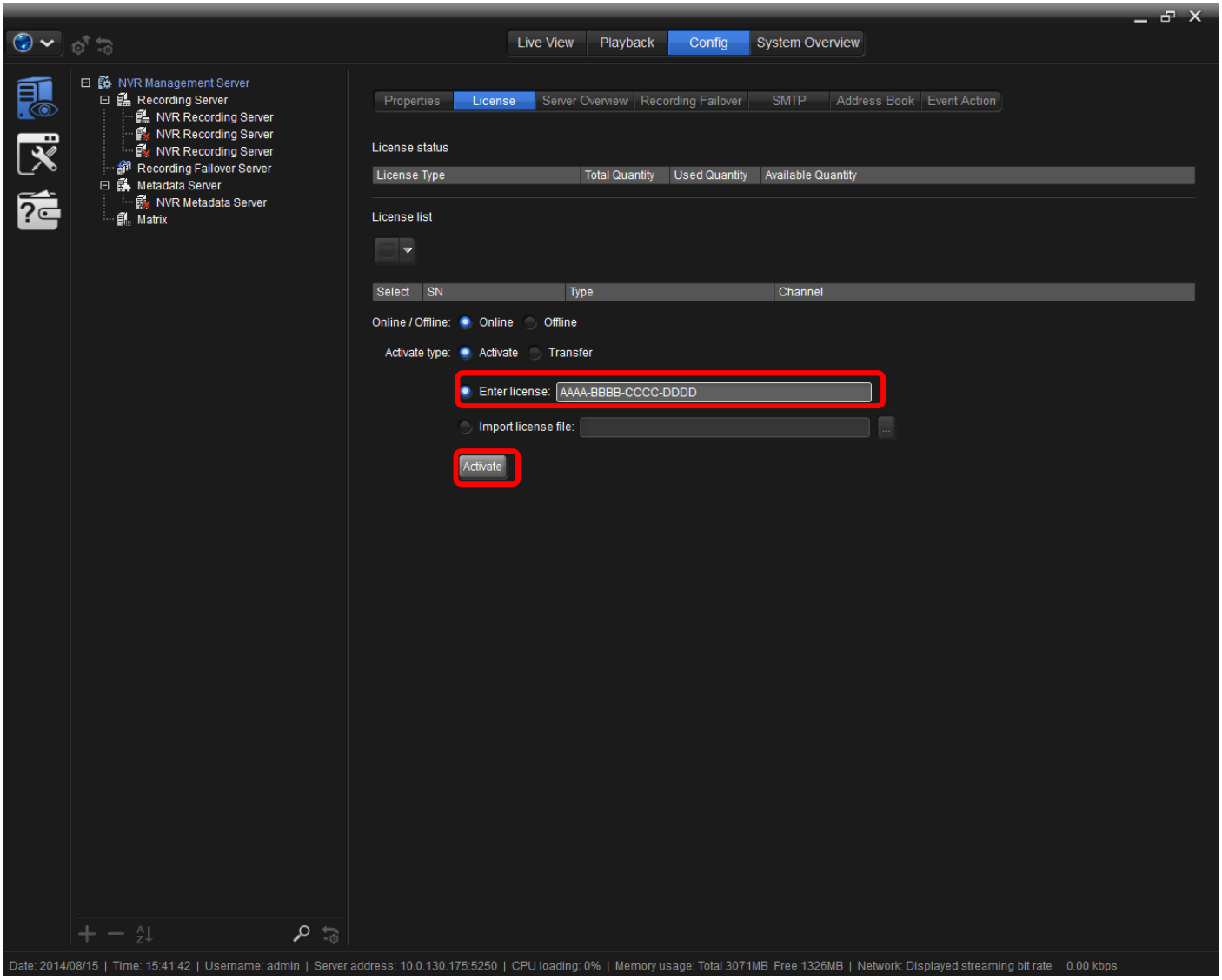

Figure 2.7.1: How to activate license

3 Replacing a Recording Server

In the following procedure, an out-of-order recording server is represented by Server A, and Server B is a new one to replace Server A. If a Failover Server F is presented, Server F is doing recording failover for Server A.

3.1 Save Configuration

Login Management Server via NuClient and export configuration file of Server A. This configuration file will be used in step 3.4 and step 3.8.

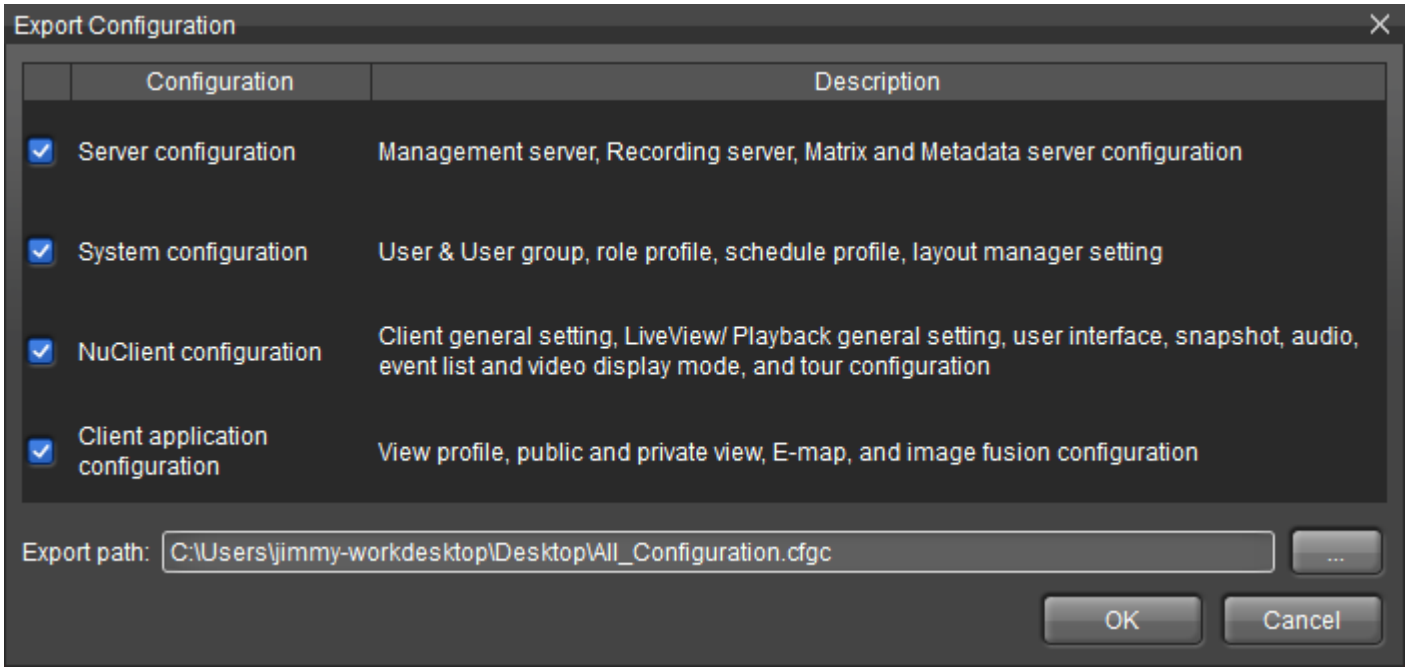

Figure 3.1.1: Exporting all configuration of recording server

3.2 Move Volumes

Power off Server A and Server B. Move all volumes from Server A to Server B.

3.3 Enable Recording Server Service

Enable Recording Service via Server B's web page or Install Wizard. Login Server B to its Management Server.

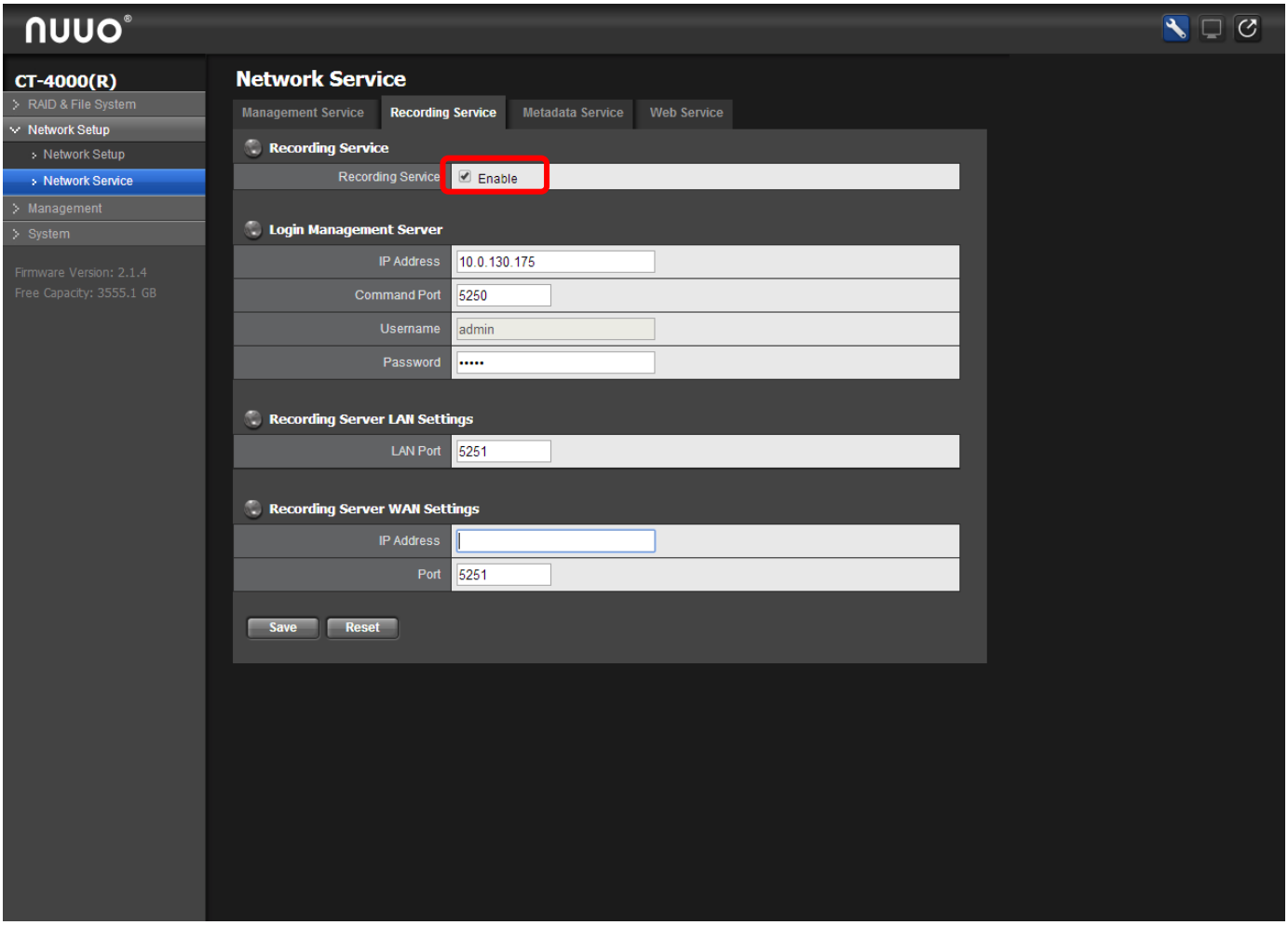

Figure 3.3.1: How to enable recording service in web page

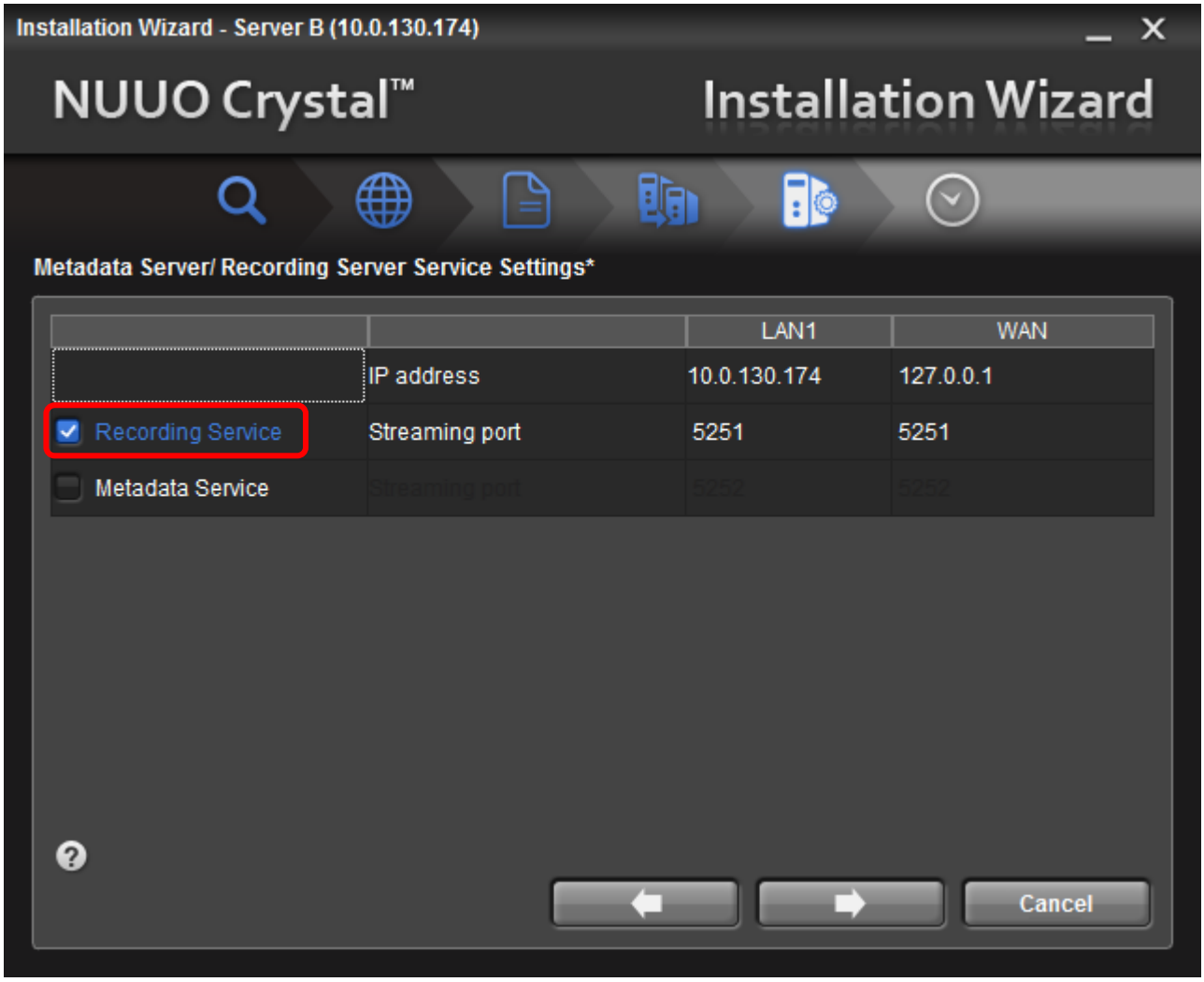

Figure 3.3.2: How to enable recording server in Install Wizard

3.4 Restore Configuration

Login Management Server via NuClient. Import configuration of Server A to Server B.

