Media Switch 3.0
Quick Guide

Preface

Audience

This manual is intended for:

- Surveillance system planners
- Field technical support and servicing engineers
- Software installation, configuration, and servicing administrators
- Product users

Organization

The Media Switch 3.0 Quick Start describes the features, software specifications and software configuration, upgrade, and uninstallation of the Media Switch 3.0 (hereinafter referred to as MS3.0). Read this document carefully to help smoothly install MS3.0.

This manual is organized as follows:

1. **Overview.** Describes the functional characteristics and software specifications of MS3.0.

2. **MS3.0 Installation, Upgrade and Uninstallation.** Describes the software installation, upgrade and uninstallation of MS3.0.

3. **System Configuration.** Describes the basic configuration for MS3.0.

Contents

1   Overview

Media Switch 3.0 (MS3.0) is media switch service software developed for an IP video surveillance system. It will be installed on hardware servers with the Linux operating system (OS).

Functions and Features

Real-time Audio and Video Streams Forwarding and Distribution

The main function of MS3.0 is to forward and distribute real-time audio and video streams.

MS3.0 can receive unicast media streams from encoders, and send the streams as unicast streams to decoders to decode and play.

MS3.0 can receive multicast media streams from encoders, forward and distribute the streams as unicast streams and send them to decoders to decode and play.

Deployment Flexibility and Strong Adaptation to Networks

MS3.0 can be flexibly deployed based on system requirements, increasing the adaptation to networks of video surveillance solutions.

MS3.0 can be deployed at the edge or junction between the private and public networks in the iVS video surveillance solution, serving as the gateway to switch multicast media streams into unicast media streams.

MS3.0 server can be deployed inside the iVS video surveillance solution to forward unicast media streams.

Ease of Management

MS3.0 provides a web management page to facilitate daily management and maintenance of the system.

Software Specification

Software Specification

Item	Description
Media distribution (audio disabled)	• Maximum bandwidth of input media streams: 128 Mbps • Maximum bandwidth of output media streams: 512 Mbps • Maximum duplication output of a single-channel media stream: 1024 • Support distributing up to 256-channel video streams (input).

Item	Description
Media distribution (audio enabled)	• Maximum bandwidth of input media streams: 100 Mbps • Maximum bandwidth of output media streams: 400 Mbps • Maximum duplication output of a single-channel media stream: 400 • Support distributing up to 100-channel video streams (input).

2 Installation, Upgrade and Uninstallation

> ⚠️ **WARNING!**
>
> Only professionals can install, upgrade and uninstall MS3.0; otherwise, server system faults or data loss may be caused. Contact authorized personnel of Uniview before you install, upgrade, or uninstall MS3.0.

System Requirements

Before installing MS3.0 on a server, ensure that Linux OS has been installed on the server. Table 2-1 lists the system requirements of MS3.0 for the server.

Table 2-1 System requirements for the server

Item	System Requirements
OS	CentOS5.3 is recommended. For details, consult authorized personnel of Uniview.
CPU and operating frequency	Intel Xeon 5410 4-core, 2.33 GHz dominant frequency
Memory	2 * 2 GB, DDR2
Network adapter	GE adapter card. One or multiple network adapters can be configured depending on actual requirements.
Hard disk	The hard disk capacity cannot less than 20 GB. One or more SATA or SAS disks can be configured depending on actual requirements. Hard disk partitions of the OS: • Boot partition: at least 200 MB • Swap partition: at least the memory size • Root partition: remaining space
CD-ROM	DVD
Others	• A monitor and keyboard can be equipped to facilitate local maintenance. • There are various status LEDs, such as a power LED, an alarm LED, and a network adapter LED.

> 📝 **NOTE！**
>
> If the versions map to one another, MS3.0 can be installed together with VM3.0, DM3.0 and BM on a server. For details about version mapping, see the version mapping table released along with the version.

Preparations

Preconditions

Before installing or upgrading the software, configure network parameters, such as the IP address, subnet mask, and gateway address. For details, see section "[Checking or Modifying the Configuration File](#)".