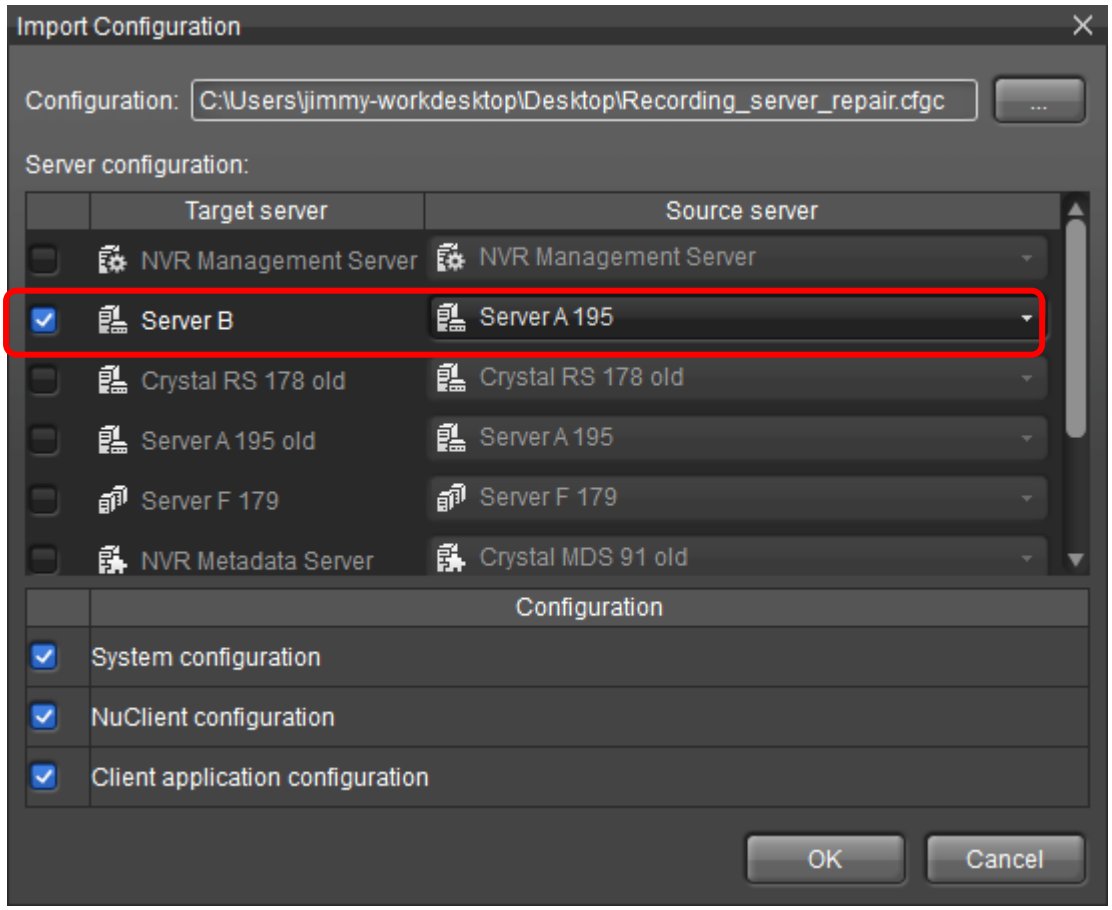

Figure 3.4.1: How to import configuration file to a recording server

3.5 Remove Out-of-order Recording Server

Remove Server A permanently via NuClient.

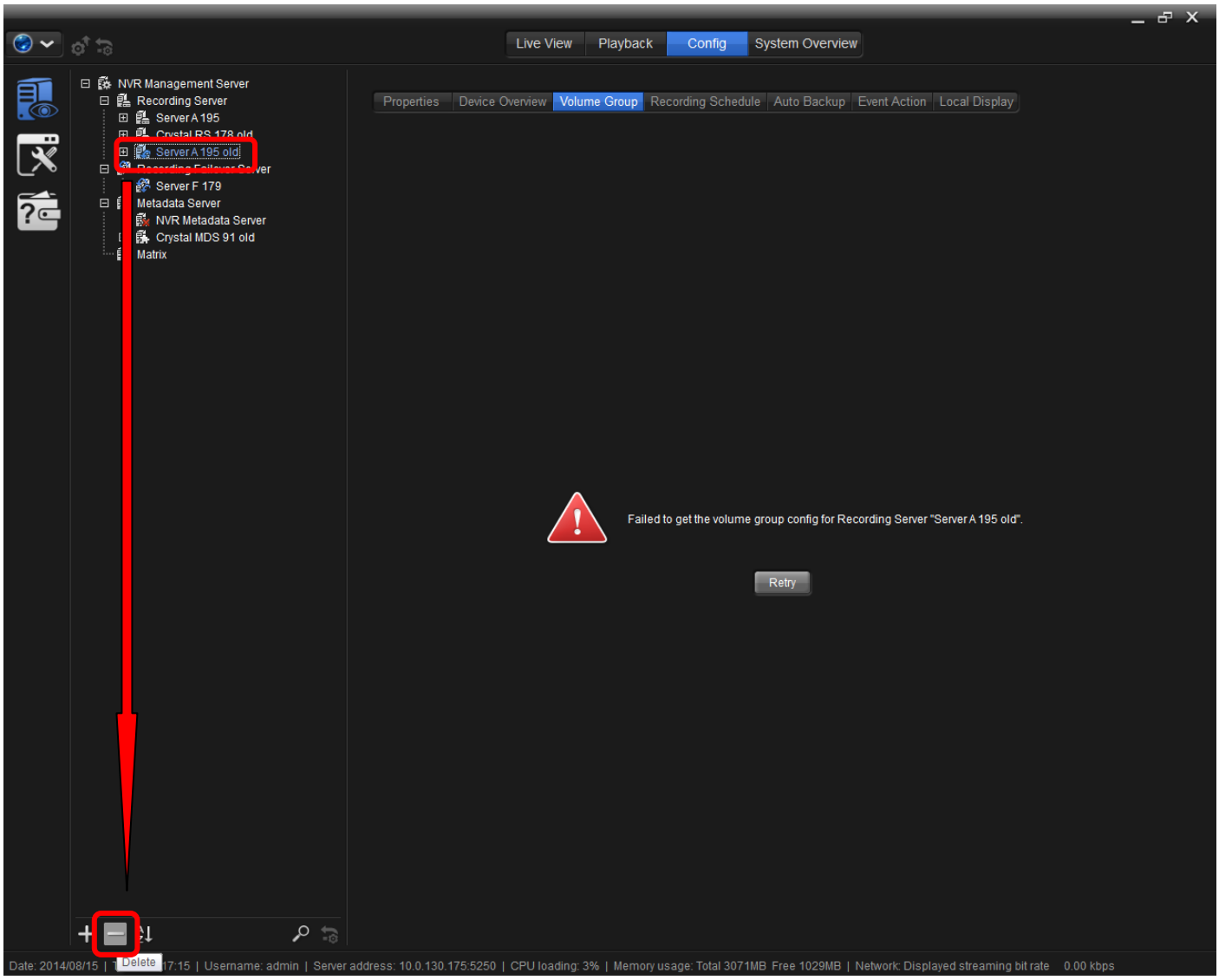

Figure 3.5.1: Removing a disconnected recording server

3.6 Verify Volume Group Setting

Verify volume group setting of Server B is identical to that of Server A. Manually adjust volume group setting of Server B when it is necessary. One dialog (Figure 3.7.1) may appear, please see step 3.7 for detail.

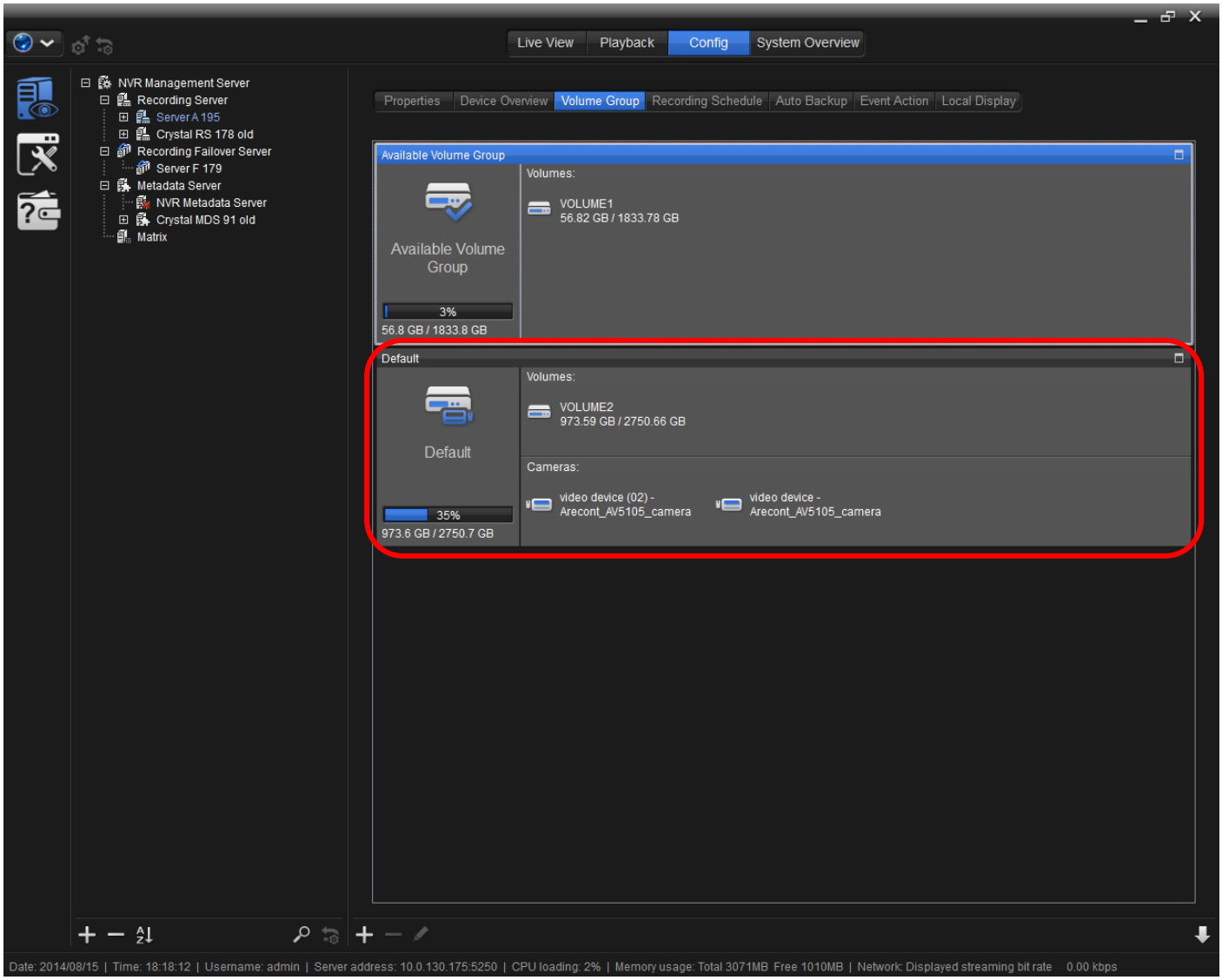

Figure 3.6.1: Verifying volume group settings

3.7 File Transformation

When verifying volume group setting of Server B, a dialog noticing video data is not coherent will appear. Please choose “Transform” to continue. The transformation progress will be shown in the same page. The file transformation process is time-consuming, and it may take about 6 minutes to transform 1TB video files. Video recording on Server B is not functional during file transformation process. Do not interrupt this process by shutting down or powering off server.

Figure 3.7.1: Data stored in volumes should be transformed

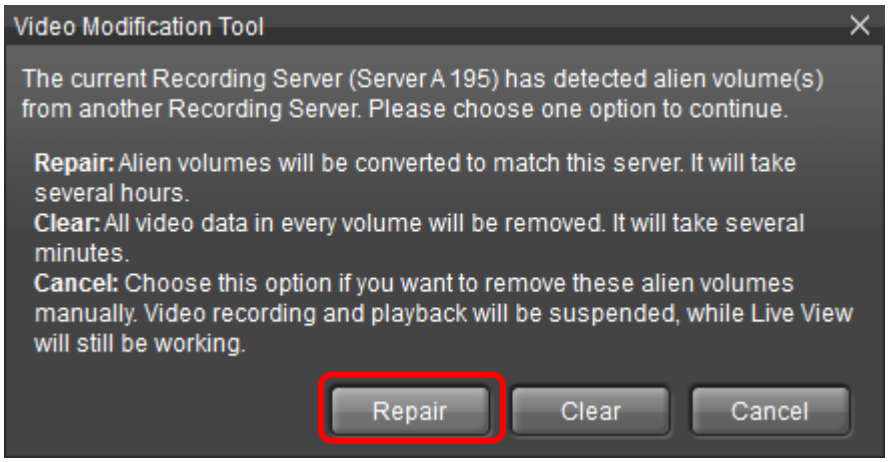

Figure 3.7.2: Pressing “Repair” to continue file transformation

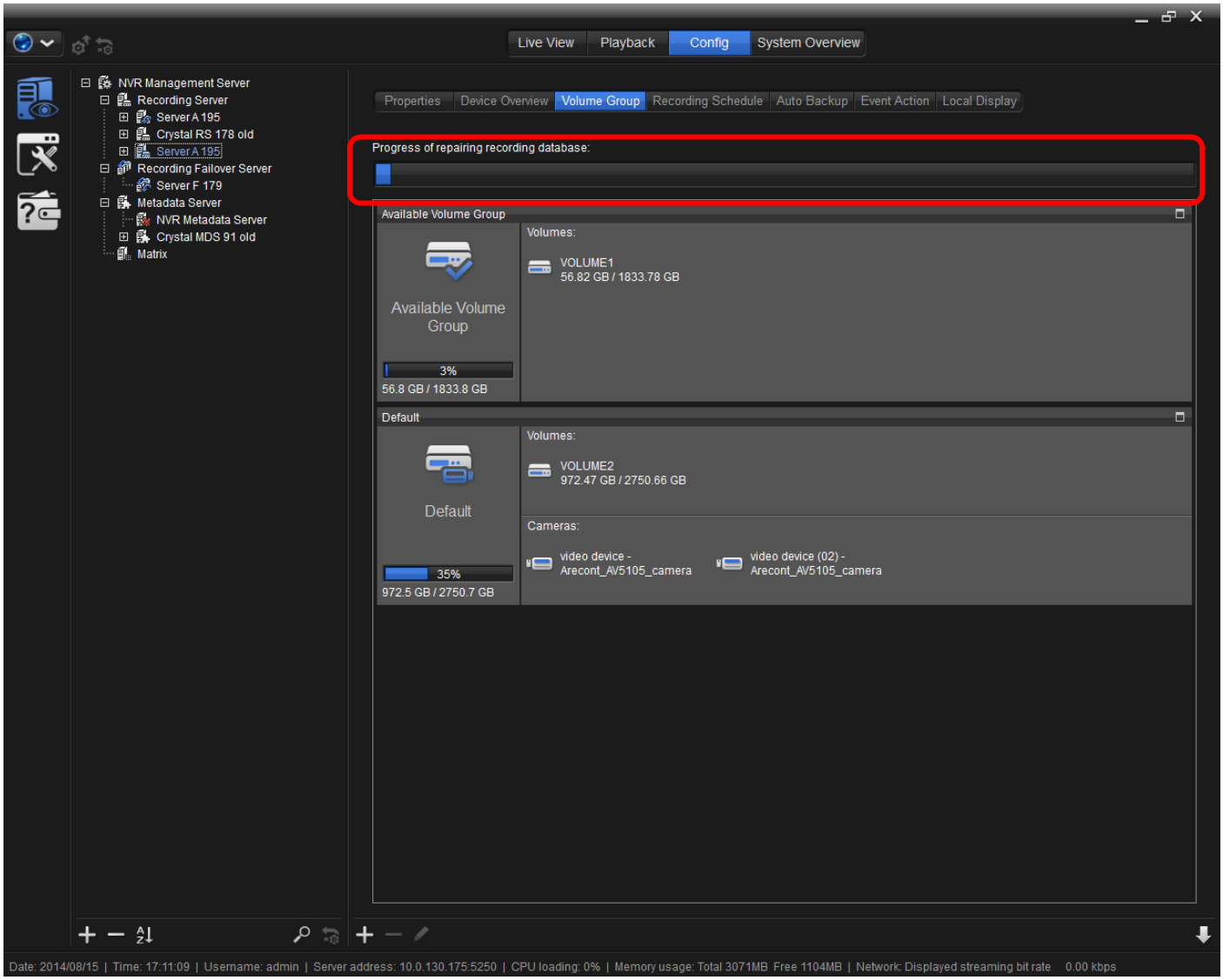

Figure 3.7.3: After “Repair” is pressed, a progress bar is showing progress

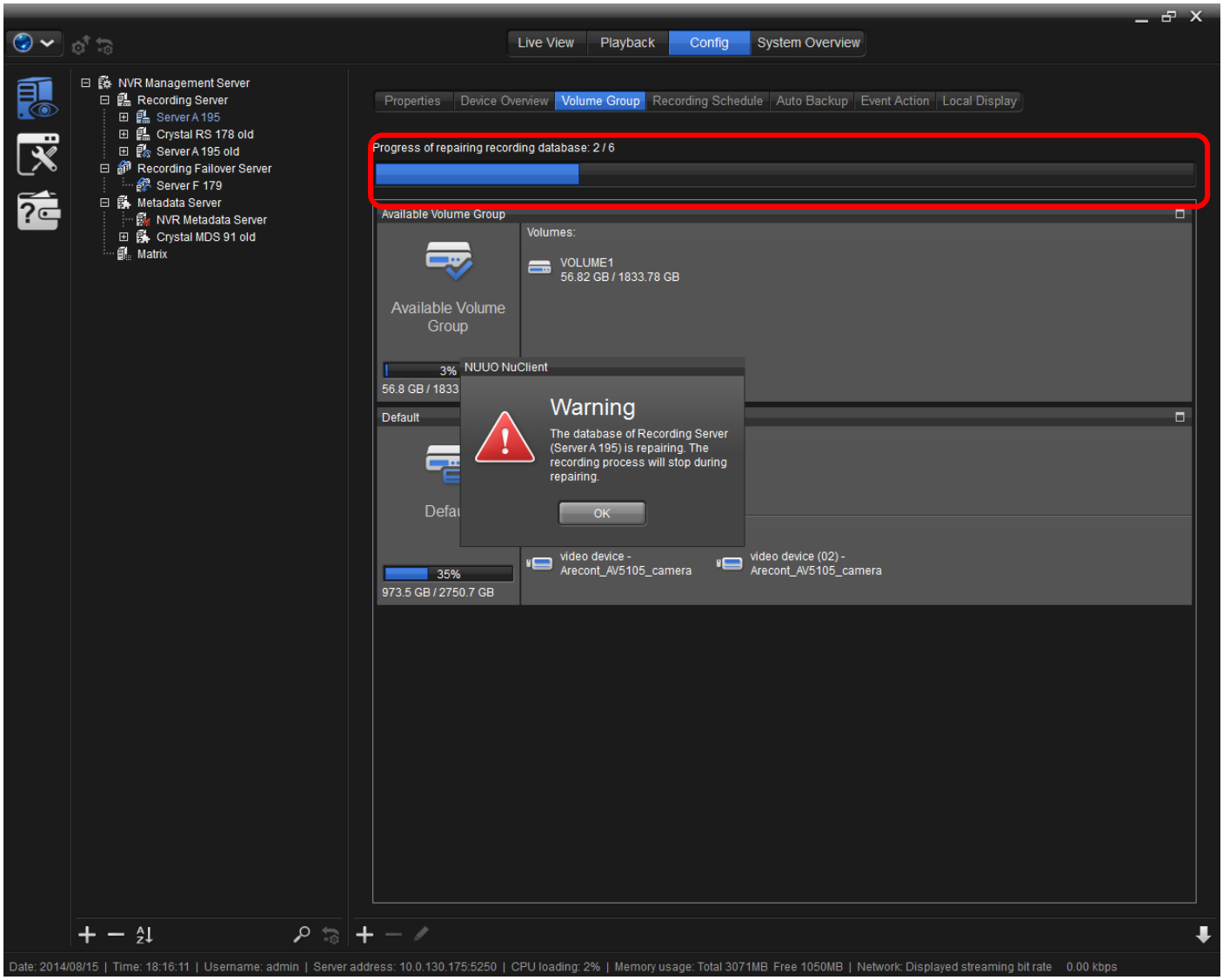

Figure 3.7.4: A warning message box is popped up when doing file transformation

3.8 File Migration

If a Failover Server F is presented, it should have done recording failover for Server A. Server A's video files stored in Server F should be converted to be Server B's. Select from NuClient's menu item "Migrate Failover Files", and select configuration file of Server A exported in step 3.1. Choose Server A as source server and Server B as target server. Complete File Migration process without interception. Restart all NuClient when File Migration process is done.

If there is no Failover Server, it is not necessary to execute this step.

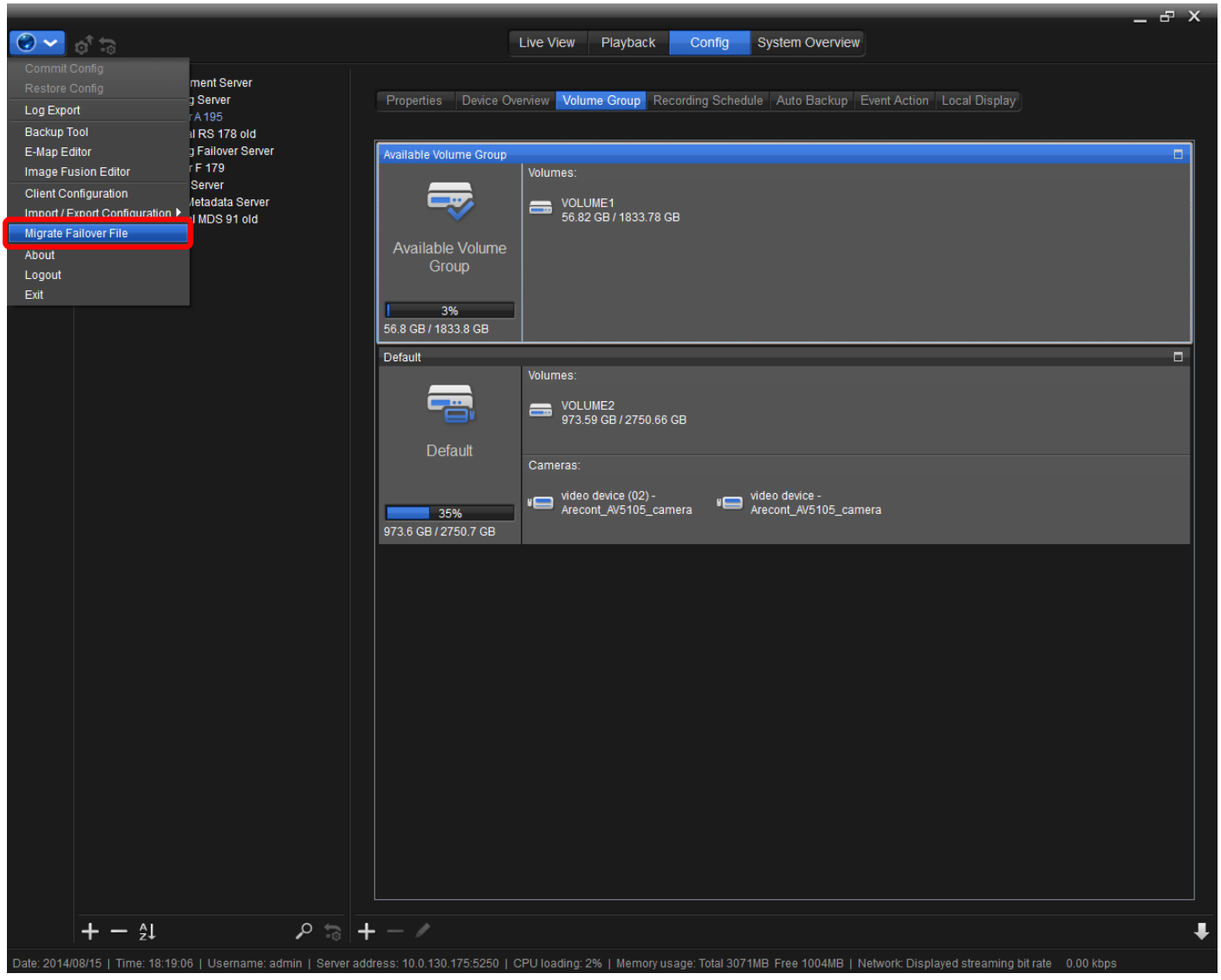

Figure 3.8.1: How to execute file migration

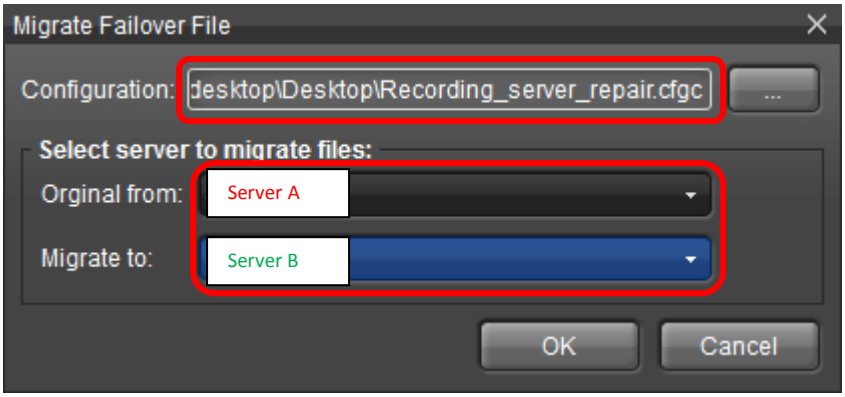

Figure 3.8.2: How to setup file migration

4 Replacing a Failover Server

In the following procedure, an out-of-order failover server is represented by Server A, and Server B is a new one to replace Server A.