The server is well connected to the operating PC through the network.

The SSH client has been installed on the operating PC, and the operating PC has logged into the server through the SSH client. For details, see section "[Logging In to the Server by Using the SSH Client](#)". Do not close the SSH client during installation, upgrade, or unistallation; otherwise, the installation, upgrade, or unistallation might fail.

Set the values of Security Level and SELinux to Disabled during firewall configuration. For details, see section "[Configuring the Firewall](#)".

Logging In to the Server by Using the SSH Client

> 📝 **NOTE！**
>
> For the first login to the server using the SSH client, the username and password are those of the server OS. For details, contact server OS installation engineers. In this example, the username is root and the password is passwd.
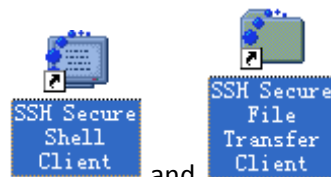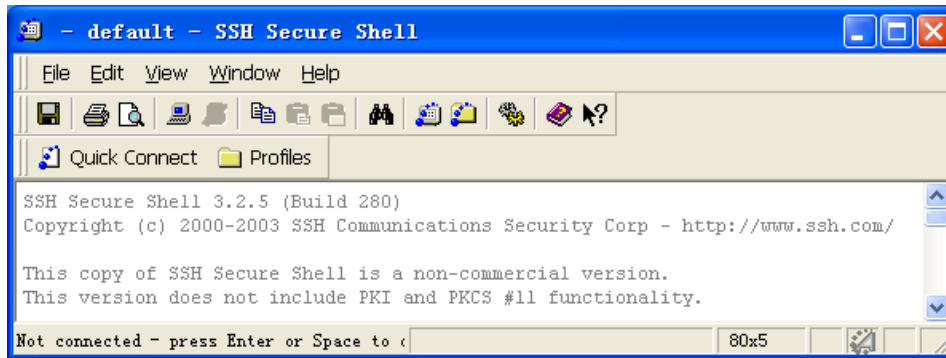
After the SSH client is installed, shortcut icons and appear on the desktop.

To log in to the server through the SSH client, follow the steps below:

1. Double-click to execute the application, as shown in [Figure 2-1](#).

Figure 2-1 SSH Secure Shell window
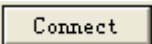
2. Click [Quick Connect]. Input the IP address of MS3.0, login user name and port number, as shown in Figure 2-2. Then click [Connect].

Figure 2-2 Connecting to the remote host
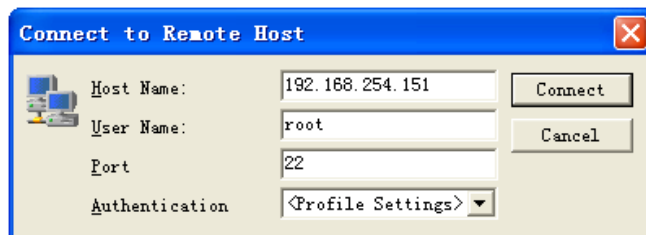
3. After connected, the server should require a password as shown in Figure 2-3. Input the password passwd, and then click [OK] to log in to the server where the software will be installed and access a command line interface (CLI).

Figure 2-3 Inputting your password
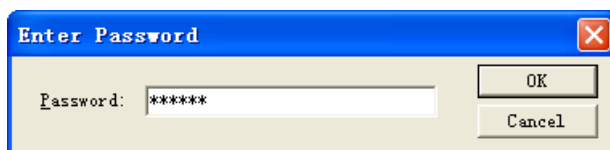
Configuring the Firewall

1. Log in to the server using the SSH client, and then input the setup command. A configuration widow is displayed.

```
[root@ms ~]# setup
```