4.1 Save Configuration

Login Management Server via NuClient and export configuration file of Server A. This configuration file will be used in step 4.4.

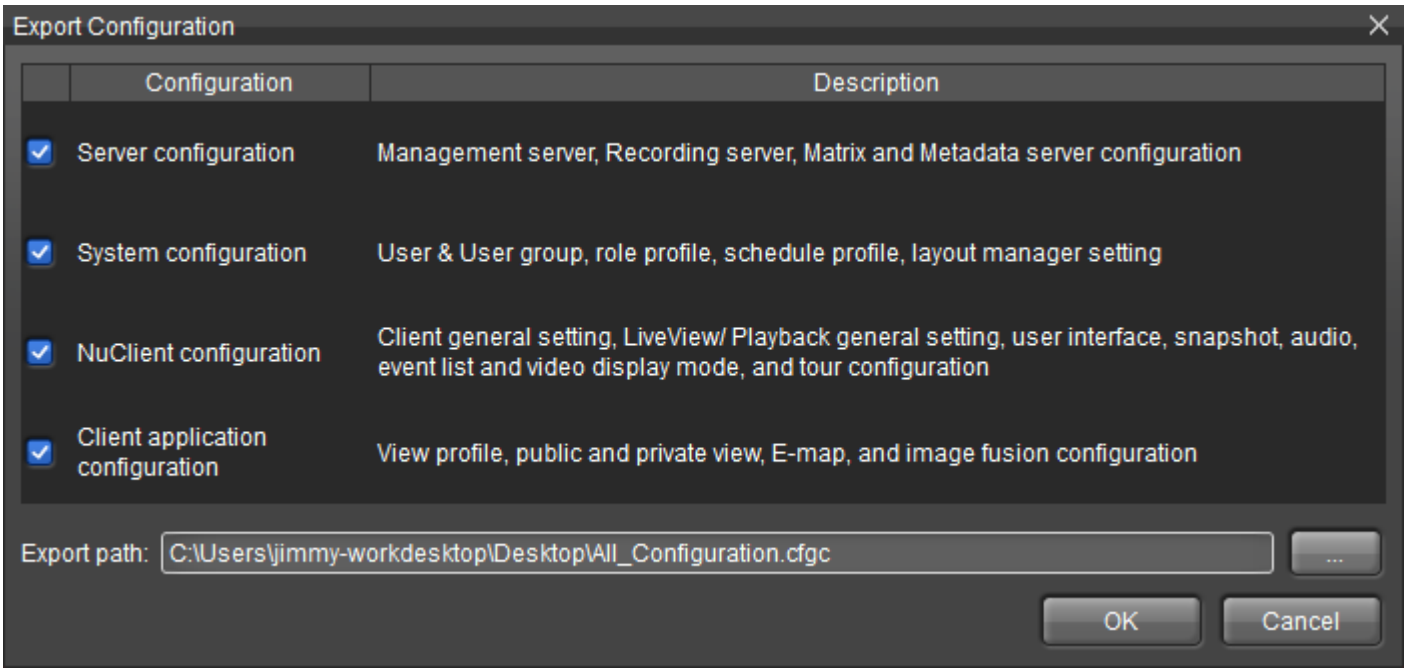

Figure 4.1.1: Exporting all configuration of failover server

4.2 Move Volumes

Power off Server A and Server B. Move all volumes from Server A to Server B.

4.3 Enable Recording Server Service

Enable Recording Service via Server B's web page or Install Wizard. Login Server B to its Management Server. Please be noted that a Failover Server also requires Recording Server Service to be enabled.

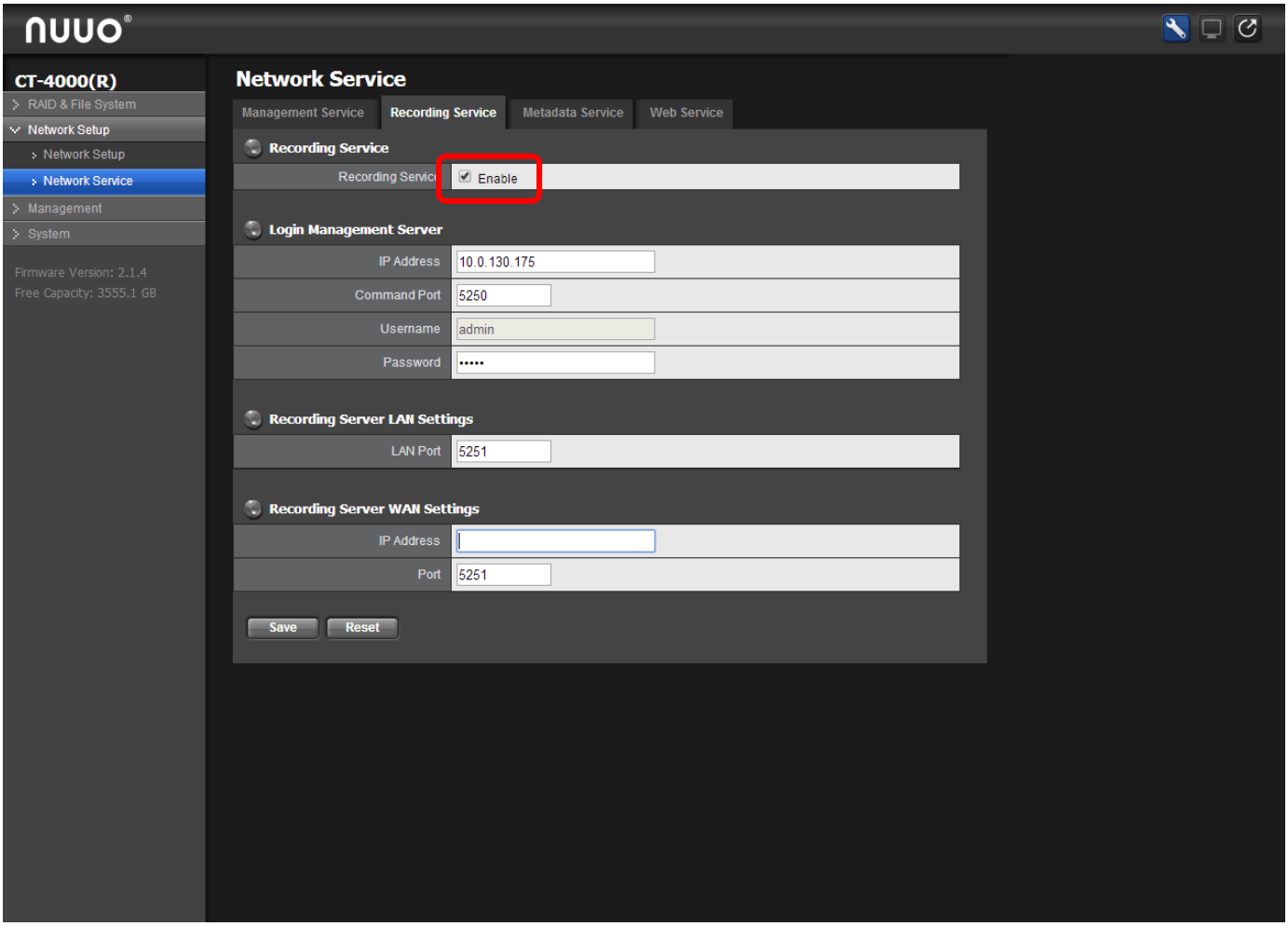

Figure 4.3.1: How to enable recording service in web page

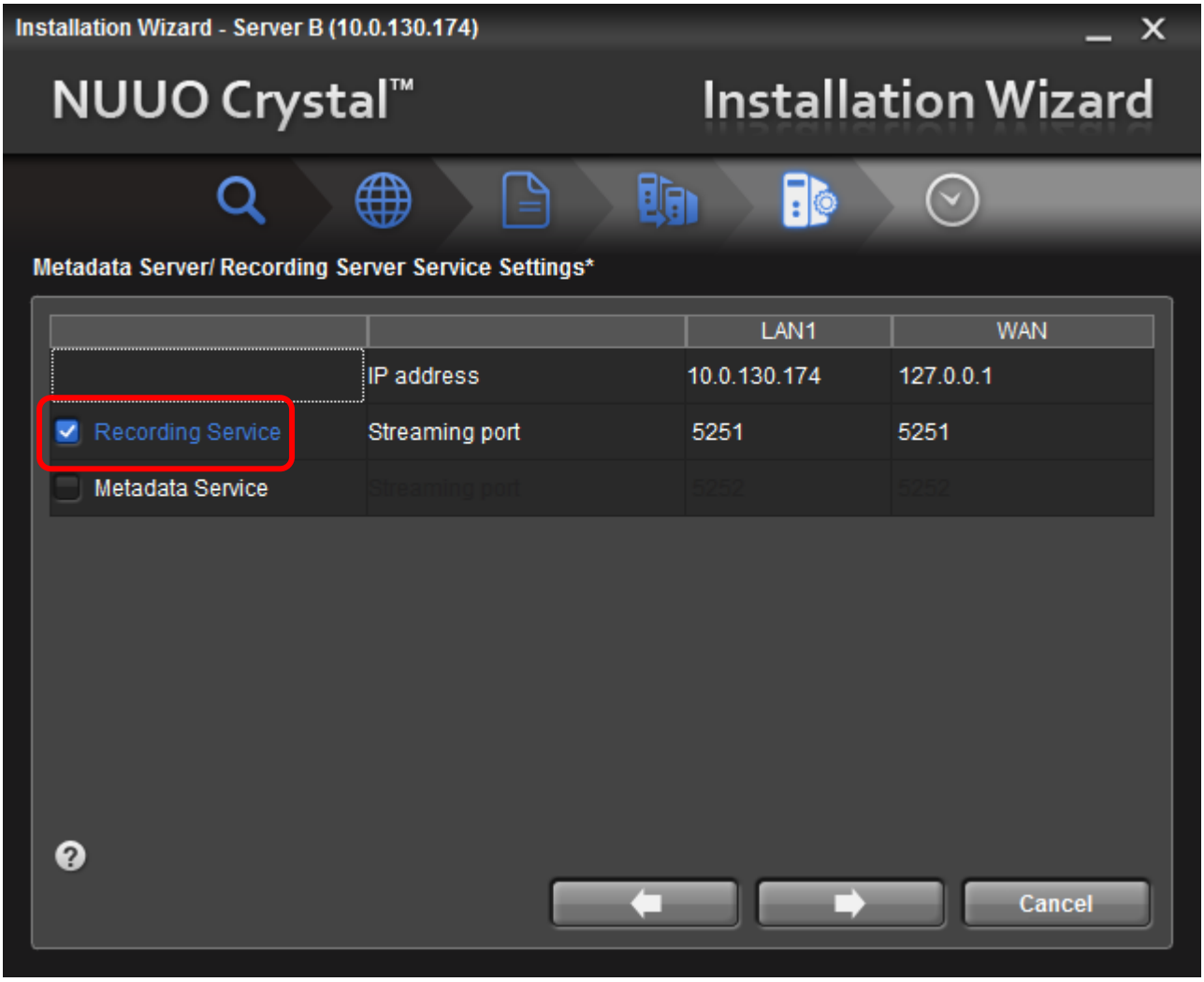

Figure 4.3.2: How to enable recording server in Install Wizard

4.4 Restore Configuration

Login Management Server via NuClient. Import configuration of Server A to Server B.

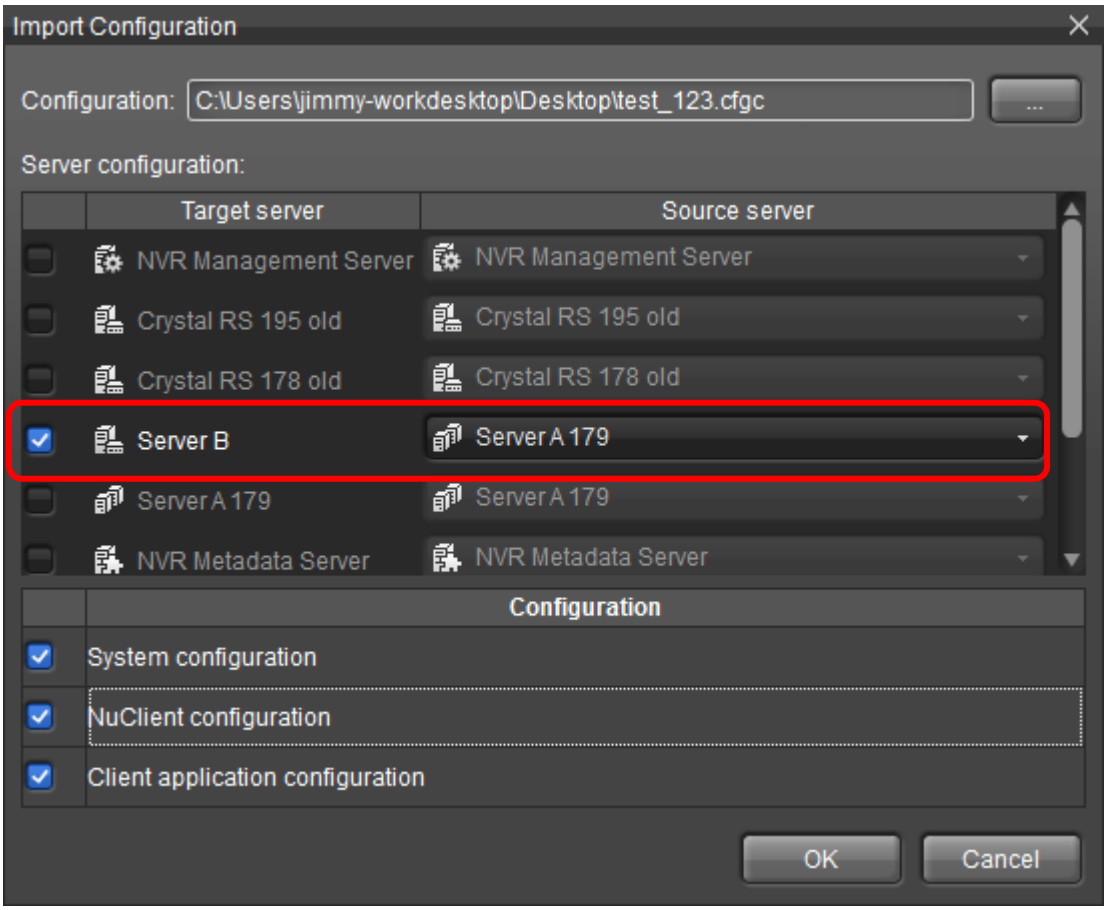

Figure 4.4.1: How to import configuration file to a failover server

4.5 Remove Out-of-order Failover Server

Remove Server A permanently via NuClient.

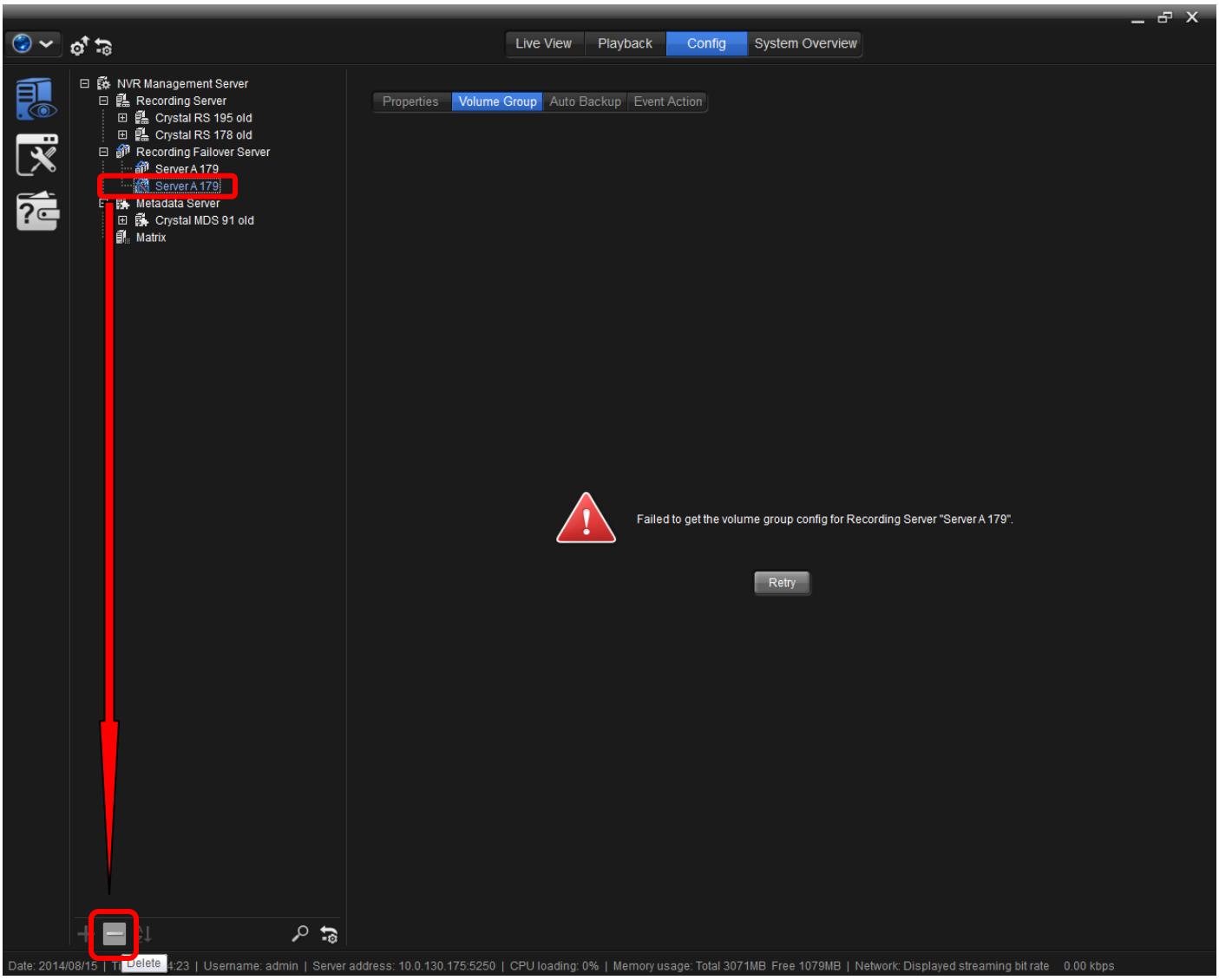

Figure 4.5.1: Removing a disconnected failover server

4.6 Verify Volume Group Setting

Verify volume group setting of Server B is identical to that of Server A. Manually adjust volume group setting of Server B when it is necessary. One dialog may appear, please see step 4.7 for detail.

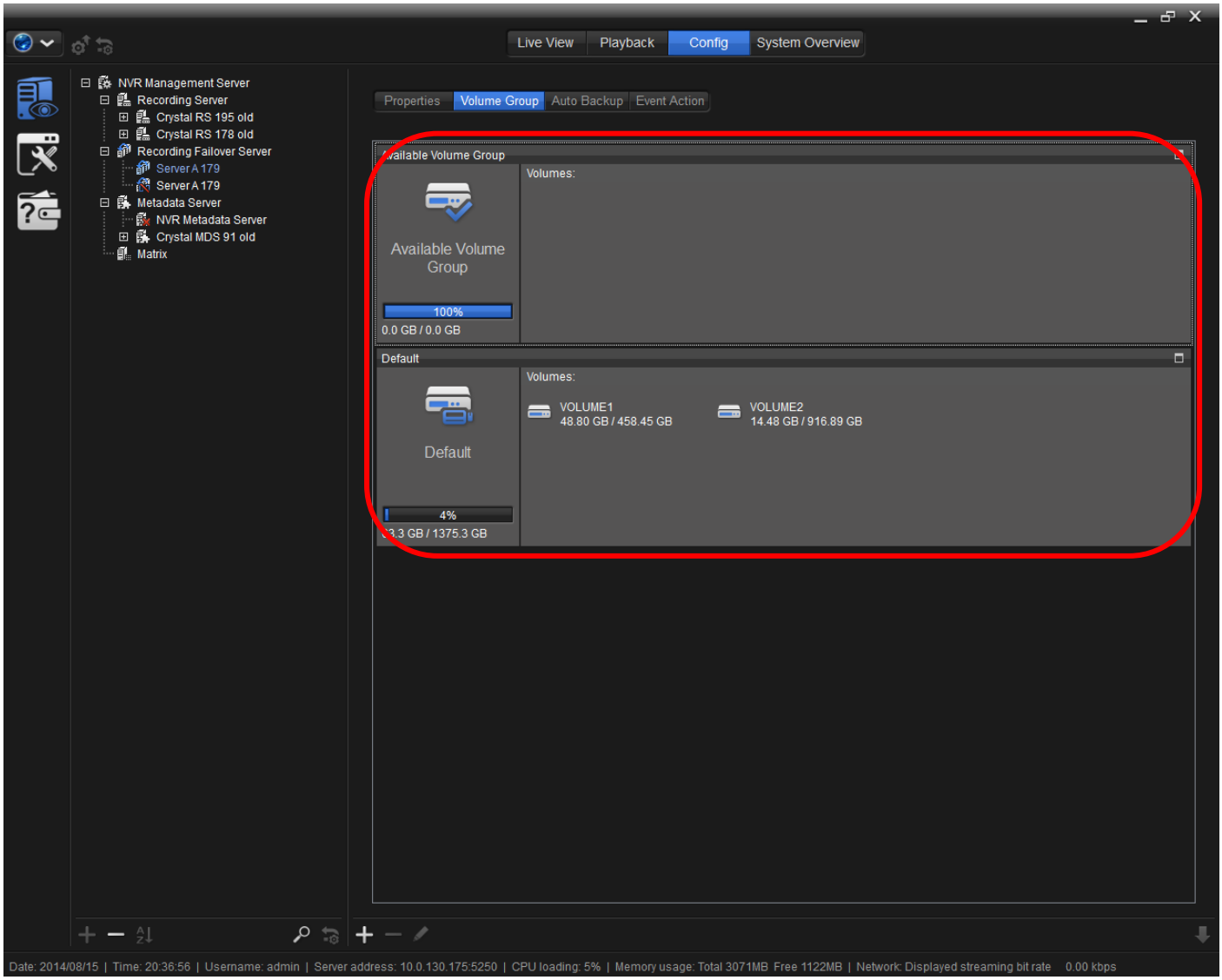

Figure 4.6.1: Verifying volume group settings

4.7 File Transformation

When verifying volume group setting of Server B, a dialog noticing video data is not coherent will appear. Please choose “Transform” to continue. The transformation progress will be shown in the same page. The file transformation process is time-consuming, and it may take about 6 minutes to transform 1TB video files. Video recording on Server B is not functional during file transformation process. Do not interrupt this process by shutting down or powering off server.