Figure 2-4 Configuration window
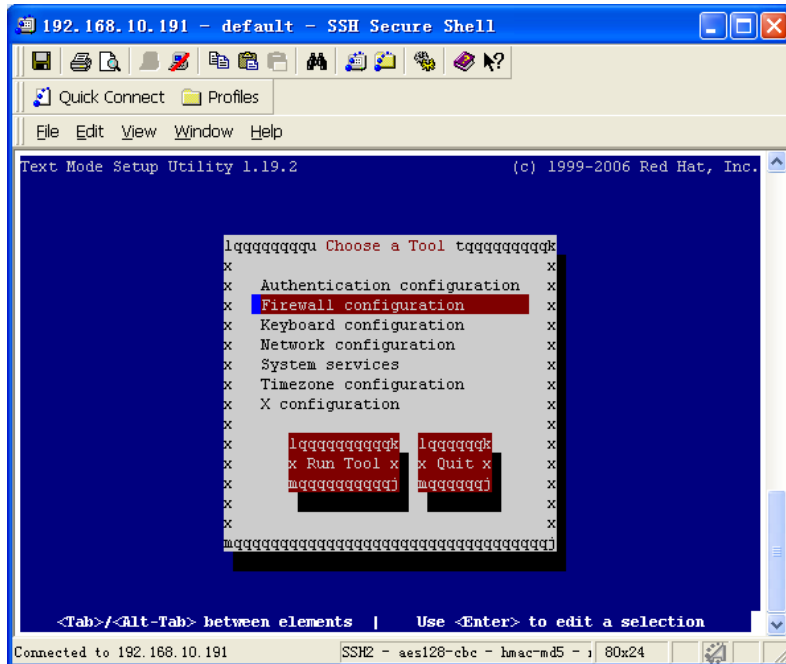
2. Select Firewall configuration, press Enter, and then set the values of Security Level and SELinux to Disabled.

Figure 2-5 Setting the values of Security Level and SELinux to Disabled

3. Select OK, press Enter, and then select Quit to quit the configuration window.

Software Installation

To guarantee successful software installation, follow the steps below strictly:

1. Copying and Decompressing the Software Installation Package
2. Running the Installation Script

Copying and Decompressing the Software Installation Package

Copy an installation package to a directory such as /root in the current server OS using the SSH client, and decompress the package. In this example, the IP address of the server is 192.168.254.151, and the host name is ms.
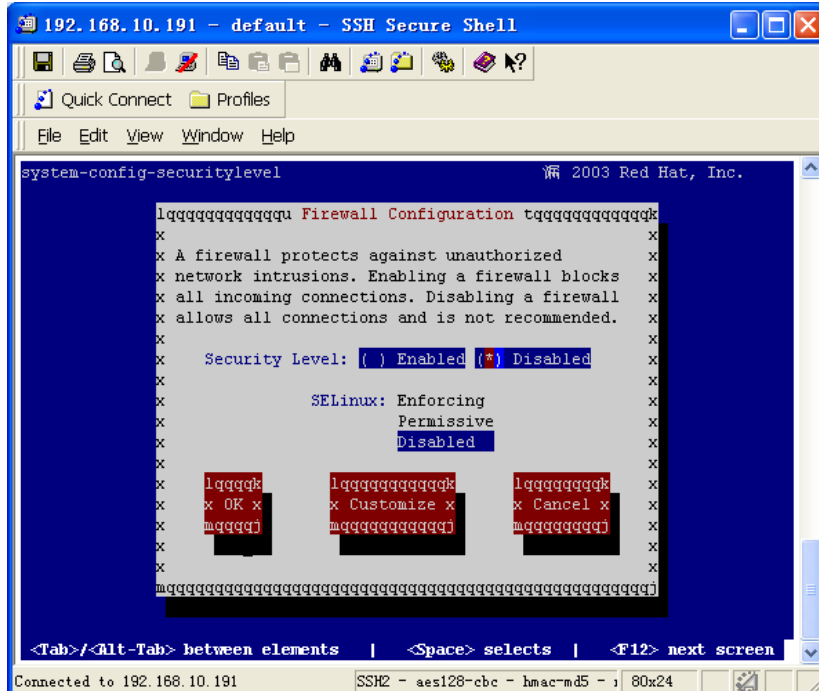
The procedure is as follows:

1. Log in to the server using the SSH client, and then click. A window is displayed.

2. Select the directory where the installation package resides on the left pane, and then drag the package to the /root directory on the right pane. The system copies the package to the server. Figure 2-6 shows the window after the package is successfully copied.