Figure 4.7.1: Data stored in volumes should be transformed

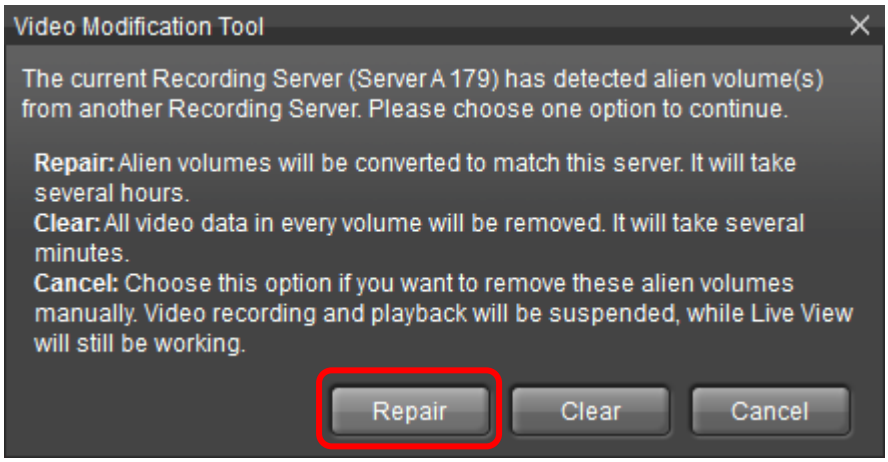

Figure 4.7.2: Pressing “Repair” to continue file transformation

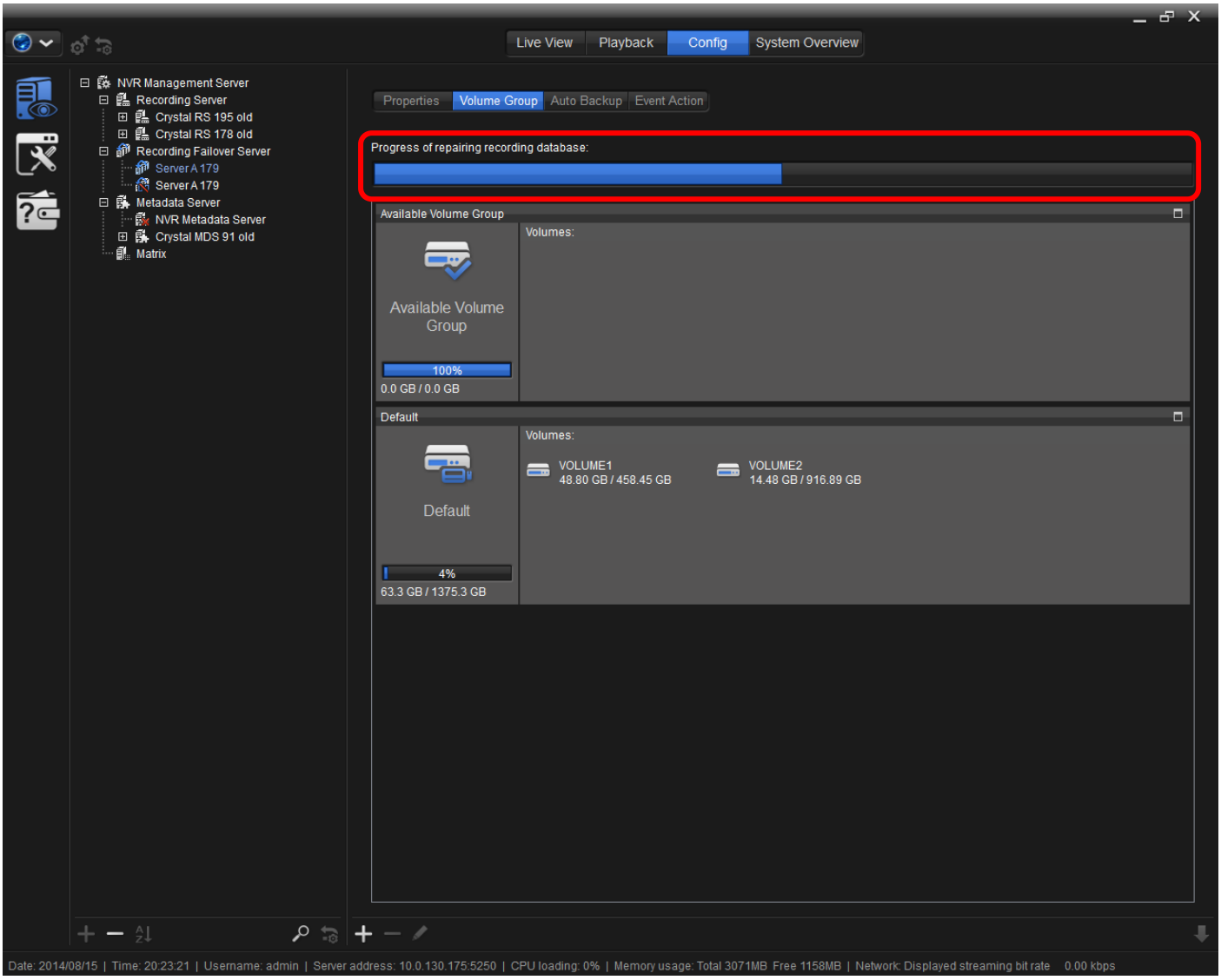

Figure 4.7.3: After “Repair” is pressed, a progress bar is showing progress

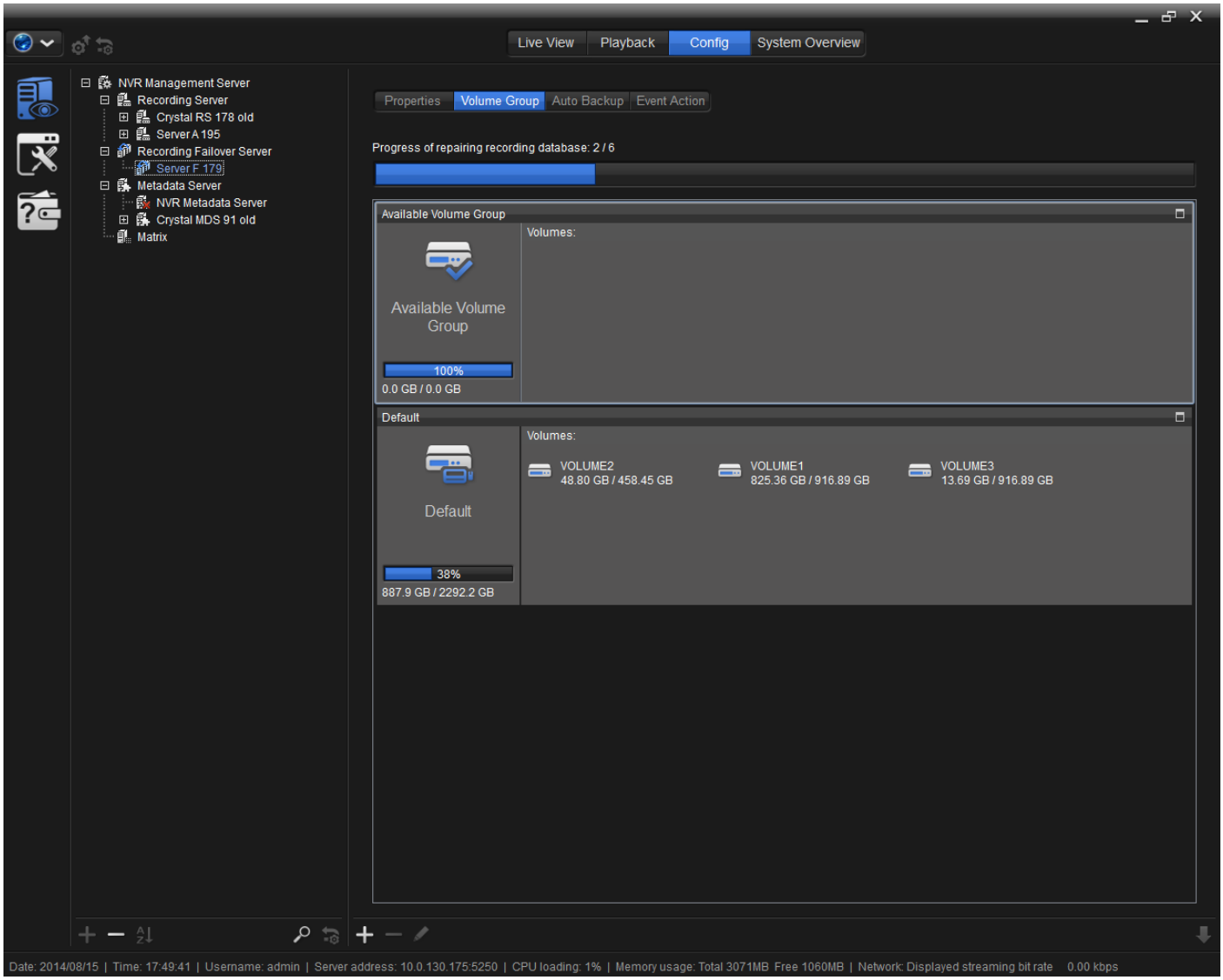

Figure 4.7.4: After “Repair” is pressed, a progress bar is showing progress

4.8 File Migration

Select from NuClient's menu item "Migrate Failover Files", and select configuration file of Server A exported in step 4.1. Choose Server A as source server and Server B as target server. Complete File Migration process without interception. Restart all NuClient when File Migration process is done.

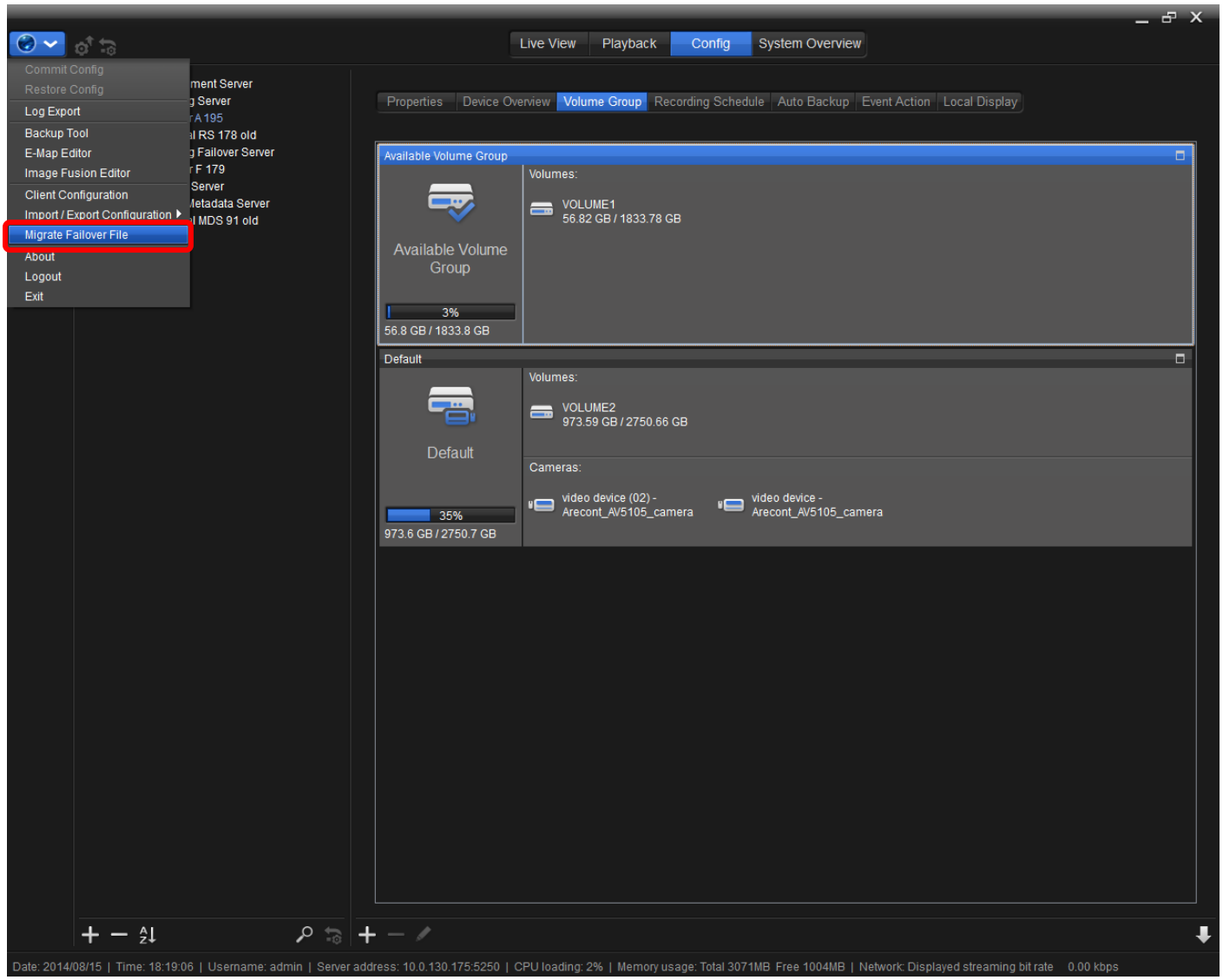

Figure 4.8.1: How to execute file migration

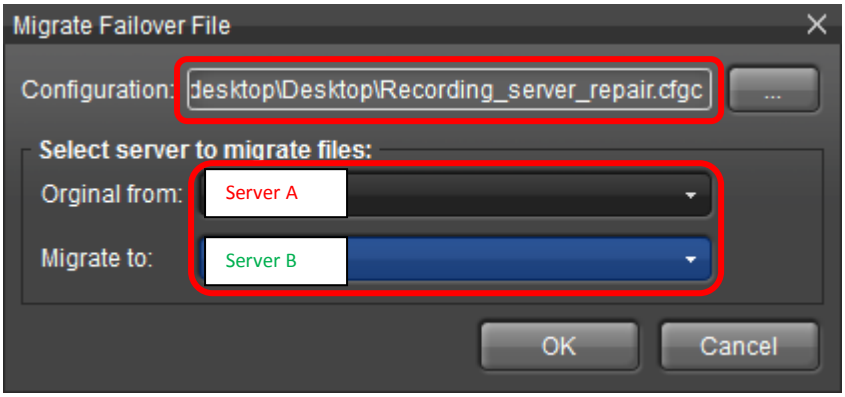

Figure 4.8.2: How to setup file migration

5 Replacing a Metadata Server

In the following procedure, an out-of-order metadata server is represented by Server A, and Server B is a new one to replace Server A.

5.1 Save Configuration

Login Management Server via NuClient and export configuration file of Server A.