> 📝 **NOTE！**
>
> The work directory name must be in English.

Figure 2-6 Copying the software installation package to the server
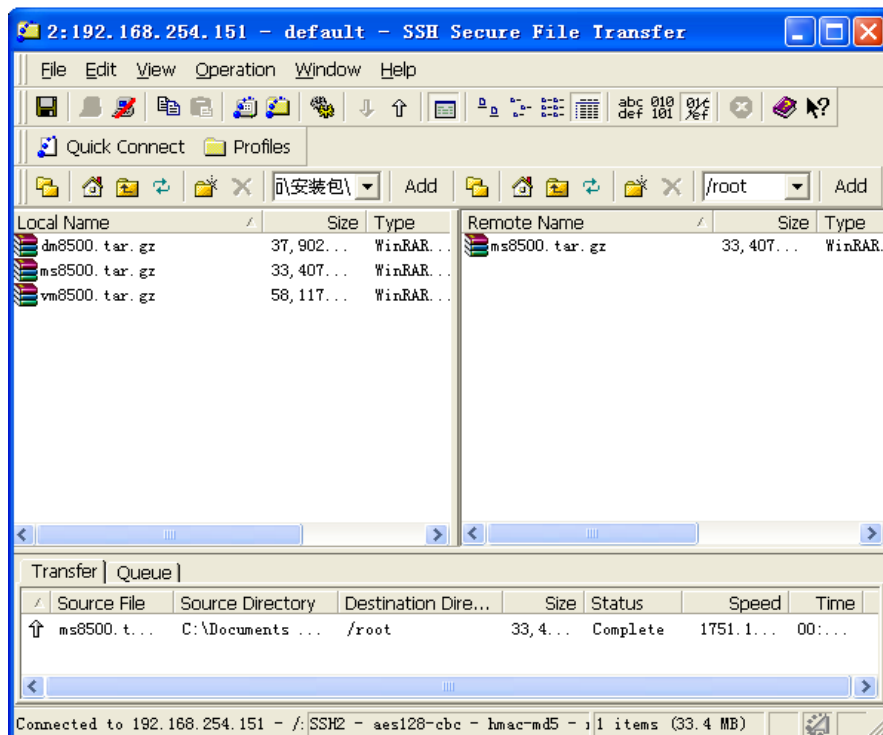
3. Access the directory where the software installation package resides, and run the tar command to decompress the package.

```
[root@ms ~]# tar zxvf ms8500.tar.gz
```

Files generated after decompression include installation, upgrade, and uninstallation scripts.

Running the Installation Script

> **NOTE**!
> - VM3.0 can be installed along with DM3.0, BM, and MS3.0 on a server. In that case, DM3.0, BM, and MS3.0 must register on VM3.0.
> - If you want to install VM3.0 along with DM3.0, BM, and MS3.0 on a server, you must install VM3.0 first and then DM3.0, BM, and MS3.0. In this case, some parameters of DM3.0, BM, and MS3.0 will be automatically associated with the parameters of the installed VM3.0. If DM3.0, BM, and MS3.0 is already installed on the server, you must uninstall DM3.0, BM, and MS3.0 before installing VM3.0.

Access the directory where the decompressed files are saved, and run the source msinstall.sh command to install the software. Below are related commands. The displayed information is an example only. The bold parts indicate parameter explanation.

```
[root@ms ~]# cd ms8500
[root@ms ms8500]# source msinstall.sh
2011-04-30 15:42:09 : Do not close the terminal during the installation; otherwise, unknown
error might occur.
ms8500 installation begins...
Please choose the language of ms8500 (default 0.Chinese): ---Select the language mode.
0.Chinese
1.English
Please input you choice:1
What version of ms8500 do you want to install[default:1. stand-alone]:---Select the standalone
installation mode.
1. stand-alone
2. high ability (HA)
Please input your choice:1
Please input ms8500 device ID[default:msserver]:---Set the ID of MS3.0. Make sure that the ID is
unique in the whole network. Press Enter on the key board to select the default port.

Use default DeviceID:msserver
Please input Video Manager server port[default:5060]:---Set the VM3.0 port. Press Enter on the key
board to select the default port.

Use default Server Port:5060
Please input Video Manager server IP address[such as 192.168.0.11]:---Set the IP address of VM3.0.
192.168.254.152
Route initialization succeeded
Route initialization succeeded!
Begin to install ms8500 server ...
Begin to install rpm pdt_imos ...
```

```
Install rpm pdt_imos finished...
Install rpm pdt_imos succeeded
Begin to install rpm ms8500 ...
Install rpm ms8500 finished...
Install rpm ms8500 succeeded
Install succeeded
Begin to start ms8500 server ...
Starting MSSERVER services: starting msserver
start ok 0

CImfLogTask: logNumber = IMFMaxLogNumber 2
CImfLogTask: logSize = IMFMaxLogSize 1048576
CImfLogTask: logPath = IMFLogPath /var/log
Start msserver succeeded
/usr/local/mswww/apache/htdocs/../bin/apachectl start: httpd started
Start msdaemon succeeded
Start servers succeeded
Install ms8500 succeeded
```

After the installation is complete, MS3.0 services automatically start. Run the msserver.sh status command to check the service status. For details, see section "Operating MS3.0 Services".

Software Upgrade

⚠️ **WARNING!**

- Only professionals can upgrade VM3.0; otherwise, severe system faults or data loss may be caused. Contact authorized personnel of UNIVIEW before you upgrade VM3.0.
- If VM3.0 is installed along with DM3.0, BM, and MS3.0 on the same server, you must stop the services of DM3.0, BM, and MS3.0, and then upgrade VM3.0 and the DM3.0, BM, and MS3.0 in sequence.

To upgrade MS3.0, follow the steps below:

1. Copy the upgrade package to a work directory in the current server OS. For details, see section "Copying and Decompressing the Software Installation Package".

2. Access the directory where decompressed files are saved, and then run the sh msupdate.sh command. Finish the software upgrade according to system prompts. Below are related operation commands:

```
[root@ms ~]# cd ms8500
[root@ms ~]# sh msupdate.sh
```

Software Uninstallation

⚠️ **WARNING!**

All data related to the software will be deleted after you uninstall the software. Therefore, back up data and contact authorized personnel of Uniview before uninstalling the software.

1. Log in to MS3.0 using the SSH client.

2. Access the directory where decompressed files are saved, and then run the sh msuninstall.sh command. Finish the MS3.0 software uninstallation according to system prompts.

```
[root@ms ~]# cd ms8500
[root@ms ms8500]# sh msuninstall.sh
```

3   System Configuration

⚠️ **WARNING!**

Only professionals can configure MS3.0; otherwise, severe system faults or data loss may be caused. Contact authorized personnel of Uniview before you configure MS3.0.

Configuration Task

Table 3-1 Configuration tasks

Configuration Task		Description
Command line configuration	Checking or Modifying the Configuration File	Check or modify the MS3.0 device ID or the IP address of VM3.0 .
	Operating MS3.0 Services	Check the service status, and start, stop or restart VM3.0 services.
	Checking System Logs	Check system logs.
	Checking the System Version	Check system version information.
Web configuration	Logging In to MS3.0 Through Web	Log in and log out through web.