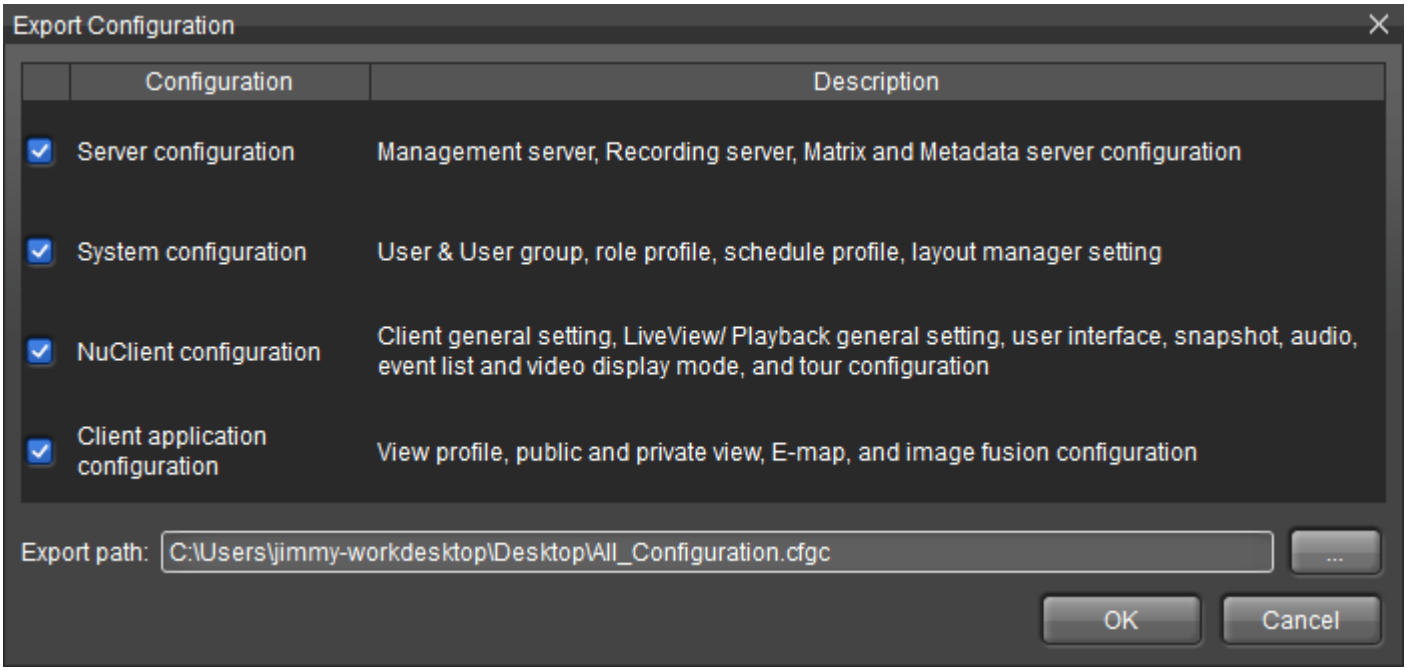

Figure 5.1.1: Exporting all configuration of metadata server

5.2 Move Volumes

Power off Server A and Server B. Move all volumes from Server A to Server B.

5.3 Enable Metadata Server Service

Enable Metadata Service via Server B's web page or Install Wizard. Login Server B to its Management Server.

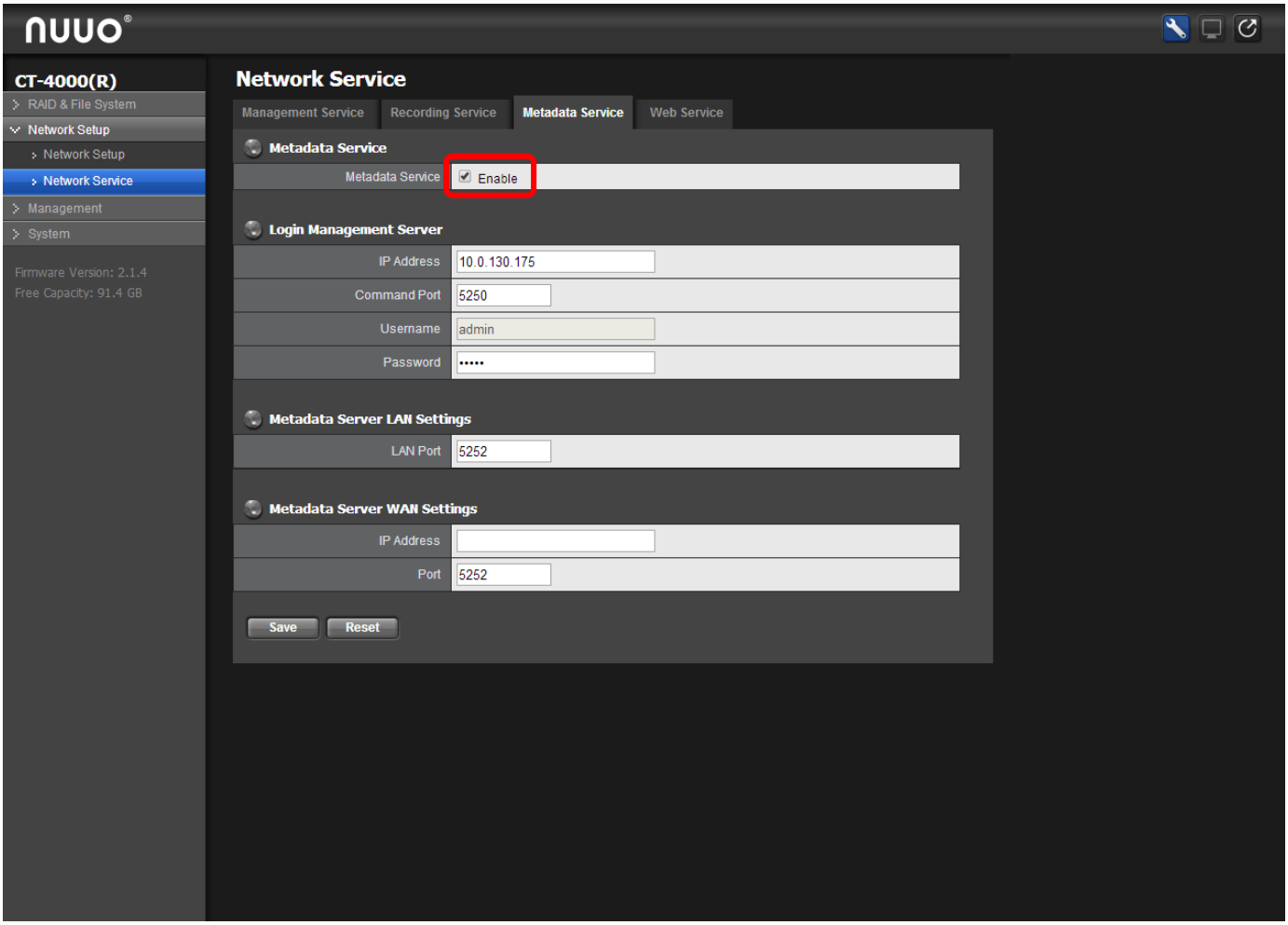

Figure 5.3.1: How to enable metadata service in web page

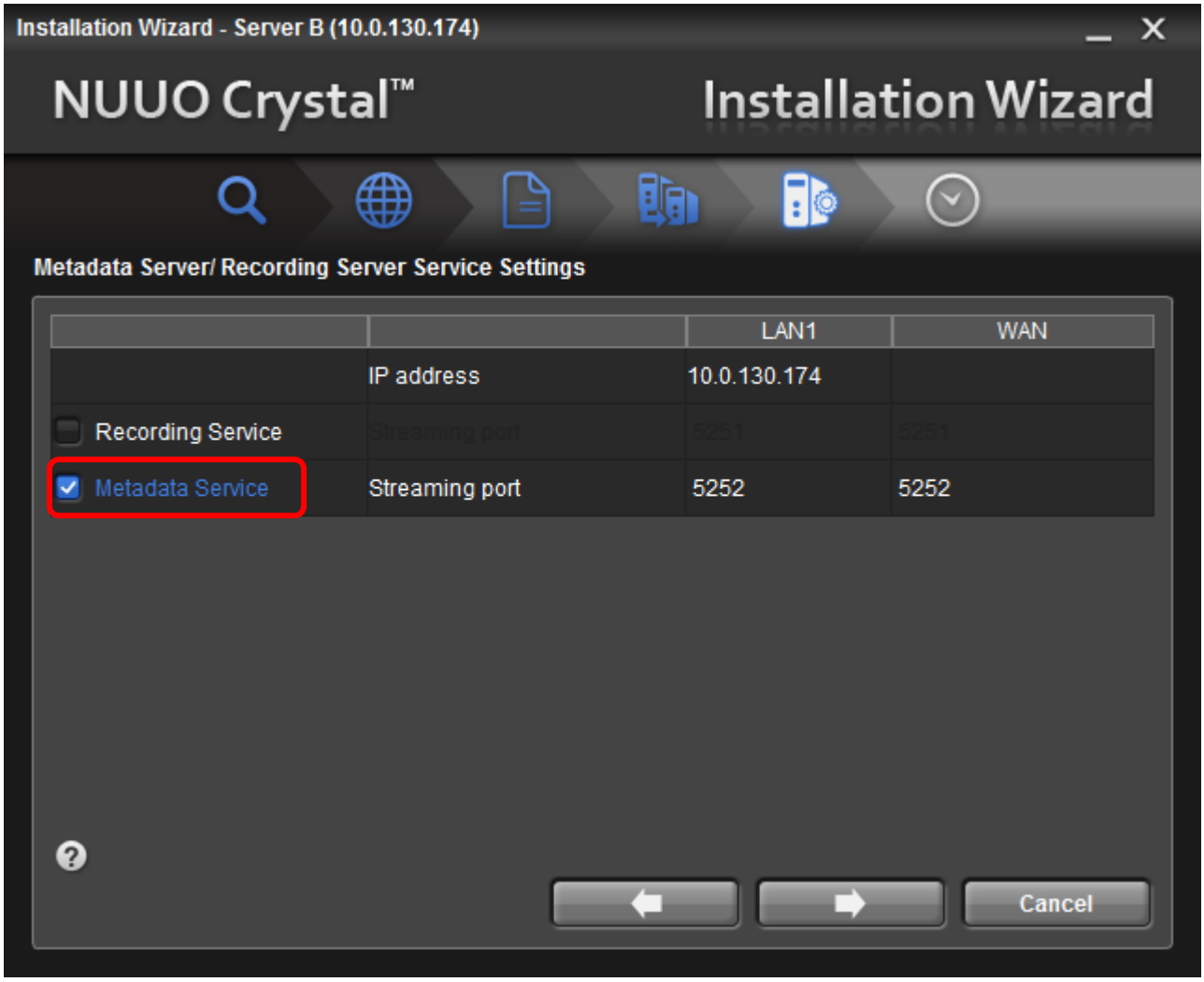

Figure 5.3.2: How to enable metadata server in Install Wizard

5.4 Remove Out-of-order Metadata Server

Remove Server A permanently via NuClient.

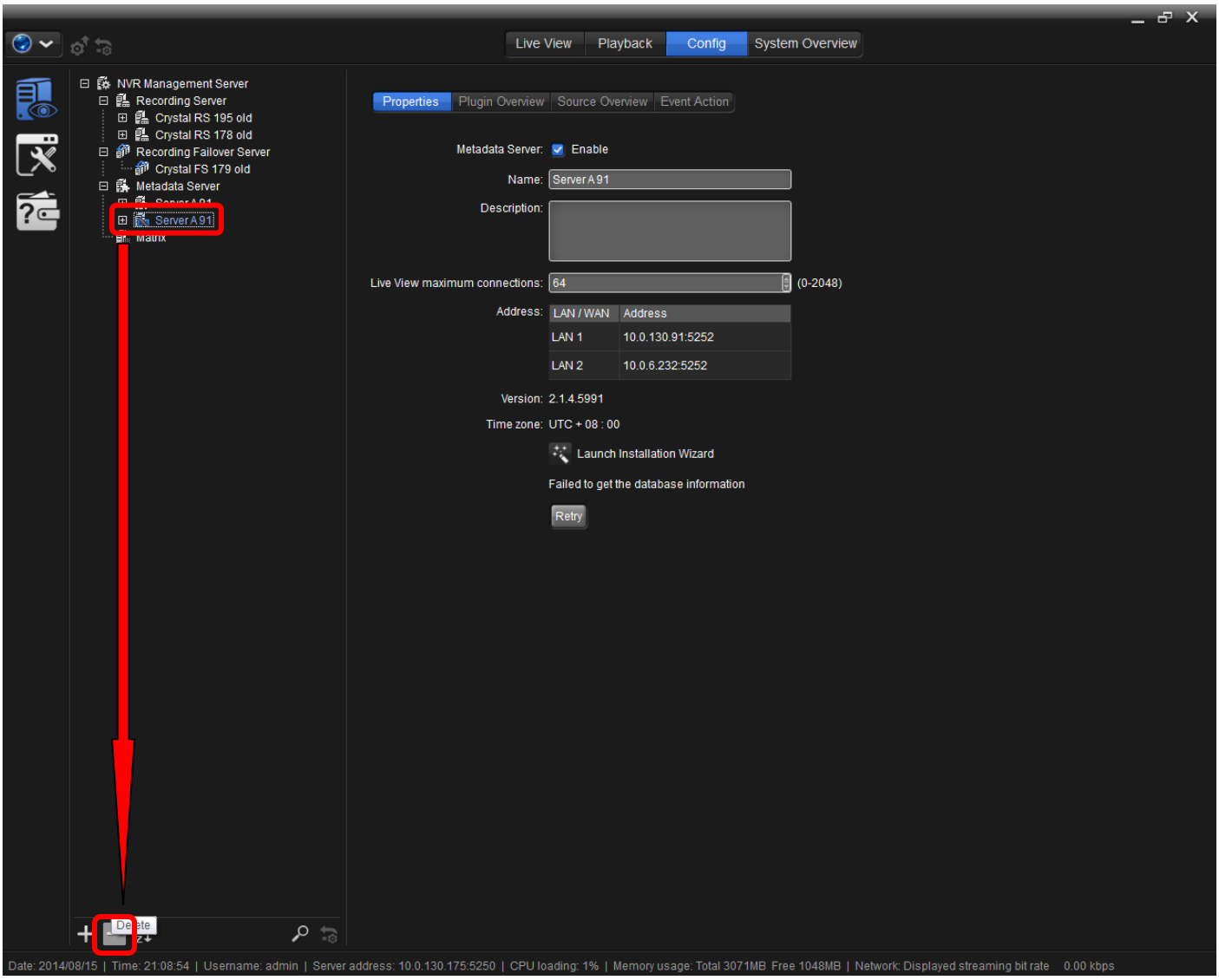

Figure 5.4.1: Removing a disconnected metadata server

5.5 Install Metadata Server Plug-ins

Login Server B to its Management Server. Install all needed metadata plug-ins.

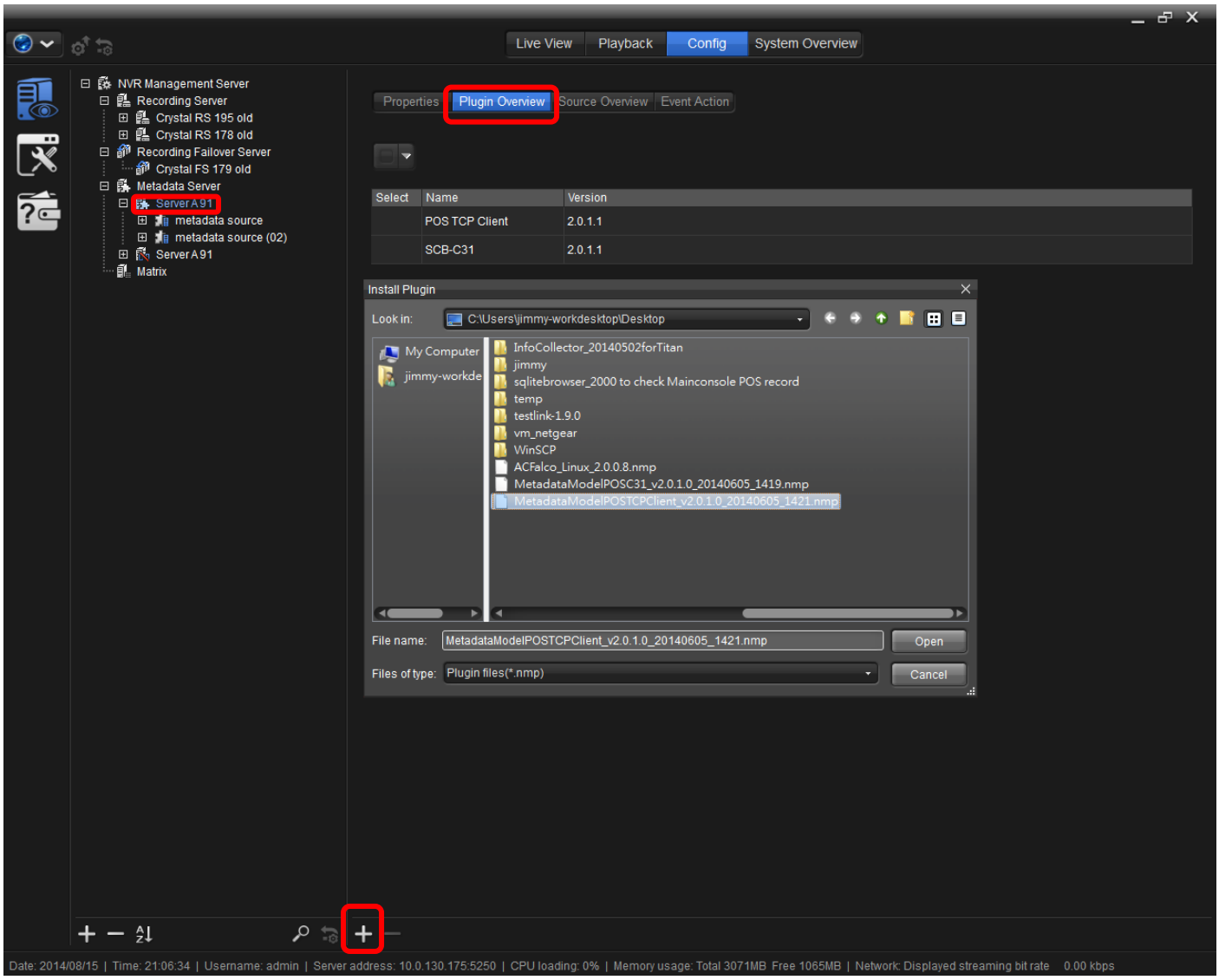

Figure 5.5.1: How to install metadata server plugins

5.6 Restore Configuration

Login Management Server via NuClient. Import configuration of Server A to Server B.

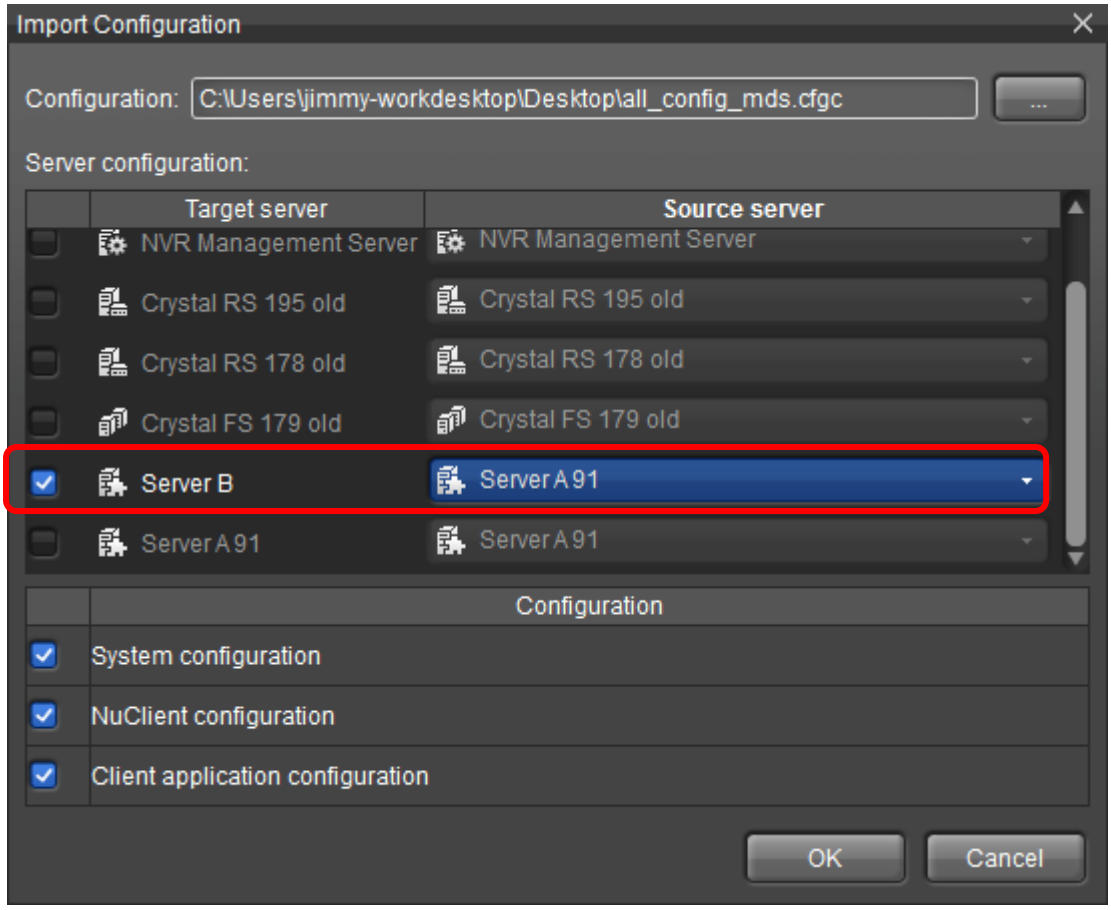

Figure 5.6.1: How to import configuration file to a metadata server

5.7 Setup Metadata Volume

Assign one available volume for metadata Server B

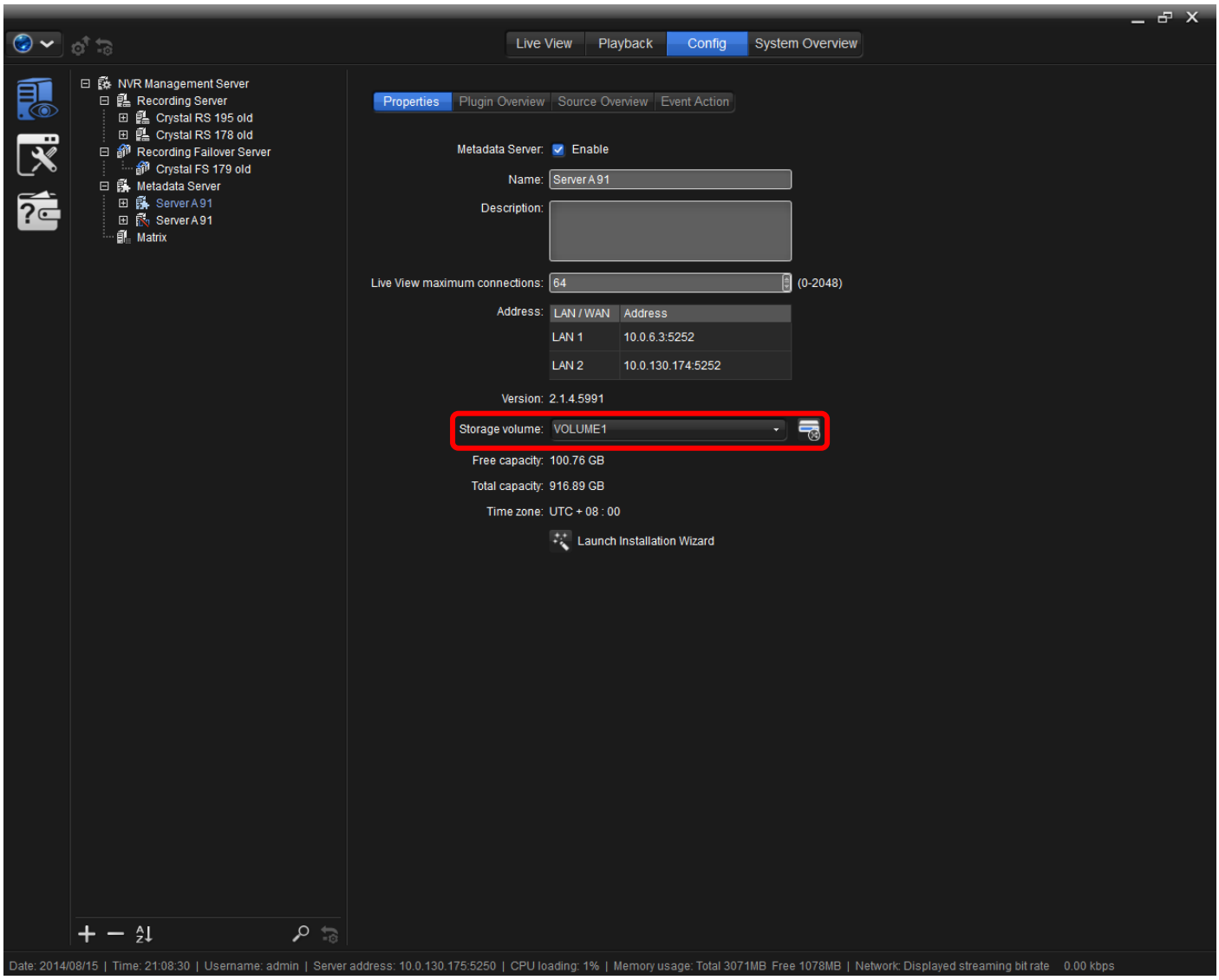

Figure 5.7.1: Assigning a volume for metadata server

6 Emergency: Enable Management Server on-site

When a Management Server A is out-of-order and a replacement cannot be available immediately, one Server C can be chosen from current existing servers.

6.1 Priority for Candidate

A server with least significance has highest priority. An idle Failover Server is the first candidate. Otherwise, choose one Metadata Server or one Recording Server with least significant channels. The chosen server is Server C.

6.2 Enable the Management Server

Server C is a replacement Management Server for Server A. Services previous running by Server C are no longer running. Services previous running by Server A are now running by Server C.

Please apply following steps:

1	Step 2.2	Prepare license of Server A
2		Shut down Server C
3		Remove all volumes of Server C. Keep these volumes in order. These volumes will be used in step 6.3
4		Power on Server C
5	Step 2.5	Enable Management Server Service of Server C. As recommended, the IP address of Server C is assigned with identical IP address of Server A
6		If there was a Recording Server running on Server A, enable Recording Server Service of Server C; otherwise disable Recording Server Service of Server C
7		If there was a Failover Server running on Server A, enable Recording Server Service of Server C; otherwise disable Recording Server Service of Server C
8		If there was a Metadata Server running on Server A, enable Metadata Server Service of Server C; otherwise disable Metadata Server Service of Server C
9		Shut down Server C
10	Step 2.4	Move all volumes from Server A to Server C
11		Power on Server C
12	Step 2.6	Activate license on Server C
13	Step 2.7.(1)	Apply configuration of Management Server onto Server C
14		If there was a Recording Server running on Server A, apply all steps from step 3.4 to 3.8 on Server C
15		If there was a Failover Server running on Server A, apply all steps from step 4.4 to 4.7. Server C
16		If there was a Metadata Server running on Server A, apply all steps from 5.4 to 5.7 on Server C

6.3 Restart the stopped server

Once the replacement Server B is arrived, services of Server C can be restarted on Server B.

Please apply following steps:

1		Install all volumes of Server C onto Server B
2		Power on Server B
3		If there was a Recording Server running on Server C, apply all steps from step 3.3 to 3.8 on Server B
4		If there was a Failover Server running on Server C, apply all steps from step 4.3 to 4.7. Server B
5		If there was a Metadata Server running on Server C, apply all steps from 5.3 to 5.7 on Server B