Checking or Modifying the Configuration File

1. Checking the configuration file

Run the following command to check parameter settings in the system:

```
[root@ms ~]# mscfgtool.sh -q
DeviceID=msserver
ServerPort=5060
ServerIP=192.168.254.152
ServerID=iccsid
```

```
DBType=PostgreSQL
DBServerName=192.168.254.152:5432:imos
DBUserName=postgres
DBPassword=******
```

2. Modifying the configuration file

When the network has changed or certain parameters need to be modified, run the corresponding script to modify parameter information. Below is a command for modifying the configuration file. The bold part indicates parameter explanation.

Run the following command to modify the ID of MS3.0:

`[root@ms ~]# mscfgtool.sh deviceid ms8500`**---ms8500 is the new ID of MS3.0 .**

Run the following command to modify the IP address of VM3.0:

`[root@ms ~]# mscfgtool.sh serverip 192.168.254.155`**---192.168.254.155 is the new IP address of VM3.0.**

> **NOTE！**
>
> The ID of MS3.0 or the IP address of VM3.0 can be modified on the web page of the client. For details, see the VM3.0 Online Help.

- Modify Apache port numbers:

> **NOTE！**
>
> You need to modify the port number only when the default port number is already being used.

Run the following command to modify the Apache port number of MS3.0:

`[root@ms ~]# mscfgtool.sh namehost 893`**--- 893 is the new port number of MS3.0.**

You can also run the mscfgtool.sh -help command to obtain more commands for modifying parameters. After modifying configuration, you need to run the msserver.sh restart command to restart the services for configuration changes to take effect.

Operating MS3.0 Services

Checking the Service Status

```
[root@ms ~]# msserver.sh status
Msserver is running
serversnmpd is running
DiskReadOnlyCheck is running
Msdaemon is running
```

The service status is either running (indicating that the respective service is running) or stopped (indicating that the respective service has been stopped).

If the status of a process as shown above is stopped, you need to manually restart the service. For details, see section "Restarting the Services".

If an executable file on the server is deleted or its executable permission is modified, a message "does not exist" will be displayed, indicating that this service does not exist. In that case, you need to reinstall the software or contact authorized personnel of Uniview for a solution, so that services cannot be normally running.

Starting the Services

After the installation, MS3.0 services automatically start with the system startup. You can also manually start the services.

To start the services, run the following command:

```
[root@ms ~]# msserver.sh start
```

Stopping the Services

You can manually stop the services as required.

To stop the services, run the following command:

```
[root@ms ~]# msserver.sh stop
```

Restarting the Services

You can manually restart the services as required.

To restart the services, run the following command:

```
[root@ms ~]# msserver.sh restart
```

Checking System Logs

System logs are saved in the /var/log directory. To view logs in a log file, run the **ls** command to find the log file and then run the **tail** command. Below are related commands. The displayed information is an example only.

```
[root@ms ~]# cd /var/log
[root@ms log]# ls
Abc                   imf_msserver_0.log      piranha
abc.cap               imf_msserver_1.log      pm
acpid                 imf_ns_0.log            p.pcap
adapter_product00.log imf_ns_1.log            ppp
adapter_product01.log imf_SDK_0.log           prelink
...
[root@ms ~]# tail adapter_product00.log
```

Checking the System Version

Run the following command to check system version information:

```
[root@ms ~]# mscfgtool.sh -v
Interior version : MS8500V300R001B02D001SP25
Exterior version : MS8500-IMOS110-B3111P25
```

```
BUILDTIME     : 2011-04-25 05:49
```
The actual system version information may differ.

Logging In to MS3.0 Through Web

Login

NOTE!

For the first login to the webpage, use the default administrator password admin.

To log in to MS3.0 through web, follow the steps below:

1. Open the web browser on the operating PC, and input the IP address and port number of MS3.0, for example, http://192.168.10.193:8081, and press Enter.

2. Input the administrator password in the login dialog box, and then click OK. A webpage is displayed.

After successfully logging in to the webpage, you can configure the system, maintain the device and manage users. For details, see the MS3.0 Online Help.

Exit

Click Exit at the upper right corner of the page, and then click Yes to exit the webpage.